

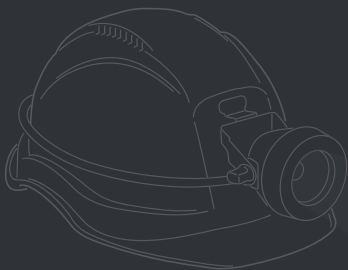
# Wallarrah 2 Coal Project

## Environmental Impact Statement

April 2013

### Appendix V

Social Impact Assessment



# **WALLARAH 2 COAL PROJECT**

## **SOCIAL IMPACT ASSESSMENT**

FINAL REPORT

September 2012

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# 1 INTRODUCTION

## 1.1 PROJECT OVERVIEW

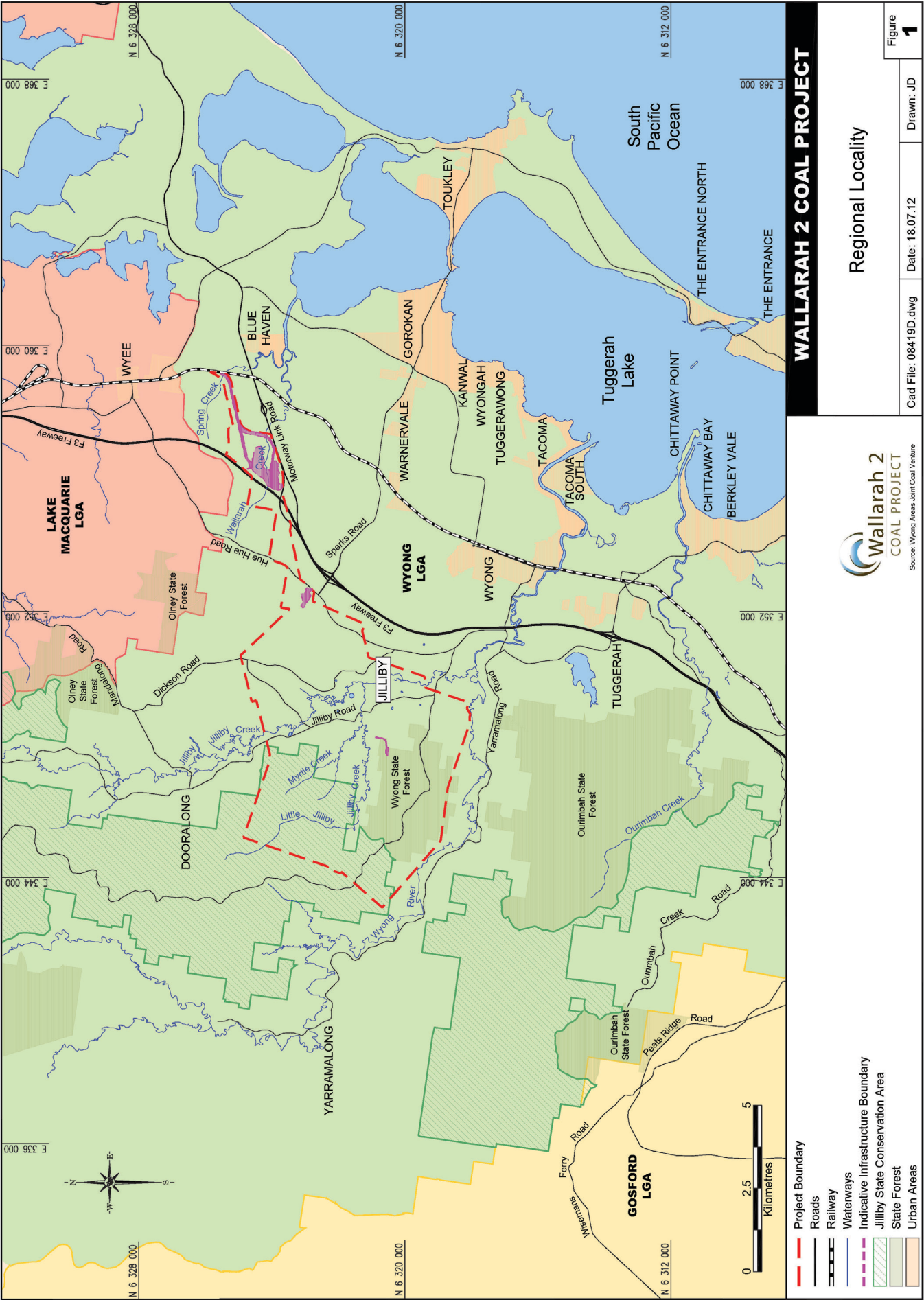
The Wyong Areas Coal Joint Venture (WACJV) is seeking a Development Consent under Division 4.1 of Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for the Wallarah 2 Coal Project (the Project). This Social Impact Assessment (SIA) forms part of 'The Wallarah 2 Coal Project Environmental Impact Statement' (Walarah 2 EIS) prepared by Hansen Bailey Environmental Consultants to support the application.

