

Environmental Assessment Report

Catherine Hill Bay / Gwandalan Concept Plan

Rose Property Group



CPP
CERTIFIED PRACTISING PLANNER



ROSE

Creating a quality way of living

Section i

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Section 1

Executive Summary

The Lower Hunter Regional Strategy identifies land at Catherine Hill Bay and Gwandalan for urban development.

In addition to the land identified for development are substantial areas of high conservation value bushland.

The NSW Government and the land owner signed a Memorandum of Understanding (MoU). The MoU provides for the urban development of 86 hectares of land and for the dedication of some 310 hectares of land as an environmental offsets scheme for the development.

The development will adjoin the existing villages of Catherine Hill Bay and Gwandalan. The dedication will place in public ownership, lake and ocean foreshore and bushland of high scenic and biodiversity conservation values.

The land for development and dedication at Catherine Hill Bay is former mining land. The land supported the Moonee and Wallarah collieries and the Catherine Hill Bay Coal Preparation plant site. Significant land degradation has resulted from mining but much of the land remains as ecologically intact bushland.

The Gwandalan site is an identified urban development precinct under the Wyong Residential Development Strategy. It was first identified for residential development in 1987.

The sites have been extensively studied as a result of previous development and rezoning proposals.

Some 60 hectares of land around the Catherine Hill Bay Village is proposed for urban development. There are 2 main components of this development, the Catherine Hill Bay Village extension and the Moonee Beach Village. The development is limited to specific areas and to a maximum of 600 dwellings under the MoU. The proposals are described in detail in the Concept Plan. Development is predominantly in areas previously despoiled by mining activity.

The Gwandalan site is 18 hectares. The site has been developed as part of a very substantial foreshore residence. The MoU requires that a dwelling density of 12 lots per hectare be achieved. The Gwandalan proposal is for a residential subdivision only that will achieve up to 220 lots.

The key design and planning principles applying to the site are the NSW Coastal Policy, SEPP 71 Coastal Protection and the NSW Coastal Design Guidelines. The requirements of these documents have been incorporated into the proposal as shown in the Concept Plan. The Concept Plan establishes the layouts and built

form of the proposal. In summary the Concept Plan provides for low scale, high amenity coastal village development.

Catherine Hill Bay has established heritage values and controls. The values and controls have been acknowledged and respected by adopting the existing heritage built form principles, in a manner that distinguishes the new from the traditional. In particular open areas around the village have been retained with no new buildings visible within the existing visual catchment.

The scope of environmental assessment is based on specifications issued by the Director General of Planning.

At Catherine Hill Bay the main issues are services, view protection and heritage protection and mitigation of the effects of construction and additional population. Services will be addressed by the provision of appropriate infrastructure, heritage is addressed by design controls and additional population will require a range of ongoing measures to provide bushfire protection, protection of the adjoining State Conservation Area and the protection of coastal waters.

At Gwandalan the main issues are augmentation of existing infrastructure, protection of the adjoining State Conservation area and bushfire.

The necessary environmental management measures are detailed in the report and affirmed in the draft Statement of Commitments. The proposed development is unlikely to have any significant environmental effects and is generally consistent with the principles of ecologically sustainable development.

In keeping with the MoU the Concept Plan provides for 600 dwellings at Catherine Hill Bay and 214 new lots at Gwandalan.

Section 2

Introduction

2.1 BACKGROUND

This report and its appendices constitute the Environmental Assessment for the sites shown on **Figure 1** at Catherine Hill Bay and Gwandalan. The Environmental Assessment provides background information for the Concept Plan for these sites and should be read in conjunction with that document.

The subject land at Gwandalan and Catherine Hill Bay has been identified in the Lower Hunter Regional Strategy for urban development.

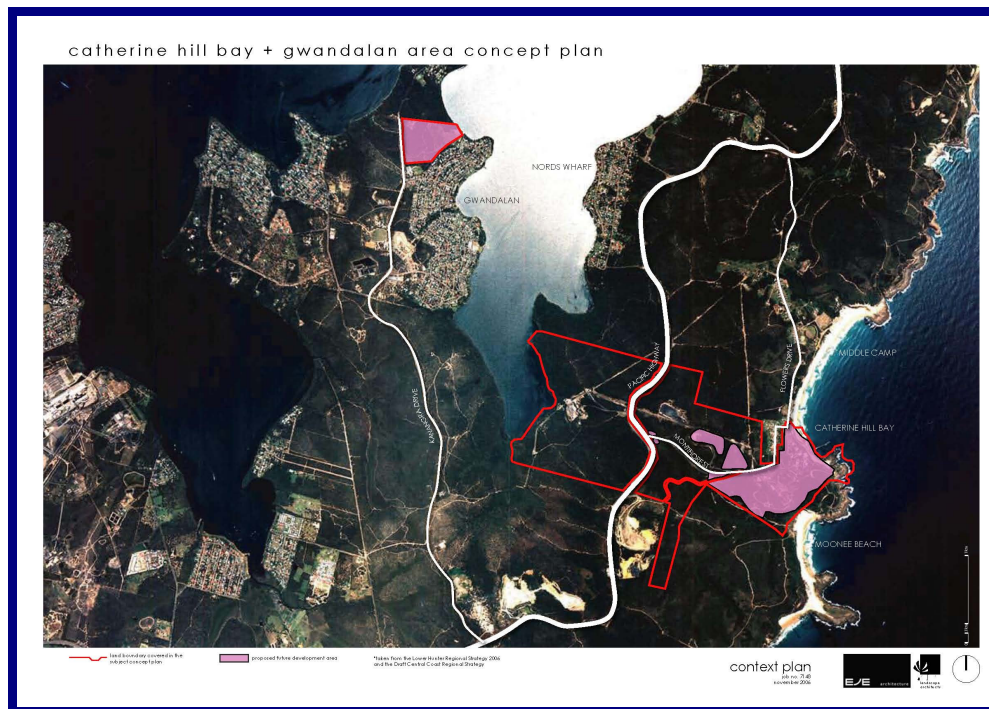


Figure 1: Location Plan

The development sites are shown in pink in **Figure 1**. The dedication lands are within the red outline. The Gwandalan site is on the upper left. The Catherine Hill Bay site is on the lower right. This report refers to the Catherine Hill Bay Village extension which is the land east of and adjoining the existing Village. The Moonee Beach Village site is land south and west of the village and south of Montefiore Street which is the access road from the Pacific Highway.

Memorandum of Understanding

A memorandum of understanding has been entered into between the Minister for Planning, the Minister for the Environment and the land owners. The MoU sets development limits and provides for the establishment of an environmental offsets scheme.

Catherine Hill Bay

The land at Catherine Hill Bay was the site of the former Moonee and Wallarah collieries, a coal washery and coal and reject storage areas. The land while significantly despoiled in some areas also contains areas of high value bushland, and significant areas of coastal and lake foreshore. Much of the mine infrastructure has been removed but some structures and hardstand areas remain.

Gwandalan

The land at Gwandalan has been identified for urban development since 1987. The site is included in the Wyong residential development strategy as urban development precinct 1A. The land has been developed as a residence with significant associated infrastructure including caretaker dwellings, paddocks, machinery sheds, a chapel, orchards, landscaping, high screen fencing, a boatshed, dams, and a small harbour. The main residence is located on the lake Macquarie foreshore. The area around the main residence, although part of the overall site gazetted as subject to Part 3A assessment by the minister is not proposed for development.

The Proposals

Village style urban development is proposed for both Catherine Hill Bay and Gwandalan. The development, mainly housing is to be consistent with existing development and reflect the coastal themes promoted by the NSW Coastal Design Guidelines.

The development at Catherine Hill Bay is called Moonee Hamlets. The development at Gwandalan is simply called Gwandalan.

2.2 REPORT STRUCTURE

This report is structured as follows:

- Introduction;
- Description of proposal;
- Description of locality and site;
- Design principles;

- Planning;
- Assessment of main issues; and
- Project justification.

2.3 DIRECTOR GENERALS REQUIREMENTS

This report has been prepared on the basis of a set of guidelines issued by the NSW Department of Planning (**Appendix B**).

Director Generals Requirements

CATHERINE HILL BAY/GWANDALAN					
DIRECTOR GENERALS REQUIREMENTS					
Director General's Requirement	Response Location				
	Concept Plan EA	Gwandalan PA EA	Moonee Hamlets Proposed Civil Works	CHB Hamlet 1 PA EA	CHB Hamlet 2 PA EA
EA must include:					
1.) Executive Summary;	EA s. 1	EA s. 1	EA s. 2	EA s. 2	EA s. 2
2.) Detailed description of project incl:	EA s. 3	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
a.) Strategic justification for the project;	EA s. 3.1				
b.) Alternatives considered;	EA s. 3.2	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
c.) Various components and stages of the project;	EA s. 3.3		EA s. 3	EA s. 3	EA s. 3
3.) A statement that the proposal is being assessed under the Bilateral Agreement, which requires the NSW Government to undertake assessment of the proposal which will address matters of national environmental significance;	EA s.2.8	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA

4.) A Consideration of the following with any variations to be justified: a.) all relevant SEPP's (with particular regard to Major Projects SEPP, SEPP55, SEPP71 and SEPP(mining, Petroleum Production and Extractive Industries) 2007;	EA s.6.2				
	EA s.6.3	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
	EA s.6.4				
	EA s.6.5				
b.) applicable planning instruments;	EA s.6.11	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
	EA s.6.12				
c.) relevant legislation and policies, including the NSW Coastal Policy 1997, Lower Hunter Regional Strategy, and the draft Central Coast Regional Strategy;	EA s.6.6				
	EA s.6.7	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
	EA s.6.8				
	EA s.6.9				
d.) Commonwealth Environment Protection and Biodiversity Conservation Act 1999.	EA s.2.8				
	EA s.6.16	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
	Appendix U				
5.) A consideration of the proposal and cumulative impacts in relation to the development of other future urban land identified in the Lower Hunter Regional Strategy;	EA s.7.6 State Significant Site Study	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
6.) A Draft Statement of Commitments, outlining commitments to the project's management, provision/contribution towards infrastructure, mitigation and monitoring measures with a clear identification of who is responsible for these measures;	EA Appendix A	EA Appendix 1	EA Appendix 4	EA Appendix 1	EA Appendix 1

7.) A conclusion justifying the project, taking into consideration the environmental and construction impacts of the proposal, mitigation measures to address these impacts, the cumulative impacts of the proposal, the suitability of the site, and whether or not the project is in the public interest;	EA s.8	EA s.7	Concept Plan EA	Concept Plan EA	Concept Plan EA
8.) Following consultation with relevant agencies, Councils and other proponents who are proposing development in the vicinity of the site: a.) Identify the development contributions or works in kind applicable to the site or within the LGA including regional and local infrastructure, public transport, social infrastructure and community facilities(including open space); and b.) identify any public benefits to be provided by the development and their consistency with any current development contributions plans;	Appendix A	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
	EA s.8	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
9.) A signed statement from the author of the EA certifying that the information contained in the report is neither false nor misleading; and	EA s.2.7	EA s2.2	EA Page 2	EA Page 2	EA Page 2
10.) A report from a quantity surveyor identifying the capital investment value for the concept plan and the 4 individual project applications.	EA Appendix C	EA Appendix 3	EA Appendix 6	EA Appendix 3	EA Appendix 3
The EA must address the following key issues:					

Independent Panel of Experts Demonstrate that the proposal is consistent with the Interim report to Minister from the Independent Panel of Experts constituted to assess the proposed development. In the event that there are inconsistencies between the proposal and the recommendations of the Panel's Report, justification for the departure must be provided as well as evidence demonstrating how a better outcome will be achieved.	EA s.8				
	Concept Plan	Concept Plan	Concept Plan	Concept Plan	Concept Plan
	Synopsis of Process	Synopsis of Process	Synopsis of Process	Synopsis of Process	Synopsis of Process
EPBC Act – Controlled Action 1.) Impacts on species listed under section 18 & 18A of the EPBC Act 1999;	EA s.2.8, s.3.7 s.7.4.7				
	s.7.5.4	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
	Appendix H, I, P, U				
	2.) Impacts on other threatened species, populations or ecological communities, critical habitat(including riparian habitat) and native vegetation generally;	EA Appendix T	Concept Plan EA	Concept Plan EA	Concept Plan EA
	EA s7.4.7				
	3.) Impacts on migratory species listed under the EPBC Act 1999;	EA s7.5.4	Concept Plan EA	Concept Plan EA	Concept Plan EA
4.) Impacts on RAMSAR Wetlands;	Appendix U	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
	5.) Any relevant State and Commonwealth Govt Technical and policy guidelines, including the NSW DoP CEPBC Act 1999: Guide to Implementation in NSW(May 2007);	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
	Appendix U				

c.) Identifying all necessary augmentation works to service the site and whether these works can sustain this and other development foreshadowed for the Wallarah Peninsula shown in the Lower Hunter Regional Strategy; and	See civils PA's See civils PAs	EA Appendix 4 - Design Plans	EA s.7	Moonee Civil works EA	Moonee Civil works EA
d.) Demonstrate compliance with the requirements of any public authorities in regard to the connection to, relocation and/or adjustment of services affected by the development proposal.	See civils PAs	EA Appendix 4 - Design Plans	EA s.7	Moonee Civil works EA	Moonee Civil works EA
2) Provide appropriate detailed information on the drainage, sewerage and stormwater management measures to be incorporated on Site, including (but not limited to): a.) Sustainable water measures (such as on site stormwater detention, water sensitive urban design measures, and water recycling);	Appendix L & R	Concept Plan s.4.8 Concept Plan EA Appendix R EA s.3.11	Concept Plan s.3.9 Concept Plan EA Appendix L	Concept Plan s.3.9 Concept Plan EA Appendix L	Concept Plan s.3.9 Concept Plan EA Appendix L
b.) Sediment and erosion control measures; and	Appendix A, L, R	Design Plans sheet 601	EA Appendix 4	EA Appendix 1	EA Appendix 1
c.) The quality and quantity impacts on surface water, groundwater, the sea or any nearby beach, or an estuary, a coastal lake, a coastal creek or other similar body of water, or a rock platform.	Appendix L & Appendix R	Concept Plan EA	Concept Plan Appendix R	Concept plan Appendix R	Concept plan Appendix R

