



# Gwandalan

CONCEPT PLAN  
ENVIRONMENTAL ASSESSMENT  
NOVEMBER 2010

COAL  
&  
ALLIED

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**URBIS STAFF RESPONSIBLE FOR THIS REPORT WERE:**

Director	Tim Blythe
Associate Director	Tom Goode
Consultant	Jacqueline Parker
Support Staff	Kim Christoffersen
Job Code	SA1976F
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## Statement of Validity

Submission of Environment Assessment:

Prepared under Part 3A of the Environmental Planning and Assessment Act 1979.

Environmental Assessment prepared by:

Names:	Tim Blythe Director	Tom Goode Associate Director
Qualifications	BA App Sc (Planning) RMIT	BaPL (UniSA)
Address:	Urbis Level 21 321 Kent Street Sydney NSW 2000	
In respect of:	Gwandalan Concept Plan	

### Certification:

We certify that we have prepared the contents of the Environmental Assessment and to the best of our knowledge the information contained in this report is neither false nor misleading.



Signature

Name: Tim Blythe

Date 10 November 2010



Signature

Name: Tom Goode

Date: 10 November 2010



## Executive Summary

This report has been prepared in support of an application for Concept Plan approval under Part 3A of the Environmental Planning and Assessment Act 1979. It has been prepared on behalf of Coal & Allied Industries Ltd (Coal & Allied), the owner of the Gwandalan site.

The protection and management of vegetation corridors is a key focus of the Central Coast Regional Strategy (CCRS), Lower Hunter Regional Strategy (LHRS) and the companion Lower Hunter Regional Conservation Plan (LHRCP). The Gwandalan site has been recognised for its State and Regional significance based on its inclusion in the CCRS and LHRS for proposed urban development and proposed conservation land dedications.

Coal & Allied Industries Limited (Coal & Allied) propose to develop 62.24ha of Gwandalan for residential development with a maximum yield of 623 dwelling lots. The balance of the Gwandalan site (205.75ha or 77%) is proposed to be dedicated to the New South Wales Government (NSWG) for conservation purposes. Other Coal & Allied owned sites in the Lower Hunter region are the subject of similar but separate Part 3A applications to the Department of Planning (DoP). Overall Coal & Allied proposes to dedicate approximately 3,260ha of Coal & Allied land to the NSWG to provide and enhance important conservation corridors identified in the (LHRS), (LHRCP) and (CCRS).

The Coal & Allied owned land at Gwandalan proposed to be dedicated for conservation will play a significant role in securing in perpetual public ownership the east – west conservation corridors that link with the long sought-after Wallarah Peninsula conservation corridor. The east – west corridor will help preserve a significant natural break between the Lower Hunter and the Central Coast.

The Concept Plan will enable key site parameters associated with land use, infrastructure delivery and timing, and environmental conservation to be resolved up front, with subsequent detailed stages being submitted for approval progressively. The Concept Plan for a proposed residential subdivision will apply to the entire 268ha Gwandalan site. The Concept Plan establishes:

- Dedication of 205.75ha of conservation land to the NSWG that is identified in the Lower Hunter Regional Strategy and Lower Hunter Regional Conservation Plan, comprising approximately 77% of the Gwandalan site.
- Maximum dwelling yield of 623 dwellings over 62.24ha.
- Indicative development staging.
- The provision of associated infrastructure.
- Torrens title subdivision of the Gwandalan site. The Torrens title subdivision and boundary realignment of Coal & Allied land will enable land, 205.75ha in area that is owned by Coal & Allied to be excised and to be dedicated to NSWG for conservation land.

Approval will not be sought under the Concept Plan for a specific lot or road layout. An indicative lot and road layout will indicate how the maximum dwelling yield of 623 dwellings could be achieved on the site.

Similarly, approval will not be sought under the Concept Plan for subdivision or construction of individual houses. However, the desired future character of the proposed concept plan will be included in Urban Design Guidelines. Urban Design Guidelines will be prepared to inform the Concept Plan in respect of urban form, built form, open space and landscape, access and movement and visual impact for the site.

It is proposed to dedicate land for conservation purposes as part of the Major Project Application via a Voluntary Planning Agreement (VPA) between Coal & Allied and the NSWG in accordance with s.93F of the Environmental Planning and Assessment Act, 1979 (EP&A Act).

The proposed Concept Plan seeks to facilitate residential development that is not permissible under the existing planning provisions and therefore a State Significant Site listing/rezoning is proposed under Schedule 3 of State Environmental Planning Policy (Major Development) 2005 (Major Development SEPP), which will provide the statutory mechanism for approval of the Concept Plan and associated future development. A separate report has been prepared and lodged with Department of Planning (DoP) in support of an application for listing/rezoning of the Coal & Allied owned Gwandalan site as a 'State Significant Site' (SSS). This report should be read in conjunction with the SSS Listing Report.

On 15 July 2010, the Minister for Planning determined that the development proposal for Gwandalan is to be considered as a "Major Project" under Part 3A of the EP&A Act. The Minister also determined to consider the Gwandalan site as a potential State Significant Site (SSS) under Schedule 3 of the Major Development SEPP. Given the size and complexity of the proposal, the Minister also authorised submission of a Concept Plan for the site.

The scope of environmental assessment has been based on the environmental assessment requirements issued by the Director General of Planning on 19 August 2010.

Key environmental issues relate to:

- Urban design and built form;
- Coastal Foreshore and Public Access;
- Biodiversity Impact;
- Traffic and Accessibility;
- Mining Activities;
- Heritage;
- Water Quality;
- Flooding;
- Visual;
- Bushfire;
- Impact on Crown Land;
- Infrastructure and utilities;
- Ecologically Sustainable Development;
- Site Preparation Works;
- Subdivision; and
- Future Public Land.

A Draft Statement of Commitments is included at **Appendix C**. This details the various contributions, additional studies, applications and works the proponent commits to undertake in association with the project. The mechanics of how and when these commitments will be confirmed and delivered will be subject to ongoing consultation.

In summary, the Concept Plan will facilitate the orderly use, development and conservation of a regionally important site of environmental and social significance to the State. The Environmental Assessment contained within this report demonstrates that all potential adverse environmental impacts of the project can be suitably mitigated, resulting in net social, economic and environmental benefits. In view of the merits of the project, we therefore recommend that the Minister for Planning approve the Concept Plan.

# 1 Introduction

This Environmental Assessment (EA) accompanies a Major Development application on behalf of Coal & Allied, for a Concept Plan for the future residential subdivision of land and conservation land transfer at Gwandalan. The Concept Plan provides for a new coastal village of up to 623 dwellings; the dedication of conservation land comprising approximately 77% of the site; and associated infrastructure.

This EA provides the following details to assist the Department of Planning (DoP) with an assessment of the Concept Plan, as detailed in the Director-General's Environmental Assessment Requirements:

- Background to the identification of the land sought for future development including the dedication of the conservation of land; and the community consultation process;
- Description of the site in respect to its regional and local context;
- Description of the proposed Concept Plan; and
- Review of the Concept Plan with respect to the general and key assessment criteria, including:
  - Relevant statutory and policy planning provisions;
  - Identified key issues;
  - Statement of Commitments;
  - Justification of the project and the environmental impacts of the proposal; and
  - Development contributions and public benefits to be provided with the development.

## 1.1 Background

### 1.1.1 Context – the Coal & Allied lower Hunter Lands Project

Coal & Allied has been operating in the Hunter Valley for more than 150 years, with the earliest coal mining operations located in the East Maitland area dating back to 1844. Numerous mergers, expansions and acquisitions since then have led to Coal & Allied becoming a regionally significant mining company.

Since 2004 Coal & Allied has been majority owned and managed by Rio Tinto Coal Australia (RTCA). Coal & Allied today is one of the major coal producers in the Hunter Valley, employing around 1,500 people across three operations. With annual coal production of around 30 million tonnes, Coal & Allied continues to evolve as it strives to achieve a vision of being a safe and highly successful business valued by customers, employees, shareholders and the community.

Coal & Allied has seven separate holdings in the Lower Hunter totalling approximately 4,078 hectares. Three are located in the southern area comprising of Gwandalan, Catherine Hill Bay (Middle Camp) and Nords Wharf. Four are located in the northern area comprising of Black Hill, Tank Paddock, Stockrington and Minmi (including land north and south of Link Road). The landholdings are located in four local government areas of Lake Macquarie, Wyong, Newcastle and Cessnock.

Gwandalan adjoins Munmorah State Conservation Area and Chain Valley Bay. Gwandalan is on the western side of Crangan Bay; Lake Macquarie and Nords Wharf is on the eastern side. Catherine Hill Bay (Middle Camp) and Nords Wharf are located between Wallarah National Park and Munmorah State Conservation Area. Catherine Hill Bay (Middle Camp) is located on the east coast halfway between Swansea Heads and the Budgewoi Peninsula.

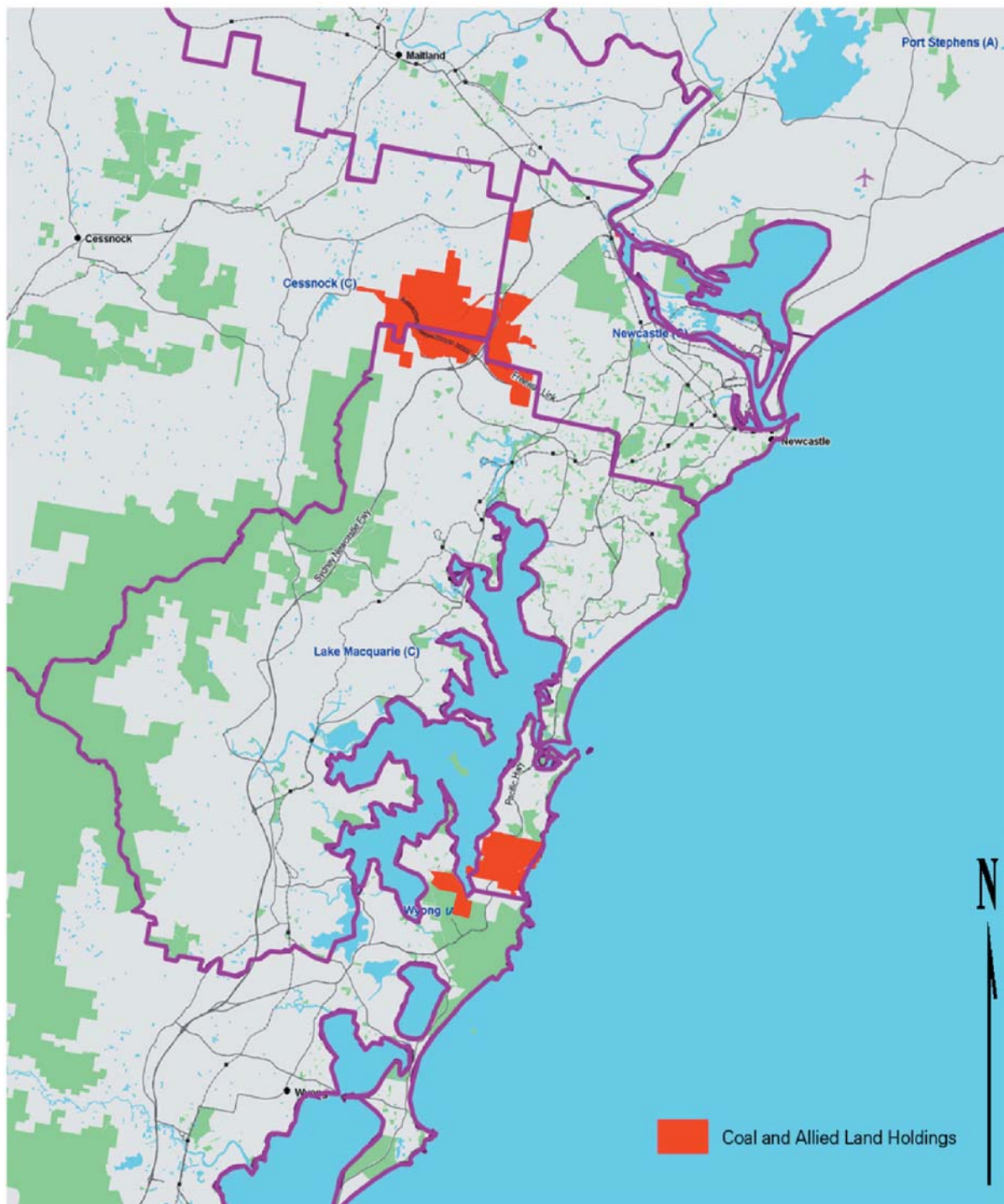
The Coal & Allied northern lands are located approximately 20 kilometres west of Newcastle and are almost halfway between Newcastle and Cessnock.



The Minmi land adjoins the existing Minmi township and is close to the emerging Glendale Town Centre and the Glendale/Cardiff renewal corridor identified in the Lower Hunter Regional Strategy. These lands are close to the F3 Freeway and Newcastle Link Road transportation corridors. The Minmi lands are adjacent to the Blue Gum Hills Regional Park and Hexham Swamp.

Black Hill is located at the intersection of the F3 Freeway and John Renshaw Drive. Tank Paddock and Stockrington are located east and west of F3 Freeway and fall within the Watagan-Stockton conservation corridors identified in the Lower Hunter Regional Strategy (LHRS) and Lower Hunter Regional Conservation Plan.

Figure 1 – Regional Context



The southern lands will provide 935 dwellings to the existing communities of Gwandalan, Catherine Hill Bay (Middle Camp), and Nords Wharf. This additional population will contribute economic and social support to Swansea and Lake Munmorah as town centres. The main transportation corridor to the southern lands is the Pacific Highway.

### 1.1.2 Regional Planning Context

Gwandalan must be considered in the broader strategic and geographic context, rather than just the council area or region it falls within, in order to achieve the State Government objective of securing emerging major conservation corridors. Although the site falls within the boundaries of the Central Coast region and is included in the CCRS, the site has also been identified by the NSWG as an important land holding for achieving the objectives of the LHRS and the LHRCP.

The Gwandalan site has been recognised for its regional significance to the Central Coast Region and Lower Hunter Region based on its inclusion in the CCRS, LHRS and LHRCP for proposed urban development and proposed conservation land dedications. The proposal is entirely consistent with the CCRS, LHRS and LHRCP.

The proposed dedication of 205.75ha of land at Gwandalan is crucial in securing major conservation corridors identified in the CCRS and LHRS. The proposed conservation land dedication at Gwandalan will provide a significant contribution to providing a green inter-regional buffer between the Central Coast and Lower Hunter. The residential subdivision is over 62.24ha of land.

### 1.1.3 Voluntary Planning Agreement

It is proposed to dedicate land for conservation purposes via a Voluntary Planning Agreement (VPA) between Coal & Allied and the NSWG in accordance with s.93F of the EP&A Act.

## 1.2 Project Objectives

Coal & Allied has a long term commitment to the preservation of the environment in the Hunter Valley and has had an involvement in the region for over 150 years. The company is pleased to be able to contribute to the establishment and realisation of the long sought after conservation corridors between Watagans Range to Stockton Bight and the Wallarah Peninsula through proposed land dedication. It is also pleased to be a part of the economic development of the Lower Hunter and Central Coast Region through proposed residential and employment developments to help meet the growth targets set out in the LHRS and CCRS.

Overall company objectives pursued by Coal & Allied are aligned with its sustainable development focus of effective use of assets; efficient use of resources; encouragement of cultural diversity; economic viability; enhancing community relationships and environmental stewardship.

The Coal & Allied Lower Hunter lands project objectives are as follows:

- Contributing to environmental preservation in the region through the proposed dedication of land to the NSWG for conservation corridors.
- Gaining Concept Plan approval and rezoning of the seven Coal & Allied-owned estates.
- Achieving sustainable residential and employment generating development in five estates.
- Establishing successful communities in the four proposed residential estates.
- Incorporate new urbanism principles of sustainability, mix of uses, walkability and transit connections.
- Reaching target financial returns for the development of a commercial internal rate of return (IRR) and maximisation of net present value (NPV).

- Meeting market demands for land and housing products and employment generating land through desirable product mix.
- Maintaining and enhancing Coal & Allied's reputation in the Lower Hunter community.

### 1.3 Value of Project

The estimated capital investment value of the proposal for Gwandalan is \$149.03 million. Refer to **Appendix D** – Quantity Surveyor advice.

### 1.4 Planning Process to Date

#### 1.4.1 Background

In September 2004 Coal & Allied commissioned a preliminary review of its Lower Hunter land holdings. The review was project managed by Kennecott Land (a division of Rio Tinto) that has extensive experience in the successful development of land in Salt Lake City, Utah in the United States. The review made a number of recommendations with regard to the potential future land development opportunities that may exist for Coal & Allied's land holdings in the Lower Hunter and Central Coast.

Coal & Allied identified the potential areas for future development and conservation for Gwandalan through a preliminary assessment of physical constraints. Opportunities and constraints for the site were identified using GIS data, regional context analysis, site inspections and preliminary ground truthing.

The lands identified for proposed conservation land dedication have regional ecological value that provides substantial areas of contiguous vegetation with surrounding reserves/forests and can enhance the vitally important east – west conservation corridor that links with the long sought after Wallarah Peninsula conservation corridor.

The land identified for proposed development is located in areas which are less physically constrained and adjoins the existing township at Gwandalan.

#### 1.4.2 Statutory Planning Process to Date

In accordance with the EP&A Act and associated guidelines, a Preliminary Environmental Assessment (PEA) was submitted to the DoP on 15 June 2010 to assist the Director General in determining the level and scope of the environmental assessment to accompany the Concept Plan for the proposed development and the requirements of the State Significant Study.

A Concept Plan was prepared with the PEA for the site to show the proposed development as well as a plan showing proposed areas of conservation and development for the site.

On 15 July 2010 the Minister for Planning determined that the development proposal for Gwandalan is considered to be a Major Project under Part 3A of the EP&A Act. The Minister also determined to consider Gwandalan as a potential State Significant Site (SSS) under Schedule 3 of the Major Development SEPP.

Given the size and complexity of the proposal, the Minister for Planning also authorised submission of a Concept Plan for the site. The Concept Plan will enable key site parameters associated with land use, infrastructure delivery and timing, and environmental conservation to be resolved up front, with subsequent detailed stages being submitted for approval progressively.

On 19 August 2010, the Department of Planning (DoP) issued Director-General's Environmental Assessment Requirements (DGEARs) for the site for preparation of a Concept Plan. The DGEARs are provided in **Appendix E**.

## 1.5 Director General's Environmental Assessment Requirements

The following table provides a summary of the Director-General's Environmental Assessment Requirements issued by the Department of Planning on 19 August 2010 and identifies where each requirement has been addressed in the Environmental Assessment.

Table 1 – Director General's Environmental Assessment Requirements

Requirement	Response
<b>General Requirements</b>	
The Environmental Assessment (EA) must include:	
(1) An executive summary.	Included in this report
(2) A detailed description of the project including the: <ul style="list-style-type: none"> <li>(a) strategic justification for the project;</li> <li>(b) alternatives considered; and</li> <li>(c) various components and stages of the project in detail (and should include infrastructure staging)</li> </ul>	See Section 4
(3) A consideration of the following with any variations to be justified: <ul style="list-style-type: none"> <li>(a) all relevant State Environmental Planning Policies, with particular regard to <i>SEPP Major Development 2005</i>, <i>SEPP 44</i>, <i>SEPP 55</i>, <i>SEPP 71</i> and <i>State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007</i>;</li> <li>(b) applicable planning instruments; and</li> <li>(c) relevant legislation and policies, including the <i>NSW Coastal Policy 1997</i>, <i>Lower Hunter Regional Strategy</i>, and <i>Lower Hunter Regional Conservation Plan</i>.</li> </ul>	See Section 5
(4) 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.	See Section 5.2, 5.3
(5) A draft Statement of Commitments, outlining specific commitments to the project's management, mitigation and monitoring measures with a clear identification of the timing and responsibility for these measures.	See Section 7 and <b>Appendix C</b>
(6) A conclusion justifying the project, taking into consideration the environmental 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.	See Section 8 and Section 9
(7) Identify the development contributions applicable to the site between <ul style="list-style-type: none"> <li>(a) the Proponent and Wyong Shire Council;</li> <li>(b) the Proponent and State Government agencies for State infrastructure in accordance with <i>Planning Circular PS 07-018</i>; and</li> <li>(c) if relevant, any public benefits to be provided with the development.</li> </ul>	See Section 7 and Statement of Commitments at <b>Appendix C</b> to this EA report.
(8) A signed statement from the author of the EA certifying that the information contained in the report is neither false nor misleading.	Included in EA.

Requirement	Response
(9) A report from a quantity surveyor identifying the correct capital investment value for the concept plan and the four project applications.	See <b>Appendix D</b>
<b>Key Assessment Criteria</b> The Environmental Assessment must address the following key issues:	
<b>Urban design and built form</b> (1) Provide an assessment against the <i>Coastal Design Guidelines for NSW</i> and <i>NSW Coastal Policy (1997)</i> . (2) Propose development controls and design guidelines for the site which ensure that the future development responds to the site location appropriately. (3) Provide details of proposed treatment of all public domain areas. (4) Identify opportunities to link the proposed development to the existing village and surrounding areas, including through appropriate pedestrian and cycleway connections. (5) Address the principles of <i>Crime Prevention Through Environmental Design</i> .	See Section 6.1 and Concept Plan and Urban Design Guidelines prepared by AJ+C Architects at <b>Appendix A and B</b>
<b>Coastal Foreshore and Public Access</b> (1) Outline measures to protect and enhance existing public access through the site to and along the foreshore and provide, where appropriate, new opportunities for public access that is compatible with the natural attributes of the coastal foreshore.	See Section 6.2
<b>Biodiversity Impact</b> (1) Identify impacts of the development on threatened species and their habitats having regard to the draft Threatened Species Assessment Guidelines (DEC July 2005) and outline measures to avoid or mitigate impacts on threatened species and their habitat.	See Section 6.3 and Ecological Assessment Report prepared by RPS at <b>Appendix F</b>
<b>Traffic and Accessibility</b> (1) Prepare a Traffic Study in accordance with RTA's Guide Traffic Generating Developments that includes (but is not limited to) the following: (a) an identification of all relevant vehicular traffic routes and intersection for access to/from the area, (b) current traffic counts for all of the above traffic routes and intersections, (c) the anticipated vehicular traffic generated from the proposed development and associated trip distribution on the road network (d) consideration of the traffic impact on the existing and proposed intersections and the capacity of the local and classified road network to safely and efficiently cater for the additional vehicular traffic generated, (e) an analysis of the cumulative traffic and transport impacts of this development taking into consideration other proposed developments (f) details of necessary road network infrastructure upgrades required to maintain existing levels of services both on the local and classified road network (g) an intersection analysis, using SIDRA or similar traffic model, as well as a micro simulation model to determine the need for intersection and mid-block capacity upgrades and to ensure traffic signal coordination. (h) proposed pedestrian and cycleway access within and to the site that connects to all relevant transport services, nearby settlements, and other key off-site locations having regard to the NSW Planning Guidelines for Walking and Cycling (2004), and the NSW Bike Plan (2010).	See Section 6.4 and Traffic Impact Assessment prepared by Hyder at <b>Appendix G</b>



Requirement	Response
<p>(i) Timing of delivery of proposed transport infrastructure including road and intersection upgrades, pedestrian and cycle paths, and public transport infrastructure, and</p> <p>(j) Consideration of impacts on existing property access.</p> <p>(2) Assess the proposal against the objectives of the Integrating Land Use and Transport policy package.</p>	
<p><b>Mining Activities</b></p> <p>(1) Identify the requirements of previous consents, approvals, lease arrangements, and current legal and financial responsibilities in relation to the mine operation and closure and the impact approvals will have on these arrangements.</p> <p>(2) Provide a risk analysis examining the risk factors associated with the former mining use of the site and what effects it may have on future development, including mine subsidence.</p> <p>(3) Identify measures that would be implemented to avoid, minimise or remediate potential mine subsidence issues encountered on the site.</p> <p>(4) Investigate the impacts of future mining activities.</p>	<p>See Section 6.5 and Geotechnical Assessment prepared by Douglas Partners at <b>Appendix H</b></p>
<p><b>Heritage</b></p> <p>(1) Provide an archaeological assessment and heritage impact statement in accordance with NSW Heritage Office guidelines. The statement should assess the impacts of the application on the area and any significant components of the site, including indigenous heritage.</p> <p>(2) Provide an assessment in accordance with the draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation (DEC 2005).</p>	<p>See Section 6.6 and Heritage Impact Assessment prepared by ERM at <b>Appendix I</b></p>
<p><b>Water Quality</b></p> <p>(1) Provide appropriate detailed information on the drainage and stormwater management measures to be incorporated on site, including on site stormwater detention, water sensitive urban design measures, and drainage infrastructure.</p> <p>(2) Identify future management arrangements for proposed stormwater infrastructure including, where relevant, in consultation with Council.</p> <p>(3) Assess the impact of the proposal on the hydrology of the site and surrounding areas including impacts on quality of surface water, groundwater, a coastal lake, a coastal creek or other similar body of water or a rock platform, in accordance with the NSW Groundwater Dependent Ecosystems Policy.</p>	<p>See Section 6.8 and Hydrology Stormwater Report prepared by GHD at <b>Appendix J</b>.</p>
<p><b>Flooding</b></p> <p>(1) Develop suitable flood planning levels for the proposed development and identify flood evacuation requirements for land up to the Probable Maximum Flood level. Demonstrate consistency with the NSW Floodplain Development Manual: the management of flood liable land (2005), the DECCW Floodplain Risk Management Guideline – Practical Consideration of Climate Change, the NSW Sea Level Rise Policy Statement (DECCW 2009), and Draft NSW Coastal Planning Guideline: Adapting to Sea Level Rise (Department of Planning 2009).</p>	<p>See Section 6.10 and Hydrology Stormwater Report prepared by GHD at <b>Appendix J</b>.</p>
<p><b>Visual</b></p> <p>(1) Assess and provide mitigation measures in response to the visual impacts of the project in the context of adjoining development, impact on any heritage items (on-site or in the vicinity) and the development as viewed from publicly accessible areas and the natural environment.</p>	<p>See Section 6.12</p>

Requirement	Response
<b>Bushfire</b> (1) Identify how the proposed Concept Plan addresses the requirements of Planning for Bush Fire Protection and Australian Standard 3959 (Building in Bush Fire Prone Areas). (2) Outline ongoing management arrangements of any proposed APZs including through negotiation with relevant agencies where APZs are proposed to be located on land to be dedicated for a public purpose.	See Section 6.13 and Bushfire Threat Assessment prepared by RPS <b>Appendix K</b>
<b>Impact on Crown Land</b> (1) Identify potential direct and indirect impacts arising from development on the adjacent Munmorah State Conservation Area, Point Wollstonecraft State Recreation Area and Lake Macquarie State Recreation Area.	See Sections 6.14 and 6.19.2
<b>Infrastructure and Utilities</b> (1) identify and address the impacts of additional demand created by the development on existing infrastructure including public transport, open space, and recreation facilities, retail facilities and other social and community facilities. Identify the need for additional facilities through negotiation with State or local government agencies. This should inform the scope of proposed State and local infrastructure contributions. (2) Prepare a utility and infrastructure servicing report and plan for the Site that includes (but is not limited to) <ul style="list-style-type: none"> <li>▪ Identification and assessment if the capacity of existing utility and infrastructure servicing on the site, and</li> <li>▪ Identification and assessment of 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.</li> </ul>	See Section 6.7 and Social Infrastructure Study prepared by Urbis as <b>Appendix L</b> and Infrastructure Study prepared by Cardno at <b>Appendix M</b>
<b>Ecologically Sustainable Development</b> (1) Demonstrate how the development will commit to ESD principles in design, construction and ongoing operation phases. (2) Demonstrate that the development is capable of achieving the requirements of Basix.	See Section 6.11 and Sustainability Report prepared by Ensign at <b>Appendix N</b>
<b>Site preparation works</b> (1) Identify the likely extent of site preparation works with respect to cut and fill activities to cater for the proposed residential development. In particular, assess how the proposed built form will respond to final levels of the site and demonstrate consideration to minimise the extent of cut and fill required.	See Section 6.16 and Geotechnical Assessment prepared by Douglas Partners at <b>Appendix H</b>
<b>Subdivision</b> Provide a subdivision plan to identify all covenants, easements and notations proposed for each land title for the proposed subdivision to facilitate transfer of land to Government agencies.	See Section 6.17 and Land Transfer Plans prepared by Monteath & Powys Pty Ltd at <b>Appendix O</b> .
<b>Future Public Land</b> (1) Identify any proposed open space or conservation lands and outline arrangements for ownership and control, management and maintenance, funding, public access, revegetation and rehabilitation works, and bushfire management.	See Section 6.18 and Statement of Commitments at <b>Appendix C</b> .
<b>Consultation</b> An appropriate and justified level of consultation should be undertaken. Where consultation has already been undertaken this should be documented in the EA.	See Section 3

Requirement	Response
<p>Consultation must be undertaken with the following relevant agencies:</p> <ul style="list-style-type: none"> <li>▪ Wyong Shire Council;</li> <li>▪ Hunter Water</li> <li>▪ Local Aboriginal Land Councils</li> <li>▪ Catchment Management Authority - Hunter – Central Rivers;</li> <li>▪ NSW Department of Industry and Investment</li> <li>▪ NSW Department of Environment, Climate Change and Water;</li> <li>▪ NSW Office of Water</li> <li>▪ Transport NSW</li> <li>▪ Roads and Traffic Authority;</li> <li>▪ NSW Emergency Service agencies, namely NSW Police Department, the Ambulance Service of NSW, the State Emergency Service, NSW Rural Fire Service, and NSW Fire Brigades; and</li> <li>▪ Utility providers.</li> </ul>	

## 1.6 Proponent and Project Team

The proponent of the development is Coal & Allied. The preparation of the Concept Plan has included a comprehensive project team from various fields of expertise as follows.