This SIA has been prepared in accordance with the Director-General's Environmental Assessment Requirements (DGRs) for the Project issued on 12 January 2012 in accordance with the requirements in Part 2 in Schedule 2 to the *Environmental Planning & Assessment Regulation 2000* (EP&A Regs).

Development Consent is sought to mine coal within the Extraction Area for a period of 28 years. The majority of this resource lies beneath the Wyong State Forest and surrounding ranges (including the Jilliby State Conservation Area (SCA)) while a proportion, to be extracted first, lies beneath a section of the Dooralong Valley and the Hue Hue area (**Figure 1**).

Key features of the Project include:

- The construction and operation of an underground mining operation extracting up to 5.0 Mtpa of export quality thermal coal by longwall methods at a depth of between 350 m and 690 m below the surface within the underground Extraction Area;
- Mining and related activities will occur 24 hours a day 7 days a week for a Project period of 28 years;
- Tooheys Road Site surface facilities on company owned and third party land (subject to a mining lease) between the Motorway Link Road and the F3 Freeway which will include (at least) a rail loop and spur, stockpiles, water and gas management facilities, workshop and offices;
- Buttonderry Site Surface Facilities on company owned land at Hue Hue Road between Sparks Road and the Wyong Shire Council's (WSC) Buttonderry Waste Management Facility. This facility will include (at least) the main personnel access to the mine, main ventilation facilities, offices and employee amenities;
- An inclined tunnel (or "drift") constructed from the coal seam beneath the Buttonderry Site to the surface at the Tooheys Road Site;
- Construction and use of various mining related infrastructure including water management structures, water treatment plant (reverse osmosis or similar), generator, second air intake ventilation shaft, boreholes, communications, water discharge point, powerlines, and easements to facilitate connection to the WSC (after July 2013, the Central Coast Water Corporation) town water supply and sewerage system;
- Capture of methane for treatment initially involving flaring as practicable for greenhouse emission management and ultimately for beneficial use of methane such as electricity generation at the Tooheys Road Site;
- Transport of coal by rail to either the Newcastle port for export or to domestic power stations;
- A construction workforce over a 3 year period of up to 450 employees and an operational workforce of approximately 330 full-time equivalent employees over at least a 25 year period; and
- Rehabilitation and closure of the site at cessation of mining operations.



## 1.2 DOCUMENT PURPOSE

This SIA has been prepared to assess the potential social impact of the Project focusing on the community within the Study Area (as described below).

This SIA also addresses DGR's dated 12 January 2012 which included comments from an attached letter to DP&I from the Wyong Shire Council (WSC)

## 1.3 STUDY AREA

The Study Area of the SIA comprises three components:

- The Primary Study Area (**Figure 2**);
- The Directly Affected Area (**Figure 3**); and
- The Secondary Study Area (**Figure 4**).

These areas are described in detail below.

### 1.3.1 Primary Study Area

The **Primary Study Area** comprises five 2006 Census Collection Districts in Wyong LGA, with a population of 2,435 in 811 households as at the 2006 Census. See **Figure 2**.

### 1.3.2 Directly Affected Area

The **Directly Affected Area** is smaller in scale than the five Census Collection Districts and is made up of:

- Those who live nearby and above the proposed Extraction Area;
- Those who will hear, smell or see the development or its effects on a daily basis as determined by other technical studies; and
- Those who normally use the land where the Project is to be located.