Mining Activities					
1) Assess the potential for the proposed development and associated conservation offsets to:	EA 2.4	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
a.) Restrict access to and future mining of remnant coal resources at CHB and particularly below the Gwandalan site; and	EA 6.5				
b.) Restrict access for existing petroleum exploration on PEL No.'s 5 & 446 and any future exploration; and	EA 6.5 SoC	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
c.) Adversely affect or delay the progress of Lakecoal's Mine Closure Plan for Consolidated Coal Lease(CCL) 706 lodged with DPI.	EA 2.4	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
2.) Assess the impact of the proposed development on options to retain or demolish and/or ongoing maintenance of the coal loading jetty, located on MPL 211.	EA 2.4	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
3.) Provide a risk analysis examining the impacts of the former mining use of the site, and in the vicinity of the site, has on future development.	EA 2.4	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
Contamination and Geotechnical					
1.) Identify and address contamination and geotechnical issues associated with the works. Proposed by the PA's. All relevant legislation and guidelines related to contamination and geotechnical issues are to be addressed.	Appendix A & M s. 6.2	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA

2.) Provide a geotechnical report that includes details on the classification of soil type generally found within the subject site and demonstrate how the proposal complies with all relevant AS, incl. As2870(Residential Slabs and Footings).	See PA SoC's	Appendix 1	EA Appendix 4	EA Appendix 1	EA Appendix 1
Urban Design & Built Form					
1.) Provide plans and documentation for the PA's that is of a quality suitable to assess the building typology(including the quantum of floor space). Plans and documentation should be equivalent to the standard ordinarily required for lodgement under Part 4.	See Concept Plan s.3.10	Concept Plan EA	EA s.1	EA s.1	EA s.1
2.) Address Crime Prevention through Environmental Design principles with consideration given to the relationship to surrounding areas; pedestrian and bicycle movement to, within and through the site; key connections to the existing village and coast.	See PAs for village centre and hamlet 2	EA s.4.4	Concept Plan EA	Concept Plan EA	Concept Plan EA
Ecologically Sustainable Development Demonstrate how the development will commit to ESD principles in design, construction and ongoing operation phases.	Concept Plan s3.13 & 4.9 EA s7.4.15 s7.5.13	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
Energy Savings Action Plan					
1.) Demonstrate that the development is capable of achieving the requirements of BASIX and what (if any) commitments will be made on other environmental rating tools such as Greenstar and the ABR Scheme.	See PAs & SoC Appendix A	Appendix 1	EA Appendix 4	EA Appendix 1	EA Appendix 1

2.) Prepare an Energy Savings Action Plan in accordance with the requirements of the DWE and the Guidelines for Energy Savings Action Plans, DEUS 2005.	SoC Appendix A	Appendix 1	EA Appendix 4	EA Appendix 1	EA Appendix 1
Traffic and Transport					
1) Prepare a Traffic Study in accordance with the <i>RTA Guide to Traffic Generating Developments</i> that includes but not limited to the following: a.) Identify all relevant traffic routes and intersection for access and egress;	See Appendix G & Q	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
b.) Current traffic counts for all of the above traffic routes and intersections;	See Appendix G & Q	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
c.) The anticipated vehicular traffic generated from the proposed lots;	See Appendix G & Q	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
d.) Consideration of the traffic impact on the existing intersections and the capacity of the Pacific Hwy to safely and efficiently cater for the additional traffic generated;	See Appendix G & Q	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
e.) An analysis of the cumulative traffic and transport impacts of this development on the existing township and taking into consideration other proposed developments; and	See Appendix G & Q	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA

f.)Traffic analysis, using SIDRA or similar traffic model, for the relevant intersections including: i) Current and traffic growth projects for the life of the project; ii) 95 th percentile back of queue lengths; and iii) Delays and level of service on all legs.	See Appendix G & Q	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
Bushfire					
1.) Demonstrate compliance with the current version of Planning for Bush Fire Protection and AS 3959 – Building in Bush Fire Prone Areas. The EA is to identify the ongoing management arrangements of any proposed APZ's.	Appendix O	Concept Plan EA	Concept Plan EA	EA s.6	EA s.6
2.) Identify future management regimes for any areas of hazard remaining within the subject area. This should focus on the level of hazard posed to future development by the land or adjacent land and how the hazard may change as a result of development.	Appendix O	Concept Plan Appendix O	Concept Plan EA	EA Appendix 4	EA Appendix 4
Impacts on Crown Land Identify potential direct and indirect impacts arising from the development upon the adjoining Munmorah State Recreation Area and Point Wollstonecraft State Recreation Area.	EA s.7.4.14 s.7.5.12	EA s.5.1.12	Concept Plan EA	Concept Plan EA	Concept Plan EA
Site Preparation Works					
Provide a report that includes but not limited to: a.) A detailed survey showing existing and proposed levels and quantities of fill necessary for site preparation works;	See PA's for civil works	EA s.5.1.1	EA s.1	Moonee Civil works EA	Moonee Civil works EA
b.) Details o the source of fill including types of materials and their source; and	See PA's for civil works	EA s.5.1.1	EA s.1	Moonee Civil works EA	Moonee Civil works EA

d.) Details of the quantity and quality of any excess material and arrangements for its disposal.	See PA's for civil works	EA s.5.1.1	EA s.1	Moonee Civil works EA	Moonee Civil works EA
Subdivision					
1.) Provide proposed plans of subdivision that identify all covenants, easements and notations proposed for each land title and, if relevant, how the subdivision is to be staged.	See PA's for civil works	EA Design Plans Appendix 1	EA s.1	EA s.1	EA s.1
2.) Provide detail on the management arrangements for all land to be subdivided, but not limited to, titling arrangements; land ownership(particularly future public land); and all proposed covenants and restrictions, including those relating to access.	Concept Plan s3.8, s4.7 EA s.3.9	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
3.) Outline the long term management and maintenance of any areas of open space or conservation (incl. Offset areas) or both, incl. The ownership and control management and maintenance of funding public access revegetation and rehabilitation works and bushfire management.	EA s.3.9	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
Previous Submissions The EA is to respond to the issues raised in submissions received by the Department following the public exhibition of the CP between Jan 3 2007 and Mar 2 2007.	Appendix S	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA

<p>During the preparation of the EA an appropriate and justified level of consultation with any relevant party, having regard to previous consultation with the IPE and the Community Reference Group. Any such consultation prior to exhibition should be documented in the EA. In particular, consultation should be considered with:</p> <p>1) Agencies and other Authorities</p> <ul style="list-style-type: none"> a) Commonwealth Dept of Environment & Water Resources b) Lake Macquarie Council c) Wyong Shire Council d) Hunter Water e) Gosford/Wyong Council's Water Authority f) Local Aboriginal Land Council g) Catchment Management Authority h) NSW Dpt of Water & Energy i) NSW DPI j) NSW DECC k) Heritage Office, DoP l) NSW RTA m) NSW Emergency Services agencies; and n) All utility providers. 	Appendix S	Concept Plan EA	Concept Plan EA	Concept Plan EA	Concept Plan EA
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2.4 MINE CLOSURE

The land at Catherine Hill Bay is currently in a process of mine closure. This has provided for the removal of mine infrastructure, rehabilitation of degraded area, removal of hazardous materials and assessment of contamination. The process has resulted in removal of most of former colliery and washery buildings. The proposal will not adversely affect implementation of the Mine Closure Plan as most of the works are complete.

There is provision in the Mine Closure Plan to vary the process to accommodate changing requirements of the landowners.

Based on the following risk assessment tables this former mining use is unlikely to have any significant residual impacts.

Table 1
Risk Assessment Table

Effect of former mining use on proposed development and surrounding land

Issue	Consequence	Risk	Likelihood / Probability Of Occurrence	Mitigation
Contamination	Human Health Long Term	L(15)	Unlikely	Site Assessment and Audit, Remediation mostly complete.
	Environmental Pollution	L(15)	Unlikely	Site Assessment and Audit, Remediation
Mine Subsidence	Building Damage	M(9)	Possible	Construction to Mine Subsidence Board requirements
Effect on SCA	Effect on SEPP14 ICOLS	L(12)	Unlikely	None Proposed
Drainage	Groundwater effects	L(12)	Unlikely	None Proposed
Geotechnical (Unconsolidated Fill)	Building Damage	L(16)	Unlikely	Addressed in proposed development

Table 2
Environmental Risk Assessment Matrix

Potential Consequences or Impacts			Probability				
			A Almost Certain	B Likely	C Possible	D Unlikely	E Rare
Consequence	1 Catastrophic	Broad Scale environmental impact	High (1)	High (3)	Medium (7)	Low (13)	Very Low (21)
	2 Major	Regional environmental impact	High (2)	High (4)	Medium (8)	Low (14)	Very Low (22)
	3 Moderate	Local environmental impact	Medium (5)	Medium (6)	Medium (9)	Low (15)	Very Low (23)
	4 Minor	Minor environmental impact	Low (10)	Low (11)	Low (12)	Low (16)	Very Low (24)
	5 Insignificant	Insignificant environmental impact	Very Low (17)	Very Low (18)	Very Low (19)	Very Low (20)	Very Low (25)

Table 3
Risk Rating

Risk Matrix Result	Risk Rating	Level of Corrective Action Required
1 to 4	High Risk	Immediate intervention required to eliminate or reduce this risk prior to activity proceeding.
5 to 9	Medium Risk	Apply immediate risk management controls before activity commences.
10 to 16	Low Risk	Corrective action where practicable, manage by routine procedures and controls throughout life of activity.
17 to 25	Very Low Risk	Very little, if any corrective action is anticipated to be required as it is highly unlikely that this event could occur and if it did the consequences would be of minor concern.

The coal loading jetty is mostly located on adjoining land but is accessed from the site. The proposed land dedication will place the access to the jetty in public ownership. This will leave open options for the jettys future.

2.5 TECHNICAL INVESTIGATIONS

A range of technical investigations consistent with the Director Generals Requirements have been carried out for the sites:

- Visual Impact Assessment - Catherine Hill Bay and Moonee;
- Heritage Impact Statement - Catherine Hill Bay;
- Aboriginal Heritage Assessment - Catherine Hill Bay and Gwandalan;
- Traffic Assessments - Catherine Hill Bay and Gwandalan;
- Bushfire Assessments - Catherine Hill Bay and Gwandalan;
- Ecological Assessments - Catherine Hill Bay and Gwandalan;
- Civil Engineering Report - Catherine Hill Bay and Gwandalan;
- Social Sustainability Report - Catherine Hill Bay and Gwandalan;
- Drainage and Water Quality Report - Catherine Hill Bay and Gwandalan;
- Contamination Reports (site assessments) - Catherine Hill Bay; and

- Mine Stability Report - Catherine Hill Bay and Moonee.

2.6 CONSULTATION

Significant consultation has been carried out. Community consultation to date is partly summarized in the social sustainability report. Consultation with public authorities has included:

- DNR;
- Department of Planning;
- Heritage Office;
- DEC;
- Hunter Water Corporation;
- Lake Macquarie City Council;
- Wyong Shire Council; and
- Mine Subsidence Board.

Further consultation has taken place subsequent to the lodgement of the original Concept Plan through the establishment of a Design Review Panel and a Community Reference Group as well as through direct engagement.

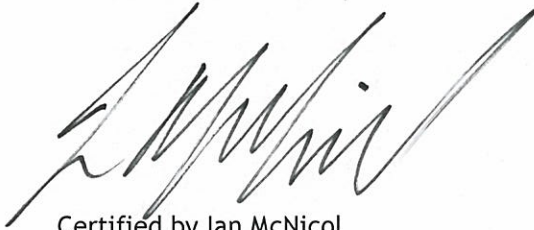
2.7 CERTIFICATE BY AUTHOR

Catherine Hill Bay/Gwandalan Concept Plan Environmental Assessment Report

Certificate by author

I certify that the information contained in this report is not false or misleading.

For and on behalf of Asquith & de Witt Pty Ltd.



Certified by Ian McNicol

Position: Senior Planner/Project Manager

Disclaimer

This report was prepared from information and material from a large range of sources. While checking has taken place it is not possible for Asquith & de Witt to independently verify that all information and materials used are correct, current, complete and accurate.

2.8 EPBC PROCESSES

The Catherine Hill Bay/Gwandalan development has been referred to the Commonwealth Government under the Environmental Protection and Biodiversity Conservation Act. The Commonwealth has determined the proposed development to be a controlled action. Accordingly the site requires assessment in accordance with the "Bilateral Agreement" between NSW and the Commonwealth. See sections 6.16 and Appendix U.