- Development Management: Catylis
- Urban Design: AJ+C Architects
- Town Planning: Urbis
- Social Planning: Urbis
- Flora & Fauna (Biodiversity): RPS (formerly Harper Somers O'Sullivan)
- Bushfire Risks: RPS
- Contamination, Geotechnical Contamination and Mine Subsidence and Groundwater: Douglas Partners Pty Ltd
- Hydrology, Flooding, Climate Change and Stormwater Management: GHD
- Aboriginal and Cultural Heritage: ERM
- Traffic & Transport: Hyder
- Acoustic: Renzo Tonin and Associates Acoustic Consultants
- Civil (infrastructure) Engineering: Cardno
- Surveyors: Monteath & Powys Pty Ltd Consulting Surveyors & Planners
- ESD: Ensignt
- Landscape: Aspect Studios
- Economics: Sphere

Specialist reports and documentation prepared by the project team are contained within the accompanying Appendices.



## 2 Site Description

### 2.1 Regional Context

Gwandalan is positioned within the Wyong Council Area, and is located approximately 90km north of Sydney and 30km south of Newcastle.

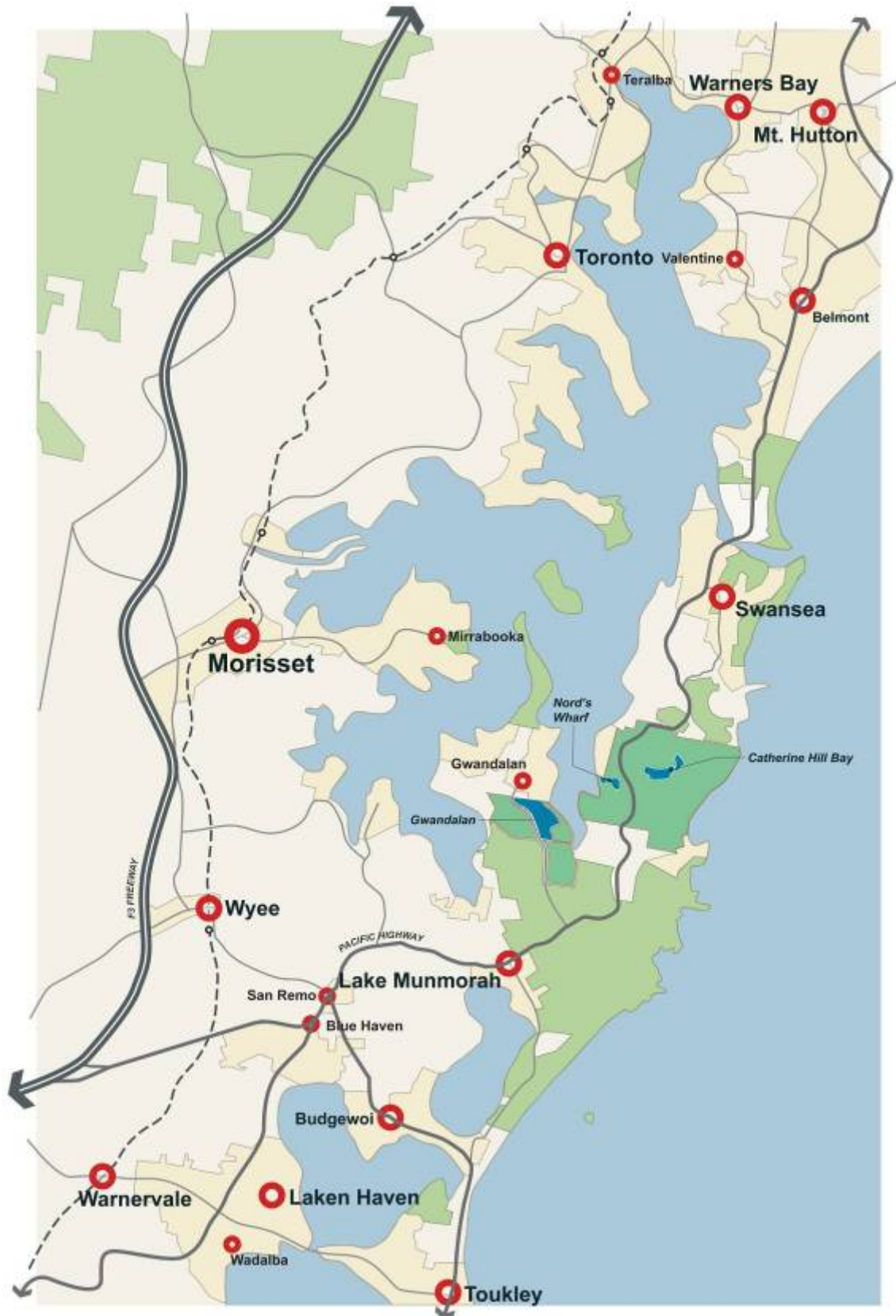
The Central Coast and Lower Hunter Region's vegetation is of bio-geographic significance as it supports a transition between the northern and southern flora and fauna communities of the Region. The CCRS, LHRS and LHRCP recognise the importance of large vegetation areas being linked via habitat corridors. Major conservation corridors have been identified running through the Region, including relevantly to the Gwandalan site, the east – west conservation corridor between Lake Macquarie State Conservation Area and Lake Munmorah State Conservation Area. This is an extensive corridor of land with high environmental value. The east – west corridor aligns with existing public reserves, which are proposed to be expanded under the CCRS, LHRS and LHRCP.

Situated between Lake Macquarie and Lake Munmorah State Conservation Areas, Gwandalan forms part of an east – west conservation corridor that links with the Wallarah Peninsula Corridor. The Coal & Allied owned land at Gwandalan that is proposed to be dedicated for conservation will play a significant role in securing in perpetual public ownership the east – west conservation corridors that will help preserve a significant natural break between the Lower Hunter from the Central Coast.

The proposed land dedication is a positive conservation step that will protect an important array of vegetation communities, flora and fauna species, and natural landscape assets, including threatened species and endangered ecological communities in the conservation lands. The environmental gain from the environmental land offset package is a once in a generation opportunity that will provide an enduring legacy for the community and future generations.



Figure 2 – Regional Context in Lower Hunter and Central Coast



## 2.2 Local Context

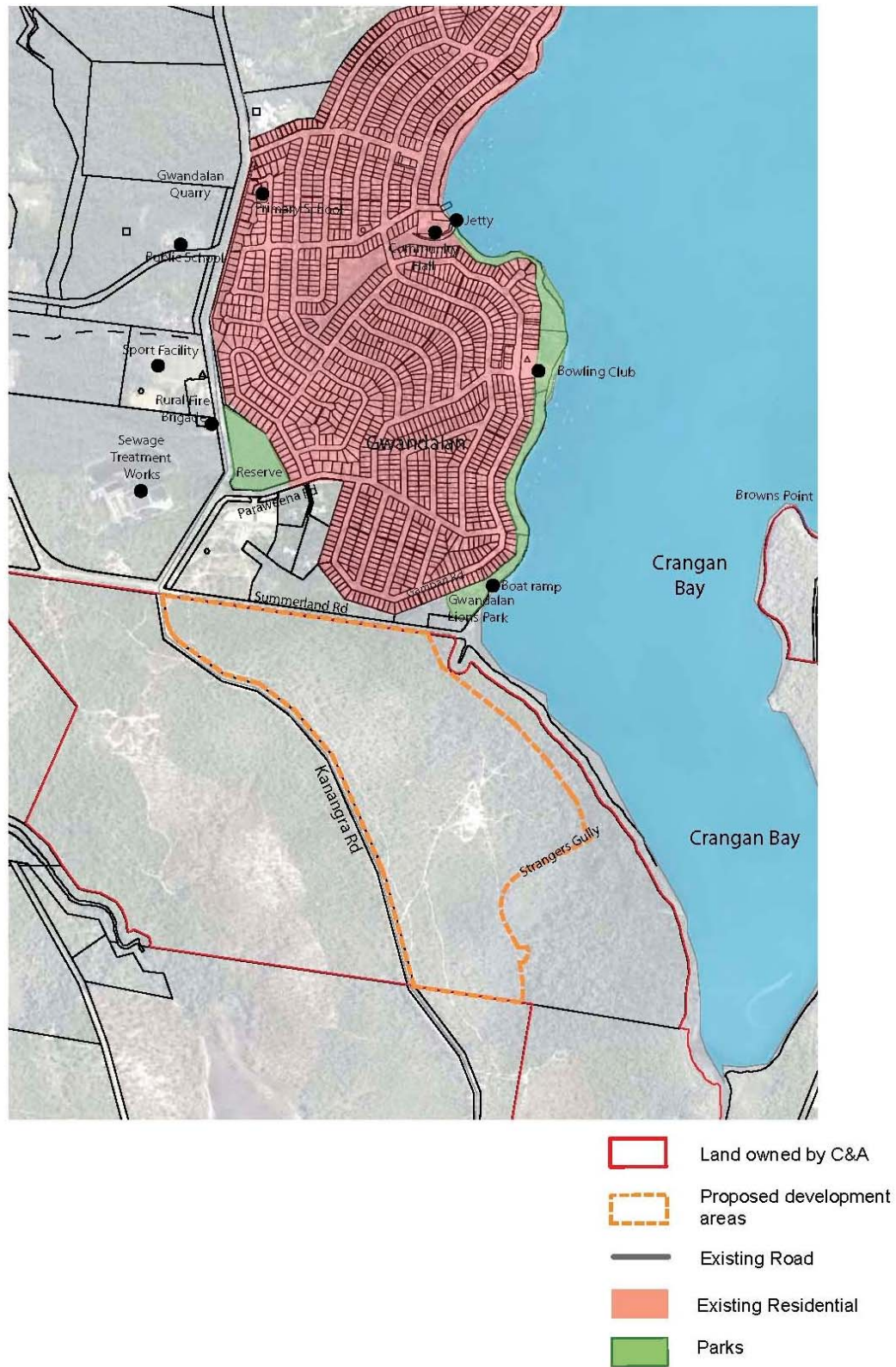
The Gwandalan site is located at the southern end of the Gwandalan Township, which is situated on the western shore of Crangan Bay at the southern end of Lake Macquarie. The existing township of Gwandalan is characterised by traditional detached housing lots.

Gwandalan contains an estimated population of 2,940 people. Gwandalan is within proximity by vehicle to the Pacific Highway (4km) and the F3 Motorway (20km) which is the major transportation corridor to Newcastle, Sydney and the North Coast. Swansea is the closest town centre, 19 kilometres north east of the site, providing shopping and business services. Morisset is 26 kilometres to the south west and is identified as an emerging major regional centre which provides a wider array of employment, business, higher order retailing, professional services and other subregional functions.

The existing infrastructure at Gwandalan includes:

- Water – the water main in Kanangra Drive has sufficient capacity to service the proposed development.
- Sewer – Summerland Point Sewer Treatment Plant (STP) has the capacity to accommodate the proposed development with no need for additional augmentation works. However, preliminary analysis has identified that because of the topography of the site, pumping stations and associated rising mains may need to be constructed by the developer to drain the site to the STP.
- Energy – preliminary analysis has identified that the source of electricity supply for the site will be the existing substation at Lake Munmorah or a new zone substation to be constructed.
- Telecommunications – Telstra standard telephony service is available to existing developed areas and is able to be augmented to the site.
- Transport – access into the area is primarily from the Pacific Highway arterial and Kanangra Drive.
- Social infrastructure – The site is in close proximity to an existing range of services and facilities at Gwandalan including:
  - Retail facilities include: a small supermarket, newsagent, Post Office, chemist, fruit and vegetable store, real estate agent, baker and liquor store, doctor's surgery, dentist, hairdresser and specialty shops. An independent service station is located at the corner of Kanangra Drive and Orana Road.
  - Education and childcare facilities include a primary school and two preschools.
  - Recreational and Community facilities including: Community facilities including a community hall, a sport and recreation centre at Point Wolstoncroft, a bowling club, the Tunkuwallin sports complex which straddles Gwandalan and Summerland Point (and includes an indoor basketball court, horse and social club and skateboard ramp). Four tennis courts, a skateboard ramp three boat ramps, three parks/reserves, baths (on the lake), and a heritage walk. A library service operates from the small but well-used Gwandalan Hall in the form of a volunteer deposit station.

Figure 3 –Local Context: Gwandalan



## 2.3 The Site

The Gwandalan site is owned by Gwandalan Land Pty Ltd, a wholly owned subsidiary of Coal & Allied Industries Ltd (Coal & Allied) and the land is contained in two land holdings legally described as Lot 2 DP 1043151 and Lot 57 DP 755266.

The Gwandalan site is approximately 268 ha in area, and includes all the land owned by Coal & Allied located to the south of the existing Gwandalan settlement, east and west of Kanangra Drive.

The land is located in the Wyong Council Local Government Area (LGA).

The site is affected by multiple zonings pursuant to the Wyong Local Environmental Plan 1991, including.

- 5(a) Special Uses Power Station – approximately 60% of the site.
- 7(a) Conservation – approximately 2% of the site.
- 7(b) Scenic Protection – approximately 30% of the site.
- 7(g) Wetlands Management – approximately 8% of the site.

Access to Gwandalan is from Kanangra Drive via the Pacific Highway. A 'paper road' (crown road) adjoins the site's northern boundary (a paper road is a road which is unformed but has been dedicated and included on the title). It is noted that the concept plan for Gwandalan does not propose any changes to the status of the land – ie the Crown road reserve remains as a public road in the concept plan. Any roads constructed within the Crown road reserve will be dedicated to Wyong Council, as will all other roads within the proposed development.

The Gwandalan site is characterised by a moderate to relatively flat topography with the exception of small steep areas at the eastern part of the site along the foreshore and in the southern part of the site associated with Strangers Gully. Photos of the site and surrounds are provided below.



Picture 1 – View from Nords Wharf across Crangan Bay to Gwandalan





Picture 2 – View from Gwandalan to the Point Wolstoncroft Peninsula



Picture 3 – View from Lions Park south toward the Coal & Allied Gwandalan site



Picture 4 – Existing development at Gwandalan setback from the lake shoreline



Picture 5 – Kanangra Drive is the principal access road to the Gwandalan and Summerland Pont communities



Picture 6 – existing bowling club and retail centre at Gwandalan

## 2.4 Opportunities, Constraints and Design Considerations

Having regard to the locality and site characteristics, the following opportunities, constraints and design considerations are identified below:

### 2.4.1 Opportunities

- Gwandalan sits on a relatively flat topography with the exception of small steep areas at the northern part of the site along the foreshore and in the southern part of the site associated with Strangers Gully.
- Kanangra Drive is the main road to Gwandalan. There are two main existing access points to the site from Kanangra Drive. To the north, Summerland Road roundabout; and to the south (1km from roundabout) at a local high point on Kanangra Drive; Summerland Road separates the existing township of Gwandalan from the site.
- The view of the site from Kanangra Drive is characterised by its bush setting. Views from Gwandalan across Crangan Bay to Browns Point and Nords Wharf are possible closer to the foreshore and from the southern ridge of Strangers Gully.

### 2.4.2 Constraints

- The site is drained by Strangers Gully, and several smaller gullies draining to Lake Macquarie. The land generally slopes east towards Lake Macquarie and portion of the site discharges to Lake Macquarie via dispersed overland flow.
- High aboriginal archaeological potential in the form of middens has been identified along the waterfront area.
- The site is underlain by coal mine workings. Investigations to date indicate that parts of the site will be restricted to single storey construction as a result of possible mine subsidence. Other parts of the site are capable of accommodating two storey developments.
- Under the Wyong LEP the site is subject to a 30.6m Foreshore Building Line measured from the high water mark. No habitable buildings are allowed in the foreshore building line (FBL). The site is also located within a Sensitive Coastal Location (i.e. land within 100m above mean high water mark of the sea, a bay or an estuary) under SEPP 71.
- There will be a need for services infrastructure. No significant service delivery problems have been identified, although it is cost prohibitive to provide reticulated natural gas to the site; and
- Protection of endangered ecological communities located in Strangers Gully and along Kanangra Drive.

### 2.4.3 Design Considerations

- Vegetation along the ridge adjacent to Kanangra Drive should be retained to reinforce the existing bushland context of the site and maintain a vegetation corridor.
- Development should seek to minimise the visual impact from the water.
- Asset protection zones (APZ) establish a bushfire protection area that requires maintenance. The area required for APZ is determined by assessment of the surrounding vegetation and topography. No habitable structures are allowed within APZs and they will require continuous vegetation control.
- Water quality discharging into Lake Macquarie can be managed through water sensitive urban design measures.
- Traffic noise from the Kanangra Drive is to be mitigated by appropriate settlement setbacks.
- Protection of sensitive lake foreshore and areas of aboriginal cultural significance is to be achieved by limiting development along the lake foreshore.
- Provision of public access along the foreshore.
- Proposed dedication of conservation land. Provision of 205.75ha of land including lake foreshore and bushland as 'conservation land' as an extension of the Munmorah State Conservation Area.
- Provision of low scale coastal village development that is integrated with the natural landscape and setback appropriately from the lake foreshore.
- Maintain and enhance the natural landscape setting of Gwandalan.

### 3 Consultation

In conjunction with public exhibition of the Concept Plan by the DoP, the proponent will host a web site containing the Concept Plan, all supporting reports such as traffic, noise, heritage etc.

Submissions commenting on the Concept Plan will be invited to be directed to the responsible officer at the DoP. Following completion of the public exhibition, the proponent will request copies of all submissions from the DoP and will prepare a summary compiling all submissions and the proposed response/s to any issues raised.

Briefings of stakeholders and the community will continue throughout the statutory process in accordance with the requirements identified in the DGEARs issued on 19 August 2010.

The final concept plan has been shaped by the community consultation undertaken by Coal & Allied to ensure that the views of the community were considered in the process. The consultation included:

- Community information sessions and meetings;
- A series of targeted stakeholder meetings;
- Community workshops;
- Community newsletters, newspaper advertising and media releases; and
- Community input into the regional forum and design charette.

The design charette process drew together key government, community and project stakeholders to make recommendations to inform the final Concept Plan for the Gwandalan site.

#### 3.1 Overview

Coal & Allied's main objectives in engaging with stakeholders and the community regarding the Lower Hunter lands are to:

- Discuss transparently the project objectives;
- Engage the local community in the project;
- Enhance Coal & Allied's reputation from the transfer of the conservation lands;
- Communicate transparently Coal & Allied's intentions in relation to the development lands;
- Reiterate Coal & Allied's commitment to the Hunter region, its support of local communities and businesses, and acknowledge its responsibilities as a major employer in the region; and
- Communicate the benefits to the region of the proposal.

A strong commitment by Coal & Allied to implement an inclusive and pro-active community engagement process underpins the strategy. The commitment also reflects the objectives of the project. To achieve these objectives and ensure the strategy is effective, an engagement plan was devised in alignment with the broad principles of being inclusive, transparent and obtaining community feedback.

The tasks completed to implement this plan include:

- Establishing and maintaining a project database;
- Establishing a community information line (1800 727 745);
- Establishing and maintaining a project website (via the Coal & Allied website);
- Community briefings (three public meetings);
- A series of targeted stakeholder meetings;



- Production & distribution of a brochure explaining Coal & Allied's history in the area, the relationship of Coal & Allied land to the Lower Hunter Regional Strategy, engagement opportunities and approach to sustainability;
- Community workshops to collate community values and identify needs for consideration during preparation of masterplans;
- Community newsletter, newspaper advertising and media releases; and
- Community input into the regional forum and charettes.
- Community information sessions.

## 3.2 Community Engagement Strategy and Community Consultation Process

### 3.2.1 Public Meetings

Three public meetings were held in 2006. Each meeting featured a presentation outlining the broad overview of the project, highlighting the proposed development lands and the conservation areas and the planning process. The meetings were held at:

- Minmi Town Hall, 14 November 2006;
- Catherine Hill Bay, 17 November 2006; and
- Gwandalan/Summerland Point – 11 December 2006.

### 3.2.2 Targeted Stakeholder Meetings

In early 2007, a series of targeted stakeholder meetings were held to introduce the Coal & Allied staff and provide an overview of the project and the planning process. These meetings were also used to outline the consultation process including the community workshops and the charette.

Meetings were held with the following stakeholders: Lake Macquarie Council, Wyong Council, Newcastle Council, Koombahtoo Aboriginal Lands Council, Mindaribba Aboriginal Lands Council, Awabakal Aboriginal Lands Council, Bahtabah Aboriginal Lands Council, Darkingung Aboriginal Lands Council, Nords Wharf Scouts, Hunter Economic Development Corporation, Awarbukal Cultural Resource Association, Hunter Business Chamber, Hunter Community Environment Centre, Landcare (Hunter), Mine Subsidence Board, Catherine Hill Bay Progress Association, Minmi Progress Association, National Parks Association, Newcastle Wilderness Society, Hunter Chapter, Property Council and Green Corridor Coalition.

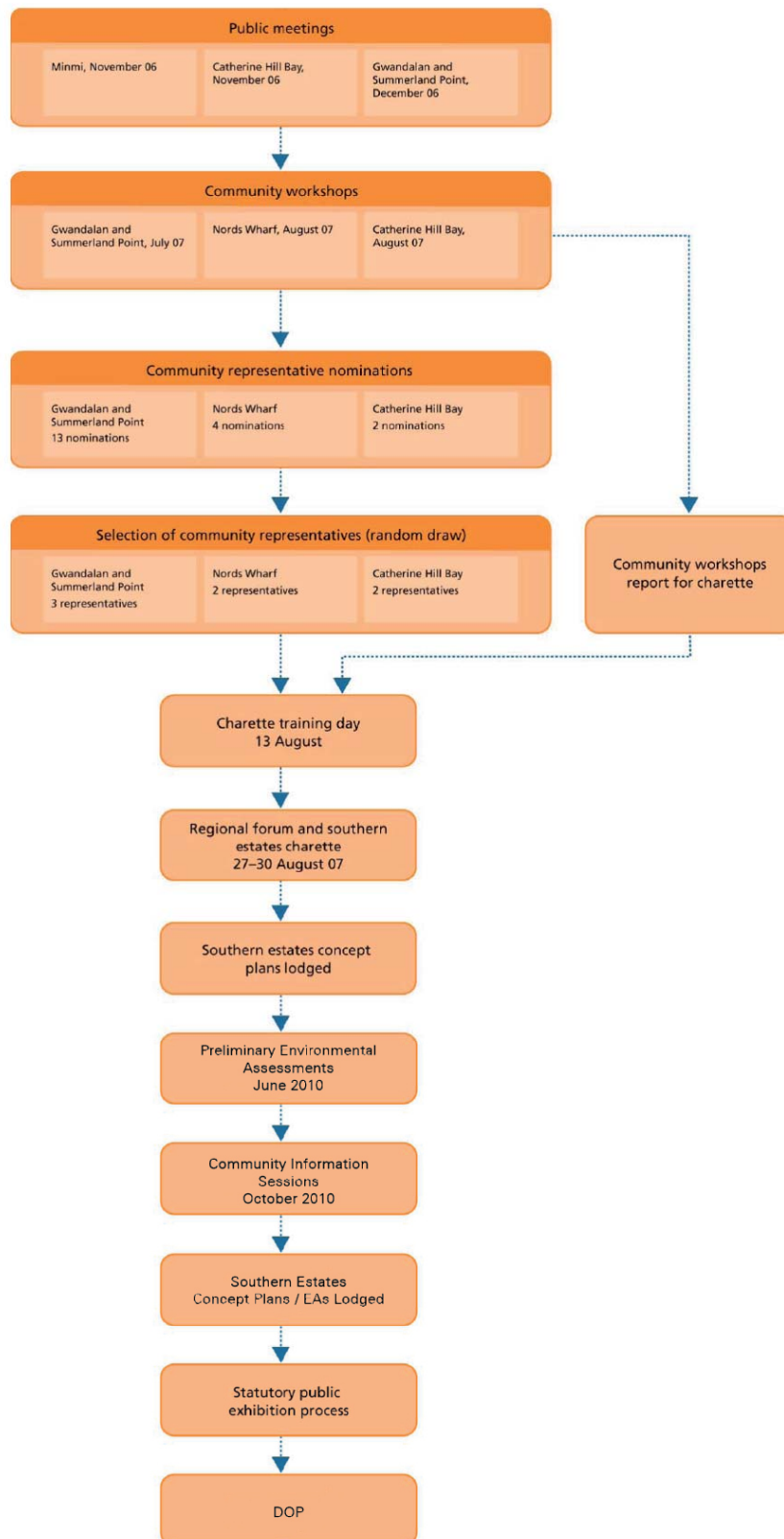
Some of the key messages received from these stakeholder meetings included reinforcing the importance of achieving the conservation corridors and the high biodiversity areas. A preference for higher densities rather than low-density urban sprawl was also put forward. Infrastructure and transport options were raised during several meetings as issues to be considered during the charette. There was some support for the growth identified in the LHRS and a suggestion to consider economic initiatives.

Each of the Local Aboriginal Land Councils requested involvement in any investigations regarding Aboriginal heritage across the sites.

### 3.2.3 Community Workshops

In July and August 2007 a series of community workshops were held for the residents of Gwandalan/Summerland Point, Catherine Hill Bay and Nords Wharf. The figure overleaf outlines the community workshop process.