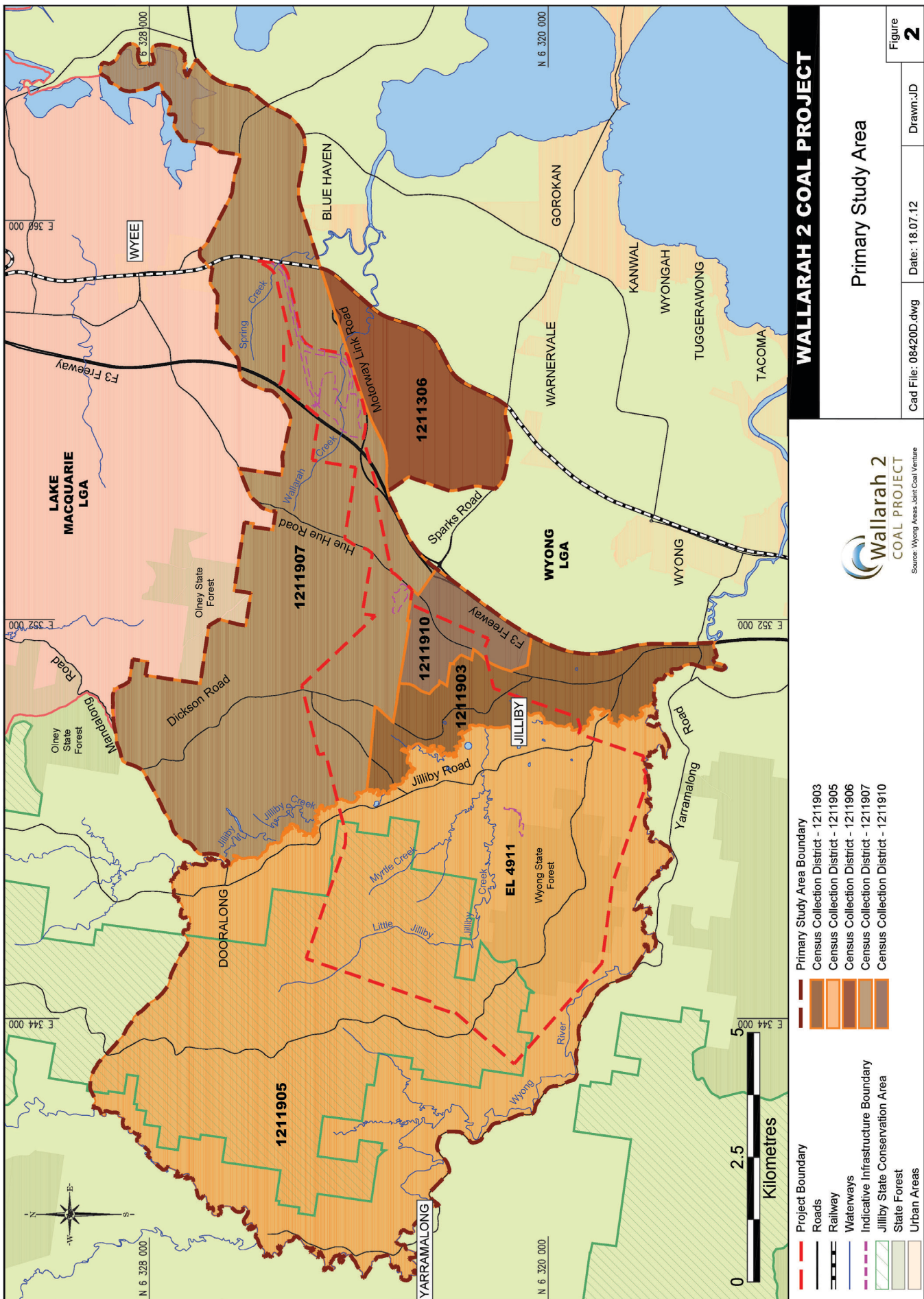
The Directly Affected Area is shown in **Figure 3**.