Section 3

Description of Proposal

This section provides a description of the development proposed under the Concept Plan.

3.1 NEED FOR THE DEVELOPMENT

A strategic justification for the project is provided in the State Significant Site Study. The proposal will help meet needs identified in the Lower Hunter Regional Strategy and draft Central Coast Regional Strategy being:

- accommodation of additional population;
- satisfaction of the demand for dwelling sites;
- establishment of green corridors; and
- protection of biodiversity.

The development of the Catherine Hill Bay site will also provide the adaptive reuse of a significant degraded site as well as providing services and facilities to the Village of Catherine Hill Bay. Catherine Hill Bay is currently not served by sewer or mains water and has no retail facilities.

3.2 ALTERNATIVES CONSIDERED

A number of alternatives have been examined for the Catherine Hill Bay and Moonee sites.

The Catherine Hill Bay site has been the subject of a number of development proposals.

A development proposal for the Moonee site of a considerably higher density than the current proposal was lodged with Wyong Council, but was withdrawn once the 3A processes were well established.

This proposal has been developed as a low density, low impact development which compliments the existing character of the area. The proposal has been formulated in response to the Lower Hunter Regional Strategy and the MoU. The MoU sets density targets for Catherine Hill Bay of 600 dwellings maximum and for Gwandalan a target of 12 dwellings per ha is set. The MoU requires the dedication of approximately 310 ha of land. The Gwandalan site has been identified for urban development since 1988.

3.3 COMPONENTS OF THE PROPOSAL

The components of the proposal as described in the concept plan are:

- Site works;
- Moonee Hamlets in 7 stages;
- Gwandalan subdivision in 2 stages (with no current provision for the 2nd stage); and
- Conservation area dedication.
- The proposals are described in full in the Concept Plan. Lodged concurrently with the Concept Plan are Major Project Applications for Moonee Hamlets Civils works Hamlets land 2 and Gwandalan subdivision.

3.4 MOONEE HAMLET 1 - VILLAGE CENTRE

The village centre, described in detail in the concept plan, will include community open space, village centre commercial development, subdivision and residential development. The concept plan establishes the built form and provides an indication of the final village centre form and appearance.

3.5 MOONEE HAMLETS 2 TO 7

The Moonee hamlets will be new coastal settlement. These occupy the former Moonee colliery site. The street pattern has been designed to clearly differentiate the “new” Moonee from the “traditional” Catherine Hill Bay.

The Moonee village reflects the requirements of the NSW Coastal Design Guidelines and the mining footprint. Public access has been a key design principle. The desired character of coastal village is established in the concept plan. A series of separate hamlets on neighbourhoods has been created consistent with the guidelines and the significance of the location.

3.6 GWANDALAN SUBDIVISION

The Gwandalan subdivision will provide for up to 220 dwellings lots at the required density of 12 dwellings per hectare. Not all of the 26 ha of the site is to be developed as the owners wish to retain the cartilage of the foreshore dwelling in the short to medium term.

The proposed subdivision pattern reflects the existing Gwandalan urban character which is low density detached housing. The details of the subdivision are addressed in the concept plan.

3.7 CONSERVATION AREA DEDICATION/ENVIRONMENTAL OFFSETS

Approximately 310 hectares of land will be dedicated to the public. The MoU establishes the land as environmental offsets and requires the establishment of a legally enforceable agreement to this end.

The area to be dedicated has a large range of public values which are summarised in the concept plan and the State Significant Site Study.

The development areas include land that was a former colliery site. Large areas of the site are highly disturbed but most remains as relatively undisturbed bushland.

A considerable flora and fauna survey effort has been applied to the MoU areas. The following reviews ecological and flora and fauna studies of the MoU site, with a view to determining the values of the offered offset areas against the proposed development areas.

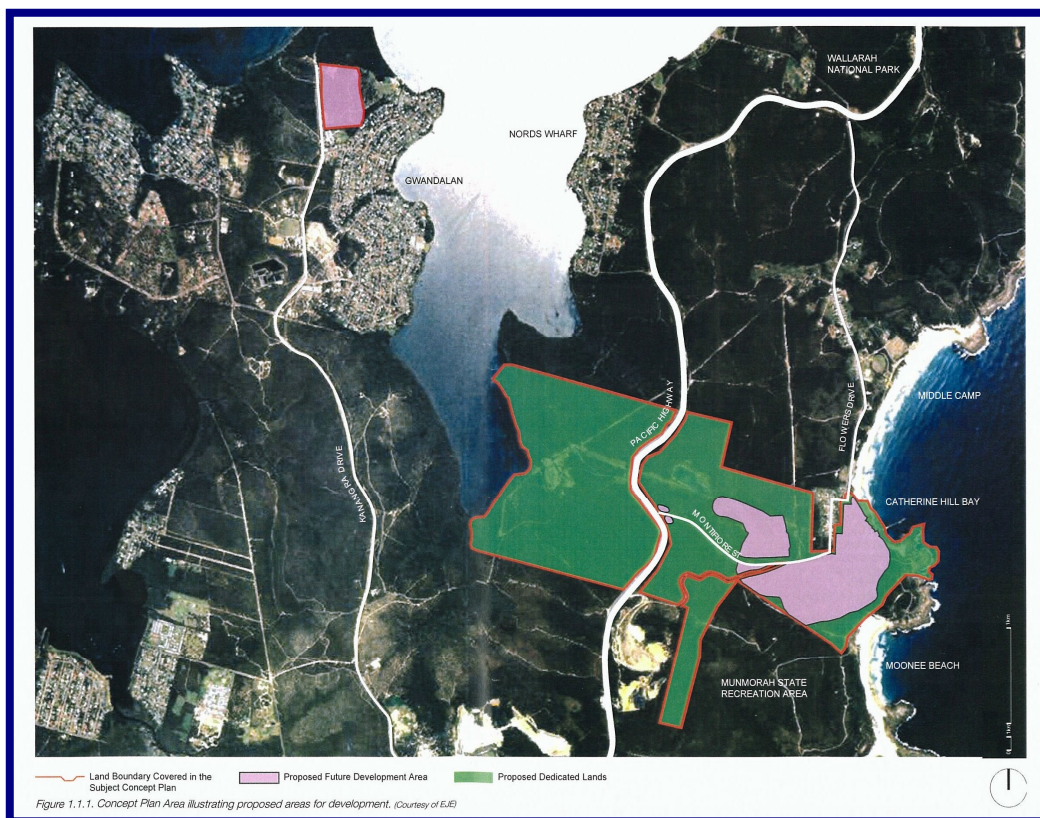


Figure 2: Concept Plan Extract - Development and Dedication Areas.

The areas subject to the MoU and proposed for either development or dedication are shown in the figure above.

CATHERINE HILL BAY

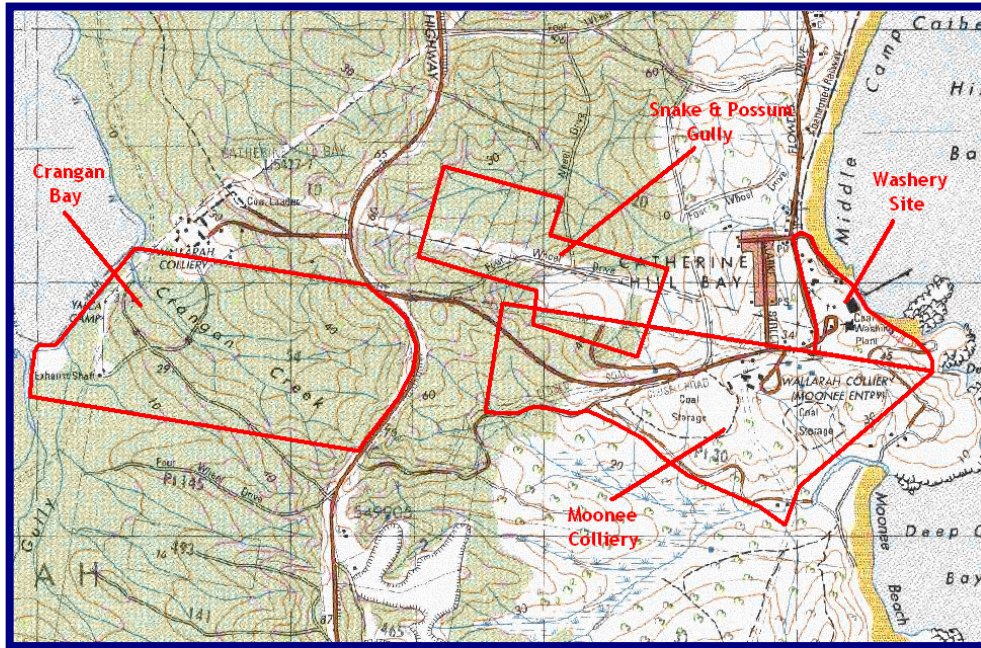


Figure 3: Extent of Flora and Fauna Survey Catherine Hill Bay.

The extent of flora and fauna survey areas at Catherine Hill Bay (areas outside the red outlines have not been surveyed) is shown on the above plan. The surveys have included NSW and Commonwealth listed species.

Washery/Coal Preparation Plant Site

Wildthing - April 2004

Potential for 29 threatened species assessed in accordance with Lake Macquarie Flora and Fauna Survey Guidelines. The survey covered cliff areas and vegetation proposed for dedication under the MoU.

The site was found to be highly disturbed.

- No threatened species found.

Moonee Colliery Site (proposed for development)

1) Wildthing 2003 - March

Potential for 55 threatened species assessed in accordance with WSC Flora and Fauna Guidelines for Development. Survey included areas proposed for dedication but was mostly over despoiled areas.

Site highly disturbed around former colliery activities.

- *Tetratheca juncea* found on perimeter of MoU development site.

2) Ecobiological July 2005 - Feb 2006

Targeted searches undertaken for 7 flora species including orchids and 16 fauna species including amphibians. The survey included most of the proposed MoU development footprint plus preparation of 7 part tests.

The survey report made a recommendation that development be limited to eastern areas of site while undisturbed areas to the west be retained, possibly as part of the State Conservation Area.

- *Tetratheca juncea* recorded on site, most to west in undisturbed bushland outside the MoU development area; and
- No other threatened species found despite targeted survey.

3) Ecobiological, October 2006

Environmental constraints study over the whole MoU footprint area at Catherine Hill Bay.

A review and confirmation of previous work and assessment of affect requirements.

- A total of 14.9 ha of the site was identified as possibly requiring offsets.
- Additional *Tetratheca* was identified in MoU area north of Montefiore Street.

Crangan Bay Site (wholly proposed for dedication)

Wildthing 2003, November

Potential for 55 threatened species assessed in accordance with WSC Flora and Fauna Guidelines for Development. The site was found to be mostly intact, undisturbed native vegetation.

Found were:

- 3 vegetation types consistent with EEC definitions;
- Masked Owl;
- Over 30 ha of heavily populated *Tetratheca juncea* habitat; and
- Evidence of recent feeding by Glossy Black Cockatoo.

Snake and Possum Gully Area (partly proposed for development)

Wildthing 2004 April

Potential for 55 threatened species assessed in accordance with Lake Macquarie Flora and Fauna Survey Guidelines.

The site was found to be highly disturbed.

- No threatened species found.
- 1 vegetation type consistent with an EEC definition found outside disturbed area.

GWANDALAN

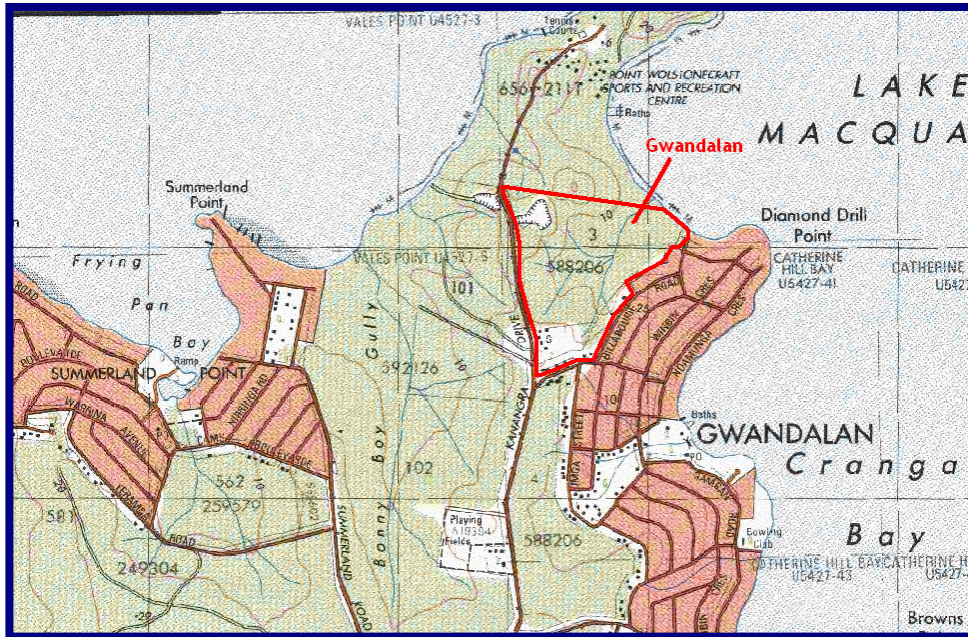


Figure 4: Gwandalan Survey Area

The Gwandalan flora and fauna survey area is shown in the above diagram.

Wildthing 2003 March - August

The potential for 47 threatened species was assessed in accordance with Wyong Shire Council Flora and Fauna Guidelines for Development.