Figure 4 – Community Workshop Process



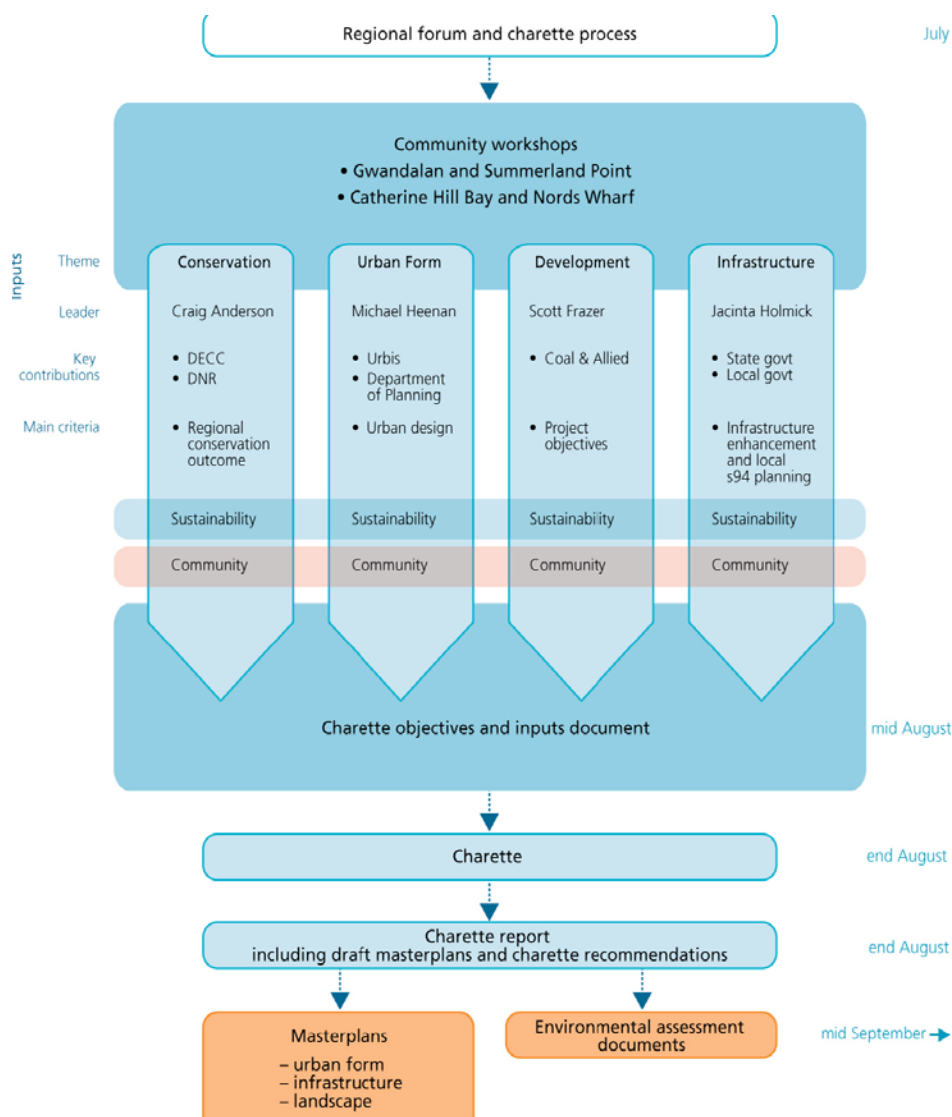
### 3.3 Regional Forum and Design Charette

The Lower Hunter lands project will contribute a number of economic, environmental and social benefits to the Lower Hunter region. Equally, the masterplanning and development process will need to address local issues and needs for each estate. To address these regional and local aspects, Coal & Allied undertook a two-tier approach to the planning process by dividing the five subject sites in this project into two areas, known as the northern and southern estates. The southern estates are Catherine Hill Bay (Middle Camp), Nords Wharf and Gwandalan. The northern estates are Minmi/Link Road and Black Hill. In order to progress the Lower Hunter lands project, Coal & Allied held a regional outcomes forum and charette. The forum and charette drew together key government, community and project stakeholders to resolve a multitude of issues relating to the project, and develop draft integrated masterplans for the estates.

#### 3.3.1 Charette model

The Lower Hunter lands project aims to achieve outcomes that integrate across a number of different themes, namely conservation, urban form, infrastructure and development. The figure below illustrates the charette model that Coal & Allied adopted.

Figure 5 – Charette Model



### 3.3.2 Regional Forum

The regional forum, held on 27 August 2007 focused on the potential outcomes of the project for the Lower Hunter region and the links between those outcomes and the goals of established regional policies. In total, 105 participants were involved in the regional forum including representatives of local communities, government agencies, Aboriginal and environment groups. A complete list of regional forum attendees is included in Section 3.4 of this report.

The regional outcomes forum included presentations from the Coal & Allied project team and specialist consultants on various aspects of the proposed development including community engagement, conservation and ecology, urban design, Aboriginal and cultural heritage, social infrastructure, transport, water management, civil engineering, and geotechnical issues.

The forum also incorporated stakeholder discussions and feedback. Coal & Allied has provided a response to questions on the Lower Hunter lands project page of the Coal & Allied website ([www.coalandallied.com.au](http://www.coalandallied.com.au)). The aim of the Charette was to provide a regional context to the masterplanning work.

### 3.3.3 Southern Estates Design Charette

Following the regional forum, a separate three day charette was held, from 28 to 30 August 2007 for the southern estates. A charette is an intensive working session which addresses multiple objectives and issues related to a project. The charette made recommendations to Coal & Allied regarding the delivery of the project objectives in relation to the four theme areas.

The southern estates charette involved a total of 58 participants. Section 3.4 of this report provides a complete list of charette attendees however the following list provides a summary of the stakeholder groups represented:

- Community representatives.
- Aboriginal Land Councils.
- Aboriginal Traditional Owner groups.
- Environment groups.
- State government agencies.
- Local Councils.
- Industry experts.
- Consultants and technical specialists.

In July 2007, Coal & Allied prepared a southern estates charette reference guide that detailed the project objectives and input information to help the charette to reach these outcomes. The reference guide outlined the regional and local context for the project with reference to the different themes of conservation, urban form, infrastructure and development. The reference guide was distributed to all charette participants for review before participation in the charette.

The Southern Design Charette and regional forum provided Coal & Allied with a series of recommendations for primary input to future concept plan applications. The outcomes of the regional forum and charette were:

- A recommended statement of commitments for each of the southern estates, namely Catherine Hill Bay (Middle Camp), Gwandalan and Nords Wharf.
- Options for concept plans for each estate including details of conservation, landscape, urban form and infrastructure.
- Priority initiatives to be funded under Coal & Allied's \$5 million southern estates allocation (beyond statutory requirements) as identified during the charette.

### 3.4 Agencies and Authorities

As discussed Coal and Allied has a strong commitment to implement an inclusive and pro-active community engagement process.

The following participants attended the all day Regional Forum held on 27 August 2007.

- Community representative – Progress association;
- Community representatives Minmi;
- Community representatives – Catherine Hill Bay;
- Community representatives – Nords Wharf;
- Community representatives – Gwandalan;
- URGE;
- Aboriginal Land Council (Darkinjung);
- Aboriginal Land Council (Awabakal);
- Aboriginal Land Council (Bahtabah);
- Guringai Tribal Link Aboriginal Corporation;
- Awabakal Traditional Owners Aboriginal Corporation;
- Awabakal Descendents Traditional Owners Aboriginal Corporation;
- Newcastle City Council;
- Lake Macquarie City Council;
- Wyong Shire Council;
- Hunter Valley Buses;
- Busways;
- Roads and Traffic Authority;
- Telstra;
- Energy Australia;
- Alinta;
- Hunter-Central Rivers Catchment Management Authority;
- Gosford Wyong Councils' Water Authority;
- Hunter Water;
- Ambulance Service of NSW–Hunter;
- NSW Fire Brigade;
- Hunter Economic Development Corporation;
- Department of Environment and Climate Change;
- Department of Planning;
- Department of State & Regional Development;

- Mine Subsidence Board;
- NSW MPs;
- Newcastle Cycleways Movement Inc.;
- Lake Macquarie Coastal and Wetlands Alliance;
- Hunter Valley Research Foundation; and
- Green Corridor Coalition.

It is noted that representatives from the NSW Department of Natural Resources, NSW Department of Primary Industries, NSW Heritage office, NSW Police Department, the State Emergency Service, NSW Rural Fire Service and all utility providers were invited to attend the Regional Forums but could not attend. Consultation with these representatives and relevant adjoining landowners has been undertaken separately as detailed in Section 1.6.3.

### 3.4.1 Design Charette

Representatives from each of the communities of Catherine Hill Bay, Gwandalan, Nords Wharf, the local Aboriginal communities and representatives of environmental groups such as URGE and the Green Corridor Coalition were also invited to participate in the Design Charette process. The following participants attended the three (3) day Southern Estate Design Charette held on 28 -30 August 2007.

.Community representatives – Catherine Hill Bay;

- Community representatives – Nords Wharf;
- Community representatives – Gwandalan;
- URGE;
- Board Member, Awabakal Corporation;
- Environmental Planner, Lake Macquarie City Council;
- CEO, Awabakal Local Aboriginal Land Council;
- Chairperson, Awabakal Local Aboriginal Land Council;
- CEO, Bahtabah Local Aboriginal Land Council;
- Conservation planning officer, Department of Environment and Climate Change;
- Nords Wharf Progress Association representative;
- Catherine Hill Bay Progress Association representative, heritage consultant;
- Chairperson, Guringai Traditional Land Owners Corporation;
- Trainee planner, Wyong Council;
- Manager land use planning, Wyong Council;
- Hunter Valley Research Foundation;
- Civil engineer, development assessment, Lake Macquarie City Council;
- Green Corridor Coalition; and
- Central Coast Public Health Unit, NSW Health.

In addition the following consultation has been undertaken:

- Over the past 3 years Coal & Allied has undertaken extensive consultation with the Department of Planning (DOP) and Department of Environment, Climate Change and Water (DECCW) relative to its surplus land holdings in the Lower Hunter. Catherine Hill Bay forms part of that total land holding. Negotiations with the Minister for Planning, DOP, and DECCW together with the results of the GIS constraints mapping has resulted in the 62.24Ha being identified as being suitable for residential development;
- Hunter Water as detailed in the Infrastructure Report prepared by Cardno;
- Energy Australia as detailed in the Infrastructure Report prepared by Cardno;
- Jemena (previously Alinta) as detailed in the Infrastructure Report prepared by Cardno;
- Telstra as detailed in the Infrastructure Report prepared by Cardno;
- Local Aboriginal Land Council's, Aboriginal stakeholder groups, Lake Macquarie Council and DECCW as detailed in the Heritage Impact Assessment prepared by ERM. A detailed Aboriginal consultation log is included at Annex A of the HIA. ERM have also consulted the NSW Heritage Office;
- Mine Subsidence Board as detailed in the Preliminary Contamination, Geotechnical and Mine Subsidence Assessment prepared by Douglas Partners; and
- Lake Macquarie Council, NSW Health and Department of Education and Training as detailed in the Social Infrastructure Report prepared by Urbis.

### 3.5 Adjoining Landowners

Co-ordination meetings between Coal & Allied, Rose Group and Stockland have been held.

The main purpose of the meetings was to establish a joint working party to deal with the following :

- Cumulative traffic impacts of the proposed development.
- Cumulative infrastructure services requirements for the proposed developments.
- Status of discussions and negotiations with the various supply authorities with regards to locations, timing and developer charges in relation to major infra-structure upgrades and/or amplifications.
- Timing of the respective proposed developments.
- Sharing of construction and/or funding of any items identified in the relevant statutory contributions plans.

Joint meetings and presentations between Rose Group, Stockland and Coal & Allied in relation to various authorities, including Local Councils, RTA, Energy Australia, Hunter Water and Telstra have been undertaken to ensure that the cumulative impact of the proposed developments is managed and controlled in an appropriate fashion.

### 3.6 Community Information Sessions and Community Reference Group

#### 3.6.1 Community Information Sessions

To help the community learn more about Coal & Allied's revised plans for the proposed residential land development and conservation land transfer in the Lower Hunter a number of community information sessions were conducted in October 2010.

The following table details the information session schedule:

Date	Time	Location
Thursday 14 October 2010	3.30 to 6.30pm	Gwandalan Community Hall
Friday 15 October 2010	4.00 to 7.00pm	Nords Wharf Community Hall
Saturday 16 October 2010	9.00 to 12noon	Catherine Hill Bay Surf Club

The purpose of the sessions was to:

1. raise awareness of the plans being submitted
2. provide an overview of the process to lodge the Environmental Assessment and State Significant Site studies
3. highlight revisions to previous concept plans
4. provide an avenue for personal interactions with impacted communities
5. provide details of the statutory submission process.

A summary of the response from each of the Community Information Sessions is included at Appendix P of this EA.

#### 3.6.2 Community Reference Group

Membership of the CRG was finalised by DoP. The CRG represent a diverse range of stakeholder and it is therefore assumed that the members of the CRG may hold diverse views. Members were invited on the basis of having demonstrated interest or links to the site, prior involvement with the planning process or connections with the local community. Specifically the CRG membership comprises the following groups, business and individuals:

- Wyong Shire Council
- Lake Macquarie City Council
- Catherine Hill Bay Progress Association
- Central Coast Community Environment Network
- Gwandalan Progress Association
- Swansea RSL
- Invited local residents.

The CRG provides a forum to:



- Provide information and a forum to enable a diverse range of stakeholders to make a considered response to the proposal and prepare informed submission to the assessment process; and
- Provide an opportunity for the Department of Planning to understand and consider stakeholder views, issues and comments as made by members of the CRG through the assessment process.

### Meetings

The CRG met on four occasions to coincide with key steps in the proposal's planning assessment process.

### 3.6.3 Additional Consultation

Coal & Allied has also undertaken additional consultation with the following stakeholders during preparation of the concept plan.

Table 2 – Additional Agency Consultation

Agency	Summary
Lake Macquarie City Council	Information session at LMCC on 8 November 2010.
Wyong Shire Council	Information session at WSC on 2 November 2010.
Hunter Water	As detailed in Section 4 of the Concept Plan Infrastructure Report plus various other ongoing correspondence/meetings.
CMA – Hunter; Central Rivers	Southern Estates Regional Forum and Charette plus correspondence received following these sessions.
NSW I&I	Southern Estates Regional Forum and Charette plus correspondence received following these sessions.
DECCW	Meeting on 12 October 2010 plus various other ongoing correspondence/meetings.
NoW	Correspondence of 13 October 2010.
Transport NSW	Southern Estates Regional Forum and Charette plus correspondence received following these sessions.
RTA	Meeting on 17 September 2010 plus various other ongoing correspondence /meetings.
NSW Police	Southern Estates Regional Forum and Charette plus correspondence received following these sessions.
Ambulance NSW	Southern Estates Regional Forum and Charette plus correspondence received following these sessions.
SES	Southern Estates Regional Forum and Charette
Rural Fire Service	Southern Estates Regional Forum and Charette plus correspondence received following these sessions.
NSW Fire Brigades	Southern Estates Regional Forum and Charette plus correspondence received following these sessions.
All Utility providers	Southern Estates Regional Forum and Charette plus correspondence

	received following these sessions.
Relevant Local Aboriginal Land Council	As detailed in section 3.4.1

### 3.7 Strategy for Future Consultation

In conjunction with public exhibition of the Concept Plan by the DoP, the proponent will host a web site containing the concept plan, all supporting reports such as traffic, noise, heritage etc.

DoP has provided an undertaking to the CRG that a further meeting will be held during the public exhibition period.

Submissions commenting on the Concept Plan will be invited to be directed to the responsible officer at DoP. Following completion of public exhibition, the proponent will request copies of all submissions from the DoP and will prepare a summary compiling all submissions and the proposed response/s to any issues raised.

Briefings of stakeholders will continue through out the statutory process.



## 4 Development Description

### 4.1 Concept Plan for which Approval is Currently Sought

The Concept Plan for a proposed residential subdivision of the Gwandalan site and conservation land transfer will apply to the entire 268ha Gwandalan site. The key parameters for the proposed development of the site are as follows:

- Dedication of 205.75ha of conservation land to the NSWG that is identified in the Lower Hunter Regional Strategy and Lower Hunter Regional Conservation Plan, comprising approximately 77% of the Gwandalan site.
- Maximum dwelling yield of 623 dwellings over 62.24ha.
- Indicative development staging.
- The provision of associated infrastructure.
- Torrens title subdivision of the Gwandalan site. The Torrens title subdivision and boundary realignment of Coal & Allied land will enable land, 205.75ha in area that is owned by Coal & Allied to be excised and to be dedicated to NSWG for conservation land.

Approval is not sought under the Concept Plan for a specific lot or road layout. An indicative lot and road layout will indicate how the maximum dwelling yield of 623 dwellings could be achieved on the site.

Similarly, approval is not sought under the Concept Plan for subdivision or construction of individual houses. Urban Design Guidelines have been prepared by AJ+C Architects and Aspect Studios to inform the Concept Plan in respect of urban form, built form, open space and landscape, access and movement and visual impact for the site (refer to **Appendix B**).

It is proposed to dedicate land for conservation purposes as part of the Major Development Application via a Voluntary Planning Agreement (VPA) between Coal & Allied and the NSWG in accordance with s.93F of the EP&A Act.

The proposed Concept Plan seeks to facilitate residential development that is not permissible under the existing planning provisions and therefore a State Significant Site listing/rezoning is proposed under the Major Development SEPP, which will provide the statutory mechanism for approval of the Concept Plan and associated future development. This is discussed at Section 4.2.

A Plan showing the proposed development areas and conservation areas is shown at **Figure 4**. The proposed Concept Plan for the site is shown at **Figure 5**.

Figure 6 – Proposed Development and Conservation Areas



Figure 7 – Proposed Gwandalan Concept Plan



## 4.2 State Significant Site Listing and Rezoning

It is proposed that the entire Coal & Allied owned Gwandalan site be rezoned/listed as a 'State Significant Site' (SSS) in Schedule 3 of the Major Development SEPP. A separate report has been prepared and lodged concurrently with the DoP in this regard. This Environmental Assessment Report should be read in conjunction with the SSS Listing Report.

The proposed zoning for the site is:

- R2 – Low Density to apply to all developable areas with “Additional Permitted Land uses” for attached dwellings; multi dwelling housing, shop top housing and seniors housing. The site is subject to the SEPP (Mining, Petroleum Production and Extractive Industries) 2007.
- E1 – National Parks and Nature Reserves to apply to all land proposed to be dedicated to the NSWG.

The proposed SSS listing/rezoning for the site delineates zones and associated development controls, as well as establishes the future approval/consent authority regimes. The proposed SSS listing/rezoning for the site also proposes what areas are to be developed and what areas are to be conserved and the future planning controls that will apply.

As stated, a new planning regime is required to rezone the sites to upgrade the permissible land uses and to enable the proposed development of the site for residential uses. The Schedule 3 amendment to the Major Development SEPP will introduce a new statutory planning framework for the Gwandalan site that includes:

- Aims and objectives for each site.
- Zoning and permissible uses.
- Key development controls.
- The future consent/approval regime.

## 4.3 Strategic Justification for Project

The Coal & Allied owned Gwandalan site has been recognised for its State and regional significance based on its inclusion in the CCRS and LHRS for proposed urban development and conservation.

Coal & Allied propose to develop 62.24ha of Gwandalan for residential development with a dwelling yield of 623 dwelling lots. The proposed 623 dwellings at Gwandalan will help achieve the State Government's objective to cater for the predicted population growth for the Region until 2031. The balance of the Gwandalan site (205.75ha or 77%) is proposed to be dedicated to the NSWG for conservation purposes.

As stated, the securing, expansion, management and protection of land for conservation corridors and biodiversity is a key focus of the CCRS, LHRS and LHRCP. Two major conservation corridors have been identified running through the Lower Hunter Region, namely the Watagan to Stockton Corridor and the Wallarah Peninsula Corridor. These are extensive corridors of land with high environmental value which will be managed for conservation purposes. The corridors align with existing public reserves, some of which will be expanded.

The proposed dedication of 205.75ha at Gwandalan is crucial in achieving the State Government's objective of securing major conservation corridors identified in the LHRCP, most notably the east – west conservation corridor contiguous with the Munmorah State Conservation Area. Together with Coal & Allied's proposed dedication at Nords Wharf (116.6ha) and Catherine Hill Bay (Middle Camp) (526.58ha), the proposed land dedication at Gwandalan will help provide a regionally significant break between the urban areas of the Central Coast and Lower Hunter.

The proposed dedication of land to NSWG will also ensure that substantial and significant land parcels will be protected from development by locking away this land as 'conservation land' in public ownership and perpetuity. The environmental gain from the proposed conservation land dedication is a once in a generation opportunity that will provide an enduring legacy for the community. The proposed dedication of 205.75ha of the Gwandalan site for conservation to the NSWG by Coal & Allied is clearly of state and regional significance.

Importantly the Gwandalan site will also result in the protection of:

- Sensitive lake foreshore areas by limiting development along the lake foreshore.
- An area of SEPP 14 coastal wetland.
- The ecologically significant Strangers Gully wetland including strands of coastal wet sand cyperoid heath.
- Riparian zones.
- Areas of aboriginal cultural significance along the foreshore that contains middens.

## 4.4 Alternatives Considered

Coal & Allied has considered a number of development alternatives to be tested and considered. It should be recognised that the 'do nothing' scenario has been considered and dismissed as a realistic option since this will not achieve the conservation outcomes sought under the CCRS, LHRS, and LHRCP and will not contribute to the future housing needs of the region.

The options considered for the site were developed during a 3 day charette which included community members, agencies, and other stakeholders. The options are detailed below.

### 4.4.1 Option 1

Option 1 includes the following elements:

- The equivalent of 700 dwellings on 80 hectares with an average density of 8.75 dwellings per hectare. The yield may be achieved by the following:
  - 492 dwellings contained in individual lots and integrated housing superlots.
  - Equivalent of 66 dwellings in the form of a 200 bed Residential Aged Care Facility.
  - Equivalent of 142 dwellings in the form of Seniors Independent Living Units.
  - Retail development comprising of a potential GFA of approximately 3,000sqm is provided in addition to the 700 dwellings.
- Dedication of 192ha of conservation land, including lake foreshore and bushland;
- Protects areas of high aboriginal heritage value, including Aboriginal midden sites and natural landscape along the foreshore;
- Provides for a mix of housing type as well as a marketable product. A variety of lot sizes and housing forms are proposed including:
  - Seniors housing
  - Work at home housing
  - Shop-top housing
  - Larger lot housing on sites up to 920sqm
  - Integrated housing



- Traditional lot housing
- The location of the development footprint 100m from the foreshore creates a public foreshore reserve that contributes to the network of open space and foreshore access along the foreshore to Point Wolstoncroft.
- Limited access from Kanangra Drive.
- Clear pattern of perimeter road with a major north – south and east – west road cross axis. Street pattern maximises the number of east – west streets connecting the to the foreshore conservation area.
- A landscape buffer along Kanangra Drive maintains existing landscape character and screens the estate from Kanangra Drive.
- Protection of endangered ecological communities and wetland. Angophoras are protected in the landscape buffer zone along Kanangra Drive and Wallum Froglets are protected in the wetland of Strangers Gully.
- Two bush reserves are located within the two main drainage lines of the estate.
- Three distinct hamlets are created within the development footprint, separated by the two bush reserves and landscape buffer within the development footprint and the surrounding conservation areas.
- Three new parks located on the eastern edge of the site contiguous with the conservation lands and its recreation opportunities by the foreshore.

Figure 8 – Option 1





#### 4.4.2 Option 2

Option 2 is based on the draft master plan “Plan B” developed during the community consultation process and includes:

- Maximum dwelling yield 700 dwelling units.
- Dedication of conservation land. Provision of 192ha of land including lake foreshore and bushland as ‘conservation land’ as an extension of the Munmorah State Conservation Area to the south.
- Protects areas of high aboriginal heritage value, including Aboriginal midden sites and natural landscape along the foreshore.
- Protection of endangered ecological communities and Strangers Gully wetland in land.
- Provides for the following mix of dwelling units:
  - 375 dwelling units at 12 dwelling units per ha.
  - 40 ‘Live / Work’ dwelling units.
  - Local retail centre of 1500sqm.
  - Seniors housing.
- Provides a foreshore park and public access along the coastal foreshore;
- Respects drainage corridors;
- Provides vegetated buffer to Kanangra Drive to minimise impacts to future residents and retain vegetation along the ridge to reinforce the existing bushland backdrop to Gwandalan.

Figure 9 – Option 2



#### 4.4.3 Option 3 - Preferred Option

The key components of the preferred option are listed below:

- Provides a maximum dwelling yield of 623 dwelling units over 62.24 ha. The yield may be achieved by the following:
  - 427 dwellings contained in individual lots and integrated housing superlots.
  - Equivalent of 196 dwellings in the form of Seniors Independent Living Units.
  - Retail development comprising of a potential GFA of approximately 3000sqm is provided in addition to the 623 dwellings.
- Dedication of 205.75ha of conservation land, including lake foreshore and bushland;
- Protects areas of high aboriginal heritage value, including Aboriginal midden sites and natural landscape along the foreshore;
- Provides for a mix of housing type as well as a marketable product. A variety of lot sizes and housing forms are proposed including:
  - Seniors housing.
  - Shop-top housing.
  - Integrated housing.
  - Traditional lot housing.
- The location of the proposed development footprint approximately 100m from the foreshore creates a public foreshore reserve that contributes to the network of open space and foreshore access along the foreshore to Point Wolstoncroft;
- Limited access from Kanangra Drive;
- Clear pattern of perimeter road with a major north – south and east – west road axis. Street pattern maximises the number of east – west streets connecting the to the foreshore conservation area;
- A landscape buffer along Kanangra Drive maintains existing landscape character and screens the estate from Kanangra Drive;
- Protection of endangered ecological communities, Strangers Gully and SEPP 14 wetlands in land identified for proposed conservation;
- Angophoras are proposed to be protected in the landscape buffer zone along Kanangra Drive and Wallum Froglets and Coastal Wet Sand Cyperoid Heath are protected in the wetland of Strangers Gully;
- Two bush reserves are located within the two main drainage lines of the estate;
- Two new parks located on the eastern edge of the site contiguous with the proposed conservation lands / foreshore reserve.

Figure 10 – Option 3



Figure A1.3.1 - Indicative lot layout

## 4.5 Stages of Project

Approval is not sought under the Concept Plan for subdivision within the proposed development footprint – except for the Torrens title subdivision and boundary realignment of the overall Gwandalan site to enable the 205.75ha to be excised and dedicated to the NSWG for conservation land.

The extent, and therefore the number of lots, of each stage will largely be dictated by the services infrastructure requirements as well as responding to market forces.

Development staging is proposed to commence in the northern areas of the site progressively moving south as market demands dictate.

Infrastructure is proposed to be connected as per the following staging arrangements:

**Sewer** - The sewer pump stations, rising mains and trunk gravity mains will be provided progressively to suit the development staging. The first stage of the development will provide the connection to the Summerland Point STP and future stages will connect through the first stage of infrastructure.

**Water** - The connection to the trunk water main in Kanangra Drive will occur during the first stage of development. The ring main will be constructed in stages, the completion of the ring main and second connection to the trunk water main will occur in the third or fourth development stage.

**Electricity** - Connection to the existing electrical supply will occur during the first stage of development. The second and subsequent stages will connect to the new electrical reticulation provided with the development. There may be a second connection to the existing supply in the latter stages of the development.

**Telecommunications** - Telstra cabling will be provided in conjunction with the electrical cabling, with servicing extending from the existing cabling to the north of the development site.

Connection with the National Broadband Network will be undertaken when this service becomes available. Timing is at present unconfirmed. Refer to Section 6.7.2 for additional information regarding the National Broadband Network (NBN) rollout.

Figure 11 – Staging Plan

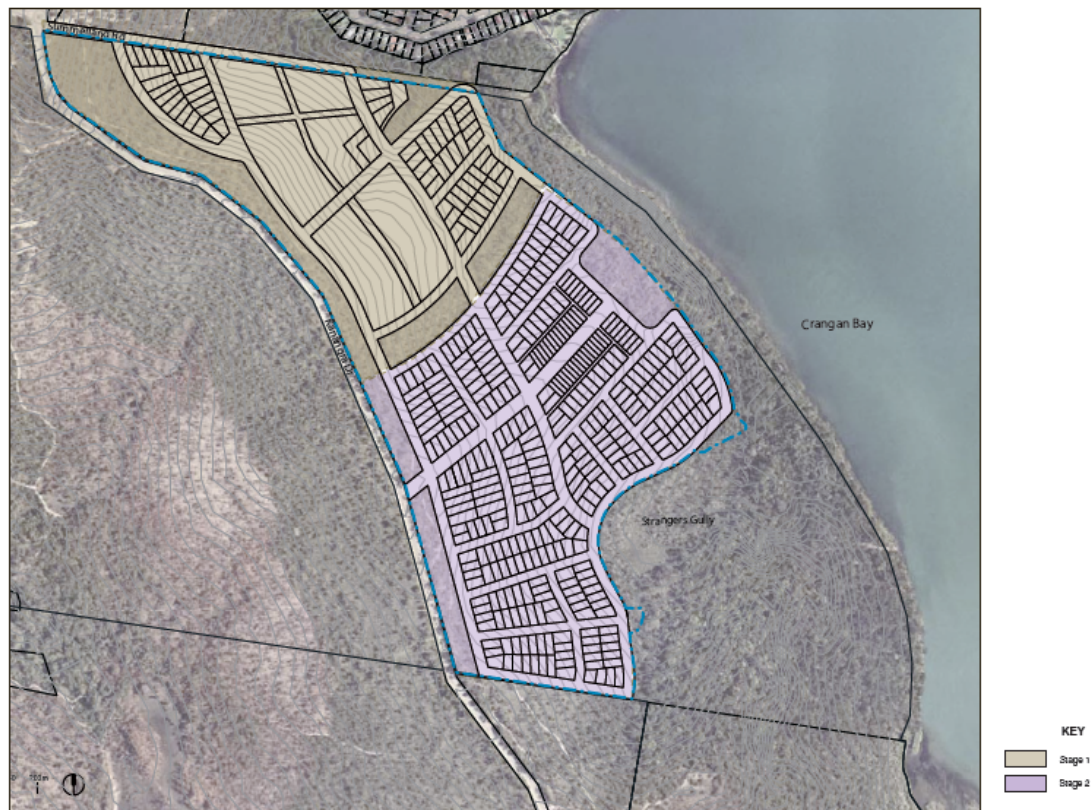


Figure A3.11 - Development staging





## 5 Environmental Planning Assessment

Consistent with the provisions of the Environmental Planning & Assessment Act 1979, the DGEAR's require the proponent to consider all relevant State Environmental Planning Policies; applicable planning instruments; and relevant legislation and policies.