The Directly Affected Area is made up of four sub areas. These four sub areas are shown on **Figure 3** and include:

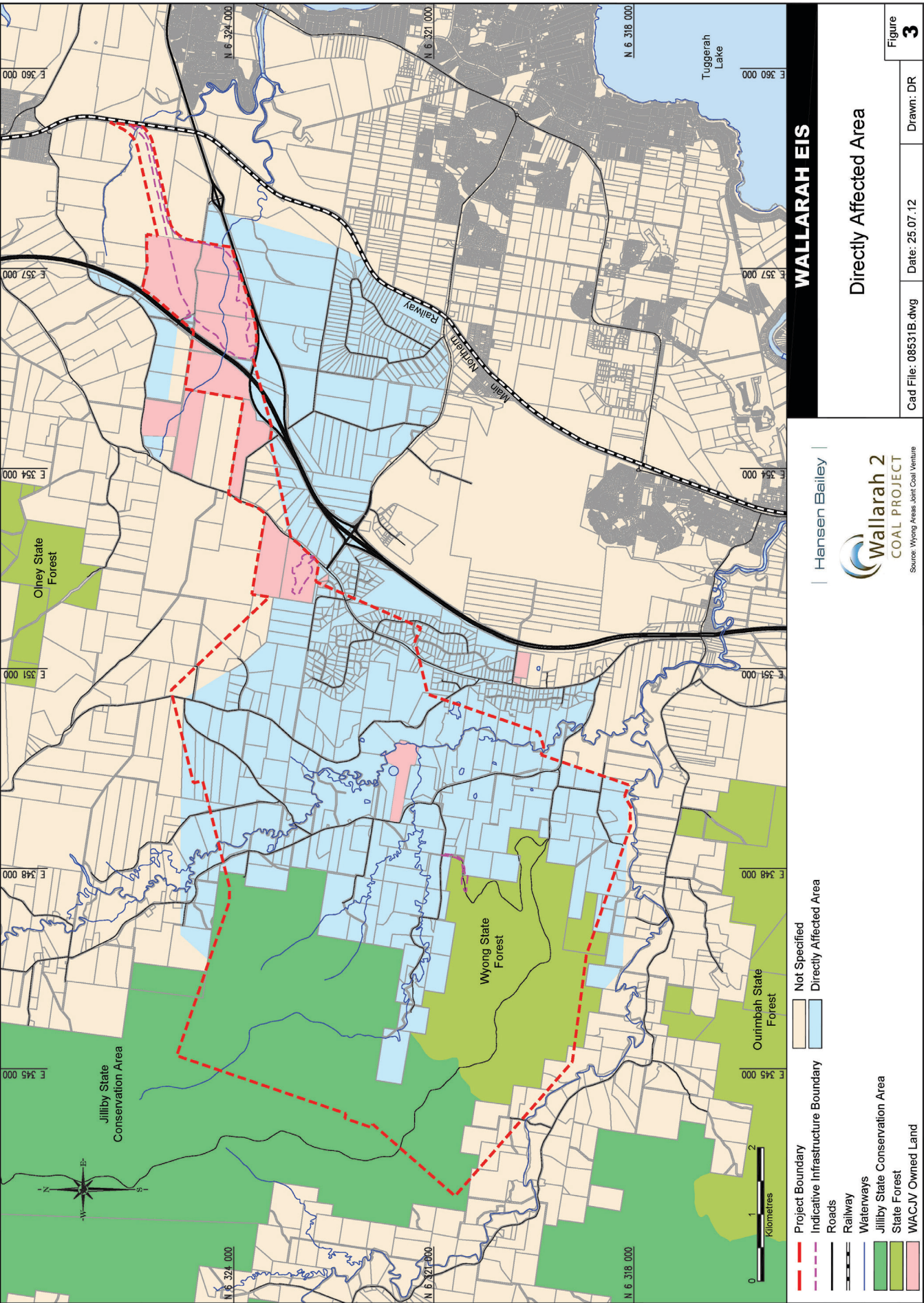
1. The 'Valleys area', comprising mainly larger original rural-based properties along the floodplain of the Dooralong valley with some scattered smaller lot rural subdivisions;
2. The 'Hue Hue Subdivision' area which has large lot residential subdivisions concentrated on either side of the Hue Hue Road from Jilliby Road to Sparks Road;
3. The area to the north- west and north of the Tooheys Road Site mostly on the eastern side of the F3 Freeway. It includes houses on large lots along Bushells Ridge Rd; and
4. The rural residential locality termed the Bruce Crescent area to the south of the proposed Tooheys Road Site.