Targeted orchid surveys conducted, 8 part tests completed.

The site was found to be partly developed and cleared with approximately 13 ha of the site remaining as disturbed bushland.

The survey findings were:

- A Masked owl was attracted to the site by calls but there was no evidence of roosting on the site;
- No threatened orchid species were found. Other than *Cryptostylis hunteriana* likely species were surveyed during known flowering periods;

- *Tetratheca juncea* was found in forested areas of the site; and
- The calls of two threatened bat species were recorded but there was no evidence of roosting on site.

Harper Somers O'Sullivan 2007

An orchid and *Tetratheca* survey was undertaken to confirm the findings of Wildthing 2003. Also assessed was the value of the proposed offsets relative to the Gwandalan site.

THE PROPOSED OFFSETS

Substantial flora and fauna survey work in accordance with The Wyong Council and Lake Macquarie City Council flora and fauna survey guidelines has been undertaken over the gazetted Catherine Hill Bay Gwandalan 3A site. No significant flora and fauna issues for the MoU development areas were indicated by the 7 and 8 part tests accompanying survey reports.

The development areas of the site, as determined by the MoU, have been closely examined. Only 3 threatened species are at issue. The threatened species *Tetratheca juncea* is found on approximately 20 hectares of the MoU development area. The only other threatened species of interest are *Cryptostylis hunteriana*, and *Diuris Praecox*, orchid species, that may occur on the Gwandalan site.

Some 310 ha is provided as offsets to the proposal under the MoU. The offset lands are largely undisturbed areas but not all of this area has been surveyed. The surveys and assessments to date indicate that the undisturbed areas are high quality habitat for a range of threatened species and support endangered ecological communities. The dedication area links to other significant areas of potentially high quality habitat and the Munmorah State Conservation Area. The dedication areas are thus of high conservation value.

It is assumed that environmental offsets are required for the all bushland losses being up to 14.9 ha at Catherine Hill Bay and up to 13 ha at Gwandalan.

Of the 310 ha offered as offsets, an estimated 200 ha is forest vegetation that is *tetratheca* habitat. The same forest vegetation is potential habitat for the threatened orchid *Cryptostylis hunteriana*. This threatened orchid is known to occur in the same microhabitat as the orchid species *Cryptostylis subulata* (Wyong Flora and Fauna Guidelines for Development) which was found in forest on the Crangan Bay site. The Harper Somers O'Sullivan 2007 survey confirmed the like-for-like nature of the proposed offsets.

The dedication area provides substantial like-for-like offsets for *Tetratheca juncea* and *Cryptostylis hunteriana*. The offset ratios for the proposed development areas are:

- The bushland loss offset is approximately 11:1;
- The Tetratheca actual habitat offset is approximately 10:1 but may be higher; and
- The orchid potential habitat offset is approximately 10:1.

These ratios are high. By comparison, the NSW Roads and Traffic Authority uses an offset ratio of 1:1 for highway construction.

The proposed offsets are thus considered to cover, and are likely to overcompensate, for any loss of ecological values and threatened species habitat on the proposed development areas of the Catherine Hill Bay Gwandalan site.

3.8 WALLARAH HOUSE PRECINCT

Adjoining the Catherine Hill Bay foreshore and surf club is an area of open space that extends to the rear of houses in Clarke Street, Catherine Hill Bay. Over looking the ocean in this area are two dwellings, the Jelly Masters Cottage and Wallarah House. Wallarah House and the Jetty Masters cottage are to be retained in what is called the “Heritage Precinct”. The precinct will ensure heritage values are protected and the relationship with the Catherine Hill Bay village is maintained.

3.9 LAND AND SUBDIVISION MANAGEMENT

Land management will be as follows:

- Mortefiore Street will be dedicated as public road.
- The conservation areas will be dedicated as public land, details of the dedication will be finalised with the NSW Government in accordance with the MoU.
- The Moonee Hamlets will be subdivided and managed under community title:
- APZ's will be the responsibility of neighbourhood plans
- Access roads and bus routes will be open access ways under community title.
- Vegetation and parks will be managed under community title and neighbourhood schemes.
- The area between the existing Catherine Hill Bay Village and Hole Street will be dedicated to the public.

- Gwandalan will be a standard Torrens Title subdivision with roads dedicated to Wyong Council.

Section 4

Description of the Locality and Site

This section provides an overview and context for the development sites.

4.1 CATHERINE HILL BAY/MOONEE

4.1.1 Region

The area is part of the NSW Lower Hunter region. It is located on the southern boundary of this region adjoining the Central Coast.

4.1.2 History

The area was first settled in 1873 when coal mining commenced. The ownership of most land in the locality was strictly controlled by mine owners until 1962.

4.1.3 Locality

The land is part of the Wallarah Peninsula. The main local features are the forested ridges, Lake Macquarie and the Pacific Ocean. Villages and towns are separated physically and visually by water and bush land. The Pacific Highway follows the peninsula ridge line.

The local built environment includes the distinctive geometric form of the village set back from the coastline and contrasting the natural areas to the west. The industrial and recreational forms to east of the village are the surf club, car parking, jetty and remaining mine buildings.

The local landscape has diverse character including headlands, beaches, small valleys and ridges and a village surrounded by natural areas, a large surf club, large mine buildings and the strong visual presence of the jetty.

4.1.4 Likely Future Character of the Locality

Based on the regional strategy the character of the area is unlikely to change significantly. The local villages will increase in size but retain their village scale.

Existing bushland along the Pacific Highway and Lake Macquarie foreshores will remain unchanged and will be protected. The existing villages of Catherine Hill Bay and Middle Camp will expand. Coastal lands currently in private ownership will come in to public ownership.

4.1.5 Community Facilities

Existing community facilities are limited.

The local facilities are the surf club, car parking and a public phone. There is a local hotel and a bowling club but no shops or public services are located in the village.

The nearest school and general store are in Nords Wharf. Most facilities and services are available in Swansea. A detailed summary of community facilities and services is provided in the social sustainability report at **Appendix J**.

4.1.6 The Site

The existing development site character is of disused mining lands and infrastructure in a coastal setting and adjoining a small village.

The character of the mine lands contrasts strongly with the compact village form of Catherine Hill Bay.

On the development area the built environment now consists mainly of concrete hard stand, roads, tracks, and an office, parking and maintenance areas adjoining Montefiore Street.

Wallarah House, a heritage item and the Jetty Masters cottage are significantly different from the mining areas being mainly residential in nature. These two dwellings are outside the main development area.

4.2 GWANDALAN

Gwandalan is located on a peninsula at the southern end of Lake Macquarie. It is a village in a largely natural location and is located in the northern most part of the Central Coast Region.

The town is surrounded by bushland and lake. Just to the west and separated by a bushland and open space buffer is the village of Summerland Point.

4.2.1 Existing Gwandalan Land Use

Development in the Gwandalan area is mainly characterised by residential properties. The development edges border the lake and bushland. The northern and southern ends of the peninsula are bushland.

The northern part of the peninsula, Point Wollstoncroft is operated as a sport and recreation camp but is mainly bushland. This land is part of the Lake Macquarie State Conservation Area managed by the NSW National Parks and Wildlife Service.

4.2.2 Existing Gwandalan Character

Gwandalan is a low density residential area.

4.2.3 Community Facilities

Gwandalan and (its close companion Summerland Point) have a good range of community facilities including shops, primary schools, clubs, sporting fields. There are medical practitioners located in Gwandalan. The nearest major shopping centre is Charmhaven. Details are provided in the social sustainability report **Appendix J**.

4.2.4 Development Site Character and Built Environment

The site has been established as an exclusive residence. High screen fencing has been erected on the western and southern boundaries heavily restricting visual access to the site.

The main dwelling is visible from Lake Macquarie but views of the remainder of the property are screened.

The site slopes gently from west to east drainage is along a series of inter connected dams. Uncontrolled drainage from the adjoining primary school has scoured a channel through the property.

Approximately half of the site is uncleared and remains forested.

In addition to the main dwelling are two other dwellings, a chapel, machinery sheds, tracks, fencing, dams, games room, and a boathouse.

4.2.5 Future Character

It is intended that the future character will reflect that of Gwandalan as a whole. The site has been identified for residential development since 1988.

4.3 DEDICATION/ENVIRONMENTAL OFFSET LANDS

Some 310 hectares of land is to be dedicated as part of the development.

The majority of lands proposed for dedication are located west of Catherine Hill Bay and cover the large expanse of bushland between there and the foreshore of Lake Macquarie. Significant areas of lake foreshore and coastal foreshore, beach and headland are also included.

4.3.1 Existing Land Use

The dedication areas are mostly natural bushland but includes former mine infrastructure areas under going rehabilitation.

The private foreshore and headland areas at Catherine Hill Bay already have a substantial degree of public use.

The bushland tracks are frequented by trail bike riders.

Former mining areas are undergoing rehabilitation and have been replanted after removal of mine infrastructure.

4.3.2 Ecological Values

The dedication areas have established high ecological values. The area is a wildlife corridor, is habitat and potential habitat for a range of threatened species, supports locally important vegetation types, includes an area of SEPP 14 wetland and also includes an area of saltmarsh which is an endangered ecological community.

The Wallarah Peninsula has been identified by DEC as one of its three priority areas for conservation in the Lower Hunter Region.

The ecological values of the dedicated area are addressed in the State Significant Site Study and **Appendix U**.

4.3.3 Conservation and Community Values

In addition to ecological values the area has a range of conservation and community values including:

- approximately 1.8 km of lake foreshore;
- approximately 1.5 km of coastal foreshore;
- a significant area of coastal headland, beach and rock platform;
- part of the heritage listed Catherine Hill Bay railway;
- access to Catherine Hill Bay Surf Club;
- the historic original coal mine entrances (now sealed) at beach level;
- protection of Aboriginal heritage sites along the Lake Macquarie foreshore;
- substantial reinforcement of the Wyong - Lake Macquarie inter-regional buffer;
- extension of the National Parks estate and strengthening of the NSW reserve system; and
- protection of scenic quality.

Section 5

Design Principles

The designs for the proposed development are explained in detail in the concept plan. The concept plan provides site analyses, and the detail necessary to appreciate what is proposed for the site. The principles are mainly derived from the coastal design guidelines.

5.1 COASTAL DESIGN GUIDELINES

The coastal design guidelines outline the design issues for coastal villages. Relevant issues are:

- landscape;
- visual;
- natural settings;
- ecological corridors;
- separation;
- clear boundaries;
- set back;
- bushfire;
- streets;
- form and character;
- small scale;
- connections;
- height & 2 storey maximum; and
- service.

5.1.1 Catherine Hill Bay

The design response to these issues is detailed in the relevant sections of the Concept Plan. The design responses are consistent with maintaining and developing coastal character.

5.1.2 Gwandalan

The design response, within the parameters of the MoU, has been to replicate as far as possible the existing subdivision pattern of Gwandalan while implementing current Wyong Shire Council design standards. The subdivision layout and details are as set out in the Concept Plan.

5.2 INTERIM REPORT BY ASSESSMENT PANEL

Following exhibition and assessment of the original concept plan, the Ministerially appointed Assessment Panel issued an Interim Report. Within the report the Panel provided

The comments of the panel incorporate heritage and landscape considerations as well as significant matters arising from the NSW Coastal Policy and the NSW Coastal Design Guidelines.

In particular the proposal seeks to address the panel guidelines by:

- Avoiding undeveloped areas of coastal headland and ridgelines;
- Protecting coastal views;
- Retaining the visual character of the existing Catherine Hill Bay Village;
- Providing for improved public access to the coastline;
- Providing a soft landscape setting for development; and
- Maintaining an appropriate scale and form for development.

Section 6

Planning

This section briefly describes the planning controls that apply to the land.

6.1 EP & A ACT

The development is to be pursued in accordance with the MoU, mainly under Part 3A of the EPA Act. The processes of Part 3A will be used to establish appropriate planning controls for the site. The site was gazetted as subject to Part 3A on 6 July 2007.

6.1.1 State Significant Site Study

It is intended to rezone the site area for development in accordance with the concept plan through a State Significant Site controls under the Major Projects SEPP.

A State Significant Site Study has been lodged in conjunction with the Concept Plan. The Study establishes the footprint of the proposed development through zonings and limits the development permitted within the respective zones. The zones establish the permissibility of proposed development on the Concept Plan site.

The zones as proposed are consistent with The Standard Instrument (Local Environmental Plans) Order 2006. The zones proposed are:

- Zone R1 General Residential;
- Zone RE1 Public Recreation; and
- E1 National Parks and Nature Reserves.

The R1 zone will be for the proposed development. The RE1 zone will be for parks and open space, including bushfire APZs, in and around the development areas. The E1 zone will apply to the areas to be dedicated for conservation.

6.1.2 Concept Plan

The overall development of the site will be guided via the concept plan which establishes design parameters, staging and controls for development such as height, landscaping and streetscaping.

The development shown in the Concept Plan is consistent with the zones proposed in the State Significant Site Study.

6.1.3 Project Approval

A series of major project applications is being lodged concurrently with the concept plan. It is envisaged that these project applications will be dealt with under Part 3A of the EP&A Act.

Concurrent Major Project Applications are being lodged for:

- Moonee Hamlets 1 to 5 civil works including coastal walk, parks and open space;
- Village centre construction - 69 dwellings, open space and neighbourhood shop buildings;
- Moonee Village Hamlet 2 - dwellings; and
- Gwandalan subdivision - 215 lots in 4 release stages.