The project has already been referred to the Commonwealth, Department of Environment, Water Heritage & the Arts (DEWHA) pursuant to the *Environment Protection and Biodiversity Conservation Act 1999*, with approval as a "controlled action" granted by the Minister on 23 March 2010.

### 5.1 Relevant Planning Provisions & Policies

The following existing and draft state, regional and local planning controls and policies apply to the site:

- Central Coast Regional Strategy;
- Lower Hunter Regional Strategy;
- Lower Hunter Regional Conservation Plan;
- NSW Coastal Policy;
- Coastal Design Guidelines for NSW;
- SEPP Major Development 2005;
- SEPP 71 - Coastal Protection;
- SEPP 14 - Coastal Wetlands;
- SEPP 44 - Koala Habitat Protection;
- SEPP Infrastructure 2007;
- SEPP 55 - Remediation of Land;
- SEPP Mining, Petroleum Production and Extractive Industries 2007;
- SEPP Building Sustainability Index;
- Review of Infrastructure Contribution Planning Circular PS08-017;
- Wyong Local Environmental Plan 1991;
- Wyong DCP 2005.

The following sections of the report address the proposed Concept Plan relative to applicable provisions under the above planning instruments and policies.

### 5.2 Central Coast Regional Strategy

The Central Coast Regional Strategy (CCRS) is the Government's blueprint for sustainable growth in the Central Coast region to 2031. Its overarching purpose is to ensure that adequate provision is made to sustainably accommodate the projected housing, employment and environmental needs of the Region's population over the next 25 years. It is the principal document upon which Environmental Planning Instruments and major land use and development decisions in the Central Coast should be based.

The NSWG released the final CCRS in June 2008. The CCRS identifies the Coal & Allied owned land for proposed development and conservation. The strategy emphasises the need to plan and deliver sufficient residential, business and employment land to meet future population growth expectations.

Key details of the strategy include:

- Ensure that sufficient employment lands are available to cater for 45,000 new jobs.
- Plan for an additional 100,000 residents and 56,000 new dwellings.
- Establish important green corridors, to protect and enhance the Region's strong environmental and biodiversity assets.

The proposed development and conservation of the Coal & Allied owned Gwandalan land in the manner proposed by the Concept Plan is entirely consistent with the CCRS as follows:

- It will facilitate the achievement of the key aims of the strategy by contributing to future housing provision and land conservation.
- The proposed dedication of conservation lands to the NSWG will help ensure the green buffer between the Lower Hunter and Central Coast Regions will be preserved in perpetuity. This will also protect and enhance the region's environmental and biodiversity assets and conserve land with significant ecological value.
- Provision of housing will respond to changing occupancy rates in the Central Coast region.
- Provision of a range of housing forms in order to respond to the key demographic drivers of a shrinking household size and aging population.
- Focusing new development adjacent to existing urban areas, whilst protecting important environmental assets.
- Strengthen the viability of existing services and facilities in Gwandalan and Summerland Point.
- Ensure quality urban design and amenity that is sensitive to the lakeside location.
- Protection of aboriginal heritage values along the foreshore area.

### 5.3 Lower Hunter Regional Strategy

The Lower Hunter Regional Strategy (LHRS) is the key planning policy to guide the growth in the Lower Hunter to 2031 by identifying future development areas, principal land use types, settlement patterns and conservation outcomes. It is the principal document upon which Environmental Planning Instruments and major land use and development decisions in the Lower Hunter should be based.

The NSWG released the final LHRS on 17 October 2006. It is understood that Cabinet re-endorsed it in December 2009. The LHRS plans for population growth of 160,000 people by the year 2031.

Although the site is located in the Central Coast, the LHRS identifies the Gwandalan site for proposed urban development and proposed conservation land dedications. The proposal is entirely consistent with the LHRS.

The Gwandalan site is one of the four Coal & Allied sites in the southern and northern lands proposed for residential development which will assist in achieving the forecast growth in the Lower Hunter. Whilst geographically separate they will make a significant contribution to the overall growth of the Lower Hunter region.

The securing, protection and management of conservation corridors is a key focus of both the LHRS and the companion Lower Hunter Regional Conservation Plan. The proposed development of 62.24ha of land at Gwandalan and proposed conservation land dedication of 205.75ha of land at Gwandalan is crucial in achieving the State Government's objective of securing major conservation corridors identified in the LHRS. The proposed development of the Gwandalan site and proposed land dedication is an integral element of the LHRS.

## 5.4 Lower Hunter Regional Conservation Plan

The NSWG released the Lower Hunter Regional Conservation Plan (LHRCP) in December 2009. The plan is a key and complimentary component of the LHRP as it establishes the key principles and actions proposed to achieve the biodiversity and conservation outcomes that have been outlined in the LHRP.

The LHRCP is focused on the next 25 years and seeks to establish a framework to guide conservation efforts in the Lower Hunter. While the objectives of the LHRCP focus solely on biodiversity values, it acknowledges that, in some instances, the application of sound planning principles will result in unavoidable biodiversity impacts. It notes that whilst the LHRP proposed development footprint to maximise use of already cleared or degraded land, there will be losses of biodiversity values as the LHRP is implemented, including areas of high conservation value vegetation.

Future proposed developments in the Lower Hunter will be assessed against the LHRCP. Impacts to biodiversity, including threatened species, should be first avoided or mitigated. Where appropriate, the Government will consider offsetting future development by entering into planning agreements with the developer. Under these agreements the developer is required to dedicate free of cost land that has been identified as having conservation value. Where appropriate, such land could be incorporated into the reserve system. Offsets will be developed in accordance with government policy and guidelines.

Priority for offsets will be in areas that make the most significant conservation contribution in the Lower Hunter. Such freehold land will contribute to the creation of the three priority corridors within:

- The South Wallarah Peninsula.
- The Watagan Ranges to Port Stephens.
- Werakata National Park.

Relative to the LHRCP, the proposal for Coal & Allied's Gwandalan site is significant due to:

- The site is located within the area identified in the LHRCP as a green conservation corridor. The South Wallarah and Munmorah Peninsula area is currently affected by fragmented land ownership and therefore the proposed dedication of 205.75ha of conservation land at Gwandalan will make a significant contribution to achieving a key objective of the LHRCP which is securing major conservation corridors.
- The proposed residential development of Gwandalan on 62.24ha of land will be more than offset through the proposed dedication of 205.75ha of conservation land; and
- The proposed dedication will make a significant contribution to achieving key biodiversity objectives contained in the LHRCP including expanding and strengthening the value of key corridor linkages and the valued natural green buffer between the Lower Hunter and Central Coast regions.

The detailed studies by RPS and contained in the Ecological Assessment Report at **Appendix F** have confirmed that measures have been taken to avoid any development in particularly sensitive areas where practical (such as the ecologically significant Strangers Gully, including an occurrence of the highly restricted vegetation community - Coastal Wet Sand Cyperoid Heath) and considering the large area of conservation land that is proposed to be set aside as part of the proposed development. Overall it is considered that the proposal will provide positive ecological outcomes across the entire Gwandalan site.

## 5.5 NSW Sea Level Rise Policy Statement

The Department of Planning released the final NSW Coastal Planning Guideline: Adapting to Sea Level Rise in August 2010. The Guideline adopts the sea level rise planning benchmarks in the NSW Sea Level Rise Policy Statement to assist the planning for future development proposals for all coastal areas of NSW.



The term 'coastal areas' is used broadly to include the coastline, beaches, coastal lakes, estuaries, as well as the tidal reaches of coastal rivers. It also includes other low-lying land surrounding these areas that may be subject to coastal processes in the future as a consequence of sea level rise.

The Guideline adopts the following six coastal planning principles for sea level rise adaptation:

- Assess and evaluate coastal risks taking into account the NSW sea level rise planning benchmarks.
- Advise the public of coastal risks to ensure that informed land use planning and development decision-making can occur.
- Avoid intensifying land use in coastal risk areas through appropriate strategic and land-use planning.
- Consider options to reduce land use intensity in coastal risk areas where feasible.
- Minimise the exposure to coastal risks from proposed development in coastal areas.
- Implement appropriate management responses and adaptation strategies, with consideration for the environmental, social and economic impacts of each option.

The NSW Sea Level Rise Policy Statement specifies sea level planning benchmarks for the NSW coastline. These benchmarks are an increase above 1990 mean sea levels of 40 centimetres by 2050 and 90 centimetres by 2100 and have been considered in the preparation of the Concept Plan for Nords Wharf.

The Hydrology and Stormwater Report by GHD at **Appendix J** provides commentary on how this policy has informed the proposed Concept Plan.

## 5.6 NSW Coastal Policy 1997

The NSW Coastal Policy aims to guide the future management and planning of the coastal zone. The coastal zone is identified under the Coastal Protection Act 1979 and includes the land subject to the proposed Concept Plan. The relevant considerations of the Policy are addressed below. These considerations relate to the range of objectives which underpin the long term goals of the Policy.

Table 3 – NSW Coastal Policy

Objectives	Comment
<ul style="list-style-type: none"> <li>▪ Identification of coastal lands and aquatic environments with conservation values</li> <li>▪ Implementation of acquisition policies, management strategies and controls to protect land of high conservation value</li> </ul>	<p>The Concept Plan respects the conservation values of the site's coastal lake and bushland setting, by providing for proposed developable areas:</p> <ul style="list-style-type: none"> <li>▪ Away from foreshore areas including areas of aboriginal cultural heritage significance</li> <li>▪ Away from sensitive ecological communities such as Strangers Gully</li> </ul> <p>The draft VPA provides a legal mechanism to protect the land which is proposed to be dedicated to NSWG and is of high conservation value that forms an integral ecological corridor of a wider network of regional conservation lands.</p>
<ul style="list-style-type: none"> <li>▪ Conservation, protection and recovery of native threatened and endangered flora and fauna</li> </ul>	<ul style="list-style-type: none"> <li>▪ As identified above, the Concept Plan and draft VPA represents an agreement between State Government and the proponent to protect land of high conservation value that forms an integral ecological corridor of a wider network of regional conservation lands; and</li> </ul>

Objectives	Comment
	<ul style="list-style-type: none"> <li>The ecological studies confirm that the proposed development is largely confined to disturbed areas of lesser ecological quality and that proposed conservation lands provide excellent outcomes for the vast majority of species and communities. The quantum of the proposed conservation lands, when viewed holistically with existing and proposed conservation reserves is assessed to provide a robust long-term outcome for all species and communities.</li> </ul>
<ul style="list-style-type: none"> <li>Water quality protection and improvement</li> </ul>	<ul style="list-style-type: none"> <li>A Water Sensitive Urban Design (WSUD) Strategy Plan is proposed to manage stormwater and minimise hydrological impacts of the development on the surrounding environment</li> <li>A number of initiatives are proposed to ensure that future development will meet the requirements of Wyong Council.</li> </ul>
<ul style="list-style-type: none"> <li>Minimisation of impacts to environmentally sensitive areas and cultural heritage</li> </ul>	<ul style="list-style-type: none"> <li>The location of proposed developable areas was established taking into account Aboriginal heritage values of high significance along the foreshore area;</li> <li>The Concept Plan protects high aboriginal cultural significance along the foreshore that contains middens by providing an appropriate setback of 100m to the lake foreshore; and</li> <li>The HIA and Draft Statement of Commitments details the mitigation measures the proponent commits to undertake in association with the project. The HIA has determined that provided the mitigation measures outlined in the HIA are implemented by Coal &amp; Allied, the potential impacts on Aboriginal heritage will be avoided and minimised to an acceptable level.</li> </ul>
<ul style="list-style-type: none"> <li>Protection of areas of high natural or built aesthetic quality</li> </ul>	<ul style="list-style-type: none"> <li>The proposed development area is set back from the water's edge and has a buffer of trees between it and the water. The change in level and extent of existing trees will ensure that there is very limited visibility of the proposed development from the foreshore or the water body.</li> </ul>
<ul style="list-style-type: none"> <li>Design and siting of development to complement surrounding environments and promote good aesthetic qualities</li> </ul>	<ul style="list-style-type: none"> <li>Design guidelines by AJ+C Architects are proposed to ensure that future development is responsive to the existing natural and built aesthetic character; and</li> <li>Future development will be required to meet these design guidelines.</li> </ul>
<ul style="list-style-type: none"> <li>Encourage towns to reinforce or establish their particular identities in a form which enhances the natural beauty of the Coastal Zone.</li> </ul>	<ul style="list-style-type: none"> <li>The natural beauty of Lake Macquarie has been a key consideration in approaching the structure of the Concept Plan.</li> </ul>

Objectives	Comment
<ul style="list-style-type: none"> <li>Management and conservation of cultural heritage places, items and landscapes</li> </ul>	<ul style="list-style-type: none"> <li>The location of the proposed developable area was established taking into account the presence of cultural heritage and environmentally sensitive landscapes.</li> <li>The Concept Plan protects high aboriginal cultural significance along the foreshore that contains middens by providing an appropriate setback of approximately 100m to the lake foreshore.</li> <li>A series of recommendations have been made in the HIA to manage and minimise impacts to aboriginal cultural heritage.</li> </ul>
<ul style="list-style-type: none"> <li>Recognise the rights and needs of indigenous people</li> </ul>	<ul style="list-style-type: none"> <li>Aboriginal community consultation was carried out in accordance with the Department of Environment and Climate Change "Interim Community Consultation Requirements Guideline" (2004).</li> </ul>
<ul style="list-style-type: none"> <li>Implementation of "best practice" approaches to achieving sustainable development and resource management</li> </ul>	<p>Key sustainability criteria adopted in developing the Concept Plan are identified as:</p> <ul style="list-style-type: none"> <li>Natural resources: 77% of Gwandalan land holdings is proposed to be dedicated for conservation. Proposed development areas focus on clear, degraded areas. Species/ communities likely to be affected are well represented within proposed conservation areas.</li> <li>Environmental protection: The proposal will help secure key regional green corridors which will conserve significant biodiversity resources and heritage attributes.</li> <li>Environmental Stewardship: Provision of appropriate waste water treatment systems; incorporation of environmental design elements to maximise integration of built and natural environments.</li> </ul>
<ul style="list-style-type: none"> <li>Ensure future expansion or redevelopment of urban and residential areas, including the provision of infrastructure, avoids or minimises impacts on environmentally sensitive areas and cultural heritage</li> </ul>	<ul style="list-style-type: none"> <li>Given the sites location adjacent to the southern edge of the existing Gwandalan settlement, it is ideally located.</li> <li>The proposed development will avoid areas of high environmental significance and cultural heritage such as the lake foreshore, Strangers Gully and SEPP 14 wetlands.</li> </ul>
<ul style="list-style-type: none"> <li>Promote compact and contained planned urban development</li> </ul>	<ul style="list-style-type: none"> <li>The site is in close proximity to an established urban area.</li> </ul>
<ul style="list-style-type: none"> <li>Provide choice in both housing and lifestyle</li> </ul>	<p>A variety of lot sizes and housing forms are proposed including:</p> <ul style="list-style-type: none"> <li>Seniors housing</li> <li>Shop top housing</li> <li>Detached housing</li> <li>Attached housing</li> </ul>

The above assessment illustrates that the development concept for the Gwandalan site satisfactorily achieves objectives of managing the NSW coastal zone. The proposed development area has been confined to areas that are well setback from the sensitive foreshore area and located in areas that are already disturbed or areas of lesser environmental quality.

Appropriate environmental management measures such as stormwater and erosion control will be implemented to mitigate potential pollutant impacts.

## 5.7 Coastal Design Guidelines for NSW

The Coastal Design Guidelines for NSW (CDG) provides for urban design practices and principles to achieve the sensitive development of unique natural and urban settings of coastal places in NSW. The Guidelines identify seven coastal settlement types and provide “desired future character” guidelines for each type of coastal settlement type. The most relevant character guidelines to the Gwandalan project relate to “coastal village” settlements. Under the CDG, coastal villages are described as:

- Small centres that vary in size and have a population ranging from 3,000 to 20,000 people.
- Are remote from other settlements or may be the outlying suburbs of larger settlements where they have a similar population and comparable present issues and future opportunities.
- The natural environment dominates in terms of views, environmental systems and vegetation types.
- Informal boundaries exist between urban and natural areas within the village.
- Extensive and well established landscape is a feature of public and private land.
- Villages are differentiated from other settlement types by having a small vibrant centre set within a distinctive and intact natural environment.

Gwandalan has an existing population of approximately 2,940 people, and is accessed from the Pacific Highway via Kanangra Drive. It is appropriately classified as a “Coastal Village”. In this regard, the proposed Concept Plan is assessed in consideration to the desired character guidelines for coastal villages, as summarised in the table below:

Table 4 – Coastal Design Guidelines – Assessment table

Desired Future Character for Coastal Villages	Comment
<p>The future approach of villages along the NSW coast is to reinforce scenic and tourist values by maintaining and improving the distinctive way in which the settlement sits within the landscape. Protection of natural and rural lands is a priority.</p> <p>The village centre is reinforced with a mix of uses that supports tourism and local activities to ensure the long-term viability of the settlement’s main street. Surrounding the centre, small-scale, sympathetic infill development builds on the original structure of the settlement and existing street character. The system of open spaces for separation, conservation, recreation and water management is recognised as vital for protecting the natural environment and retaining the essential village character.</p>	
<p><b>Relationship to the environment</b></p> <p>The relationship between the village and the coast reinforces:</p> <ul style="list-style-type: none"> <li>▪ The way in which the settlement sits within the landscape.</li> <li>▪ The dominance of the landscape.</li> <li>▪ Ecological corridors.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The proposed development area is set back from the water’s edge and has a buffer of trees between it and the water. The change in level and extent of existing trees will ensure that there is very limited visibility of the proposed development from the foreshore or the water body.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Separation is maintained between urban areas and the surrounding natural and rural lands.</li> <li>▪ New buildings are located within the boundaries of the Village.</li> <li>▪ Clear boundaries around settlements are established.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Landscape buffers screen the proposed development from Kanangra Drive, the lake and residences to the north.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Aboriginal and European places and relics are protected.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The Concept Plan protects high aboriginal cultural significance along the foreshore that contains middens by providing an appropriate setback of 100m (approx) to the lake foreshore.</li> </ul>
<ul style="list-style-type: none"> <li>▪ Indigenous vegetation separates development from nearby settlements.</li> </ul>	<ul style="list-style-type: none"> <li>▪ A landscape buffer and perimeter roadway will screen proposed development from existing</li> </ul>

Desired Future Character for Coastal Villages	Comment
	residences to the north of the site.
<ul style="list-style-type: none"> <li>Total water cycle management and Water Sensitive Urban Design initiatives are implemented.</li> <li>Waterways are protected through planning for peak visitor demands on water and waste services.</li> </ul>	<ul style="list-style-type: none"> <li>A Water Sensitive Urban Design (WSUD) Strategy Plan is proposed to manage stormwater and minimise hydrological impacts of the development on the surrounding environment.</li> <li>Water and waste services infrastructure will be provided to meet forecasted demands.</li> </ul>
<ul style="list-style-type: none"> <li>Micro-climatic conditions are managed by established mature landscaping and trees.</li> <li>Invasive plant species are removed and reinstatement of indigenous vegetation in bushland, reserves and setback areas.</li> </ul>	<ul style="list-style-type: none"> <li>Landscape concepts to integrate the built and natural environments will contribute to management of micro-climatic conditions, and indigenous vegetation will be reinstated in proposed development areas.</li> </ul>
<ul style="list-style-type: none"> <li>Demands for bushfire protection and natural asset protection are managed respecting competing values.</li> </ul>	<ul style="list-style-type: none"> <li>Perimeter roads are proposed to facilitate achieving the requisite APZ while minimising the need to modify existing bushland surrounding the site.</li> <li>Refer to Bushfire Threat Assessment at <b>Appendix K</b>.</li> </ul>
<b>Visual Sensitivity.</b> <ul style="list-style-type: none"> <li>Visual character is critical.</li> <li>New Development responds sensitively to form and character of the village and the existing proportions and materials of existing villages.</li> </ul>	<ul style="list-style-type: none"> <li>The proposed indicative road layout responds to the landform of the site and the proposed development is well setback from the foreshore, limiting the visual impact of the development.</li> <li>Urban design guidelines will appropriately control future built form to respect the existing Gwandalan village.</li> </ul>
<b>Edges to the water and natural areas</b> <ul style="list-style-type: none"> <li>Foreshore access in proximity to primary streets and public places within the village are reinforced.</li> <li>Connection between the village park, open spaces, main street and foreshore edge is strengthened.</li> <li>Boundaries between foreshore reserves, other public open space, and private land are defined by streets or pathways.</li> <li>Boundaries between public and private land are informal but well defined.</li> <li>Vehicle access to the beach is defined but restricted.</li> </ul>	<ul style="list-style-type: none"> <li>The proposed development footprint is setback considerably from the foreshore.</li> <li>Access is proposed along the foreshore and between parks, streets, retail and foreshore areas.</li> </ul>
<b>Streets</b> <ul style="list-style-type: none"> <li>Coastal villages have a range of street types including:</li> <li>Mixed use main street links important places in the settlement.</li> <li>Streets separate natural areas from the urban environment</li> <li>Streets follow the original subdivision pattern</li> <li>Streets define public open spaces</li> <li>The street hierarchy is laid out in response to the topography and natural features</li> <li>Pedestrian and cycle pathways and routes</li> </ul>	<ul style="list-style-type: none"> <li>Boundaries will be well defined between the public and private domains.</li> <li>The indicative road layout is planned to minimise changes to the natural topography. Street hierarchy is similar to existing hierarchy of streets. Refer to the Traffic Report at <b>Appendix G</b>.</li> <li>Pedestrian and cycle pathways are proposed.</li> </ul>
<b>Buildings</b> <ul style="list-style-type: none"> <li>Development within the village comprises:</li> <li>small scale with a natural setting</li> </ul>	<ul style="list-style-type: none"> <li>Proposed subdivision design is to provide for low density living.</li> <li>Design Guidelines have been prepared by AJ+C</li> </ul>

Desired Future Character for Coastal Villages	Comment
<ul style="list-style-type: none"> <li>buildings defining public open spaces within the centre</li> <li>public buildings within the Village centre</li> </ul> <p>Areas surrounding the village centre may have coastal cottages and outhouses, detached houses and project homes. These buildings:</p> <ul style="list-style-type: none"> <li>Address the street and respond to the streetscape in terms of building setbacks, landscaping, and car parking</li> <li>Have materials forms and colours that produce cohesion throughout the village as a whole</li> <li>Have adequate and amenable private open space</li> </ul>	<p>Architects (<b>Appendix B</b>) as part of the Concept Plan which provide objectives and controls for which future development must adhere.</p> <ul style="list-style-type: none"> <li>The design guidelines will achieve compatibility with the natural surrounds and the existing township of Gwandalan.</li> </ul>
<p><b>Heights</b></p> <ul style="list-style-type: none"> <li>Heights of up to three storeys in the Village centre</li> <li>Residential development has a maximum of two storeys</li> <li>Avoid overshadowing of public open spaces, the foreshore and beaches in centres before 3pm midwinter and 6.30pm summer. Elsewhere avoid overshadowing of the above open space areas before 4.00pm midwinter and 7.00pm summer.</li> </ul>	<ul style="list-style-type: none"> <li>Indicative dwelling heights are proposed to be 1 to 2 storeys subject to mining constraints, as shown on the Building Height Map at <b>Appendix Q</b>.</li> <li>No significant overshadowing impacts from the future 2 storey development to public open space areas are envisaged as a proposed 100m setback is provided to the foreshore.</li> </ul>

Design principles of the Policy aim to achieve the identified future character for coastal settlements. The application of these principles relative to Gwandalan and the proposal is assessed in the table below:

Table 5 – Coastal Design Principles – Assessment table

Design Principles	Comment
<p><b>Defining the settlement footprint</b></p> <p>To control coastal sprawl, the guidelines recommend four ways in which coastal settlement can accommodate development:</p> <ul style="list-style-type: none"> <li>No or limited development;</li> <li>Maintaining a compact settlement footprint;</li> <li>Expanding the boundary of a settlement; or</li> <li>Creating a new settlement.</li> </ul>	<ul style="list-style-type: none"> <li>Gwandalan is identified under the CCRS and LHRS as an area to accommodate population growth.</li> <li>The proposed development footprint is located in close proximity to existing development, thus limiting unnecessary sprawl.</li> </ul>
<p><b>Connecting open spaces</b></p> <ul style="list-style-type: none"> <li>Connect new and existing open spaces to maintain environmental protection areas, the scenic values of the visual catchment and remnant vegetation.</li> <li>Establish continuous ecological corridors;</li> <li>Provide appropriate setbacks for protection from hazards such as bushfire;</li> <li>Locate open spaces to enhance special attributes of an area for long term public amenity and identity of the place.</li> <li>Preserve settings for places of cultural heritage within the open-space network;</li> <li>Provide areas within open space network to detain and cleanse stormwater runoff;</li> <li>Establish edge open spaces with streets and pedestrian pathways;</li> <li>Appropriately locate pedestrian and cycle access in respect to minimising impacts to highly valued</li> </ul>	<ul style="list-style-type: none"> <li>The proposal will contribute significantly to the successful implementation of the CCRS, LHRS and the LHRCS.</li> <li>The proposed dedication of 205.75ha of Gwandalan will help establish significant ecological corridors identified in the CCRS, LHRS and LHRCP.</li> <li>Appropriate bushfire management measures including APZ will be implemented.</li> <li>Proposed open space areas are sited in consideration of preserving endangered ecological communities, foreshore areas and to protect high aboriginal cultural values.</li> <li>A WSUD system is proposed to be integrated with the landscape.</li> <li>The indicative road layout is designed to provide safe walking and bicycle routes that link the site</li> </ul>

Design Principles	Comment
<p>conservation areas and connectivity throughout the settlement;</p> <ul style="list-style-type: none"> <li>Design for a variety of open spaces in respect to size and recreational roles;</li> <li>Co-locate recreational facilities with shops, schools and community facilities.</li> </ul>	<p>with the foreshore, the proposed main street area as well as existing facilities in Gwandalan.</p> <ul style="list-style-type: none"> <li>Open space areas are proposed to meet the needs of future residents.</li> </ul>
<p><b>Protecting the natural edges</b></p> <ul style="list-style-type: none"> <li>Define key characteristics and functions of public spaces along the foreshore;</li> <li>Maintain foreshore areas and setbacks in public ownership;</li> <li>Protect existing and remnant native vegetation by generous setbacks and defined points of access.</li> <li>Avoid remodelling foreshore areas to ameliorate coastal process;</li> <li>Define clear pedestrian and vehicular entry points and access routes through foreshore reserves;</li> <li>Manage land use impacts to maintain ecological integrity of vegetation on foreshores; coastal habitats; visual amenity and improvement of water quality;</li> <li>Setbacks should address coastal erosion hazards; protect ecosystems and reserves, with foreshore setbacks at a minimum 50m to 100m. Protect visual amenity by adopting appropriate setbacks.</li> </ul>	<ul style="list-style-type: none"> <li>The proposed development footprint is setback considerably from the foreshore, such that no impacts will occur with respect to access and visual and environmental amenity.</li> <li>Public foreshore access is proposed along the lake foreshore as part of the development proposal and proposed conservation land dedications.</li> </ul>
<p><b>Reinforcing the Street Pattern</b></p> <ul style="list-style-type: none"> <li>Build on the established street and block patterns in terms of circulation and access;</li> <li>Design navigable and logical layout of settlements</li> <li>Design for high accessibility and permeability by optimising connections within the street hierarchy;</li> <li>Street patterns should be designed in response to the topography and natural features;</li> <li>Protect streets that provide access to significant natural features;</li> <li>Reinforce main streets as commercial and social focus;</li> <li>Establish pedestrian pathway systems throughout the settlement and between settlements;</li> <li>Reinforce streets with street planting.</li> </ul>	<ul style="list-style-type: none"> <li>The indicative road layout responds to the landform</li> <li>Overall road widths are generally designed to meet Council requirements. Refer to Traffic and Transport Report at <b>Appendix G</b>.</li> <li>Street layout is designed to incorporate landscaping, safe cycling and walking routes.</li> <li>Street hierarchy is made legible by a strong orientation of streets towards the lake foreshore from Kanangra Drive.</li> <li>Footpaths are proposed on all streets, either on one or both verges.</li> </ul>
<p><b>Appropriate buildings in a coastal context</b></p> <ul style="list-style-type: none"> <li>Locate and design buildings to respond to respond to the local context; the desired future character and the streetscape.</li> <li>Provide buildings appropriate in terms of location, uses, scale, height, site configuration and street setbacks;</li> <li>Rationalise car related uses on site e.g. driveways, widths and lengths;</li> <li>Protect views by appropriate siting and heights of buildings;</li> <li>Ensure developments and neighbouring properties have access to daylight, natural ventilation, privacy (visual and acoustic), private open space, pleasant</li> </ul>	<ul style="list-style-type: none"> <li>Urban design guidelines for the site will guide the future development in a manner that integrates the existing character and the natural surrounds.</li> <li>Detailed design guidelines have been prepared for the site with respect to built form, bulk and scale, heights, site configuration, setbacks and landscaping.</li> <li>The design guidelines will achieve compatibility with the natural surrounds and the existing township of Gwandalan.</li> </ul>

Design Principles	Comment
<p>microclimate conditions;</p> <ul style="list-style-type: none"> <li>▪ Achieve high levels of amenity for individual buildings by appropriate building design, lot size, access and landscaping.</li> <li>▪ Along settlement edges:</li> <li>▪ Prevent privatisation of public open space by ensuring development adjacent to the edge maintains public access;</li> <li>▪ Provide adequate setbacks for bushfire asset protection zones;</li> <li>▪ Buildings to address open spaces and edge.</li> </ul> <p>Heritage/significant elements:</p> <ul style="list-style-type: none"> <li>▪ Respond to heritage protection controls for development adjacent to heritage items.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Bushfire protection areas will be provided by way of asset protection zones, which will include road reservations.</li> <li>▪ To maximise pleasant outlooks, where possible development lots are designed to enable an address to open spaces and lake views.</li> <li>▪ Proposed developable areas are appropriately sited away from key aboriginal heritage areas.</li> </ul>

## 5.8 State Environmental Planning Policy 71 – Coastal Protection

The site is subject to the provisions of State Environmental Planning Policy 71- Coastal Protection (SEPP 71) as the site is situated within the Coastal Zone identified under the Coastal Protection Act 1979. SEPP 71 was established to ensure that development in the NSW coastal zone is appropriate and suitably located. The SEPP also aims to ensure a consistent and strategic approach to coastal planning management.