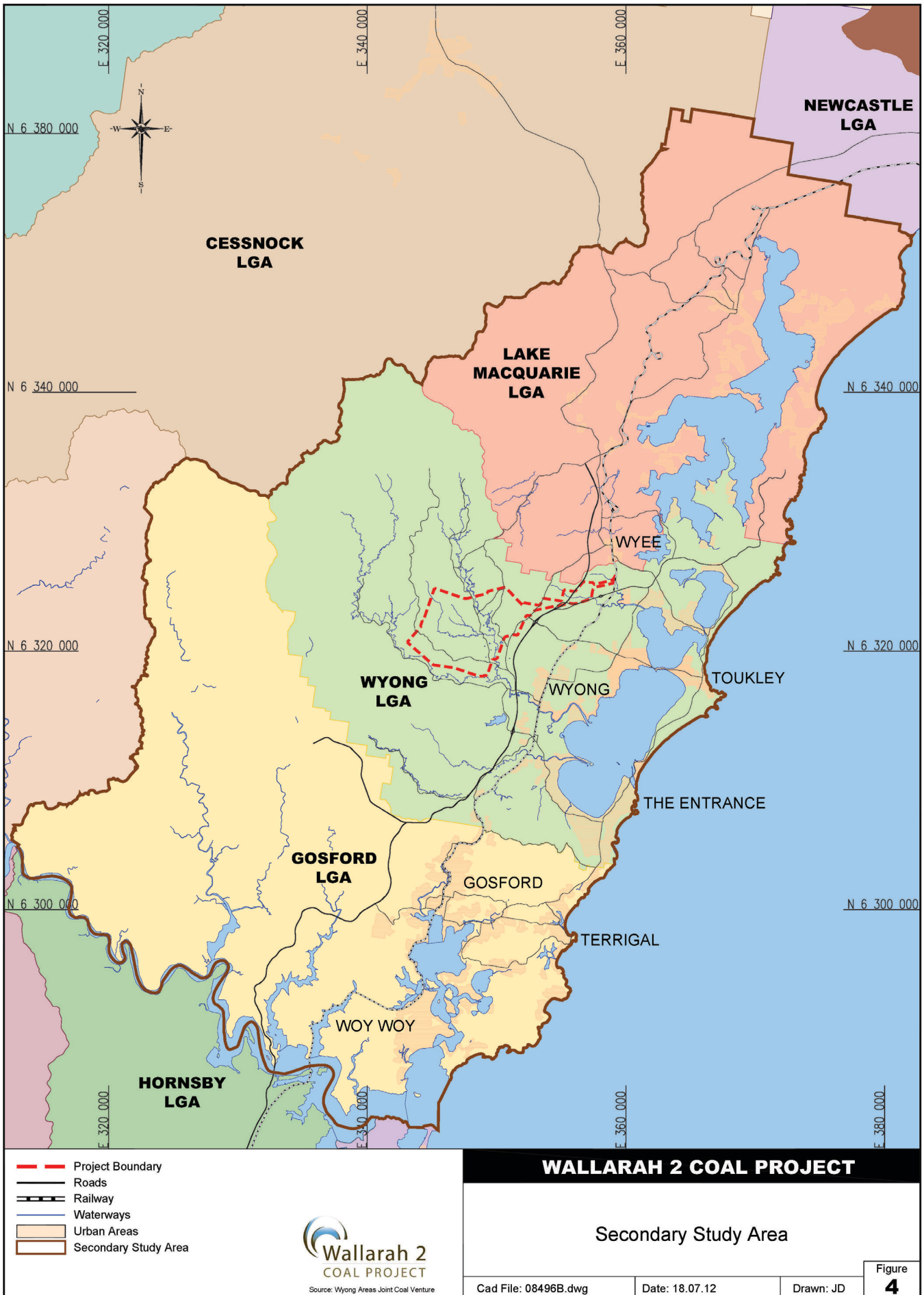
The number of households which are located in the Directly Affected Area was estimated at 1,428, made up of 476 Households in the 2006 Census. (WJV, 2008)













### 1.3.3 Secondary Study Area

The **Secondary Study Area** is the Central Coast area (comprising Wyong & Gosford LGAs) plus Lake Macquarie LGA, as these three LGA's were considered to be within reasonable commuting distance to the Project.