These project applications should be viewed as part of the detail of the overall proposal.

Later Major Project Applications are expected to be lodged for Moonee Hamlets 6 & 7 civils. No decision has been made yet on how construction of housing on hamlets 3 to 7 will proceed.

6.1.4 Approvals under Part 4 of the EPA Act.

Provision has been made for development outside of major project to be approved for the site under normal DA processes. It is proposed that development with a value of less than \$5 million will be assessed under Part 4 of the EPA Act.

6.1.5 Approvals under Part 5 of the EPA Act

Major infrastructure including water and sewer will be approved under Part 5 of the EPA Act.

6.2 SEPP 55 REMEDIATION OF LANDS

Appropriate contamination studies have been completed as part of the Mine Closure and consent for remediation is not required.

- Clause 7 of SEPP 55 requires the consent authority to consider;
- Is the land contaminated?;
- Can any contaminated land be remediated?; and
- Will remediated land will be suitable for its proposed purpose?

Consent can only be granted if these considerations have been made. As a result of the studies undertaken to date it is clear that the site will be suitable for its proposed use with minor remediation works which can be completed as part of the development. The suitability of the site for intended uses can be verified by site audit processes.

Extracts of the site assessments for the former mine areas at Catherine Hill Bay and Moonee are provided as **Appendix M**.

The land use history of the Gwandalan site does not indicate any likelihood of contamination.

6.3 SEPP 71 COASTAL PROTECTION

Under SEPP 71 the aims of the SEPP and the matters specified in Clause 8 must be considered. The relevant considerations are addressed below.

Assessment under the aims of SEPP 71:

(a) to protect and manage the natural, cultural, recreational and economic attributes of the New South Wales coast, and

The proposal will support the natural, cultural, recreational and economic attributes of Wyong and Lake Macquarie LGAs by protecting natural areas and providing new development of residential, tourism and commercial facilities as detailed in the social sustainability report.

(b) to protect and improve existing public access to and along coastal foreshores to the extent that this is compatible with the natural attributes of the coastal foreshore, and

(c) to ensure that new opportunities for public access to and along coastal foreshores are identified and realised to the extent that this is compatible with the natural attributes of the coastal foreshore

The proposal will access by converting privately owned into public foreshore. The public will gain ownership of approximately 1.8km of lake foreshore and 1.5 km of coastal foreshore as well as 8ha of headland, beach and rock platforms. The Moonee Village development will provide managed public access to Moonee Beach, something hitherto not available and will ensure that parking is available.

(d) to protect and preserve Aboriginal cultural heritage, and Aboriginal places, values, customs, beliefs and traditional knowledge, and

The proposed land dedication is likely to protect areas and places of Aboriginal significance along the Lake Macquarie foreshore and a site on Middle Camp Beach. The proposed development areas are of no known significance.

(e) to ensure that the visual amenity of the coast is protected, and

The dedication of 310 hectares of coastal land including key areas of foreshore and headland will ensure that visual amenity is protected. Moreover, the development is being planned as a low key coastal village to blend into the natural landscape. This effect will be enhanced as plantings on the site mature. The landscape plan is shown in the Concept Plan.

(f) to protect and preserve beach environments and beach amenity, and

No significant change to beach environments and amenity likely.

(g) to protect and preserve native coastal vegetation, and

This will be achieved by dedication of land.

(h) to protect and preserve the marine environment of New South Wales, and

Not directly relevant but adequate drainage controls will help prevent damage to marine environments.

(i) to protect and preserve rock platforms, and

A significant area of rock platform is being dedicated as part of this proposal.

(j) to manage the coastal zone in accordance with the principles of ecologically sustainable development (within the meaning of section 6 (2) of the 6), and

The application of the Coastal Policy, BASIX and water sensitive urban design will all operate to give effect to the principles as will the proposed dedication of land.

(k) to ensure that the type, bulk, scale and size of development is appropriate for the location and protects and improves the natural scenic quality of the surrounding area, and

The proposed development has scale and bulk consistent with coastal villages as identified in the NSW Coastal design guidelines. Protection and improvement of the natural scenic quality of the surrounding area will be achieved through dedication and rehabilitation.

(l) to encourage a strategic approach to coastal management.

This aim is achieved through compliance with the overall vision in the Lower Hunter Regional Strategy.

The matters for consideration under clause 8 of SEPP 71 are the following:

8(a) the aims of this Policy set out in clause 2,

See (a) to (l) above.

8(b) existing public access to and along the coastal foreshore for pedestrians or persons with a disability should be retained and, where possible, public access to and along the coastal foreshore for pedestrians or persons with a disability should be improved,

See (b) above.

8(c) opportunities to provide new public access to and along the coastal foreshore for pedestrians or persons with a disability,

See (c) above.

8(d) the suitability of development given its type, location and design and its relationship with the surrounding area,

See (k) above.

8(e) any detrimental impact that development may have on the amenity of the coastal foreshore, including any significant overshadowing of the coastal foreshore and any significant loss of views from a public place to the coastal foreshore,

No development is proposed on the coastal foreshore, no overshadowing will occur and no views from public places will be lost. A significant public view will be created across the Moonee village site.

8(f) the scenic qualities of the New South Wales coast, and means to protect and improve these qualities,

As the development is to be located on degraded former mining lands the coastal village atmosphere is likely to provide an overall improvement in amenity.

8(g) measures to conserve animals (within the meaning of the Threatened Species Conservation Act 1995) and plants (within the meaning of that Act), and their habitats,

The proposed dedication will protect a significant area of threatened species habitat and provide corridor linkages.

8(h) measures to conserve fish (within the meaning of Part 7A of the Fisheries Management Act 1994) and marine vegetation (within the meaning of that Part), and their habitats

The site will have appropriate stormwater controls, SEPP 14 areas will be protected from runoff.

8(i) existing wildlife corridors and the impact of development on these corridors,

Known corridors are to be dedicated as public land.

8(j) the likely impact of coastal processes and coastal hazards on development and any likely impacts of development on coastal processes and coastal hazards,

The proposed developments are located either with significant elevations or setbacks to known hazards.

8(k) measures to reduce the potential for conflict between land-based and water-based coastal activities,

No development is proposed that would increase land and water recreation conflicts.

8(l) measures to protect the cultural places, values, customs, beliefs and traditional knowledge of Aboriginals,

See (d) above.

8(m) likely impacts of development on the water quality of coastal waterbodies,

There will be no significant effect. The site is to be seweraged and adequately drained. However, the development at Catherine Hill Bay may result in connecting the existing village to sewer thus enhancing water quality in the area.

(n) the conservation and preservation of items of heritage, archaeological or historic significance,

Buildings thought to have mining heritage significance are to be retained

(o) only in cases in which a council prepares a draft local environmental plan that applies to land to which this Policy applies, the means to encourage compact towns and cities,

N/A

(p) only in cases in which a development application in relation to proposed development is determined:

(i) the cumulative impacts of the proposed development on the environment, and

The cumulative effects of traffic, impacts on services and impacts of development have been assessed by Masson Wilson Twiney.

(ii) measures to ensure that water and energy usage by the proposed development is efficient.

The village developments will have to comply with SEPP BASIX and water sensitive urban design principles including reuse as provided for in the concept plan.

6.4 SEPP BASIX

All residential buildings in the proposed development will be subject to BASIX assessment.

6.5 SEPP (MINING PETROLEUM PRODUCTS & EXTRACTIVE INDUSTRIES) 2007

Part 3A of the SEPP lists matters for consideration with development applications.

Clauses 12, 14, 15 and 16 relate to approvals for mining and petroleum production and are not relevant.

Clause 13 deals with the compatibility of proposed development within the vicinity of an existing mine. Clause 13 matters for consideration are:

i) the existing and approved uses of land in the vicinity.

The current mine is in the process of closure so no conflict with surface mining infrastructure or operations will occur.

ii) impact of a future extraction of materials.

The land is still under laid by coal seams with extraction potential. Is believed that the seams will be accessible from other sites and it may be possible to re-open the Wallarah Colliery if necessary. Consultation with the Mine Subsidence Board indicates that appropriate surface development is acceptable in the proposed location.

iii) ways in which the development may be incompatible with future extraction or recovery of materials.

a) As indicated under ii) there do not appear to be any significant impediments to future coal mining.

Development would reduce the potential for petroleum exploration by restricting area available for drilling but this would be unlikely to restrict any future, for example, gas extractions which could be accommodated locally.

b) The Lower Hunter Regional Strategy indicates the area as being underlain for coal resources. Given that the collieries are closing, and that the Gwandalan resource remains accessible the public benefit of housing is not offset by any loss of resource extraction opportunities.

c) The measures proposed to avoid incompatibilities.

The proposal proposes to comply with the requirements of the Mine Subsidence Board which will ensure that any damage due to former mine activities will be manageable and future mining will not be unduly compromised.

Issues with PELs 5 and 446 will be addressed by allowing access for exploration prior to development as recommended by D.P.I.

6.6 LOWER HUNTER REGIONAL ENVIRONMENTAL PLAN

This plan applies to those areas of the land located in the Lake Macquarie LGA.

The plan (clause 63) provides for establishment of a green buffer between the Wyong and Lake Macquarie LGAs on publicly owned land. This proposal will bring into public ownership significant areas of land that will contribute to the green buffer.

6.7 LOWER HUNTER REGIONAL STRATEGY

The Lower Hunter Regional Strategy identifies the Concept Plan land for urban development and conservation. Details of compliance with the strategy are contained in the State Significant Site Study.

6.8 DRAFT CENTRAL COAST REGIONAL STRATEGY

The land is included in the Draft Central Coast Regional Plan as part of the North Wyong Structure Plan area. The Structure Plan area is a focus for new employment and greenfields residential lands.

6.9 NSW COASTAL POLICY

The primary objective of the NSW coastal policy is to protect coastlines and beaches for the enjoyment of future generations and to ensure that coastal development is balanced, well planned and environmentally sensitive. The overriding vision is of an ecologically sustainable NSW coast.

The policy key themes set out some basic principles for development. While the focus is on conservation initiatives this does not mean that future urban development in coastal area should be sterilised. In particular the policy promotes the need for local housing strategies to provide opportunities to more efficiently use land. These opportunities can ensure that equity considerations are fulfilled by allowing more people to live in the coastal zone while preserving important environmental attributes.

Another key theme of the policy is ESD (Ecologically Sustainable Development). The principles of ESD provide guidance and an integrating role in the development of the policy. The policy states that ESD provides a framework for reconciling issues when necessary and making choices between competing demands for access to the resources of the coastal zone. The policy also states that ESD should be a guide to decision making in the coastal zone.

Ecological Sustainable Development is discussed in detail in the policy. Under the ESD section a number of issues relevant to the current proposal are raised. It is quite clear under the ESD discussion in the policy document that there is no intention to stop growth on the coastline. However it is also clear that this growth must be achieved by balancing issues such as intergenerational equity and the conservation of biological diversity. In particular the policy envisages an approach to new development and resources exploitation in the coastal zone which balances human and ecological needs. Overall the ESD section of the policy advocates cautious, careful and well planned development. The precautionary principle is seen as an integrating mechanism rather than as advocating a no development approach.

The policy principles are to be read within the broader vision of the coast being a coastal environment which is preserved and enhanced for its natural and cultural values while also providing for the economic, social and spiritual well being of the community.

In the case of Catherine Hill Bay the old mining infrastructure sites represent an outstanding opportunity to establish new coastal development that gives effect to the Coastal Policy without the loss of natural values.

In the case of Gwandalan the site has been identified for residential development since the 1980's and represents a logical extension of the existing village. The Gwandalan proposal is consistent with the Coastal Policy being a strategic outcome.

Coastal Policy considerations for Catherine Hill Bay are addressed in detail in the table at **Appendix S**.

6.10 NSW COASTAL DESIGN GUIDELINES

The New South Wales Government has produced the Coastal Design Guidelines (CDG). The guidelines are to ensure that decision making about coastal development is approached on an urban design basis and is responsive to the character of a place. The guidelines seek to replace ad hoc decision making with a process more attuned to the character and environment of a place and to social and economic positively.

The background to the CGD is poor coastal development that has resulted in a loss of the qualities that make the coast attractive. Managed coastal settlement is seen as the way to protect these qualities.

The CDG provides for the establishment of new development in, and extension of, existing communities. Part 1 of the document contains a description of relevant state policies, Part 2 contains design principles for coastal settlement and Part 3 identifies acceptable planning practices for the coastline.

The Catherine Hill Bay area is unique and does not neatly fit into the CDG hierarchy. The mining history of the locality is largely the reason for this. Almost all of the local buildings were established by the local mining interests. The area consists of the two hamlets of Catherine Hill Bay and Mine Camp village plus the extensive industrial/mining infrastructure. The remaining infrastructure includes the jetty, railway and stockpile areas established over the last 130 years.

Gwandalan is a primarily residential location with a character based on lake side location and its visual separation from other nearby villages and towns. This character is enhanced by views across Lake Macquarie to other settlements.

The CDG identifies a range of present and future opportunities for coastal settlement. The opportunities include:

- ensuring that existing settlements maintain their identity and physical distance from each other;
- enhanced focus of retail and commercial development within villages;
- the retention of close visual and physical boundaries between natural and built environments;
- encouragement of tourist accommodation that fits within the built form context;
- protection of the ecological integrity of surrounding areas; and
- the provision of logical clear visual and physical edge and access for the public.