The matters for consideration in determining a proposed development or the preparation of a draft LEP are identified under Clause 8, 14 – 16 of the SEPP. These considerations are summarised in the table below:

Table 6 – SEPP 71 relevant provisions

Provision	Response
<p><b>Aims of the Policy (Clause 8):</b></p> <ul style="list-style-type: none"> <li>▪ Protection of the attributes of the NSW Coast;</li> <li>▪ Protection of existing public access to foreshores and provision for new public access compatible with natural attributes of the coast;</li> <li>▪ Protection of Aboriginal heritage and places;</li> <li>▪ Visual amenity and beach environment and amenity is protected;</li> <li>▪ Native coastal vegetation; the marine environment and rock platforms are protected;</li> <li>▪ Ensure ecologically sustainable development and appropriate design and location of development to preserve natural scenic amenity;</li> <li>▪ Encourage a strategic approach to coastal management.</li> </ul>	<ul style="list-style-type: none"> <li>▪ The proposed development concept for the Gwandalan site satisfactorily meets the aims SEPP 71. The proposed developable area is well setback from the lake foreshore area such that there is limited impact on visual amenity and development is located in areas that are already disturbed or areas of lesser environmental quality;</li> <li>▪ The proposed dedication of 77% of Gwandalan land for conservation is a key element of the ESD principles entailed with the scheme; and</li> <li>▪ Appropriate environmental management measures such as stormwater and erosion control will be implemented to mitigate potential pollutant impacts.</li> </ul>
<p><b>Specific matters (Clause 8):</b></p> <ul style="list-style-type: none"> <li>▪ Retention of existing public access (including disabled access) and where possible the improvement of public access, including for disabled persons.</li> </ul>	<ul style="list-style-type: none"> <li>▪ Public foreshore access is proposed along the lake foreshore as part of the development proposal and proposed conservation land dedications. This is currently not available.</li> </ul>



Provision	Response
<ul style="list-style-type: none"> <li>Suitability of development in respect to type, location, design and relationship to surrounding areas.</li> </ul>	<ul style="list-style-type: none"> <li>The concept plan respects the scenic values of the Lake Macquarie foreshore, by providing for proposed developable areas away from the foreshore; and</li> <li>Proposed development areas are sensitively located with respect to existing environmental and aboriginal heritage attributes.</li> </ul>
<ul style="list-style-type: none"> <li>Impacts upon amenity of the coastal foreshore, including potential overshadowing and loss of public views to the foreshore.</li> </ul>	<ul style="list-style-type: none"> <li>The proposed developable areas have been confined to an area that is well setback from the lake foreshore area such that there will be no significant issues with respect to sunlight amenity and loss of public views.</li> </ul>
<ul style="list-style-type: none"> <li>Impact upon the scenic quality of the coast</li> </ul>	<ul style="list-style-type: none"> <li>The proposed developable area is well setback from the foreshore areas such that there are no impacts with respect to scenic amenity.</li> </ul>
<ul style="list-style-type: none"> <li>Measures to conserve flora, fauna and fish including habitat; and Impacts on wildlife corridors.</li> </ul>	<ul style="list-style-type: none"> <li>The ecological studies confirm that the proposed development is largely confined to disturbed areas of lesser ecological quality and that proposed conservation offset lands provide excellent outcomes for the vast majority of species and communities. The quantum of the proposed conservation lands, when viewed holistically with existing and proposed conservation reserves is assessed to provide a robust long-term outcome for all species and communities.</li> </ul>
<ul style="list-style-type: none"> <li>Impacts on coastal processes and coastal hazards.</li> </ul>	<ul style="list-style-type: none"> <li>The proposed developable area is well setback from the foreshore areas such that there are no impacts with respect to coastal processes and coastal hazards.</li> </ul>
<ul style="list-style-type: none"> <li>Measures minimise conflict between land-based and water-based activities.</li> </ul>	<ul style="list-style-type: none"> <li>The proposed developable area is well setback from the foreshore areas such that no conflicts will arise between land uses</li> </ul>
<ul style="list-style-type: none"> <li>Measures to protect Aboriginal places and culture; and conservation of heritage, archaeological and historic significance.</li> </ul>	<ul style="list-style-type: none"> <li>The location of proposed developable areas was established taking into account the presence of cultural heritage and environmentally sensitive landscapes.</li> </ul>
<ul style="list-style-type: none"> <li>Impacts upon water quality.</li> </ul>	<ul style="list-style-type: none"> <li>A number of initiatives are proposed to ensure that future development will meet the target requirements of Wyong Council.</li> </ul>
<ul style="list-style-type: none"> <li>In respect to the preparation of a draft LEP, the means to encourage compact towns and cities.</li> </ul>	<ul style="list-style-type: none"> <li>A mix of housing is proposed with concentrations of smaller housing and shop-top housing along the key distributor roads of the proposed estate.</li> </ul>
<ul style="list-style-type: none"> <li>The cumulative impacts on the environment and proposed efficient water and energy usage.</li> </ul>	<p>Cumulative impacts are mitigated as follows:</p> <ul style="list-style-type: none"> <li>Natural resources: 77% of the Gwandalan land holdings is proposed to be dedicated for conservation. Proposed development focuses on clear, degraded areas. Species/ communities likely to be affected are well represented within proposed conservation areas.</li> <li>Environmental protection: The proposal will help secure key regional green corridors which will conserve significant biodiversity resources and</li> </ul>

Provision	Response
	<p>contribute to air and water quality.</p> <ul style="list-style-type: none"> <li>Environmental Stewardship: Provision of appropriate waste water treatment systems and incorporation of environmental design elements to maximise integration of built and natural environments.</li> </ul> <p>Other key features incorporated in the Concept Plan include:</p> <ul style="list-style-type: none"> <li>Energy Savings Action Plan accompanies the Concept Plan and is contained in <b>Appendix N</b>.</li> <li>All new dwellings in the settlement will be subject future compliance with BASIX and therefore achieve significant water and energy savings outcomes.</li> <li>A Water Sensitive Urban Design (WSUD) Strategy Plan is proposed to manage stormwater and minimise hydrological impacts of the development on the surrounding environment.</li> </ul>
<p>Public Access (Clause 14):</p> <ul style="list-style-type: none"> <li>The development is not to impede or diminish land based right of access of the public along the foreshore.</li> </ul>	<ul style="list-style-type: none"> <li>Public foreshore access is proposed along the lake foreshore as part of the development proposal and conservation land dedications.</li> </ul>
<p>Effluent Disposal (Clause 15):</p> <ul style="list-style-type: none"> <li>Non reticulated sewer disposal systems are discouraged as no impacts upon the water quality of nearby water bodies are to occur.</li> </ul>	<ul style="list-style-type: none"> <li>Refer to services infrastructure report at <b>Appendix M</b>.</li> </ul>
<p>Stormwater (Clause 16):</p> <ul style="list-style-type: none"> <li>Stormwater quality control to ensure that stormwater disposal does not adversely impact on the sites sensitive coastal characteristics.</li> </ul>	<ul style="list-style-type: none"> <li>Water Sensitive Urban Design (WSUD) is proposed to manage stormwater and minimise hydrological impacts of the development on the surrounding environment.</li> </ul>

Master plans may be required in association with the proposed subdivision of land zoned within a residential zone or a rural residential zone. Whilst the land is not zoned for residential or rural residential, the proposed Concept Plan associated with this Major Project application meets the requirements of a Master plan under SEPP 71 and is sufficient in addressing the criteria for a master plan listed in Clause 20(2) of the SEPP.

## 5.9 State Environmental Planning Policy (Major Development) 2005

The Major Development SEPP identifies major development projects that are subject to the Part 3A provisions under the Environmental Planning & Assessment Act 1979 (EP&A Act), for which the Minister for Planning is the approval authority.

The Minister for Planning has formed an opinion under Clause 6 of the Major Development SEPP that the proposal is of a kind described in Group 5 in Schedule 1 (classes of development) of State Environmental Planning Policy - Major Development (2005) (Major Development SEPP). With respect to the subject project, the project was declared to be a Major Project by the Minister for Planning on 15 July 2010.

In addition to the above statutory Major Projects provisions, the subject site is required to be listed under Schedule 3 of the Major Development SEPP as a State Significant Site prior to determination of the Concept Plan. In considering whether to include the site in Schedule 3, the DOP has required a study to be carried out that addresses the following matters:

- The State or regional planning significance of the site (having regard to the Guideline for SSSs under the Major Development SEPP);
- The suitability of the site for any proposed land use taking into consideration environmental, social or economic factors, the principles of ecologically sustainable development and any State or regional planning strategy ;
- The implications of any proposed land use for local and regional land use, infrastructure, service delivery and natural resource planning;
- The means by which developer contributions should be secured in respect of the site;
- The local and regional economic impacts of the proposed development;
- The likelihood of the proposed rezoning for residential purposes achieving the desired outcomes of the State Government's regional strategies;
- The recommended land uses and development controls for the site that should be included in Schedule 3;
- Those parts of the site which should be subject to Part 4 of the EP&A Act with the relevant council as the consent authority; and
- Appropriate arrangements (if relevant) for the management of land for open space purposes.

The State Significant Site listing/rezoning application is submitted to the DoP concurrently with the separately proposed Concept Plan under this Major Project Application.

## 5.10 State Environmental Planning Policy 44 - Koala Habitat Protection

State Environmental Planning Policy No 44—Koala Habitat Protection aims to encourage the conservation and management of areas of natural vegetation that provide habitat for koalas to ensure the permanent free-living population will be maintained and increased. The SEPP requires an assessment of the core koala habitat of sites subject to development proposals prior to determination of development applications.

The Ecological Assessment Report for Gwandalan prepared by RPS included at **Appendix F** has assessed the potential for Koala Habitat on the site. The site contains 4 of the 10 tree species listed in Schedule 2 of the SEPP, namely *Eucalyptus haemastoma* (Broad-leaved Scribbly Gum), *E. robusta* (Swamp Mahogany), *E. signata* (Scribbly Gum) and *E. tereticornis* (Forest Red Gum). As such some of these areas are considered to constitute "Potential Koala Habitat" according to SEPP 44.

Searches were made for any secondary indications of Koalas on the site including scats, scratches on tree trunks, scent markings on tree trunks, tracks in the soil and audible noises including territorial or mating calls, fighting and movement in the trees. Searches for direct observations of Koalas were also conducted during a nocturnal survey. No animals were noted on site and no secondary evidence of the presence of Koalas could be found.

However, a Koala record exists within the site from 2003 to the south of Mangrove Gully and several other records for Koalas occur to the south of this section of the site outside of the proposed development estate. The position where a Koala has been previously recorded in the south of the site lies approximately a kilometre south of the proposed development estate. In any case, this area will be preserved as part of the land proposed to be dedicated to the NSWG.

Given that no direct or secondary indication of Koala presence was observed it is considered that no further provisions of SEPP 44 apply to the site.

## 5.11 State Environmental Planning Policy 14 – Coastal Wetlands

SEPP 14 aims to ensure that coastal wetlands are preserved and protected in the environmental and economic interests of the State.

A SEPP 14 Coastal Wetland is located entirely within the conservation land proposed to be dedicated to the NSW Government and will ensure that the SEPP 14 wetland is protected in perpetuity. In addition the proposed development will have no adverse impact on the wetland.

## 5.12 State Environmental Planning Policy – Infrastructure

State Environmental Planning Policy (Infrastructure) 2007 (Infrastructure SEPP) aims to facilitate the delivery of infrastructure across the State by improving regulatory certainty and efficiency.

The draft Schedule 3 SSS listing/rezoning for the site under the Major Development SEPP proposes that all development for the purpose of a public utility undertaking that is carried out on land across the entire Gwandalan site does not require development consent. Furthermore, the draft Schedule 3 listing/rezoning for the site proposes that bushfire protection requirements; earthworks; electricity generating works; flood mitigation works, public utility undertakings; drainage; environmental protection works, roads, sewerage system, telecommunication facilities, water supply system are permissible without development consent in the proposed R2 Low Density Zone.

The provision of infrastructure services are discussed in detail within the Infrastructure Study by Cardno included at **Appendix M**. This report will be referred to all relevant public authorities and Councils as part of the Part 3A referral process by the DoP. The requirements for each authority will be further addressed during the assessment process and at the relevant subdivision stage.

Any future works to be undertaken by or on behalf of a public authority will require consideration to the relevant considerations of the Infrastructure SEPP.

## 5.13 State Environmental Planning Policy 55 – Remediation of Land

State Environmental Planning Policy No 55 Remediation of Land (SEPP 55) states that land must not be rezoned or developed unless contamination issues have been considered and, where relevant, land has been appropriately remediated.

A Preliminary Contamination, Geotechnical and Mine Subsidence Assessment has been prepared by Douglas Partners and is included at **Appendix H**. In summary, based on the known and potential contaminants in parts of the site and the ability to remediate the contaminants, Douglas Partners is satisfied that the land will be suitable, after remediation for residential purposes. The land is required to be remediated before the land is used for residential purposes and the following must be undertaken:

- Development of a Remediation Action Plan (RAP).
- Appropriate remediation conducted to remove identified contaminants exceeding the DECCW land use criteria.
- Deleterious material and possible associated surface impact removed.
- Validation testing and verification.
- Assessment of surface fibro to confirm the presence of asbestos to be undertaken by a qualified asbestos consultant.
- Validation of asbestos contamination should be conducted by a qualified asbestos consultant.
- Waste classification to DECCW guidelines of any materials destined for off-site disposal at a licensed landfill.

It is noted that it is likely that the above localised remedial measures could be readily managed during the initial stage of earthworks and construction. The above recommendations of Douglas Partner have been included as a draft Statement of Commitment.

#### 5.14 State Environmental Planning Policy (Building Sustainability Index: BASIX) 2004

Introduced by the NSW Government in 2004, BASIX, the Building Sustainability Index, aims to ensure residential developments are designed to use less potable water and generate fewer greenhouse gas emissions by setting energy and water reduction targets.

This SEPP operates in conjunction with EP&A Amendment (Building Sustainability Index: BASIX) Regulation 2004 to ensure the effective introduction of BASIX in NSW.

In conjunction with the Concept Plan, development guidelines have been prepared for the future residential development of the proposed subdivision. These guidelines are designed with due consideration to the energy and water saving targets sought by BASIX.

#### 5.15 State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007

In recognition of the importance of the mining, petroleum production and extractive industries the policy seeks to control the use of land for these purposes throughout NSW.

It is noted that Lake Coal Pty Ltd has recently lodged a PEA with the Department of Planning (DoP) seeking Major Project Approval from the Minister for Planning under Part 3A of the EP&A Act 1979 for underground mining operations at the Chain Valley Colliery. The proposed underground mining area extends beneath the Coal & Allied owned Gwandalan site. Mining is also proposed under existing residential development at Summerland Point and Gwandalan. The proposed mining project has been declared to be a Major Project and Director General's Requirements for the environmental assessment (to be prepared by the proponent) were issued for the project on 12 August 2009.

It is relevant to note here that significant portions of residential land on the Central Coast, Lake Macquarie, Newcastle and the Coal Fields areas of NSW are contained within mine leases. These leases contain a range of completed, current and proposed future mine workings and it is common practice for current mining to occur, and future mining to be proposed, beneath established residential communities.

The Chain Valley Mine was owned by Coal & Allied from its opening in 1962 until 1994, when Coal & Allied disposed of the mine and retained the freehold land subject to the current application. Lake Coal Pty Ltd (a subsidiary of L D Operations) is the current operator of the Chain Valley Mine. Lake Coal estimates that there is coal beneath the land upon which Coal & Allied seeks approval for residential development. This coal is contained in the Fassifern Seam in the vicinity of 200m in depth. Coal reserves within the Fassifern Seam underlying the subject site could be recovered by partial extraction mining methods without significantly impacting the proposed residential development.

Pursuant to *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007* the consent authority is required to consider the compatibility of proposed development with mining, petroleum production or extractive industry. In considering this the consent authority must consider the following:

- the existing uses and approved uses of land in the vicinity of the development;
- whether or not the development is likely to have a significant impact on current or future extraction or recovery of minerals, petroleum or extractive materials (including by limiting access to, or impeding assessment of, those resources);

- any ways in which the development may be incompatible with any of those existing or approved uses or that current or future extraction or recovery;
- evaluate and compare the respective public benefits of the development and the uses, extraction and recovery referred to above; and
- evaluate any measures proposed by the applicant to avoid or minimise any incompatibility.

At this point in time there is no approval in place for mining beneath the Coal & Allied site. As such it is important to have proper regard to all factors to ensure optimum land use is achieved which provides the most beneficial return to the State.

In this regard it is prudent to consider the following information:

#### Existing uses and approved uses of land in the vicinity of the development

At the time of writing it is not known if full or partial mining is proposed under the site. It is anticipated that partial extraction will be proposed under other areas of existing residential development at Summerland Point and Gwandalan. As with this approach to the existing township of Gwandalan and Summerland Point, partial extraction under the Coal & Allied site would not prevent the proposed residential development from proceeding.

#### Whether or not the development is likely to have a significant impact on current or future extraction or recovery of minerals, petroleum or extractive materials (including by limiting access to, or impeding assessment of, those resources)

As stated above, although unknown at the time of writing, it is anticipated that partial mining is proposed under existing residential development at Summerland Point and Gwandalan. Similarly, the Coal & Allied proposal will not preclude the future potential to continue mining via partial extraction under the proposed residential development site. This is discussed in more detail below.

#### The likely impact of full extraction mining on the existing ecology

The Coal & Allied proposal has regional significance as the Gwandalan landholding will help establish long sought after east – west conservation corridors that connect with the Wallarah Peninsula. The flora and fauna studies conducted as part of the preparation of the Concept Plan have confirmed the significance of the conservation lands in this regard. Given the sensitivity and significance of the conservation lands it is certain that the surface subsidence resulting from full extraction mining would be considered to have an unacceptable impact on the area, regardless of whether or not the residential development were to occur, and thus not be supported as an appropriate mining method for the area.

#### Ways in which the development may be incompatible with any of those existing or approved uses or that current or future extraction or recovery

At this point in time there is no approval in place for mining beneath the Coal & Allied site. Assuming however that such an approval was to be obtained, mining is not planned to occur for at least another 15 – 20 years to 2030. The proposed residential development would be compatible with partial extraction mining. However, given full extraction mining would likely destabilise remnant workings in the Wallarah and Great Northern seams and hence significantly increase the risk of surface instability, the proposed development is not compatible with full extraction mining.

#### Evaluate and compare the respective public benefits of the development and the uses, extraction and recovery

Lake Coal extracts coal using underground mining methods at its Chain Valley Mine. Lake Coal proposes to mine coal which is located in part below the Coal & Allied planned residential land at Gwandalan, however it does not yet have approval for any such mining. In its letter to NSW Department of Planning dated 4 March 2008, in response to the initial exhibition of the Gwandalan Concept Plan application, Lake Coal noted that at the time, the mine was operated at around 900,000 Tonnes ROM per year and employed 87 people.

Lake Coal claimed in its March 4 letter that if residential development proceeds at Gwandalan then an estimated 7.98 million tonnes of extractable coal that exists below the area would not be available for mining. It should be noted, however, that this estimate was based on the assumption of coal not being extracted below the proposed development site (3.4 million tonnes) and from an area north and north-east of the proposed development site (remainder of tonnage). Lake Coal estimated that possible mining under the subject area would commence around 2023 and last for 9 years.

The relative costs and benefits to the State between mining and residential development are as follows.

- Based on Lake Coal's operations at Chain Valley Mine the total levy paid was in the order of \$1.61 per tonne.
- Applying this rate to the 7.98 million tonnes that would not be extracted equates to an annual payment of \$1.449 million per year at current rates.
- Using Lake Coal's extraction program the 2010 value of the royalties would be approximately \$5.00 million.
- A further amount paid to the State of around \$2.4 million in payroll tax could be lost.
- Residential development at Gwandalan would create economic benefits to the state of approximately \$16.80 million in year 2010 terms. The two highest contributors would be by provision of new local and regional infrastructure valued at \$8.3 million and \$5.1 million from Coal & Allied in the form of land and community initiatives.
- It is estimated that up to 1,100 full time jobs will be created by residential construction over a 12 year period.

In summary, residential development at Gwandalan would create for the State a \$16.8 million "Benefit" compared to a "Cost" for lost coal mining of \$7.3 million. It is noted that the "Cost" for lost mining is based on LakeCoal's assumption that 7.98 million Tonnes of extractable coal would be sterilized. However, this "Cost" could be significantly reduced if partial extraction mining of the area were to be carried out as discussed in the Environmental Assessment for the proposed residential development of the site.

Conversely, if full extraction mining were to occur under the subject site, Coal & Allied advises that it is unlikely the subject site would be suitable for residential development. Under this scenario, full extraction mining would result in a \$7.3 million "Benefit" for the State compared to a "Cost" of \$16.8 million from the loss of development potential for the site.

The economic benefits of the proposal are detailed in Section 8.3 of this report. The proposal will generate the equivalent of 842 direct, full-time-equivalent jobs over the construction phase of the project (approximately 18 years). In addition, the proposal has a significant range of public benefits that extend beyond economic benefit. These include:

- Dedication of 205.75ha of conservation land at Gwandalan will significantly contribute to providing a natural break between the Central Coast and the Lower Hunter and is a once in a generation opportunity that will provide an enduring legacy to the community.
- Provision of public access to and along the foreshore
- Meeting of regional housing needs.
- Creation of jobs through construction and investment in order of \$386 million.
- Payment of local and regional developer contributions.
- Provision of infrastructure to proposed development.
- Upgrade of Pacific Highway/Kanangra Drive intersection.
- Upgrade of the existing roundabout at Kanangra Drive and Summerland Road.

- Protection of sensitive lake foreshore areas and visual aesthetic of the site from the lake.
- Protection of high aboriginal cultural significance along the foreshore that contains middens.
- Protection of Endangered Ecological Communities and threatened species in perpetuity in the offset area.
- Protection of sensitive wetlands.

Evaluate any measures proposed by the applicant to avoid or minimise any incompatibility

As stated above, although unknown at the time of writing, it is anticipated that partial mining is proposed under the existing residential development at Summerland Point and Gwandalan. Partial extraction under the Coal & Allied site would not prevent the proposed residential development of the Coal & Allied Gwandalan site from proceeding.

The proposed mining would occur in the third and deepest of the coal seams beneath the site. Mining of the two higher seams (the Wallarah and Great Northern seams) having been completed. Chain Valley Colliery has previously conducted partial extraction as part of mining the higher seams, advising Coal & Allied that the benefits of the partial extraction included:

- Reasonable resource recovery.
- No caving.
- No windblast.
- Minimal mine subsidence.
- Low impact on surface features.

It is also relevant to note that the proposed Coal & Allied residential development site of approximately 62.24ha represents less than 3.5% of the area contained within the mining leases.

Furthermore, the Coal & Allied application provides for approximately 50% of the land owned by Coal & Allied within the subject mining leases to be set aside for permanent conservation and therefore continued access for mining.

### **Summary**

Coal & Allied submits that, to the extent possible to date, the requirements of the DGEARs regarding Former Mining Activities have been met and commits to ongoing discussions with Lake Coal on this matter in the future.

In summary, significant public benefits will result from the proposed development and conservation of Coal & Allied's Gwandalan land. The project is of clear significance to the State and Region in terms of its significant environmental gain from the proposed conservation land dedication and the implementation of the objectives of the CCRS, LHRS and LHRCP. Accordingly, it is assessed that the proposal satisfies the key requirements of the SEPP and is compatible with the land's mining resource values.

Coal & Allied has drafted the Schedule 3 SSS listing to make provision for partial extraction mining in the R2 - Low Density Zone. Lake Coal is advised to commence discussions with DECCW regarding future mining beneath the proposed E1 – National Parks and Nature Reserves zoned land. DoP has previously advised that the site will be made subject to the mining SEPP.

## **5.16 Draft NSW Centres Policy**

The draft NSW Centres Policy supports the development of retail and commercial activity within centres, allowing new centres to form where they contribute to amenity, accessibility and urban context.



The proposed development is consistent with the draft centres policy as it will support existing neighbourhood shopping facilities. The 3,000m<sup>2</sup> retail area would not pose a significant impact on the existing / emerging centres hierarchy. However, as discussed it will ensure future residents on the site will have access to a range of retail facilities on site so that they will have no need to make off-site car journeys during the working week. This will help reduce the number of trips made in the wider network by car and aims to encourage on-site walking and cycling.

## 5.17 Wyong Local Environmental Plan 1991

Wyong Local Environmental Plan 1991 (WLEP 1991) applies to the site, which zones the site as follows.