The size of the non-local introduced workforce is a significant determinant of social and economic impact on the host community. The majority of the workforce for the Project would be drawn from within the Secondary Study Area and would be considered **Local Workers**. Those future workers not currently located within the Secondary Study Area are referred to as **Non-Local Workers**.

It is noted that the Newcastle LGA may also be the source of some employees and that it will be incrementally affected by the Project due to the resultant increased rail traffic.

The Secondary Study Area coincides with the study area for the Economics Assessment (Gillespie Economics, 2012). This report was the basis of the total estimates of employment referred to later in the text and subsequently divided into local and nonlocal components for the present report.

The towns and associated areas within the Secondary Study Area have been considered for employment potential in this SIA. The Project is located in the Central Coast which has an economic base comprised of a mix of locally based industries, and commuters to both Sydney and Newcastle. The two Municipalities and one Shire which make up the Secondary Study area are all economies which traditionally have depended on a high degree of commuting to Sydney, particularly so for Gosford and Wyong. Approximate distances and travel times from the Project Boundary to surrounding town centres are provided in **Table 1**.

**Table 1**  
**Trip Time Table from the Project Area to Neighbouring Centres**

Project Boundary to:	Distance (km) (approx.)	Travel Time (mins) (approx.)
Wyong town centre	10	15
Tuggerah town centre	15	15
Warnervale town centre	5	10
Wyee town centre	6	12
Morisset town centre	15	15
Sydney town centre	100	80
Newcastle town centre	80	45

Source: Martin Associates, 2009

The Lake Macquarie LGA is somewhat different to the other two LGA's of the Secondary Study Area because historically it has been a place which has depended to a substantial degree on coal mining and power generation as part of its economic base. As well as employment generation, the LGA will also be incrementally affected by the transport of coal along the Main Northern Railway Line to the Newcastle Coal Loader.

## 1.4 METHODOLOGY

The methodology for carrying out this SIA was to analyse the baseline community and social environment without the Project and then consider how local community behaviour and interactions may change with the influence of the Project. The main sources of data for the report were the ABS 2001 and 2006 Censuses, interviews with key informants, WSC social planning reports and community attitude surveys both of 400 residents within the Secondary Study Area in 2006 and again in 2012. There was also a community baseline survey carried out in 2008 within the Directly Affected Area.

Consequently the objectives of this report were to:

- Assess implications of relevant Government policy and guidelines;
- Characterise the existing community, current behaviour and interactions of residents;
- Characterise and assess perceptions of the Project by those within the Directly Affected Area;



- Assess the potential impacts of the Project on population, temporary accommodation and housing;
- Identify the present use of social infrastructure and identify any observed gaps and any perceived gaps from a community perspective;
- Discuss implications for the Directly Affected Area particularly the likely spatial distribution of any non-local operational and construction work forces and their impacts on the community;
- Discuss implications for the broader Secondary Study Area in relative employment and population impacts; and
- Prepare a social management and monitoring program to mitigate potential and perceived impacts.

#### 1.4.1 Sensitivity Analysis

Two impact scenarios have been assessed as described below in order to:

- Identify and appropriately assess potential social impacts associated with the Project; and
- Assist to develop strategies which will adequately mitigate any potential negative impacts on the Secondary Study Area and the associated communities.

These scenarios have been selected as they represent both an 'expected case' and an alternative case ('sensitivity analysis') designed to test the sensitivity of the assumptions utilised for the 'expected case'. Both assume that the non-local portion of the workforce will relocate to the Secondary Study Area. The key differing factor is that Scenario 1 (the 'expected case') will source 70% of its workforce from the Secondary Study Area and under a reasonable worst-case Scenario 2 (the 'sensitivity analysis') WACJV would source 50% of its operational workforce from the Secondary Study Area.