The document also sets out the desired future character for coastal hamlets and coastal settlements.

The CDG establishes a vision for the coastal area as follows:

Settlements have clearly defined and contained boundaries with separation between other settlements formed by aquatic and bushland reserve which protect coastal ecosystems, local character and visual settings.

The design principles contained in the CDG allow coastally sensitive development of high amenity. The principles have been applied and the results can be seen in the concept plan. At both Catherine Hill Bay and Gwandalan development that

respects the coastal environment, establishes appropriate character and provides for clearly defined settlements is proposed.

6.1.1 LAKE MACQUARIE LEP 2004

Under the Lake Macquarie LEP 2004 the land is currently zoned 2(1) Residential, 7(1) Primary Conservation, 7(4) Coastal Protection and 9 Natural Resources.

The Catherine Hill Bay village is in a heritage conservation area under the LEP. Some areas of the land are identified for acquisition by the Department of Planning.

As indicated in section 6.1 the site is to be rezoned via SEPP Major Projects to permit the proposed development.

6.1.2 WYONG LEP

Under Wyong LEP 1991 the land is currently zoned 7(b) Scenic Protection and 7(e) Coastal Lands Acquisition.

As indicated in section 6.1 the site is to be rezoned via SEPP Major Projects to permit the proposed development.

6.1.3 DEVELOPMENT CONTROL PLANS

Lake Macquarie DCP No 1 applies to land in that LGA.

Wyong DCP applies to land in that LGA.

Relevant controls from the DCPs have been incorporated into the concept plan. In particular the Catherine Hill Bay built forms reflect Lake Macquarie heritage controls and the Gwandalan subdivision is based on the Wyong subdivision code.

6.1.4 SECTION 94 AND DEVELOPMENT CONTRIBUTIONS PLANS

Lake Macquarie City Wide Contributions Plan applies to development in that LGA.

That part of the Catherine Hill Bay site in Wyong Shire is subject to the Lake Munmorah Section 94 Contributions Plan.

The Gwandalan site is subject to the Gwandalan Section 94 contributions plan.

The dedication of 310 hectares of land along with the provision of on site amenity and services represents a significant contribution to the community. However, it is anticipated that discussions will be held with Councils and the State regarding developer contributions for the sites covered by this proposal.

6.15 LAKE MACQUARIE COASTLINE MANAGEMENT PLAN

The Coastline Management Plan identifies an interim alignment for a coastal walk along the foreshore of the land in Lake Macquarie LGA.

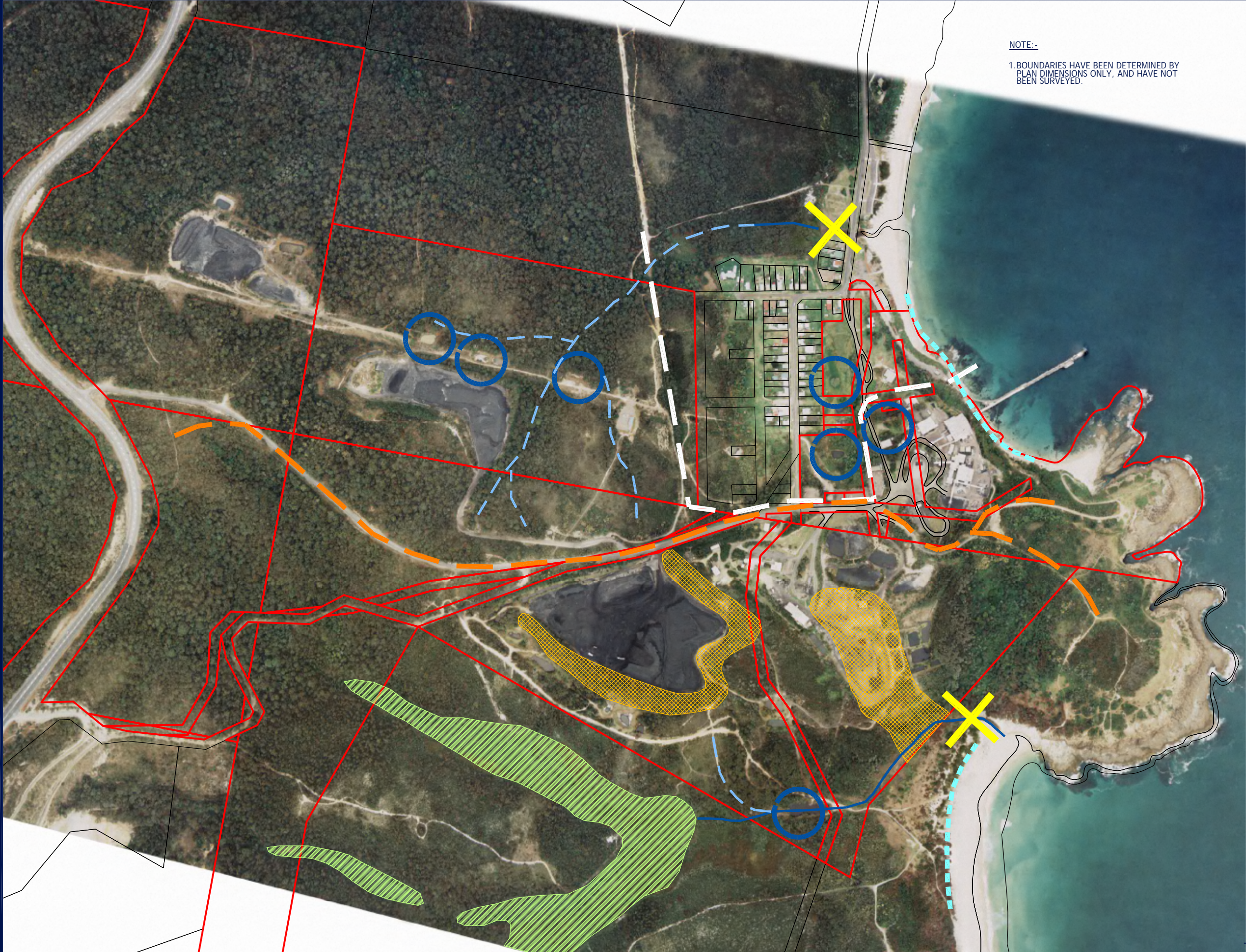
The detail is shown in Plan of Management 1 Catherine Hill Bay Beach.

6.16 PLANNING PRINCIPLES

Based on the site constraints **Figure 5a & 5b** and the planning background to site a set of planning principles **Figure 6** can be derived to guide development of the site.

6.17 EPBC ACT GUIDELINES


The proposal is s controlled action under the Commonwealth EPBC Act and Bilateral Agreement with NSW. NSW DoP have a set of guidelines which specifies the assessment process and information requirements. The information requirements are addressed in **Appendix O**.



NOTE:-
1. BOUNDARIES HAVE BEEN DETERMINED BY
PLAN DIMENSIONS ONLY, AND HAVE NOT
BEEN SURVEYED.

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
LEGEND




BOUNDARY OF VILLAGE VISUAL CATCHMENT




RIDGE / VISUAL CATCHMENT BOUNDARY




DRAINAGE LINE




PERMANENT WATERCOURSE




ADJACENT BOUNDARIES




BOUNDARY LINES




COASTAL HAZARD




UNCONSOLIDATED FILL



SEPP14 WETLANDS



ICOL'S REQUIRING STORMWATER
DRAINAGE PROTECTION



DRAINAGE CONTROLS TO BE RETAINED

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ROSE


Creating a quality way of living

FIGURE 5a



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LEGEND

LGA BOUNDARY

BOUNDARY LMCC CHB CONSERVATION AREA

ADJACENT BOUNDARIES

BOUNDARY LINES

HERITAGE ITEM

SEPP14 WETLANDS

POTENTIAL REMEDIATION AREA SEPP55

NO UNTREATED STORMWATER TO LEAVE SITE

WHOLE SITE AFFECTED BY:-
NSW - COASTAL POLICY
NSW - COASTAL DESIGN GUIDE LINES
SEPP 71 - COASTAL PROTECTION
LOWER HUNTER REGIONAL STRATEGY
MINE CLOSURE PLAN

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FIGURE 5b

* I.C.O.L. - INTERMITTENTLY CLOSING & OPENING COASTAL LAKE



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LEGEND

- VIEW TO BE PROTECTED
- VISUAL CATCHMENT BOUNDARY
- NO DEVELOPMENT ON HEAD LANDS & RIDGES
- PROTECTION OF VILLAGE VISUAL CATCHMENT
- PUBLIC ACCESS TO MOONEE BEACH
- SETBACK TO MOONEE BEACH

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FIGURE 6

Section 7

Assessment of Environmental Issues

The analysis and addressing of environmental issues is based on the draft Director General Requirements.

The background studies have informed the proposed design, management and mitigation measures. The addressing of design principles is shown in **Figure 7**.

The Concept Plan details the built outcomes while this Environmental Assessment and draft Statement of Commitments identify the management and mitigation measures needed to ensure that both the short and longer term effects of the proposal are not significant.

Site analysis is included in the Concept Plan.

7.1 SITE SUITABILITY CATHERINE HILL BAY

The Catherine Hill Bay site is former mining lands. The site is also located in what is a relatively sensitive coastal location.

In addition to the physical characteristics of the site there is a substantial range of policy consideration that affect the suitability of the site for development.

Significant considerations include:

- The MOU development areas;
- The established environmental offsets for the project;
- The former mining footprint and the residual effects of mining;
- Significant coastal features on and near the land including headlands, cliffs, coastal wetlands and ICOLs; and
- Heritage and landscape including proximity to the existing village.

The site has been examined in detail and those areas unsuitable for development have been excluded from the development footprint or treated appropriately. The details of the site analysis are illustrated in **Appendix T**.



NOTE:-

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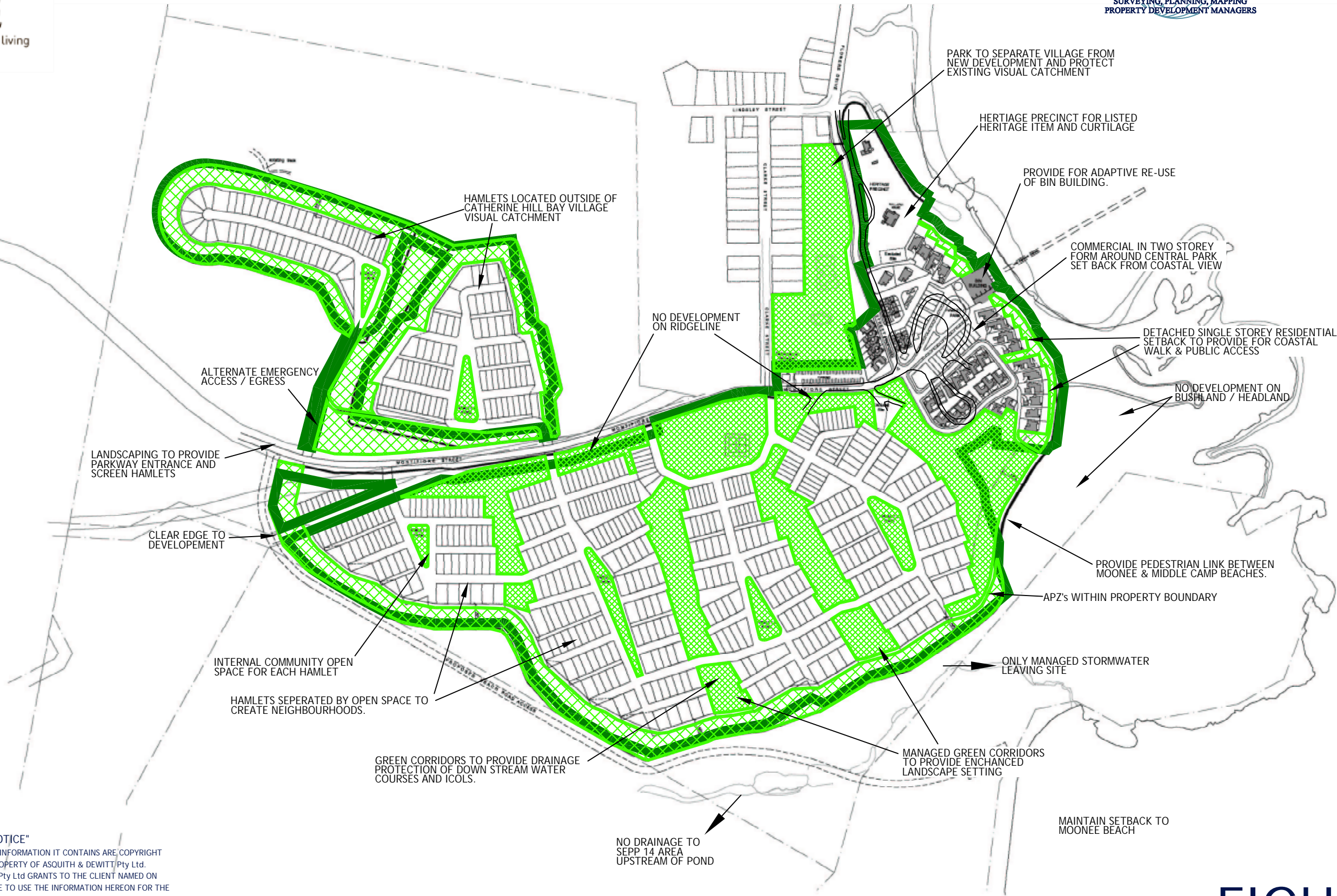


FIGURE 7

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MIDDEN

DAMS

DRAINAGE TO NPWS LAND

BAR SCALE

1: 1500 (A1)

1: 3000 (A3)



7.2 SITE SUITABILITY GWANDALAN

Significant considerations include:

- The MOU development areas;
- The established environmental offsets for the project;
- Existing site development;
- Integration with the existing Gwandalan urban form;
- Amenity; and
- Proximity to the primary school.