- 5(a) Special Uses- approximately 60% of the site
- 7(a) Conservation- approximately 2% of the site
- 7(b) Scenic Protection- approximately 30% of the site
- 7(g) Wetlands Management- approximately 8% of the site

The proposed residential development is prohibited under the provisions of WLEP 1991. It is noted that 60% of the site, including the land proposed to be developed is currently zoned 5(a) Special Use Power Station. It is also noted that the 5(a) Special Use Power Station Zone applies to the land on the western side of Kanangra Drive, which Coal & Allied is proposing to rezone for conservation purposes.

The objectives of the 5(a) zone are:

- to cater for the provision of community and public facilities and services; and
- to provide for any other development of land within this zone, with the consent of the Council, provided that:
  - the other development is ancillary to or related to the current or future use of the land for the purpose of a community or public facility or service; and
  - the other development does not adversely affect the current or future usefulness of the land for the purpose of those facilities or services.

Development for any purpose is permitted with development consent on the site provided it is compatible with the zone objectives (i.e. to allow for community or public facilities). Thus, although this land has been recognised as providing a green buffer, its current zoning under Wyong LEP 1991 allows for development for any purpose provided it is compatible with the zone objectives. In this regard it is important to note that whilst ever the land remains in private ownership and is zoned 5(a) Special Use – Power Station the potential exists for it to be used or developed for purposes other than conservation. The proposed SSS listing for Gwandalan will facilitate the rezoning of the land west of Kanangra Drive from 5(a) Special Use Power Station to E1 – National Parks and Nature Reserves, the highest level of conservation zoning available under the Standard Instrument – Principal Local Environmental Plan. The proposed dedication of this land to NSWG will ensure that this land is locked away permanently and protected as conservation land in perpetuity. This is a significant gain to the community.

The proposed development of Gwandalan will achieve the overall general objectives of enhancing the conservation values of the Lake Munmorah and Lake Macquarie State Conservation Areas. Future development will be designed to integrate with the natural bushland surroundings and will implement sustainable water cycle management infrastructure to minimise potential impacts in respect to the quality of surface water, groundwater and nearby water bodies.

As discussed, the proposed Concept Plan seeks to facilitate residential development that is not permissible under the existing planning provisions and therefore the State Significant Site listing/rezoning is proposed under the Major Development SEPP, which will provide the statutory mechanism for approval of the Concept Plan and associated future development.

Wyong LEP 1991 also contains a number of controls that may be relevant to the project and future subdivision and development of the land. These provisions are discussed in the table below, which identify that the Concept Plan is in accordance with the relevant statutory considerations:

Table 7 – WLEP 1991 Provisions

WLEP 1991 Provision	Response
CI 13 & 14 Subdivision	<ul style="list-style-type: none"> <li>Despite any restrictions on lot sizes applying to the site's current zoning provisions, concurrent with this EA, it is proposed to apply for a State Significant Site listing under the Major Development SEPP which will provide the statutory mechanism that will enable the Minister for Planning to determine the proposal.</li> </ul>
CI 15 Acid Sulphate soils	<ul style="list-style-type: none"> <li>Acid sulphate soil assessment has been carried out by Douglas Partners refer to <b>Appendix H</b>.</li> </ul>
CI 19 Development near lake	<ul style="list-style-type: none"> <li>Refer the Hydrology/Stormwater Management report by GHD at <b>Appendix J</b> and the baseline water quality assessment prepared by Douglas Partners at <b>Appendix R</b>.</li> </ul>
23 Flood prone land	<ul style="list-style-type: none"> <li>Refer the Hydrology/Stormwater Management report by GHD at <b>Appendix J</b>.</li> </ul>
27B Home businesses—location	<p>It is proposed to have some home businesses on the site. This is considered appropriate for the following reasons:</p> <ul style="list-style-type: none"> <li>The site is located more than four hundred metres from land within a business zone.</li> <li>The home businesses will not be located on any public road on which a business zone is located.</li> <li>The proposed development will not adversely impact on any existing or potential future use in a business or industrial zone.</li> </ul>
CI 28 Tree management	<ul style="list-style-type: none"> <li>The Draft Statement of Commitments will provide for an appropriate tree clearing and management plan prior to issue of a construction certificate for stage 1 subdivision works.</li> </ul>
CI 31 Foreshore building line	<ul style="list-style-type: none"> <li>The 100m (approx) setback of the development significantly exceeds the LEP's foreshore building line requirement.</li> <li>The siting of future development is proposed away from foreshore areas, which will preserve the existing coastal setting and amenity.</li> </ul>
CI 32 to 36 Relate to heritage and archaeological considerations. Consent is required for development on land that is affected by heritage items and consideration must be given to the heritage items concerned and its setting.	<ul style="list-style-type: none"> <li>Extensive Aboriginal heritage and archaeological assessment has been undertaken in the HIA to determine the most appropriate options in the siting developable areas and heritage interpretation.</li> <li>This is further addressed under Section 6.6 of this EA report.</li> </ul>
CI 41A wetlands effects statement	<ul style="list-style-type: none"> <li>The SEPP 14 Coastal Wetland is located within the area proposed to be dedicated to the NSWG for conservation.</li> <li>Ecological consultants RPS has assessed the potential for the development to impact on wetlands. The developable area is well separated and within a different watershed to the SEPP 14 wetland and thus will not adversely impact</li> </ul>

WLEP 1991 Provision	Response
	<p>on it.</p> <ul style="list-style-type: none"> <li>The Ecological Assessment Report is considered to satisfy the assessment requirements of CI41A. This report is contained in <b>Appendix F</b>.</li> </ul>
CI 42D Minimum lot size of 450sqm for residential	<ul style="list-style-type: none"> <li>Proposed lot sizes generally range from 300 to 950sqm (with some larger lots up to 1,500m<sup>2</sup>).</li> <li>Concurrent with this EA, it is proposed to apply for a State Significant Site listing under the Major Development SEPP which will provide the statutory mechanism that will enable the Minister for Planning to determine the proposal.</li> </ul>

## 5.18 Wyong Residential Development Strategy

The Wyong Residential Development Strategy (RDS) dated December 2002 applies to land within the Wyong LGA and seeks to guide the residential development of land in an environmentally, economically, and socially sustainable way.

The RDS identifies three fundamental goals which underpin the strategy:

- to broaden housing choice by maximising urban consolidation opportunities in the established areas which have either high amenity or direct access to the rail network.
- to provide for a range of housing types and densities across new release areas.
- to establish clear criteria for the location and timing of future residential rezonings and releases.

The recommended dwelling yield for Gwandalan is 12 dwellings per hectare.

The proposed development of the Coal & Allied land at Gwandalan is not identified in the RDS. The RDS adopts an eight criteria policy for guiding decisions about future growth opportunities. These criteria are addressed below.

Table 8 – Wyong RDS assessment criteria

Criteria	Response
Coal mining being complete or no longer considered by authorities as a major constraint;	<ul style="list-style-type: none"> <li>Refer to Contamination Geotechnical and Mine Subsidence Assessment Report by Douglas Partners at <b>Appendix H</b>.</li> </ul>
The land is serviced or can be serviced within Council's program for water and sewer services without the need for short term throwaway infrastructure works,	<ul style="list-style-type: none"> <li>Refer to the Concept Plan Infrastructure Report by Cardno at <b>Appendix M</b>.</li> </ul>
The area is contiguous with an existing urban area and will increase the population to an extent which will significantly improve the viability of public transport services, general community services (eg local GP) and local convenience retail services,	<ul style="list-style-type: none"> <li>The site adjoins the southern edge of the existing Gwandalan settlement and will increase the critical mass of the population to sustain and improve the viability of services and facilities.</li> </ul>
The rezoning of the land will make a significant contribution to increasing housing types over and above what is currently available.	<ul style="list-style-type: none"> <li>The Concept Plan provides for a mix of lot sizes and housing typologies.</li> </ul>
The rezoning of the land will significantly contribute to improving access to public transport, local convenience retail and community services (health,	<ul style="list-style-type: none"> <li>Refer to the Infrastructure Report prepared by Cardno in <b>Appendix M</b> and Social Infrastructure Study prepared by Urbis at <b>Appendix L</b>.</li> </ul>

education, community support services) and employment opportunities and would not require the extension of services (eg sufficient capacity in local schools to accommodate additional students),	
The land can be accessed without the provision of temporary structures or roads which may compromise the development of adjacent areas or create a maintenance problem for residents and Council,	<ul style="list-style-type: none"> <li>▪ This can be achieved and will be addressed in future applications for subdivision of the site.</li> </ul>
The proposal would not lead to fragmented development of part of an area which would otherwise be released at a future stage as part of a much larger stage release area under the UDP,	<ul style="list-style-type: none"> <li>▪ The proposal will not result in a fragmented site and will be appropriately staged.</li> </ul>
Council has the staff resources to undertake and supervise the necessary studies and preparation of documents to facilitate the rezoning.	<ul style="list-style-type: none"> <li>▪ The concurrent rezoning application is being considered by the Minister.</li> </ul>
In considering future release areas Council will also apply differential residential zoning to permit less than 15 dwellings per hectare where mine subsidence or ecological or water quality constraints require this and at least 15 dwellings per hectare where constraints do not preclude higher densities.	<ul style="list-style-type: none"> <li>▪ The average density across the site is approximately 10 dwellings per hectare.</li> </ul>

## 5.19 Non Compliances with EPIs and DCPs

The current land use zoning of the site and associated minimum subdivision lot sizes under WLEP 1991 does not facilitate the residential scheme proposed under the Concept Plan. In this regard, State Significant Site listing is proposed under the Major Development SEPP, which will provide the statutory mechanism for approval of the Concept Plan and associated future development. Indicative lot sizes of the Concept Plan will generally be consistent with minimum lot sizes and frontages under the Wyong LEP for standard housing lots.

Superlots have been designed to accommodate integrated small lot housing. These lots have minimum lot sizes ranging from 300sqm to 360 sqm. This strategy has been developed to achieve smaller housing types that are not addressed in Wyong Shire Council's controls.

Wyong Council's Development Control Plan contains detailed design guidelines. The provisions are not directly relevant to the proposed Concept Plan under this application but will be addressed at the subsequent stages of the subdivision. Urban Design guidelines are prepared as part of the Concept Plan which provide guidelines towards dwelling design, which will supersede design guidelines under the Wyong DCP to which future development must adhere.

Notwithstanding, specialist consultants have considered certain DCP requirements to guide the future planning of the sites in respect to stormwater management; infrastructure and on-site services; flood management; and erosion and sediment control.



## 6 Key Issues

### 6.1 Urban Design and Built Form

#### 6.1.1 Design Guidelines

Design Guidelines have been prepared by AJ+C Architects as part of the Concept Plan which provide guidelines towards dwelling design (see **Appendix B**). The Design Guidelines provide objectives and controls for which future development must adhere including:

- Building Types
- Density
- Building height
- Streetscape and Street Setbacks
- Side and Rear Setbacks
- Private Open Space and Landscaping
- Sustainability
- Site Planning and Management

The Design Guidelines also contain a Public Domain Strategy identifying the potential treatment of public domain areas.

A Draft Statement of Commitments is prepared and included at **Appendix C** which commits the Concept Plan to the Design Guidelines.

#### 6.1.2 Crime Prevention through Environmental Design

Crime Prevention through Environmental Design (CPTED) principles have been fundamental considerations in the subdivision planning of the site and will continue to apply in the detailed Project Applications for each subsequent development stage. The Concept Plan entails the following CPTED principles:

- Legible street patterns with clear sightlines;
- A permeable street pattern that ensures there are no entrapment spots or enclosed pathways;
- Appropriate street lighting to be implemented;
- Orientation of dwellings to address the street, particularly at perimeter areas of the precinct to provide for informal surveillance; and
- Design for open landscaping at the ground level to encourage visibility.

#### 6.1.3 Coastal Design Guidelines Response

As discussed in Section 5 in accordance with the Coastal Design Guidelines for NSW and NSW Coastal Policy 1997, the Concept Plan achieves the following:

- The proposed development footprint defined by roads at the edges creates a clear and distinct boundary that will separate the proposed development from bushland reserves.
- The proposed development footprint is in close proximity to the existing development at Gwandalan, thus expanding the boundary of the existing settlement and limiting unnecessary sprawl.

- The indicative street pattern which predominantly follows contours is designed to be in sympathy with the lakeside topography.
- The proposed development footprint is setback considerably from the foreshore, thus protecting the key scenic resources of the locality and the region.
- The foreshore area will retain trees that will assist to screen the settlement from the other side of Crangan Bay and will ensure that the landscape character of Crangan Bay is maintained.
- The APZ and buffer zones will ensure that there is legible management between the development and the sensitive bushland.
- A setting for appropriate built form which will have setbacks, height, scale and massing appropriate to the setting.

## 6.2 Coastal Foreshore and Public Access

Currently there is no public access or publicly owned land along the Lake Macquarie foreshore south of Summerland Road.

The Concept Plan provides an appropriate setback of approximately 100m to the lake foreshore. The proposed setback will:

- protect sensitive lake foreshore areas by ensuring that the development does not contribute to lake edge erosion;
- protect Aboriginal cultural heritage (middens) located in the foreshore which is a key principle underlying the NSW Coastal Policy;
- retain the extensive vegetation cover on the bank of Crangan Bay adjacent to the foreshore for ecological reasons; and
- protect the scenic and visual amenity of the opposing shorelines.

Public access is proposed along the lake foreshore as part of the proposed development and conservation lands dedication. This is entirely in accordance with the key actions of the NSW Coastal Policy to increase opportunities for public access to coastal foreshore areas. Given that currently there is no public access or publicly owned land along the Lake Macquarie foreshore south of Summerland Road, the proposed dedication of foreshore land to the NSWG will be of significant public benefit.

## 6.3 Biodiversity Impact

The Ecological Assessment Report for Gwandalan prepared by RPS is included at **Appendix F**. This report addresses the DGRs and its findings informed the proposed layout and design of the site.

It is important to note that it is not the intent that every threatened species individual or square metre of EEC in the proposed development lands will be protected as part of the proposed dedication of conservation lands; rather a regional approach has been adopted where large parcels of offset land have been identified for conservation purposes. The large parcels provide greater habitat value, greater linkages across the landscape, increased protection against events such as fire and improved management outcomes. Accordingly, there will be some loss of biodiversity in the proposed development lands, but this loss would be more than off-set by the substantial offsets provided in the conservation lands proposed to be dedicated to NSWG.

In any case, it can be concluded that the proposed development is unlikely to have any significant impacts on threatened flora species identified within or with potential habitat within the proposed development area. Many of such identified species are, importantly, well represented in the land which is proposed to be dedicated to NSWG for conservation, which will conserve and enhance the potential habitat for these species in perpetuity.

Furthermore, it is important to note that the proposal will conserve in perpetuity the ecologically significant Strangers Gully, including an occurrence of the highly restricted vegetation community - Coastal Wet Sand Cyperoid Heath. The conservation and protection of the ecologically significant Strangers Gully, the high conservation value vegetation further to the east of Strangers Gully and all the Coal & Allied land to the south will significantly enhance protection of Crangan Bay and Lake Macquarie's ecology. This is considered to be a significant ecological benefit of the proposal. The offsets to be provided by Coal & Allied through dedication of the conservation corridor land have been tested for appropriateness against the criteria set out in Appendix 1 of the LHRCP.

It is proposed that the *Angophora inopina* species located in the northern section of the buffer zone on the eastern side of Kanangra Drive will be managed in accordance with the terms of the proposed Statement of Management Intent (SIMI) as detailed in the Draft Statement of Commitments. Coal & Allied will require approval from DEWHA and DECC regarding its management regime, following approval of the Concept Plan. Coal & Allied will undertake to continue to protect and manage the *Angophora inopina* and will not dedicate the subject land to Wyong Council until such time that DEWHA is satisfied with the management undertakings by Council. This agreement is detailed in the Statement of Commitments at **Appendix C** and the letter to DEWHA at **Appendix T**.

In summary, the Ecological Assessment Report concludes:

*The detailed studies undertaken herewith have confirmed that development of a portion of the site, will provide a mechanism for adequate ecological outcomes within the proposed conservation lands for the vast majority of species and communities contained therein. The quantum of the offset lands, when viewed holistically with proximate existing and proposed conservation reserve areas, provides a robust long-term outcome for all species and communities. Furthermore, suitable actions are proposed to minimise potentially deleterious permanent and ongoing impacts to the conservation lands.*

*The field and desktop studies have recorded the following parameters of ecological significance within both the conservation lands and the Development Estate:*

- native vegetation commensurate with those listed as EEC's;*
- threatened flora species recorded within and adjacent to the proposed development;*
- threatened fauna species recorded within and adjacent to the proposed development;*
- habitat for threatened flora and fauna species known from within and adjacent to the proposed development; and*
- other areas containing native vegetation with varying degrees of modification / degradation.*

*With these potential ecological issues noted, a series of recommendations have been generated within this report, to aid in the reduction of potential impacts associated with the proposal.*

*Given that measures have been taken to avoid ecological impacts and that where native vegetation may be affected, efforts have been made to avoid particularly sensitive areas where practical, it is considered unlikely that any significant impacts would occur upon threatened species, communities or populations. The large areas of conservation lands that have been set aside as part of the development provide sound ecological outcomes across the site. As a result of conservation of these offset lands, a large vegetation corridor will be conserved stretching from Gwandalan in the south and linking up with Wallarah National Park in the north. These conservation lands will link three state conservation reserves of Lake Munmorah State Conservation Area, Lake Macquarie State Conservation Area and Wallarah National Park. This large tract of native vegetation will provide protected habitat for a wide variety of native flora and fauna.*

*Therefore, it has been concluded that the proposed development should not significantly impact upon threatened or regionally significant flora and fauna, ecological communities or populations. The implementation of operative environmental management practices should also ensure that the ecological impact of the project is minimised.*



Further, it is noted that an approval for the scheme as a “controlled action” has been granted by the Minister for the Environment under the Environmental Protection and Biodiversity Conservation Act on 23 March 2010. This demonstrates that appropriate measures are proposed to conserve endangered species and their habitat.

The proposal maintains consistency with the approval granted under the Environment and Biodiversity Conservation Act 1999 and the relevant conditions as indicated in the following table:

Table 9 – EPBC Act Approval consistency

Condition	EPBC Act Approval	Consistency of Concept Plan with EPBC Act Approval
A1.	The person taking the action must undertake the action in accordance with the conditions of this approval and as described in the referral documentation dated 20 August 2008. Where the referral documentation and these conditions are contradictory, these conditions shall prevail to the extent of the contradiction.	The Proposal is consistent with the relevant conditions of the EPBC Act approval as set out in the responses below:
A2.	Prior to any commencement of works, the person taking the action must dedicate the approximate 206ha of land identified as the Gwandalan conservation area to the NSW Government to be conserved in perpetuity.	The Gwandalan conservation area will be dedicated to the NSW Government, in accordance with clause 4 of Schedule 4 of the Voluntary Planning Agreement, prior to any commencement of works.
A3.	<p>The person undertaking the action must develop a management plan that:</p> <ul style="list-style-type: none"> <li>(a) ensures the long term management for conservation and viability of the <i>Angophora inopina</i> population in the northern section of the buffer zone on the eastern side of Kanangra Drive; and</li> <li>(b) Identifies actions for managing the long term impacts of the <i>A. inopina</i> population in the northern section of the buffer zone from the adjacent residential areas.</li> </ul> <p>The plan must be approved in writing by the Minister prior to commencement of works. The approved plan must be implemented.</p>	The Proposal commits to the preparation of an <i>A. inopina</i> Management Plan in the “Landscape Buffer to Kanangra Drive” clause of the Statement of Commitments. The management plan will be, to the extent possible, consistent with plan approved by the Minister with respect to this condition A3.
A4.	<p>The person taking the action must develop a management plan that:</p> <ul style="list-style-type: none"> <li>(a) provides for monitoring of the impacts of mineral exploration and extraction on the viability of the <i>A. inopina</i> in the Gwandalan conservation area;</li> <li>(b) identifies measures of viability that are critical thresholds which indicate a reduction in viability of the <i>A. inopina</i> in the Gwandalan conservation area which, once exceeded, will trigger a requirement for the person proposing to undertake the action to put in place management actions to address any reduction in viability; and</li> </ul>	The Proposal commits to the preparation of a Statement of Interim Management Intent (SIMI) in the “Environmental Management” clause of the Statement of Commitments. The SIMI will be prepared in consultation with DECCW and will be, to the extent possible, consistent with plan approved by the Minister with respect to this condition A4. The SIMI will include details of the short and long term management and future ownership of the buffer area which includes the <i>A. inopina</i> and when the

	<p>(c) identifies measures of viability that are critical thresholds which, once exceeded, will trigger a requirement for the person proposing the action to source an additional area containing viable <i>A. inopina</i> to compensate for the impacts that the development in the Gwandalan development area will have on <i>A. inopina</i>. The plan must be approved in writing by the Minister prior to commencement of works. The approved plan must be implemented.</p>	<p>buffer area is to be dedicated to Council. Details of the dedication and ongoing management will be included in a Deed of Agreement with Wyong Shire Council. The terms of the Deed relating to the dedication, timing and management requires the approval of both DECCW and SEWPAC (prev DEWHA) SEWPAC is aware of the potential mine and will enforce like requirements on any subterranean mining proposal</p>
A5.	<p>In order to minimise any potential impacts on the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) listed threatened species and suitable habitat that is known to, or likely to occur in the Gwandalan conservation area, a management and monitoring plan must be developed to address the following interface management issues between the Gwandalan development area and the Gwandalan conservation area:</p> <ul style="list-style-type: none"> <li>(a) pedestrian access arrangements;</li> <li>(b) edge effects due to disturbance of adjacent areas;</li> <li>(c) procedures for identifying and conserving, hollow bearing and old growth habitat trees in the Gwandalan development area;</li> <li>(d) sediment and erosion control measures;</li> <li>(e) water quality and quantity;</li> <li>(f) domestic animals;</li> <li>(g) spread of exotic and invasive species; and</li> <li>(h) foreshore rehabilitation.</li> </ul> <p>The plan must be approved in writing by the Minister prior to the commencement of works. The approved plan must be implemented.</p>	<p>The Proposal is consistent with this condition A5 as follows:</p> <ul style="list-style-type: none"> <li>▪ The Proposal commits to the preparation of a Statement of Interim Management Intent (SIMI) in the “Environmental Management” clause of the Statement of Commitments. The SIMI will be prepared in consultation with DECCW and will be, to the extent possible, consistent with the plan approved by the Minister with respect to clauses (a), (b), (g) and (h) of this condition A5.</li> <li>▪ The Proposal commits to the preparation of a Tree Management Plan in the “Tree Management” clause of the Statement of Commitments. The Tree Management Plan will be, to the extent possible, consistent with the plan approved by the Minister with respect to clause (c) of this condition A5.</li> <li>▪ The Proposal commits to the preparation and implementation of a range of stormwater management measures in the “Water Quality and Quantity Management” clause of the Statement of Commitments. The management measures will be, to the extent possible, consistent with the plan approved by the Minister with respect to clause (d) and (e) of this condition A5.</li> <li>▪ The Proposal commits to the development of strategies to address potential impacts associated with pet ownership in the “Pet Management” clause of</li> </ul>

		the Statement of Commitments. The management measures will be, to the extent possible, consistent with the plan approved by the Minister with respect to clause (f) of this condition A5.
A6.	In order to minimise the potential impacts on the EPBC Act listed threatened species and suitable habitat that is known to, or likely to occur in the Gwandalan conservation area, the person proposing to take the action must develop a Stormwater Management Plan which ensures that stormwater discharged from the Gwandalan development area meets the objective reductions set out in the October 2007 draft Managing Urban Stormwater: environmental targets, Department of Environment and Climate Change NSW.	The Proposal commits to the preparation and implementation of a range of stormwater management measures in the "Water Quality and Quantity Management" clause of the Statement of Commitments. The stormwater management measures will be, to the extent possible, consistent with the plan approved by the Minister with respect to this condition A6.
A7.	Within ten calendar days of commencement of the works, the person taking the action must advise the department in writing of the actual commencement date.	Not Applicable.
A8.	Within three months of every 12 month anniversary of the commencement of the works, the person taking the action must submit to the Department an annual report addressing compliance with the conditions of this approval, including measures taken to implement the management plans required by this approval. Annual reports must be provided until the Minister is satisfied and the department advises in writing that the proponent has complied with all conditions of the approval.	Not Applicable. Copies of the annual report would be provided to relevant NSW Government agencies upon request
A9.	If the person taking the action wishes to carry out any activity otherwise than in accordance with the plans, reports or strategies referred to in condition numbers A3, A4, A5 and A6 the person taking the action must submit for the Minister's approval a revised version of any such plan, report or strategy. If the Minister approves such a revised plan, report or strategy, that plan, report or strategy must be implemented in place of the plan, report or strategy originally approved.	Not Applicable.
A10.	If the Minister believes it is necessary or desirable for the better protection of listed threatened species and communities to do so, the Minister may request that the person taking the action make specified revisions to the plans, reports or strategies approved pursuant to condition numbers A3, A4, A5 and A6 and submit the revised plan, report or strategy for the Minister's approval. The person taking the	Not Applicable.

	action must comply with any such request. The revised approved plan, report or strategy must be implemented.	
A11.	If, at any time after 5 years from the date of this approval, the Minister notifies the person taking the action in writing that the Minister is not satisfied that there has been substantial commencement of the action, the action must not thereafter be commenced without the written agreement of the Minister.	Not Applicable.
A12.	The person undertaking the action must maintain accurate records substantiating all activities associated with or relevant to the above conditions of approval, including measures taken to implement the management plans required by this approval, and make them available upon request to the Department. Such records may be subject to audit by the department or an independent auditor in accordance with section 458 of the EPBC Act, or used to verify compliance with the conditions of approval. Summaries of audits will be posted on the Departments website. The results of audits may also be publicised through the general media.	Not Applicable.

## 6.4 Traffic and Accessibility

A Traffic and Transport Assessment has been undertaken and a report prepared by Hyder in relation to the proposed development. This report is included at **Appendix G**.

This traffic assessment presents the findings of investigations into the traffic implications of the proposed 623 dwelling unit residential development Gwandalan. The report documents a review of existing traffic conditions, the development of a spreadsheet based traffic model, the determination of future traffic demand, cumulative traffic impact and a traffic assessment of the future improved network considering full development of the sites.

### 6.4.1 Public Transport

Most trips in the Gwandalan area are undertaken by car. Journey to work data show that cars account for 95 percent of journey-to-work trips, with 3 percent of trips being undertaken on public transport. Walking and cycling accounted for the remaining 2% of trips.

The subject site is serviced directly by Busways Route 99 which runs from Lakehaven Shopping Centre and Swansea. It calls at Gwandalan, Nords Wharf and Catherine Hill Bay. Route 99 travels along Kanangra Drive and provides the public transport access opportunity to the subject site. Route 99 operates fourteen services per day through Gwandalan connecting Lake Haven and Charlestown. The operator of Busways was contacted regarding upgrades to the service. Busways advised that bus services were continually under review and that more frequent services would be considered as additional residential development occurs in, Gwandalan, Middle Camp, Catherine Hill Bay and Nords Wharf.

A pedestrian network will be provided to facilitate the movement of pedestrians through the development area.

The street network will be designed to provide safe walking routes and bicycle routes that link the site with the existing services and facilities in Gwandalan. Pedestrian and cycle routes within the development will connect into any existing facilities provided along Kanangra Drive. Due to the low volume of traffic on local roads in the area it is expected that cyclist demand could be catered for on-road.

Discussion should be held with the bus operator to determine a likely bus route through the development. Subject to a new route through the development, new bus stops would serve the majority of residential development within a 400 metre walk.

#### 6.4.2 Proposed Road Network

Access to the site is available via Kanangra Drive providing a direct connection to the Pacific Highway. A secondary access route (unregistered road) is available via a gravel fire trail known as Link Road and Chain Valley Bay Road.

The Gwandalan concept plan shows two key access points as follows:

- A new T-junction on Kanangra Drive about 800m south of the existing roundabout at the Kanangra Drive/Summerland Point Road intersection;
- A new connecting road on the eastern side of the Kanangra Drive/Summerland Point Road roundabout. The Coal & Allied access will form the fourth leg of the existing roundabout.