The site has few physical constraints being of low relief and located away from foreshore areas. Services are for the most part already in place.

7.3 SITE SUITABILITY DEDICATION LANDS

The suitability issues for the dedication lands for are mainly ecological and landscape issues.

The areas proposed for dedication have site have a significant range of values including:

- SEPP 14 coastal wetlands;
- Endangered ecological communities;
- Threatened species habitat;
- Wildlife corridor;
- Potential national park /nature reserve linkages; and
- Interregional buffer.

As former mining lands there are areas of lesser value that have and are being rehabilitated. Most of the dedication area is relatively intact bushland.

7.4 CATHERINE HILL BAY AND MOONEE BEACH VILLAGE

7.4.1 Urban Design

The issue is the need to create liveable, sustainable and sensitive development that respects the location and amenity.

The details of urban design and built form are set out in the concept plan prepared by CM+. The concept plan provides details of intended streetscapes, built form, open space, access and relationship to the existing village.

Management and Mitigation

- Urban design issues will be addressed by implementing the designs and controls specified in the Concept Plan.
- The Concept Plan will operate as a set of development controls for the site ensuring that future approvals are consistent with intentions for the site.
- The Concept Plan is consistent with the intentions of the NSW Coastal Design Guidelines.

7.4.2 Visual Impact

Visual impact of the proposed development on Catherine Hill Bay and Moonee has been assessed by Context Landscape Architects, **Appendix D**.

There are 3 small local visual catchments with two sub catchments formed by Middle Camp and Moonee beaches. The effects of local development have been assessed on three previous occasions.

The main visual impact issues for Catherine Hill Bay are the retention of the compact form and the distinctive setting and the need to protect the views from the beaches and the key vantage point at the northern entry on Flowers Drive.

7.4.3 European Heritage

A heritage impact statement has been prepared by CM+ for the current proposal, see **Appendix E**. The HIS finds the proposal is consistent with protection of local mining heritage and the specific heritage items in the locality.

Management and Mitigation

- Implement the layout and building controls as set out in the concept plan.

7.4.4 Aboriginal Heritage

An Aboriginal heritage report is being prepared by ERM 2007. Previous reports were prepared by Indigenous Outcomes. Reports are included as **Appendix F**.

Nothing of significance was found on the development areas for either Catherine Hill Bay or Gwandalan.

Mitigation and Management

- No specific actions required.

7.4.5 Traffic and Access

Extensive traffic assessment has been carried out by Masson Wilson Twiney **Appendix G**. Previous assessments have established that traffic increases arising from development will require mitigation measures. Consultation with the RTA and Councils has explored local issues.

The road layout has been designed to minimize traffic on Clarke Street. Traffic minimization has been achieved by providing direct access to the proposed development off Flowers Drive, and by creating entrances to Moonee Beach Village that will draw traffic before it gets to Clarke St.

Modelling has shown that traffic signals are likely to be needed at the intersection of Montefiore Street and the Pacific Highway. Signals installed at the intersection will have the effect of directing northerly traffic away from Flowers Drive and onto the Pacific Highway because it will be a similar travel time but a safer option.

At present Montefiore Street is partly on private property. The road should be fully in public ownership.

Construction traffic can be confined to Montefiore Street. This will limit the traffic effects to existing mine roads and not affect existing village areas.

Management and Mitigation

- Traffic lights will be installed if necessary at the intersection of Montefiore Street and the Pacific Highway.
- The internal road networks for the Catherine Hill Bay village extension and the Moonee Beach village as identified in the Concept Plan will be created as part of Stage 1 of both projects.
- Construction traffic will be confined to Montefiore Street.
- Montefiore Street will be opened as a public road.

7.4.6 Bushfire

A hazard is posed by all local natural vegetation. An assessment of likely Asset Protection Zone widths has been undertaken in accordance with the Planning for Bushfire Protection Guidelines by Barry Eadie 2007 see **Appendix O**.

Management and Mitigation

- APZs will be implemented as required.

- APZs will be managed as follows:
- On Torrens Title subdivision lots by incorporating the APZ into individual lots with positive covenants applying management requirements;
- In Community Title subdivision by making the APZs community land with management requirements specified in the community management statements.

7.4.7 Ecological Impacts

A number of flora and fauna assessments have been conducted over the site by Wildthing and Ecobiological see **Appendix H and Appendix I**.

The development is likely to have very little ecological impact being mostly over areas heavily degraded by mining. Significant weed invasions have occurred in vegetated areas on, and east, of the mining footprint.

A large area of ecologically intact mining land was publicly dedicated in the early 1990s and is now the section of Munmorah State Conservation Area that adjoins the site to the south and includes Moonee Beach.

While no threatened animal species were located in development areas the threatened plant species *Tetratheca juncea* was found on the site.

Part of the proposal is the environmental offsets schemes described in the MoU. This provides for the dedication of some 310 hectares of land as environmental offsets to the proposal. This land has large areas of known *Tetratheca* habitat.

Natural processes on the site, such as drainage, have been heavily altered by mining activities such as earth works, water harvesting, and reject emplacement. Remaining vegetation is heavily fragmented by tracks. Drainage and sediment controls have protected adjoining water courses but are likely to have significantly altered flow characteristics. For example, existing water and sediment management prevents runoff from former mining areas to the SEPP 14 wetland area south of the site.

Management and Mitigation

Land within the proposed village area will be managed to protect the ecology of adjoining land. This will be achieved by

- dedication of land in accordance with the MoU;
- implementation of sediment and drainage controls during construction;
- construction of sediment and drainage controls for the whole site as part of the first stages of works;

- provision of controlled access to Moonee Beach;
- water sensitive urban design;
- no urban runoff to the SEPP 14 wetland area to the south;
- use of the existing mine dam for water detention;
- community management of areas adjoining the state conservation; and
- weed management will be incorporated into management of community areas and APZs.

7.4.8 Coastal and Foreshore Public Access

At present there is no legal public access to Moonee beach other than from the south through the Conservation Area. While there are several current access routes from the north these are all partly across private land and are in frequent use.

A large section of Lake Macquarie foreshore is on the subject land and is privately owned.

Part of the access to the Catherine Hill Bay Surf club is on private land and all foreshore areas of Middle Camp Beach south of the surf club are privately owned.

The urban design of the proposed development will increase and improve access to local foreshores by providing a public walking loop that links the villages and Middle Camp and Moonee beaches. The loop is provided for in parts 2.7 and 3.6 of the concept plan.

Management and Mitigation

- Dedications will return significant foreshore areas to public ownership.
- The village road networks will be open access ways to allow public access to the beach and conservation area.
- Access and open space will be provided as shown in the concept plan.
- Parking for beach users is provided as part of the Moonee Beach Village main avenue.
- The proposal includes construction that part of the “coastal walk” along the elevated foreshore of the site.
- Access will be provided to Moonee Beach subject to agreement with NPWS.

7.4.9 Utilities and Infrastructure

Hunter Water Corp has agreed to service the proposed development. Both water and sewer will be integrated in the urban utilities networks to the north. A report on the civil engineering aspects of the proposal has been prepared by Parsons Brinckerhoff, **Appendix J**.

The development will be fully sewered thereby ensuring the protection and ongoing amenity of adjoining beaches and waterways.

A stormwater management system based on water sensitive urban design principles will be established for the site. Stormwater will be collected and used for watering open space areas. No urban stormwater will be released to significant wetland areas in the adjoining state conservation area. Stormwater management will protect the ICOLs located downstream of the land.

Management and Mitigation

- Provision of water and sewer services by Hunter Water Corp.
- Collection of stormwater for open space irrigation.
- Sufficient capacity to connect existing village areas into the networks if required.
- Carefully managed and treated stormwater discharges.

7.4.10 Social Infrastructure

A Social Sustainability Report by Key Insights 2006, **Appendix K**, summarises local social infrastructure, summarises previous public consultations and assesses the likely social consequences of development.

There is limited social infrastructure in the immediate area partly as result of lack of growth but also the steady decline of local population and the mine closure.

The only items of community infrastructure at Catherine Hill Bay are the surf lifesaving club, beach car parking areas and a public phone. At Middle Camp are a bowling club, a bowling green, an oval, a cemetery and a rural fire service shed.

The only private business is the hotel, the local general store (at Middle Camp) closed soon after mining ceased in 2002. Most facilities and services are available in Swansea.

The social assessment identified a net positive effect as result of development but also identified some potentially adverse social impacts that should be mitigated.

The new settlement will require some commercial development. Some 1800m² is proposed in the Concept Plan. A justification for this area of floor space has been provided by Hill PDA. **Appendix V**. The proposed planning controls limit commercial floor space to the village centre.

Management and Mitigation

- Community facilities and commercial floor space will be provided as part of the proposal.

7.4.11 Water Quality and Drainage

Drainage for development on the site has been assessed by Hyder for previous developments and by Parsons Brinckerhoff 2007 for the current proposal see **Appendix L**.

At present there is almost no drainage to the south because of mining controls to prevent sediment escape and capture water for use in the coal washery. Drainage to the north is via a series of sediment ponds.

Management and Mitigation

The following measures are proposed for use on the site:

- Water sensitive urban design features such as swales and buffer strips.
- Gross pollutant traps.
- Infiltration structures.
- A reticulation system to allow for domestic reuse of roof water.
- Reuse of existing water management structures.

7.4.12 Contamination

Phase 1 and 2 site assessments have been carried out by HLA Envirosciences as part of the Mine Closure Process (**Appendix M**). Most contamination and hazardous material problems have been addressed as part of the Mine Closure.

Some concrete slabs remain on the Moonee and washery sites. In some cases minor hydrocarbon contamination remains under the slabs that will need to be remediated if the slabs are removed.

Removal of concrete on the washery site may generate a need to assess exposed soils and fill for the potential presence of contaminants.

Management and Mitigation

- Additional assessment will be carried out as necessary if concrete slabs are removed.
- Site audits will be carried out as necessary to certify the suitability of the site for the proposed uses.

7.4.13 Mine Subsidence

A number of studies have been carried out by RCA. Old mine workings are under the washery site. No problems for construction were identified. A copy of the Mine Stability Assessment is at **Appendix N**.

There are workings under the Moonee site and the mine entry and drift were located on and under the land.

The Mine Subsidence Board has given its approval to development applications over both the coal washery (Catherine Hill Bay) and Moonee mine sites.

Management and Mitigation

- Construction will be managed in accordance with any requirements of the Mine Subsidence Board.

7.4.14 Impact on State Conservation Area

The management objectives for the Munmorah State Recreation Area are:

- conservation of biodiversity;
- protection of visual and aesthetic values;
- provision of low impact recreational activities; and
- increase environmental education opportunities for visitors.

The proposal will introduce an increased local population which has the potential to affect conservation of biodiversity through increased use. Off setting this is the proposed dedication of lands that will provide additional areas of land specifically for conservation.

At present there is, because of mine management and water harvesting, little to no flow from the Moonee site to the Conservation Area. This situation will continue except for heavy rainfall event when runoff will be directed to the old mine dam below the important wetland areas.

The other main issue is likely to be increased access. Walking tracks and vehicular access are proposed be provided to manage access to Moonee Beach. It is also intended to provide access for fire for fire fighting vehicles on the perimeter of the developments. The development bushfire APZ's adjoining the

Conservation Area will be managed under community title which can provide for access restrictions and weed management.

Management and Mitigation

- Water management controls will be implemented and maintained to protect adjoining wetlands and waterways.
- Community management statements will include suitable measures to promote biodiversity conservation.
- Managed access will be provided to Moonee Beach.

7.4.15 Sustainability

Reuse of degraded mining land for housing will not have significant environmental effects and avoids issues associated with greenfields sites.

The development proposals have sought to integrate environmental social and economic considerations by providing a high amenity residential location with ability to incorporate sustainable design and management actions such as Basix assessment and water sensitive urban design.

No particular environmental threats have been identified as arising from the proposed developments. Where issues have arisen, adequate management and mitigation measures are proposed. The potential effects of the development are such that the likelihood of environmental harm is very low. No unacceptable risks of development or environmental harm have been identified.

The proposed offsets (310 hectare land dedication) and management measures are a disproportionately positive response to the likely effects of development.

Location of development on an old mine site and the proposed offsets contribute positively to intergeneration equity. The opportunity to live in desirable coastal locations provides intra -generational equity.

The proposed dedication of 310 hectares of land represents a positive conservation step for biodiversity and ecological integrity.

The establishment of infrastructure and appropriate environmental management measures on the site will be the responsibility of the developer. Longer term costs will be borne by residents of the areas consistent with the polluter pays principle.

The proposal is subject to a rigorous and public environmental assessment which ensures that issues and risks to the environment are appreciated and understood. Consultation with the community and public authorities has commenced and will continue as part of the assessment process.

The proposed development is in keeping with the principles and practice of ecologically sustainable development.

Sustainability issues are addressed in more detail in the State Significant Site Study.

Management and Mitigation

- No specific sustainability actions are required in addition to those inherent in application of policy, approval processes and identified management actions.

7.5 GWANDALAN

The Gwandalan site is proposed for subdivision only. Built form will be as provided for in Wyong Council's DCP controls.

7.5.1 Urban Design

The design reflects as closely as possible the existing subdivision pattern of Gwandalan where long streets run parallel to the contours and shoreline.

There are no significant physical constraints on the site. The subdivision design does however reflect existing development both adjoining and on the site. The existing large house is located on the waterfront. Also located within 20 metres of the shoreline are the boathouse, swimming pool and harbour. A large water feature controls drainage from the site.

The presence of this foreshore development significantly reduces public access opportunities.

Management and Mitigation

- The subdivision design and principles are as set out in the concept plan.
- Implementation of the Concept Plan will ensure that the design principles are followed.

7.5.2 Visual Impact

The majority of the site is very well screened by existing fencing, vegetation and the foreshore dwelling.

There are filtered views into the site from adjoining dwellings to the south. The house is highly visible from, and across, the lake. The proposed subdivision will however have very little visibility from public places other than Kanangra Drive. From Kanangra Drive, immediately adjacent the site the appearance will be that of a standard subdivision. The proposed streetscaping will help set a high visual standard.

The visual impact of the subdivision will ultimately be determined by the standard of housing on the lots. The standard of housing will be determined by Councils DCP controls. Chapter 100 of Wyong Council's DCP - Quality Housing should ensure a satisfactory appearance.

Management and Mitigation

- Implementation of streetscaping in accordance with the concept plan will promote sound visual outcomes and high amenity.

7.5.3 Bushfire

A bushfire hazard assessment in accordance with the Planning for Bushfire Protection Guidelines has been prepared by Barry Eadie 2007, see **Appendix O**.

There is a bushfire hazard to the west and north that requires Asset Protection Zones (APZs) of varying widths.

The required APZs have been incorporated into the subdivision layout identified in the concept plan. Some dwellings will require construction in accordance with AS 3959.

Management and Mitigation

- APZ's will be incorporated into lots and appropriate management promoted through positive covenants and restrictions on title.
- Building construction standards where required will be noted as restrictions on title.

7.5.4 Ecological Impact

An ecological constraints report was prepared by Wildthing 2003, see **Appendix P**. A follow up survey for orchids was conducted by Harper Somers O'Sullivan in 2007, see **Appendix P**.

The MoU regarding the proposal establishes an environmental offsets scheme for development of the site. In view of the proposed offsets, see section 3.7, no specific flora and fauna conservation measures and no further survey are proposed for the site.

Management and Mitigation

- As part of the overall proposal the dedication of 310 hectares of land of high conservation value as an environmental offset.
- APZs adjoining the Point Wollstoncroft Recreation Area will be managed to minimize weed invasion of adjoining bushland.

- Drainage to adjoining land will be managed consistent with protection of natural systems.
- Drainage to Lake Macquarie from the site will be managed to protect aquatic ecology.

7.5.5 Coastal and Foreshore Public Access

The adjoining land to the north is managed by both NPWS and NSW Sport and Recreation and is part of the Lake Macquarie State Conservation Area.

The opportunity for direct public access to the site foreshore is severely limited by the existing dwelling and associated structures such as the boatshed.

It is not proposed to provide any direct access to the foreshore and adjoining recreation camp area from the proposed subdivision. This is to protect the conservation values of this area. Access to the foreshore with the Point Wollstoncroft area is available from within the recreation camp.

Management and Mitigation

- No access will be provided to the adjoining NPWS/Sport and Recreation Camp.

7.5.6 Utilities and Infrastructure

The site is addressed as part of the Development Servicing Plan for the Gwandalan District (DSP 12).

Water and sewer services are available to the land. A 150 mm water main fronts the site. A sewer pump station is located just outside the site near the boat shed, the site can drain to this station.

Consultation with Wyong Council and the Gosford Wyong Water Supply and Sewer Authority has identified the additional work needed to service the site.

The existing water main will need to be increased in size to 300mm adequately provide water to the site.

The sewer system has the capacity to service approximately 150 dwellings on the site. Augmentation of the pump station and rising mains will be required to service dwellings in addition to the 150.

Electricity and telecommunications infrastructure will be provided as additions to existing networks.

Management and Mitigation

- No specific mitigation measures are required.

- Connections into the existing networks will be done to the satisfaction of relevant authorities
- Infrastructure Developer Contributions will be made as required to the relevant local authorities.

7.5.7 Social Infrastructure

A Social Sustainability Report by Key Insights 2006, see **Appendix J**, summarises local social infrastructure, summarises previous public consultations and assesses the likely social consequences of the subdivision development.

The social assessment identified a net positive effect as result of development.

7.5.8 Traffic

A traffic assessment is being carried out by Masson Wilson Twiney, see **Appendix Q**.

All subdivision construction traffic will access the site via Kanangra Drive. No access through residential streets will be required.

The subdivision will generate additional traffic with the potential traffic effects. The existing street network has the capacity to provide adequate service levels for the predicted traffic increases.

The internal street layout of the subdivision has been assessed and will function adequately and safely.

Management and Mitigation

- Construction heavy traffic will be limited to Kanangra Drive
- Any damage to Kanangra Drive as a result of construction works will be made good.

7.5.9 Water Quality and Drainage

Site assessments have been undertaken by Umwelt 2003 for a rezoning application and by Asquith & de Witt 2007, for the Concept Plan and Project Application (see appendix R).

There are existing external catchments of approximately 3.258 hectares that drain into the site.

Lower sections of the site are flood prone from regional flood levels from the lake, however the extent of development is on land above this level.

There are existing dams on site.

The extent of development has been modeled for water quality and peak flow attenuation for runoff from the proposed development. A treatment train of a swale, gross pollutant trap and constructed wetland will provide the treatment for water quality and peak flow attenuation of runoff from the proposed development. There is significant site area available for the constructed wetland. The constructed wetland will be based on the enlargement of an existing dam. The level of water quality improvement is to Wyong Council standards described by Council's Stormwater Management Plan. Peak flow attenuation is also to a level required by Council.

The existing dams will be utilised for erosion and sediment control during construction to suit staging. The sizing of these controls has been to standards described by the 'Blue Book'.

The development will provide a community benefit, in terms of stormwater, by providing treatment for runoff from the surrounding existing catchments containing Gwandalan Public School, some existing residential area and part of Kanangra Drive. This runoff at present discharges to Lake Macquarie untreated.

Management and Mitigation

- Implement water management measures in accordance with the Asquith & de Witt report 2007.

7.5.10 Aboriginal Heritage

A preliminary survey found no significant sites or relics on the land, see **Appendix E**. Follow up surveys are proposed to confirm this result.

Mitigation and management

- No requirements have been identified.

7.5.11 Mine Subsidence

Advice from the Mine Subsidence board was sought as part of previous investigations. The advice was that residential development on the site in accordance with applicable construction guidelines was acceptable.

Mitigation and management

- Dwellings on the site will need Mine Subsidence Board approval.

7.5.12 Impact on Lake Macquarie State Conservation Area

The site adjoins the Point Wollstoncroft recreation camp which is part of Lake Macquarie State Conservation Area. The specific management objectives for the SCA are:

- protection of visual and aesthetic qualities;
- conservation of biodiversity;
- promotion of community involvement in management; and
- provision of sustainable recreation opportunities.

The conservation of biodiversity is the most relevant objective.

The proposal will introduce an increased local population which has the potential to affect conservation of biodiversity through increased use. Off setting this is the proposed dedication of lands that will provide additional areas of land specifically for conservation.

The other main issue is likely to be increased access. It is intended to provide an APZ on a strip of private property along the boundary with the Conservation Area. This will help control public access direct to the SCA. It is intended the APZ will be managed for access restrictions and weed control. .

7.5.13 Sustainability

The development proposals have sought to integrate environmental social and economic considerations by providing a high amenity residential location with ability to incorporate sustainable design and management actions such as Basix assessment and water sensitive urban design. The proposal is located so as to expand an existing residential area thereby increasing the economic and social sustainability of the locality.

No particular environmental threats have been identified as arising from the proposed developments. Where issues have arisen, adequate management and mitigation measures are proposed. The potential effects of the development are such that the likelihood of environmental harm is very low. No unacceptable risks of development or environmental harm have been identified.

The proposed offsets (310 hectare land dedication) and management measures are a disproportionately positive response to the likely effects of development.

Location of development next to existing residential and the proposed offsets contribute positively to intergeneration equity. The opportunity to live in desirable coastal locations provides intra -generational equity.

The proposed development is in keeping with the principles and practice of ecologically sustainable development.

Sustainability issues are dealt with in more detail in the State Significant Site Study.

Management and Mitigation

- No specific sustainability actions are required in addition to those inherent in policy application, approval processes and identified management actions.

7.6 CUMMULATIVE IMPACTS

Potential cumulative impacts such as drainage, traffic and loading of service infrastructure have been considered and addressed through appropriate mitigation measures.

Drainage will remain as is having been designed to WSUD principles and a view to protecting vicinity waters. Service infrastructure will be addressed by new works and contributions. Some traffic matters at Catherine Hill Bay have not been fully resolved as a range of potential solutions are available we will need to agree with the RTA.

No significant cumulative effects are likely to arise from the concept plan proposal.

Section 8

Conclusion and Project Justification

The development of the Moonee Village, Catherine Hill Bay extension and Gwandalan sites will provide high quality housing outcomes, enhanced community facilities, improved pollution control and environmental protection for some key sensitive coastal sites.

The proposed development compliments and is fully consistent with both the Lower Hunter and Draft Central Coast Regional Strategies and associated MOUs and provides for the securing of a green buffer between the Central Coast and the Lower Hunter as envisaged under the Lower Hunter REP. The development will also comply with SEPP 55, BASIX and has been designed to address the principles of the coastal policy, SEPP 71 and the Coastal Design Guidelines.

Of particular significance is the public ownership of some 310 ha of high value conservation land, which the Department of Environment and Conservation has identified as a conservation priority that will flow from the proposal. This conservation action is more than adequate to offset any negative ecological impacts on the development sites and will provide a major ecological legacy to the community.

All sites will use water sensitive urban design to protect water quality and will provide BASIX compliant housing making a contribution to sustainable development.

The Gwandalan site has been identified as an area for urban land release since 1987. In effect, this Concept Plan application simply enacts a rezoning that has been delayed due to Council resource issues.

The Catherine Hill Bay village extension is consistent with the surveyor's plans for the town of Cowper and is to be designed and built to ensure consistency with the heritage attributes of the existing community. The development will link the existing community to water and sewer mains ensuring enhanced water quality outcomes for the area as well as enhanced amenity for existing dwellings. The provision of a commercial precinct to include a general store will also restore a number of community facilities which have been lost to the town of Catherine Hill Bay as its population has declined with the down sizing and closure of the mines in the area. The restoration of key heritage buildings will also safeguard the town's heritage.

The development of the former mine site at Moonee to form the Moonee Village will adaptively reuse a site that has been almost entirely despoiled by a long

history of mining activity. The development will greatly enhance public access to the Moonee Beach and the headland; it will be visually separated from the existing village of Catherine Hill Bay and has been designed to function as a traditional coastal village. The Moonee Village will not only comply with design guidelines but will become an example of world's best practice in coastal design in line with sites in the USA and Europe.

Walking and cycling will be encouraged on all sites. Moonee and Catherine Hill Bay will be linked by a series of walkways and cycle paths connecting the communities via the commercial and community centres. Gwandalan will provide a network of footpaths providing residents access to nearby open space and facilities including the school and the lake foreshore.

The development of Moonee Village, Catherine Hill Bay and Gwandalan are clearly in the public interest. They accord with all relevant strategies, reuse despoiled former mine sites, provide enhanced public access to coast and foreshore, respect heritage attributes, enhance community facilities and services, and will lead to the creation of a large area of conservation reserve to meet a key conservation priority of the region.

8.1 COMPLIANCE WITH PANEL REPORT

The Independent Panel assessment of the first proposal produced guidelines for the site proposals.

The proposal complies with the Panel Guidelines by design with:

Catherine Hill Bay

- Reductions of built form;
- Hamlet based settlement;
- Extensive natural landscape zones;
- Beach front housing typology; and
- Unique coastal beachside village identity.

Gwandalan

- Improved relationship to school;
- Enhanced lot orientation;
- North south parkway school access; and
- Perimeter bus route.

8.2 PUBLIC BENEFITS

The proposal has a range of public benefits:

Heritage

- Retention, Restoration and Adaptive Reuse of significant existing items of cultural significance, including:
 - Protection of the landscape setting of Catherine Hill Bay.

Environment

- Return of significant coastal Headland to public ownership and rehabilitation;
- Rejuvenation of the southern headland of CHB beach; and
- Provision/upgrade and maintenance of fire trails.

Community

- Improved public access to lake and ocean foreshore;
- Access to the existing Surf Club;
- Creation of community and public Open Space and parks at Catherine Hill Bay;
- Establishment of a new village community; and
- Additional community facilities.

Social

- Large parks and playgrounds provided;
- Public access to heritage items and designated heritage walks;
- Creation of a Memorial Park for retired Service Personnel and Miners; and
- Creation of coastal walk.

Employment

- Jobs through construction and additional population.

Economic

- Investment in the order of \$390 million.

Services

- Provision of water and sewerage for the existing village as well as the proposed development; and
- Upgrade road network and electrical services.