Internally, the street pattern is set up to facilitate legible, safe and permeable pedestrian and bicycle movement and universal access around the site, linking the site with its foreshore, its foreshore parks and the existing services and facilities in Gwandalan. The development will have:

- Limited access from Kanangra Drive so as to minimise potential traffic congestion points on Kanangra Drive.
- A perimeter road that forms part of the Asset Protection Zone.
- A street grid that is defined by a major north-south road and an east – west road cross axis.
- A street pattern that maximises the number of east – west streets connecting the public domain visually to the foreshore conservation area.
- Primary streets will include entry roads and the major north-south connecting street. These will be wide streets with medians which have a grand scale to represent their significance in the hierarchy. Parallel kerbside parking and cycle routes will be provided on-street, in recognition of low traffic volumes. Street widths will be 24m or 27m with a central median or swale.
- Secondary streets will include all local streets. They will include minimal carriageways and verges. Parallel kerbside parking will be provided. Lanes that are narrow and service integrated housing will be designated as share ways. Street widths will be 6m wide for shared laneways and 20m wide reserves for local streets, including swales.

The street designs and widths have been informed by the requirements of Wyong Council's guidelines for subdivision road layouts.

#### 6.4.3 Traffic Generation

In general, the Coal & Allied development will increase peak traffic between 40 and 300 vehicles per hour depending on location. In terms of daily traffic, the increase could be between 300 vpd and 2600 vpd lower than RTA's recommended environmental capacity guidelines for local and collector roads.

#### 6.4.4 Intersection Upgrading Works on Regional Network

Considering cumulative impact from both Coal & Allied and Rose Group development, the traffic model suggests that the Pacific Highway/Kanangra Drive intersection would have capacity problems as the degree of saturation (DoS) for critical movements is predicted to reach between 0.92 and 0.98. To address this, the following upgrading works have been developed to improve the existing signal capacity:

- one left turn slip lane (100m) turning north from Pacific Highway to Kanangra Drive.
- one left turn slip lane (50m) turning north from Kanangra Drive to Pacific Highway.
- additional right turn storage lane (100m) for southbound traffic from Kanangra Drive to Pacific Highway.

These upgrading measures are considered satisfactory to accommodate adequate access to the proposed Gwandalan site, having regard to the cumulative impacts of the proposed developments in the area.

#### 6.4.5 Integrating Land Use and Transport policy

The Traffic Report assesses the proposal against the objectives of the Integrating Land Use and Transport policy document. The ILUT provides a framework for State Government agencies, councils and developers to integrate land use and transport planning at the regional and local levels. The ILUT is designed to increase access to services and improve the choice of transport available.

The report shows the proposal complies with the five key objectives of the ILUT policy document.

### 6.5 Mining Activities

A Preliminary Contamination, Geotechnical and Mine Subsidence Assessment has been prepared by Douglas Partners and is included at **Appendix H**.

#### 6.5.1 Mine Subsidence and Future Mining Activities

Douglas Partners Consulting Engineers have undertaken an assessment of potential geotechnical and site contamination issues with particular consideration of mining activities. Key findings from the report are summarised below.

- Review of record traces obtained from the Department of Primary Industries – Minerals, indicate that the site is underlain by abandoned coal mine workings in two seams, the Wallarah and the Great Northern.
- The depth of cover to the Wallarah Seam workings ranges from about 120m at the southern end of the site to 150 m depth at the northern end of the site, with the Great Northern at about 150 m at the southern end of the site to 185 m depth at the northern end of the site. No shafts or tunnels are shown on the Record Traces.
- Investigations to date indicate that parts of the site will be restricted to single storey brick veneer construction. Other parts of the site are capable of accommodating two storey developments. These areas are mapped and contained in the Preliminary Contamination Geotechnical and Mine Subsidence Assessment Report at **Appendix H**. These potential restrictions will be subject to further detailed geotechnical investigations.
- It is noted that much of the areas in the north of the site where aged care facilities are proposed will be restricted to single storey development. The guidelines are intended for residential type structures and if a building with a large footprint is proposed, it is likely the building will need to be heavily articulated or split into several separate structures.

- In summary, the mine workings below the site are complex and the estimates of subsidence are based on empirical methods which may not fully account for three dimensional effects and load spreading. It is likely that three dimensional numerical analyses would lead to predictions of lesser subsidence and a likely increase in the area suitable for two storey development.
- The Owner will also undertake further geotechnical assessments prior to development commencing on the site as recommended in the preliminary contamination, geotechnical and mine subsidence assessment reports prepared by Douglas Partners included at **Appendix H**.

### 6.5.2 Geotechnical Constraints

There is generally no evidence of previous or incipient deep seated slope instability observed over the site. The site is generally considered to have a low to moderate risk of slope instability with respect to the natural topography. However based on the Soil Landscape Sheet for Gosford – Lake Macquarie the soils on the slopes generally have high erosion potential. In the event that significant cuts or fills are proposed for the future development of the site, further geotechnical investigation to specifically assess the risk of slope instability due to cuts and fills, should be undertaken. Such risks are generally managed by limiting batter slopes, drainage measures or suitably designed support.

The report also identifies the following geotechnical constraints:

- Conventional shallow footings are expected to be suitable across most of the site. Footings should be founded in natural clay or rock and therefore in areas with filling deeper than about 0.4 m, deepening of the footings may be required. If the filling near Pits N6 to N9 is to remain on site, then piled footings may be required in this location.
- The clay soils on site are expected to be reactive. Reactive soils shrink and swell with changing moisture conditions, leading to ground surface movements. Soil reactivity can be readily accommodated in design, and should be confirmed during future detailed investigations prior to construction.
- A preliminary acid sulphate soil assessment was undertaken by Douglas Partners. The results of this assessment indicate that acid sulphate soils are not present across most of the proposed development site, with the possible exception of where the development is proposed to fringe around the area of alluvial soils on the south eastern part of the site. In this area there is a low risk of acid sulphate soils being present.
- Further acid sulphate soil investigation is recommended prior to construction at the site in order to further delineate possible affected areas, and to confirm treatment requirements.
- If potential acid sulphate soils are to be disturbed an acid sulphate soil management plan for construction should be prepared following additional assessment. General procedures for the management of acid sulphate soils are presented in the Douglas Partners Report at **Appendix H**.

## 6.6 Heritage

A detailed Heritage Impact Assessment (HIA) has been undertaken by ERM and is included at **Appendix I**. The HIA includes a detailed history of and assessment of the heritage significance of the site.

The HIA has determined that the site does not have any inherent European historic heritage value nor does it contain items of historical heritage. The proposed development will not impact on any known historical heritage items.

However, the HIA has determined that the proposed development at Gwandalan has the potential to impact on the Aboriginal heritage values of the foreshore area. Land around the shores of Lake Macquarie has high archaeological potential with low archaeological potential on the central and western portions of the site. There are midden sites adjacent to the foreshore within the Gwandalan site.

The HIA and Draft Statement of Commitments that accompanies the Concept Plan details the mitigation measures the proponent commits to undertake in association with the project. The HIA has determined that subject to the mitigation measures outlined in the HIA being implemented by Coal & Allied, the potential impacts will be avoided and minimised to an acceptable level.

In addition, the proposed zoning boundaries generally reflect the environmental sensitivities of the site. It is proposed that the foreshore area be dedicated to the NSWG and will be zoned "E1 - National Parks and Nature Reserves". The proposed zoning means that the majority of the Aboriginal midden at Gwandalan will be conserved in perpetuity. Further, the effect of the E1 zone is that it will protect future development which also contributes to the protection of Aboriginal sites along and adjacent to the coast in the local area.

In summary all elements identified as being of 'high' aboriginal heritage significance are to be generally retained and protected.

## 6.7 Infrastructure and Utilities

### 6.7.1 Social Infrastructure

A Social Infrastructure study was undertaken in respect to the local area of Gwandalan by Urbis. The study accompanies this EA report at **Appendix L**.

The Study found that in the existing Gwandalan township social infrastructure provision is modest, and commensurate with communities of its size and rate of development. There is little apparent excess capacity in current service provision, although there are some exceptions in this regard, for example, the Department of Education and Training has indicated that primary schools serving the area have some capacity for increased enrolments. In terms of secondary education facilities, Lake Munmorah and Swansea High Schools are the nearest high schools for all of the communities.

Lake Munmorah has a limited capacity for increased enrolments. Swansea High School has some capacity for increased enrolments, but would possibly require additional classrooms and buildings.

The report concludes that while there will be impact upon available social and community infrastructure as a result of the proposed development, the staging of the development is unlikely to overwhelm local service capacity, with the possible exception of GP services, which are privately provided and beyond the ability of Coal & Allied influence. However, it should be noted that the proposal for ageing in place may provide an incentive for the establishment of additional GP and ancillary services in this location. Indeed, benefits associated with the development process (including through Section 94 contributions, voluntary contributions and enhanced retail services) are likely to be positive for the community.

The Statement of Commitments at **Appendix C** outlines the social benefits proposed to be provided by Coal & Allied, both through Council's s94 mechanisms and through the Coal & Allied \$5 million allocation to be shared between the three southern estates.

### 6.7.2 Services Infrastructure

A Concept Plan Infrastructure Report has been prepared by Cardno Engineering and is included at **Appendix M**. It outlines the existing and proposed infrastructure required to service the proposed development at Gwandalan. The following infrastructure elements have been identified.

Table 10 – Key Service Utilities

Utility	Provision
Electricity	An existing zone substation at Lake Munmorah (located on the corner of Carters Rd and Pacific Hwy) services Gwandalan. Energy Australia has advised that the proposed development can be serviced from the existing electrical reticulation within the suburb of Gwandalan to the north of the development site.



Utility	Provision
Gas	Jemena (formerly Alinta) has advised that the closest gas main to the Gwandalan site is at Doyalson. Jemena has undertaken a preliminary economic assessment and identified that natural gas reticulation to the development site is not economically feasible without significant developer contributions. Therefore it is not proposed to provide natural gas reticulation to the proposed development.
Telecommunications	<p>Initial discussions with Telstra indicate that there are no major servicing constraints associated with the site. The nearest Telstra service point to the Gwandalan site is within the existing suburb north of the site and Kanangra Drive to the west.</p> <p>Since previous consultation with Telstra, the National Broadband Networks (NBN) has been announced by the Federal Government. The NBN is committed to the provision of the fibre optic telecommunications to 90% of existing Australian dwellings over the next 8 years.</p> <p>It is understood that the installation of this network is provided at no cost to existing residential areas however in new developments the telecommunications pit and pipe network is understood to be funded by the NBN however timing for connection of the Middle Camp site is currently unconfirmed.</p>
Water	<p>Wyong Shire Council manages the water supply and reticulation for their LGA. The existing suburb of Gwandalan is serviced from Kanangra Reservoir (corner Pacific Highway and Kanangra Drive) via a 450mm diameter trunk water main in Kanangra Drive.</p> <p>Wyong Shire Council has advised that the existing trunk water main has capacity for the additional demand of the proposed development. The proponent will be required to construct all water mains within the site, including a 200mm diameter ring main and two connections from the ring main to the 450 diameter trunk main.</p>
Sewer	<p>Wyong Shire Council manages the sewer collection and treatment systems within their LGA. The Gwandalan site lies adjacent to the Summerland Point Sewer Treatment Plant (STP). Wyong Shire Council has indicated that the STP has sufficient capacity to service the proposed development with no augmentation works required.</p> <p>Cardno's preliminary analysis has identified that due to the topography of the site, three pumping stations and associated rising mains would need to be constructed to connect the Coal &amp; Allied site to the STP. Wyong Shire Council has advised that the rising mains and gravity mains equal to or greater than 300mm diameter require easements. Pumping stations are to be constructed on Council land (underground).</p> <p>Wyong Shire Council advised that treated effluent from the STP may be available for reticulated greywater use in the development in proportion to the in-flows from the proposed development. This option would require further discussion and negotiation with Council.</p>

## 6.8 Water Quality

A Hydrology/Stormwater Management Assessment Report has been prepared by GHD and is included at **Appendix J**.

### 6.8.1 Drainage and Stormwater Management

Adjacent to the site there is one named watercourse, Strangers Gully, and several smaller gullies draining through the development site. The land generally slopes east towards Lake Macquarie and runoff discharges to Lake Macquarie via dispersed overland flow.

The configuration of the development has taken into consideration the general location of these watercourses and aims to maintain the existing connectivity for stormwater passage through the site. This is achieved through the inclusion of a series of cascading pools within the riparian corridors nominated by Ecological consultants for the project (RPS) as well as swales incorporated into the roadway profile where grades permit.

In terms of riparian corridors, the requirements of the Water Management Act 2000 are noted, and while the proposal seeks to encompass the intent of the Water Management Act, Part 3A projects are exempt from a water use approval, water management approval and an activity approval under the *Water Management Act 2000*. Adequate setbacks are proposed for the Gwandalan site which will cater for the proposed hydrological / drainage requirements while making due consideration to the existing ecological character of the gullies.

A number of opportunities for management of stormwater quality, quantity and flooding exist at the Gwandalan site. This management would benefit from the implementation of Water Sensitive Urban Design (WSUD) practices. WSUD encompasses all aspects of urban water cycle management including water supply, wastewater and stormwater management, that promotes opportunities for linking water infrastructure, landscape design and the urban built form to minimize the impacts of development upon the water cycle and achieve sustainable outcomes.

A WSUD strategy for management of stormwater quality and quantity has been developed for the Gwandalan site that nominates:

- Foreshore and riparian setbacks will provide the best outcome for treatment of stormwater, control of erosion and protection of the water quality in Crangan Bay.
- Opportunistic vegetated swales (potentially including bioretention) provided along the identified main overland flow routes and roadside green areas.
- Precinct scale detention/ bio-retention basins are proposed at various locations to treat the quantity and quality of stormwater flows, before discharge to the conservation area draining to Crangan Bay.
- Gross pollutant traps will be provided upstream of the precinct scale basins to remove coarse sediment and gross pollutants prior to discharging into basins and open areas.
- On-lot detention will be provided in addition to the precinct scale basins.
- Provision of rainwater tanks for individual lots will be maximised.
- Construction phase water quality impacts will be managed through the implementation of a Soil and Water Management Plan detailing stormwater management strategies in accordance with relevant best practice guidelines.

To test the effectiveness of the WSUD strategy, numerical modelling was used for the proposed WSUD strategy and it was determined that this system had the ability to satisfy the requirements of Wyong Council and the NSW Floodplain Development Manual for management of stormwater quantity, quality and flooding at the Gwandalan site:

The results of the numerical modelling have shown that the proposed WSUD strategy together with the flood plain management would adequately satisfy the requirements of the Wyong Shire Council (WSC) Draft DCP (WSUD), WSC DCP 67 and the NSW Floodplain Development Manual for management of stormwater quantity, quality and flooding at the Gwandalan site.

It is proposed that the stormwater infrastructure be located within public reserves that will be dedicated to Council. Management of this infrastructure is detailed in the Statement of Commitments at **Appendix C**

## 6.8.2 Groundwater Dependent Ecosystems

Douglas Partners and RPS have undertaken an assessment of the likely impacts of the proposed development on identified groundwater dependent ecosystems (GDEs) (See **Appendices H and F**).

Douglas Partners concluded that provided the existing surface water flow rates/levels and fluctuations within the gullies are maintained there will be minimal impact on the groundwater levels and GDEs. This can be achieved by appropriate WSUD facilities (as discussed above), which would include the provision of surface water storage devices such as ponds or swales to limit peak flows. The use of stormwater infiltration systems within the development along the southern boundary, where the development encroaches slightly on the alluvial area, would provide additional protection. However, this would be expected to have a minor influence on the groundwater in the adjacent areas.

The potential for adverse impacts on groundwater quality from the proposed development would most likely come from surface runoff. As with groundwater/surface water levels, the surface water quality and therefore groundwater quality can be managed by appropriate water sensitive urban design to avoid surface water contaminating the groundwater. It is proposed that the development of the site will incorporate water sensitive urban design measures including a detailed surface water management plan which will be prepared prior to any construction on site.

## 6.9 Setbacks to Foreshore and Riparian Zones and Impact on Water Quality of Crangan Bay, Wetlands, Hydrology of Area

In establishing the proposed setback from the foreshore at Gwandalan, regard was had to specialist's advice in the areas of ecology, aboriginal heritage, hydraulic and urban design. It is reasonable that the setback could be significantly less than 100 metres in some areas, however on balance and taking a holistic view it is considered that a generous setback of 100 metres would:

- better protect aboriginal middens located in the foreshore;
- provide better access for recreational use of the area;
- retain the extensive vegetation cover on the bank of Crangan Bay adjacent to the foreshore for ecological reasons; and
- protect the scenic and visual amenity of the opposing shorelines.

In addition to this, as discussed above a WSUD strategy has been developed for the management and treatment of stormwater quality from the Gwandalan development. Other than in the riparian areas, all water that falls on to the development site will be managed through WSUD. The WSUD Strategy starts at the individual lot level and continues right through to the Lake itself.

In all cases, the intention is to provide these facilities within the proposed development boundary and facilities would not be located in lands proposed to be dedicated to others. The facilities would discharge to adjacent riparian or receiving environments, through outlets that would be designed to minimise the risk of erosion by providing rock or other environmentally sympathetic solutions. In steep areas with a high risk of erosion pools and riffles will be provided to manage runoff.

The 100 metre setback is not required to achieve the outcomes of the WSUD strategy however it does provide a level of redundancy that adds a safety factor to the system. The setback far exceeds the 50 metre vegetation retention recommended by the *Water Management Act 2000* (i.e. 40m core riparian zone plus 10m vegetated buffer) for such water bodies.

Furthermore, the setback to the riparian zone in the development to the north of Strangers Gully is a minimum of 26m. This incorporates a 20m wide road reserve including a bio-swale for the full length of the riparian corridor (both sides) and a minimum 6m wide setback. These setbacks are considered to be more than adequate to protect water quality and ecology. The bio-swales will also provide the basis of water quality controls to protect the ecologically significant Strangers Gully, high conservation value vegetation further to the east as well as enhance protection of the ecology of Crangan Bay and Lake Macquarie.

In summary, the WSUD facilities described above in section 6.8, together with the 100m foreshore buffer, which contains the existing overland flow routes to be used to convey water to the Lake, that will have measures to control erosion, and the riparian setbacks will all combine to provide the best outcome for treatment of stormwater and protection of the water quality in Crangan Bay.

### 6.9.1 Marine Habitat Impacts

A Marine Baseline Assessment has been prepared by GHD to reduce potential impacts on Crangan Bay. This report is attached in **Appendix R**. This report assesses the existing environmental characteristics of Crangan Bay in proximity to the site and the prevalence of existing seagrass populations.

The report found that no seagrass beds will be impacted directly as a result of the proposed development however the potential for increased turbidity due to urban run off will need to be managed through mitigation measures. The marine baseline assessment recommended a number of mitigation measures to be adopted to prevent direct and indirect impacts on flora and fauna and their habitat, including seagrasses in Crangan Bay. These mitigation measures are included in the Draft Statement of Commitments for Gwandalan which are attached in **Appendix C**.

### 6.10 Flooding

A Hydrology/Stormwater Management Assessment Report has been prepared by GHD and is included at **Appendix J**.

Flooding at the Gwandalan Site is primarily on account of Lake Macquarie, flooding in Strangers Gully and overland flow conveyance. Development and land-use in flood prone areas should be in accordance with WSC DCP 67 and the NSW Floodplain Development Manual. In assessing the flood risk, consideration needs to be given to the full range of risks to people and property, for a full range of flood events up to and including the PMF.

Interim development guidelines specify, amongst others:

- Habitable floor levels should either be at or above the Flood Planning Level (500 mm above the 100-year ARI event flood level) or be flood proofed to this level, making additional provision for potential subsidence.
- In flood storage and flood way areas, development must not lead to a significant increase in flood levels, flood damages, flood behaviour or flood hazard at the site or elsewhere. Provision of adequate and acceptable compensating works to offset must be provided.
- In high flood hazard areas, effective evacuation procedures must be provided.
- All dwellings would be located above the 100-year ARI flood level associated with Lake Macquarie, Strangers Gully, local overland flow paths and stormwater management facilities across the site. From the nominated 100-year lake water level and applying the LMCC requirement for the floor level of dwellings to be 500mm above this level, the nominated flood planning level for the Gwandalan estate at the foreshore of Lake Macquarie is 1.88m AHD.

Under future climate conditions, considering the long-term predictions to 2100 and allowing for wave run-up and 0.5m freeboard, 8 foreshore lots would be affected in a 100-year ARI event. The relevant freeboard level for this scenario is 2.79m AHD. This is an extreme scenario given the long planning period (ie, life span of dwelling is estimated to be 50 years). In addition, for these 8 lots, not the entire lot is affected and the rear portion of the lots located at higher levels would still be usable. For the extreme PMF climate change scenario, allowing for wave run up, 16 lots would be flood affected.

In terms of an evacuation strategy the most 'at risk' area of the site is located adjacent to Lake Macquarie. The strategy and operation of an evacuation plan must be pre-planned during design stages however it is considered that the site has sufficient space and locations to assemble during flood events and the road layout provides a number of routes for evacuation.

In summary the proposed zoning boundaries reflect the environmental sensitivities of the site and the Concept Plan delivers a development that is suitable for existing and predicted climate conditions.

## 6.11 Ecologically Sustainable Development

### 6.11.1 ESD Principles

An Ecologically Sustainable Development (ESD) Report has been prepared for Gwandalan by Ensign (see **Appendix N**). This report addresses the DGEARs related to ESD principles for design, construction and operation. The report demonstrates that the project can commit to ESD principles in the design, construction and operational phases of the development. The ESD design outcomes will be achieved through the urban design guidelines for the site which will include sustainability principles to which future development must adhere. The ESD Construction outcome will be achieved through the development and implementation of a Construction Management Plan (CMP), under the existing Coal & Allied Environmental Management Strategy at construction stage.

The CMP will address the following:

- Development of a site specific soil erosion and sediment control plan;
- Confirmation of construction hours in accordance with the conditions of consent;
- Air quality/dust control procedures;
- Noise management procedures;
- Waste Management Plan;
- Community Safety Plan;
- Arrangements for temporary pedestrian and vehicular access;
- Storage and handling of materials procedures;
- Environmental training and awareness;
- Contact and complaints handling procedures; and
- Emergency preparedness and response.

ESD operation outcomes will be achieved through a comprehensive reporting and monitoring process that will also be addressed in the CMP.

The proposed development of 62.24ha of Gwandalan and the proposed dedication of 205.75ha of land for conservation purposes provides the opportunity to create new communities for the Lower Hunter region and in doing so, implement key objectives and outcomes of the LHRS associated with accommodating sustainable population and employment growth and environmental outcomes.

The 1997 NSW Coastal Policy is based on four principles of ESD contained in the Intergenerational Agreement in the Environment (IGAE) signed in 1992. These principles are addressed in the proposed rezoning as follows:

- The environmental gain from the proposed dedication of 205.75ha of land at Gwandalan for conservation purposes is a once in a generation opportunity that will provide an enduring legacy for the community and future generations. This is entirely in accordance with the principles of inter generational equity.
- The 205.75ha of Coal & Allied land that is proposed to be dedicated for conservation will play a significant role in securing in perpetual public ownership long sought-after conservation corridors which will provide a green inter-regional buffer separating the Lower Hunter from the Central Coast. The proposed land dedication is a positive conservation step. The protection of an important array of vegetation communities, flora and fauna species, and natural landscape assets, including threatened species and EEC's in the conservation lands are in accordance with the principles of conservation of biological diversity and ecological integrity.

- There are no significant environmental threats arising from the proposed development as adequate management and mitigation measures can be implemented. Adequate APZs are proposed to protect from bushfire risk. All future dwellings on the site will be located above the 100 year ARI flood level associated with Lake Macquarie, local overland flows and stormwater management facilities across the site. Any potential contamination risks can be addressed through the development assessment process. As discussed, the risk of loss of biodiversity is offset by the level of preservation afforded by the proposed dedication of conservation lands which provides a more than adequate offset outcome. These management and mitigation measures are in accordance with the precautionary principles.
- The developer will pay for the establishment of infrastructure and environmental management measures on the part of the site proposed to be rezoned for residential purposes. This is in accordance with the polluter pays principles.

### 6.11.2 Energy Savings Action Plan

An Energy and Water Savings Action Plan for Gwandalan, has been prepared by Ensign and is included at **Appendix N** to address both energy and water from a householder's perspective not from a developer's perspective. This approach is consistent with Coal & Allied's development approach, that of selling freehold lots.

The proposed 623 dwellings at Gwandalan can achieve BASIX energy and water compliance.

## 6.12 Visual Impact

The visual impact of the proposed development has been a key consideration in the concept planning for the site and is addressed in the Concept Plan Principles for Gwandalan prepared by AJ+C Architects and Aspect Studios as part of the Concept Plan (see **Appendix A**). The important objectives that have been considered in the development of the concept plan include:

- Protect the scenic and visual amenity of the waterways.
- Mitigate inappropriate visual impact from the waterway and opposing shorelines.
- Minimise impacts from public foreshores, roadways and existing residences.

The Concept Plan has been developed with respect to the key characteristics of the site's lakeside character. Some of the key design features of the proposed development that will contribute to achieving positive visual impacts include:

- The character and alignment of the road layout responds to the landform of the site.
- The proposed development area is setback approximately 100m from the waters edge and has a buffer of trees between it and the water. The change in level and the extent of existing trees will ensure there is very limited visibility of the proposed development from the water body and opposing shorelines.
- A significant vegetated buffer to Kanangra Drive will visually screen the proposed development from Kanangra Drive as well protecting the amenity of future residents.

## 6.13 Bushfire

A Bushfire Threat Assessment has been undertaken by RPS and is included at **Appendix K**. It is clear from this investigation and assessment that the Gwandalan site, in part constitutes Bushfire Prone Land. Therefore, the proposed residential development estate will have to be carried out in accordance with the requirements of Planning for Bushfire Protection 2006 (PBP 2006), as assessed and presented within the assessment report.

Subject to the recommendations contained within the Bushfire Threat Assessment report being incorporated, it is considered that the fire hazard present is containable to a level considered necessary to provide an adequate level of protection to life and property on the site.

In summary the following key provisions will be incorporated to satisfy relevant legislative requirements:

- APZ's from 10 metres to 25 metres will be required from vegetation external to the allotments. The Concept Plan indicates that proposed roadways are directly adjacent to vegetation surrounding the development estate and vegetation to be retained within the development estate. The proposed perimeter and public roads within the development estate are therefore likely to provide either the entire or majority of the required APZ's. Any remaining part of the APZ will be established within allotments if required.
- Any proposed development should be linked to the existing mains pressure water supply and that suitable hydrants be clearly marked and provided for the purposes of bushfire protection. Fire hydrant spacing, sizing and pressure should comply with AS2419.1, 2005.
- Roads should be constructed in accordance with section 4.1.3 (1), PBP as outlined in section 6 of the RPS Bushfire report.
- Any future dwelling within the proposed development estates should have due regard to the specific considerations given in the BCA, which makes specific reference to the Australian Standard (AS3959 – 2009) Construction of Buildings in Bush Fire Prone Areas (BFPA). Assessment of the Concept Plan in accordance with AS3959-2009 has shown that future dwellings within the development estate will be able to comply with this standard.
- It is recommended that a Fuel Management Plan (FMP) be prepared for the development estate. This plan will detail the required strategies to create the required APZ's and management of these APZ's in such a manner to preserve the natural and cultural features of the development estate, while reducing the risk of bushfire.
- All APZs are likely to be located within road reserves or on private land. If any management is required for APZs on public land, an appropriate management strategy will need to be negotiated with the relevant authority.

## 6.14 Impact on Crown Land

The Munmorah State Conservation Area (MSCA) is located to the south east of Gwandalan. It forms a significant area of green space at the southern end of the Wallarah Peninsula. The 'Munmorah State Conservation Area and Bird Island Nature Reserve' Plan of Management applies to the MSCA. Munmorah State Conservation Area is a relatively large, undisturbed coastal area which complements the conservation values of other protected areas, state forests and Crown reserves in the region. Natural bushland coastal lake and beaches are defining characteristics of the area.

Lake Macquarie State Conservation Area (LMSCA) is located to the north (Point Wolstoncroft) and west (Chain Valley Bay) of Gwandalan. The western section of Coal & Allied's Gwandalan land adjoins the Chain Valley Bay area of the LMSCA. The LMSCA comprises approximately 650 hectares of bushland on the western and south-eastern foreshores of Lake Macquarie. LMSCA comprises headlands, foreshores, cliffs and coves, which all contribute to the scenic quality and character of Lake Macquarie. It is popular for walking, fishing, swimming, boating, bird watching and nature appreciation. LMSCA contributes to the conservation of the regions biodiversity and provide important habitat for flora and fauna. The Lake Macquarie State Conservation Area Pulban Island Nature Reserve and Moon Island Nature Reserve Plan of Management applies to the LMSCA.

Point Wolstoncroft is an area of natural significance located in proximity to the north of the Gwandalan site. Point Wolstoncroft forms the distinctive northern section of the geographic peninsula on which the villages of Gwandalan and Summerland are located.

As discussed at length in this report, the large areas of conservation lands that are proposed to be set aside as part of the Gwandalan development (205.75ha) together with the Coal & Allied proposed land dedications at Nords Wharf (116.6ha) and Catherine Hill Bay (Middle Camp) (526.58ha) provide excellent ecological outcomes across the region. As a result of the proposed dedication of conservation lands, these conservation links will provide large contiguous vegetation corridors and help link three state conservation areas of Lake Munmorah State Recreation Area, Lake Macquarie State Recreation Area and Wallarah National Park. This large tract of native vegetation will provide habitat for a wide variety of native flora and fauna.

In summary, the proposed dedication of 207.75ha of Gwandalan for conservation presents a significant opportunity to extend and create significant contiguous area of important conservation land in public ownership under the care and control of NSWG. This makes a significant contribution to achieving key biodiversity outcomes in accordance with the CCRS, LHRS and LHRCP.

## 6.15 Planning Agreements and/or Developer Contributions

A Draft Statement of Commitments is included at **Appendix C**. This details the various contributions, additional studies, applications and works the proponent commits to undertake in association with the project. The mechanics of how and when these commitments will be confirmed and delivered will be subject to ongoing consultation. This may involve the implementation of various 'developer agreements' between Coal & Allied and the DoP prior to final approval of a construction certificate for Stage 1 subdivision.

The proposed State and local infrastructure contributions are proposed in the Draft Statement of Commitments to be allocated in the following manner:

### *Local infrastructure – Section 94*

Current Section 94 Contribution rates for Gwandalan are listed in a number of Section 94 plans applying to the site that have been referenced in determining the following rates for Gwandalan. These are:

- The Northern Districts Contributions Plan, 2008.
- Section 94 Contributions Plan No. 11: Shire Wide Infrastructure, Services and Facilities, 2007.
- Developer Contribution Rates, 1st February 2010.

The following outlines the current rates that apply to Gwandalan, the Northern Districts and Shire Wide are outlined below.

▪ Gwandalan Water DSP	\$4,042.77 per lot
▪ Gwandalan Sewer DSP	\$2,393.34 per lot
Total Gwandalan contribution per lot	\$6,436.11 per lot
▪ Northern Districts Administration	\$484.44 per lot
▪ Northern Districts roads (Catchment C)	\$3,902.32 per lot
▪ Northern Districts community facilities	\$3,478.04 per lot
▪ Northern Districts open space and local parks	<u>\$4,111.76 per lot</u>
Total Northern Districts contribution per lot	\$11,976.56 per lot



▪ Shire Wide Administration	\$68.80 per lot
▪ Shire Wide Cycleway Network	\$323.27 per lot
▪ Shire Wide Regional Open Space	\$170.45 per lot
▪ Shire Wide Performing Arts Centre & Public Art	\$364.76 per lot
Total Shire Wide contribution per lot	\$927.28 per lot
<b>Overall Total Developer Contributions</b>	<b>\$19,339.95 per lot</b>

A deed of agreement will be set up with Wyong Shire Council (WSC) to arrange timely payment of Section 94 contributions for the development commensurate with the development staging. This agreement will consider the dedication of land for open space and local parks (as shown in the Concept Plan) and the provision of an extensive cycleway network incorporated as part of the development in lieu of a contribution and may include “works in kind” (WIK), .

The minimum area of open space required in the Section 94 Plan set by Council for the Coal & Allied development is 6.44 hectares which assumes a population of 2,146 people. As the proposed population of the Coal & Allied lots is now forecast to have a population of only 1,463 the dedication of 11.27 hectares of open space which far exceeds the 6.44 hectares and should be more than sufficient.

Council has identified some of the open space and recreational facility projects that will meet the needs of the future population in the northern areas. These are:

- Embellishment of Tunkuwallin Sporting Facility, Gwandalan.
- Embellishment of Sandy Bay Reserve, Summerland Point.
- Embellishment and Oval development at Colongra Bay Reserve, Lake Munmorah.

Council’s Northern Districts Contributions Plan indicates that there is no proposal at this time to construct any new community facilities, rather, that embellishment of existing facilities is preferred to increase the capacity to meet demand from new population growth.

Council indicates that some of the community facility projects to be undertaken for the northern areas include:

- A joint venture of community space at Lake Munmorah High School.
- Chain Valley Bay Embellishment (although this is unlikely to advantage Gwandalan residents).
- Summerland Point Hall Embellishment.
- Gwandalan Community Hall Embellishment.
- Mannering Park Hall Embellishment.
- Tunkuwallin Hall Embellishment.

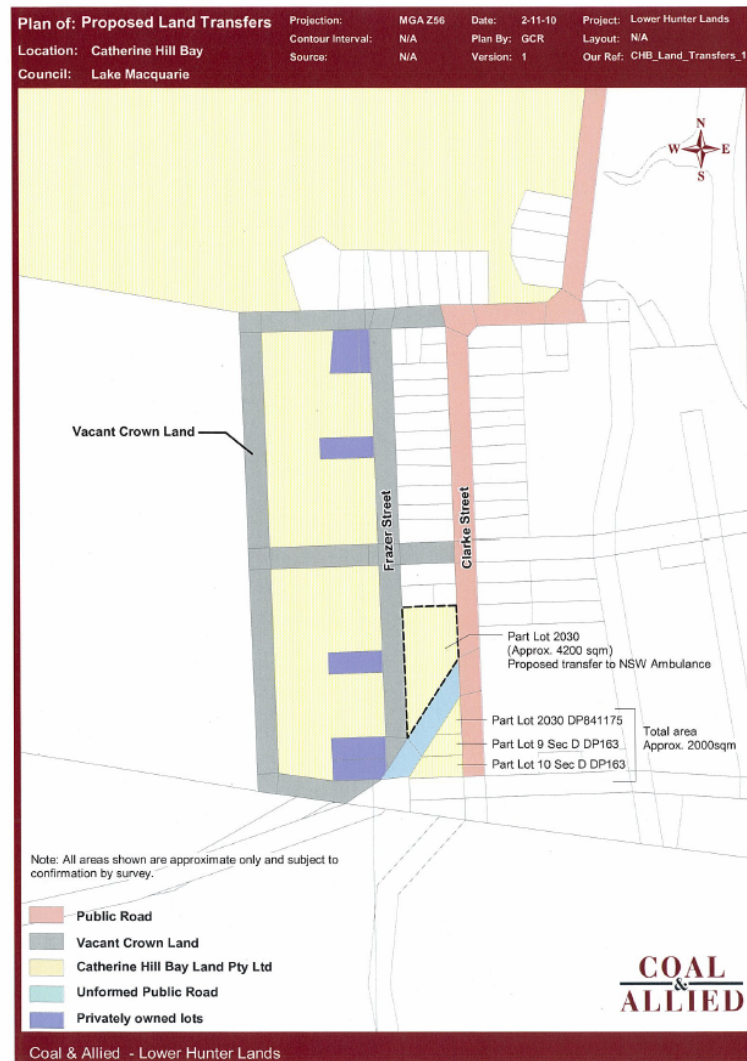
#### *State infrastructure – Voluntary Planning Agreement*

Coal & Allied is finalising a Voluntary Planning Agreement (VPA) with the NSW Planning and Environment Ministers. This planning agreement is currently in draft form. Subject to finalisation of the Part 3A process this offer is to:

- **Education Contribution** – The Developer is to provide a monetary contribution to the Planning Minister, totalling \$480,706.80 (subject to indexation), towards the proposed acquisition of land adjacent to Gwandalan Public School, amounting to a contribution of \$771.60 per urban lot at Gwandalan only if the contribution is paid on or prior to 30 June 2011. The monetary contribution if paid after 30 June 2011 (subject to indexation) is \$721,066.43 amounting to a contribution of \$1,157.41 per urban lot at Gwandalan only.

- **Emergency Services Contribution** – The Landowner has offered NSW Ambulance a site at Catherine Hill Bay. Should the land not suit NSW Ambulance for its operations the landowner in lieu is to provide a monetary contribution totalling \$81,401.18 (subject to indexation) towards the proposed acquisition of a 3,000 square metre site for location of emergency services (in Catherine Hill Bay), amounting to a per lot contribution of \$130.66 if the contribution is paid on or prior to 30 June 2011. The monetary contribution if paid after 30 June 2011 (subject to indexation) is \$122,101.77 amounting to a contribution of \$195.99 per urban lot.

Figure 12 – Emergency services contribution (Catherine Hill Bay)



- **Road Contribution** – The Developer is to contribute to and manage the upgrading of the intersection at Kanangra Drive & Pacific Highway, Gwandalan based on its proportional share of the cumulative lot yield including the proposed Rose Group development at Gwandalan. . The intersection is to be designed and constructed to include: one left turn slip lane (100m) turning north from the Pacific Highway to Kanangra Drive, one left turn slip lane (50m) turning north from Kanangra Drive to Pacific Highway, and an additional right turn storage lane (100m) for southbound traffic from Kanangra Drive to Pacific Highway.

### *Other Contributions*

- **Environmental Offset Land Contribution** – The Landowner must transfer the Environmental Offset Land to the Environment Minister or his nominee. This will include the transfer, acquisition and rezoning of these lands. This includes the dedication of approximately 206 ha of land for environmental conservation under an offset arrangement.
- **Land Remediation And Reserve Establishment Works** – The works include:
  - Construct features to block vehicle access to the existing motor bike tracks and rehabilitate and close tracks.
  - Undertake erosion control works.
  - Construction of walking tracks subject to agreement with DECCW.

## 6.16 Site Preparation Works

A Concept Site Grading plan has been prepared by Monteath & Powys which shows the extent of site preparation works with respect to cut and fill activities to cater for the proposed residential development. This is included at **Appendix S**.

Notwithstanding that this plan has been prepared for the Concept Plan stage only, and that detailed analysis will need to be undertaken as part of any future Project Applications, the plan shows that the extent of cut and fill is suitable and any future site preparation works will be minimised to form the final site levels.

## 6.17 Subdivision

In response to the subdivision considerations of the DGEARs, the following outlines the proposed subdivision arrangements:

- It is noted that there are no easements which currently affect the development site.
- Easements and Covenants for individual housing lots will be dealt with in the future application for subdivision works.
- It is intended for the future allotments to be subdivided in accordance with the provisions of the Real Property Act to become Torrens Title lots.
- It is further proposed that the roads accessing these lots will be dedicated as public roads in accordance with the provisions of the Roads Act.
- The long term management and maintenance of the road network will be the responsibility of Wyong Council. The buffer along Kanangra Drive and the parklands within the estate will be dedicated to Wyong Council as Public Reserve. The maintenance of the adjoining conservation lands including the foreshore will be the responsibility of the National Parks and Wildlife Service.

The proposed subdivision plan which outlines the boundary of the proposed land transfer to the NSW Government has been prepared by Monteath and Powys and is included at **Appendix O**.

## 6.18 Future Public Land

The Statement of Commitments identifies that the transfer of identified land from Coal & Allied will occur in accordance with the terms of the VPA.

- The conservation land is to be transferred to the NSWG all in accordance with the Transfer Plan prepared by Monteath Powys and submitted with the EA.

- Easements are to be provided for utility services that encroach onto private land or the offset lands. Land to be dedicated to relevant authorities where required.

The conservation lands identified to be dedicated to DECCW will be subject to a future agreement between Coal & Allied and DECCW as to the ongoing management requirements of the dedicated conservation land, the details of which will be included in the VPA under s93F of the Act.

Parks, reserves, roads and infrastructure created through each future Project Application subdivision will be developed and then dedicated to Wyong Council after the completion of all stages of the development. All of the following open space areas are included as contributions against Section 94 requirements for Open Space:

- Buffer land along Kanangra Drive transferred to Wyong Council with management of the *Angophora inopina* at the northern end subject to a letter between Coal & Allied and DEWHA (refer **Appendix T**).
- The riparian corridor on the south boundary of the Seniors Living area will be transferred to Wyong Council as open space two years from the commencement of Stage 2 or following the sale of all lots fronting the riparian corridor, whichever the later.
- The Bushland park and Public recreation Park will be dedicated to Wyong Council when all lots in the stage in which the said park is located are sold or two years from the commencement of the related stage of subdivision whichever the later.

Areas to be dedicated as public roads will be constructed and embellished in accordance with the Urban Design Guidelines included in the Concept Plan EA. All road reserves to be constructed will be dedicated to Council at no cost to Council.

In terms of Asset Protection Zone (APZ) areas, all APZs are located in proposed road reserves or alternatively in private lots. A Bushfire Management Plan will be prepared with the construction certificate for each stage and certified by a suitably qualified consultant as complying with the requirements of the document *Planning for Bushfire Protection Guidelines 2006* and any requirements of the NSW Rural Fire Service.

In terms of environmental management, Coal & Allied will prepare a Statement of Interim Management Intent (SIMI) prior to commencement of works for the protection of transferred conservation lands to DECCW. The SIMI will relate to the interface (maximum width of 100m) between the development areas and the conservation lands as identified in the plan prepared by RPS. Coal & Allied commit to:

- The cost of preparing the SIMI.
- The actions arising from the SIMI for a specified period either 5 years commencing from the date the SIMI takes effect or until all the lots are sold, whichever is the later.

It should be noted that Coal & Allied have allocated \$1,400,000 from the Southern Estates \$5Mill Allocation for walking tracks for public access in conservation land external to the development areas of all three estates. This is all subject to approval by DECCW.

\$500,000 of this is identified for Gwandalan for the provision for walking paths proposed by the community external to Coal & Allied land between the southern end of the development area and Lions Park/boat ramp to the north along the foreshore subject to application to DECCW.

## 6.19 Cumulative Impacts in Consideration of other Future Urban Land of the Lower Hunter Region

Potential cumulative impacts from the Coal & Allied development at Gwandalan, Nords Wharf, and Catherine Hill Bay (Middle Camp) in conjunction with the proposed SSS listing of the proposed Rose Group residential development at Catherine Hill Bay and Gwandalan such as traffic, impact on crown land, heritage and loading of service infrastructure have been considered and addressed through appropriate mitigation measures.

### 6.19.1 Infrastructure

The infrastructure proposed for Gwandalan will service only Coal & Allied's Gwandalan development and no other developments identified in the LHRS.

### 6.19.2 Impact on Crown Land

The proposed Coal & Allied development at Gwandalan, Nords Wharf, and Catherine Hill Bay (Middle Camp) will introduce an increased population which has the potential to affect conservation of biodiversity through increased use of Crown land.

Notwithstanding, the proposed dedication of 849ha of Coal & Allied lands at Gwandalan, Nords Wharf, and Catherine Hill Bay (Middle Camp) has the positive cumulative effect of providing large, contiguous north south and east – west conservation corridors with high environmental value which will be dedicated to NSWG for conservation purposes. These corridors align with existing public reserves, and will link and expand the three state conservation areas of Lake Munmorah State Recreation Area, Lake Macquarie State Recreation Area and Wallarah National Park. The securing and long term protection and management of these corridors for conservation and biodiversity is a key focus of the CCRS, LHRS and the LHRCP.

### 6.19.3 Heritage

The cumulative effect of the proposed rezoning of part of the Coal & Allied owned Gwandalan and Nords Wharf sites for environmental protection and dedication of this land for conservation purposes means that a significant portion of the Aboriginal midden located around Crangan Bay from Gwandalan to Nords Wharf will be conserved in perpetuity. Further, the effect of the proposed E1 zone is that it will prevent future development which also contributes to the protection of Aboriginal sites around the coast of Crangan Bay.

### 6.19.4 Traffic

Cumulative impacts are likely to arise from the interaction of the construction and operation of the Coal & Allied site at Gwandalan with other development proposals planned for the Coal & Allied sites at Nords Wharf and Catherine Hill Bay (Middle Camp), and potential development of the Rose Group zoned sites at both Catherine Hill Bay and Gwandalan.

The combination of these developments would result in impacts on key intersections with the Pacific Highway. The three intersections below would have a significant cumulative impact and would require improvements to operate at a reasonable level of service. They are:

- Pacific Highway/Flowers Drive;
- Pacific Highway/Awabakal Drive; and
- Pacific Highway/ Kanangra Drive.

Considering the cumulative impact from both Coal & Allied and the potential development of the residentially zoned Rose Group land at Gwandalan, the traffic model suggests that the Pacific Highway/Kanangra Drive intersection will have capacity problems. The following upgrading works were tested to improve existing signal capacity:

- one left turn slip lane on Pacific Highway.
- one left turn slip lane on Kanangra Drive.
- additional right turn storage lane on Kanangra Drive.

These upgrading measures are considered satisfactory to accommodate the cumulative impacts of the proposed developments.

In summary, no significant adverse cumulative effects are likely to arise from the Gwandalan project.

## 7 Draft Statement of Commitments

The Draft Statement of Commitments included at **Appendix C** details the various contributions, additional studies, applications and works the proponent commits to undertake in association with the project. The mechanics of how and when these commitments will be confirmed and delivered will be subject to ongoing consultation. This may involve the implementation of various 'developer agreements', prepared in accordance with the EP&A Act, between Coal & Allied and the Department of Planning prior to final approval of a construction certificate for Stage 1 subdivision.

The Draft Statement of Commitments includes 'business as usual' commitments that are expected to be delivered as part of the development of the site and basic standards that will have to be met to achieve approval.

The components listed within the Draft Statement of Commitments will include the following:

- General terms that the project will adhere to.
- Contributions made by the proponent.
- Measures to mitigate any environmental impacts.
- Measure to monitor the environmental performance of the project.

### 7.1 Coal & Allied \$5 million Allocation

In addition, Coal & Allied has allocated an amount of \$5 million for initiatives associated with the delivery of social infrastructure to support the existing and future communities at Gwandalan, Nords Wharf, and Catherine Hill Bay (Middle Camp). The \$5 million allocation is directed at initiatives that would not ordinarily be provided as part of the development of a new residential estate and accordingly, the initiatives identified are those that are considered 'over and above' what is reasonably necessary to satisfy State and Local Government approval requirements.

The \$5 million allocation may be used for sustainability initiatives for future residents, additional infrastructure to support existing and future residents, educational and or community programs. In summary for Gwandalan, the final list of initiatives relates to:

- Employment generation.
- Boat ramp facilities / wharf.
- Sustainability.
- Aboriginal community.
- Walkways (DEC approval dependent).

The full description of each particular initiative is included at **Appendix C**. The final list of initiatives to be implemented for the Gwandalan site is subject to on-going consultation and final approval by the Coal & Allied Board.



## 8 Site Suitability

Environmental investigations to date demonstrate that all potential adverse impacts of the proposed project can be sustainably managed, resulting in significant new social, environmental and economic benefits. Notwithstanding this, the environmental, social and economic factors arising from the proposal are addressed below.

### 8.1 Environmental

As discussed, Coal & Allied is proposing to dedicate 205.75ha of Gwandalan to the NSWG as 'conservation land' (77% of the site). The conservation land dedication is crucial in achieving the NSWG's objective of securing major conservation corridors.

The Lower Hunter region's vegetation is of bio-geographic significance as it supports a transition between the northern and southern plant and animal communities. This north-south link is not evident elsewhere in the Hunter Valley. The region also forms an east – west migratory pathway and a drought refuge for inland species.

The preservation of large vegetated areas that are linked to other similar areas has been recognised as fundamentally important to achieving long term regional biodiversity outcomes. The two most valued of these areas in the Lower Hunter contain large land areas owned and controlled by Coal & Allied:

- The Wallarah Peninsula lands provide a regionally significant break between urban areas, and contain areas of high biodiversity, scenic amenity and heritage value; and
- The corridor that links the Watagans and Yengo National Parks with the coastal plains of the Tomago Sandbeds, Stockton Bight and Port Stephens.

The 205.75ha of Gwandalan proposed to be dedicated helps complete the linkage of identified regional corridors in key areas, most notably the east – west conservation corridor contiguous with the Munmorah State Conservation Area.

In addition to its important strategic location in a wider landscape context, the proposed conservation land contains valuable biodiversity resources. It contains and will conserve a range of important vegetation communities, including areas of Endangered Ecological Communities (EEC) and other vegetation types that have been depleted in the region. Several threatened plant species have been recorded within the lands, including significant occurrences of *Angophora inopina* (Charmhaven Apple) and *Tetratheca juncea* (Black-eyed Susan).

The diverse nature of landform settings, varying from coastal ranges forests and woodlands to coastal heath and wetlands, provides a diverse array of habitats and resources for native fauna. The proposed conservation land is known to contain important populations of numerous threatened fauna species, including birds, mammals and herpetofauna. The proposed conservation of the land will provide secure regional biodiversity gene pools, and also through linkages facilitate valuable genetic material exchange and other key processes associated with sustainable ecological population dynamics.

The 205.75ha of the Gwandalan site that is proposed to be dedicated for conservation is crucial to achieving the State Government's objective of securing major conservation corridors in the region and will help provide a regionally significant green break between the urban areas of the Central Coast and the Lower Hunter. The securing of this land in perpetual public ownership is a once in a generation opportunity that will provide an enduring legacy to the community.

Importantly, the Gwandalan site will also result in the protection of:

- Sensitive lake foreshore areas by limiting development along the lake foreshore.
- Coastal wetlands.
- Ecologically endangered communities.
- Riparian zones and waterways.



## 8.2 Social

The land identified for future residential development is considered to be an appropriate extension of the existing township of Gwandalan. The site is in close proximity to an existing range of services and facilities at Gwandalan including:

- Retail facilities include: a small supermarket, newsagent, Post Office, chemist, fruit and vegetable store, real estate agent, baker and liquor store, doctor's surgery, dentist, hairdresser and specialty shops. An independent service station is located at the corner of Kanangra Drive and Orana Road.
- Education and childcare facilities include a primary school and two preschools.
- Recreational and community facilities including: Community facilities including a community hall, a sport and recreation centre at Point Wolstoncroft, a bowling club, the Tunkuwallin sports complex which straddles Gwandalan and Summerland Point (and includes an indoor basketball court, horse and social club and skateboard ramp). Four tennis courts, a skateboard ramp three boat ramps, three parks/reserves, baths (on the lake), and a heritage walk. A library service operates from the small but well-used Gwandalan Hall in the form of a volunteer deposit station.

A Social Impact Assessment has been prepared by Urbis to support the Concept Plan for the site. This report summarises local social infrastructure, community consultation and assesses the likely consequences of the development. The degree of social impact by the additional population from the proposed development on services or social infrastructure is considered to be positive. Where necessary, a range of contributions will be made to facilitate the augmentation of key infrastructure in order to accommodate the future population's needs.

A Draft Statement of Commitments is included at **Appendix C** for the site. This details the various monetary contributions, additional studies, applications and works the proponent commits to undertake in association with the project. In addition, Coal & Allied has allocated an amount of \$5 million for initiatives associated with the delivery of social infrastructure to support the existing and proposed communities at Gwandalan, Nords Wharf, and Catherine Hill Bay (Middle Camp). The \$5 million allocation may be used for sustainability initiatives for future residents, additional infrastructure to support existing and future residents, educational and or community programs. This is discussed in detail at Section 7.1.

## 8.3 Economic

An Economic Impact Assessment has been prepared by Sphere to support the Concept Plan for the site. This report concludes that the proposed development of Gwandalan will result in the following economic impacts:

- Injection of an estimated \$228 million of new, capital investment into the economy from expenditure on housing, infrastructure services both internal and external to the site including road, energy services, water, sewer and communication works.
- Create an estimated 842 direct, full time equivalent jobs of which up to 420 will be in the Hunter and will extend over an 18 year period to 2027.
- Support a further 2150 jobs (1070 local) from the multiplied employment stimulus among construction related industries resulting from the primary expenditure.
- Provide additional flow-on economic effects of around \$336 million from expenditure by recipients of the primary income.
- Create a project that demonstrates a net, direct benefit to the economy from a forecast BCR of 1.0 using NSW Treasury methodology.

## 8.4 Public Interest

The proposed dedication of 205.75 ha of conservation land at Gwandalan will significantly contribute to providing a natural buffer between the Central Coast and the Lower Hunter. This is recognised as a once in a generation opportunity that will provide an enduring legacy for the community. This is quite clearly in the public interest.

As discussed at length the proposal has a range of public benefits including:

- Provision of public access to and along the foreshore.
- Meeting of regional housing needs.
- Creation of jobs through construction and investment in the order of \$386 million.
- Payment of local and regional developer contributions.
- Provision of infrastructure to proposed development.
- Upgrade of Pacific Highway/Kanangra Drive intersection.
- Upgrade the existing roundabout at Kanangra Drive and Summerland Road to include a northern access to the development to form a four way junction at this roundabout. Provide a second southern access roundabout into the development from Kanangra Drive.
- Protection of sensitive lake foreshore areas and visual aesthetics of the site from the lake.
- Protection of high aboriginal cultural significance along the foreshore that contains middens.
- Protection of endangered ecological communities and threatened species in the offset area.
- Protection of sensitive wetlands.



## 9 Conclusion

The Gwandalan proposal will achieve substantial conservation outcomes through the proposed dedication of 205.75ha of conservation land to NSWG via a Voluntary Planning Agreement.

In summary, the proposed Concept Plan will:

- Conserve in perpetuity key strategic parcels of land that complete long sought-after regional biodiversity conservation corridors and buffer areas.
- Preserve an identified area of sensitive coastal wetland.
- Provide public access to and along the foreshore that is currently not available.
- Incorporate water sensitive urban design features into the development to ensure that there is no increased export of stormwater, pollutants and sediments.
- Protect sensitive lake foreshore areas by ensuring that the development does not contribute to lake edge erosion and diminished water quality by inappropriate development on the terrestrial/aquatic interface.
- Incorporate the foreshore into the conservation lands, thus protecting natural attributes of the site, visual aesthetics of the site from the lake as well as areas of high aboriginal cultural significance along the foreshore that contains middens.
- Retain vegetation along ridges to reinforce the existing local bushland backdrop and provide a green buffer to Kanangra Drive.
- Respect the existing townships through the establishment of urban design guidelines for new housing, addressing proportion, size and landscape elements.
- Provide a diverse mix of housing to help achieve the LHRS and CCRS's dwelling targets to cater for the predicted population growth for the Region to 2031.

In summary, the project is of clear significance to the region and state in terms of its significant delivery of environmental gain from the environmental land offset package and the implementation of the objectives of the LHRS, CCRS and LHRCP. In view of the clear merit of the proposal, we therefore seek approval of the Concept Plan for Gwandalan, subject to consideration of any issues raised during the public exhibition of the application and relevant provisions of the EP&A Act.



Sydney  
Level 21, 321 Kent Street  
Sydney, NSW 2000  
Tel: +612 8233 9900  
Fax: +612 8233 9966

Brisbane  
Level 12, 120 Edward Street  
Brisbane, QLD 4000  
Tel: +617 3007 3800  
Fax: +617 3007 3811

Dubai  
Office E432, Level 4  
Saaha Offices B  
Old Town Island  
Downtown Dubai  
Dubai UAE  
Tel: +971 4 4200212  
Fax: +971 4 4200209

Melbourne  
Level 12, 120 Collins Street  
Melbourne, VIC 3000  
Tel: +613 8663 4888  
Fax: +613 8663 4999

Perth  
Level 1, 55 St Georges Terrace  
Perth, WA 6000  
Tel: +618 9346 0500  
Fax: +618 9321 7790

Australia • Asia • Middle East  
[www.urbis.com.au](http://www.urbis.com.au)  
[info@urbis.com.au](mailto:info@urbis.com.au)