##### **Scenario 1 ('Expected Case')**

Scenario 1 assumes that:

- 70% of the construction workforce associated with the Project is sourced from the Secondary Study Area;
- 30% of the construction workforce associated with the Project is sourced from outside the Secondary Study Area and will utilise temporary accommodation;
- 70% of the operational workforce associated with the Project is sourced from the Secondary Study Area; and
- 30% of the operational workforce associated with the Project is sourced from outside the Secondary Study Area and will relocate to the Secondary Study Area.

##### **Scenario 2 ('Sensitivity Analysis')**

Scenario 2 assumes that:

- 70% of the construction workforce associated with the Project is sourced from the Secondary Study Area;
- 30% of the construction workforce associated with the Project is sourced from outside the Secondary Study Area and will utilise temporary accommodation;
- 50% of the operational workforce associated with the Project is sourced from the Secondary Study Area; and
- 50% of the operational workforce associated with the Project is sourced from outside the Secondary Study Area and will relocate to the Secondary Study Area.

#### 1.4.2 Consultation with Relevant Agencies

As part of this SIA consultation has been carried out with both WSC and Lake Macquarie City Council (LMCC).

## 1.5 STATE & LOCAL GOVERNMENT POLICY

The various State and Local Government Social Policies which apply to the Project and have been considered as part of this SIA are outlined below and include:

- Final Central Coast Regional Strategy (CCRS) (Department of Planning (DoP), 2011)
- Residential Development Strategy with Updated Population Forecasts (WSC, 2002);
- Wyong Shire Community Strategic Plan 2030 Creating our Ideal community (WSC, Updated 2011);
- Wyong Shire Community Plan 2008-2013 (WSC, 2009);
- Various Wyong Shire Developer Contributions Policies & Voluntary Planning Agreement Policy;
- Promoting Choice: A Local Housing Strategy for Wyong Shire 2009; and
- Housing NSW Central Coast Regional Homelessness Action Plan.

### 1.5.1 Final Central Coast Regional Strategy

The *Final Central Coast Regional Strategy* (DoP, 2011) is described in the document as the “*pre-eminent planning document for the Central Coast region*”. The strategy applies to the period 2006-2031 and is to be reviewed every 5 years. The draft of this strategy had population forecasts considerably below the final ones due to the extreme drought conditions that were affecting the Wyong LGA during 2009-2010. Currently, it projects a population increase of 4,000 people per year for the entire region to 2031. Warnervale has always been considered to play a central role in this strategy with a new draft Structure Plan prepared for North Wyong. Tooheys Road Site is located on industrial land located in the Bushells Ridge precinct in the suburb of Wallarah.

### 1.5.2 Residential Development Strategy

The *Residential Development Strategy* (WSC, 2002) with Updated Population Forecasts for 2009 (WSC, 2002) was prepared in 2002 and set out population and housing forecasts for 15 planning districts within the Wyong LGA. It has been coordinated with the Central Coast Regional Strategy. The two planning districts of the Strategy affected by the Project are Warnervale (which includes the suburb of Wallarah) and the Western Valleys where the underground mining area is proposed to be located.

Key information from the residential development strategy includes:

- The population of the Wyong LGA as at June 2009 was estimated to be 149,382<sup>1</sup>;
- The Central Coast Regional Strategy<sup>2</sup> identifies the following growth targets for the Wyong LGA over the next 20 years (to 2031):
  - An additional 70,000 people;
  - 39,500 new dwellings in existing urban and greenfield areas;
  - 19,400 new jobs over the next 25 years; and
  - An additional 27,000 jobs created within Tuggerah-Wyong, various other town, village and neighbourhood centres, and within the area covered by the draft North Wyong Structure Plan (including the Wyong Employment Zone (WEZ)).

### 1.5.3 Wyong Shire Council Community Planning Precincts

WSC has a well formulated theoretical and practical set of policies to guide the social development of its various communities into the future. It is built around developing consultation and participation of its residents through precinct planning committees.

<sup>1</sup> Cat 3218.0 - Regional Population Growth, Australia, 2008-09, Australian Bureau of Statistics

<sup>2</sup> Central Coast Regional Strategy 2006-31, NSW Department of Planning 2008 and 2011

There are two designated community planning precincts that are affected by the Project and are part of the Primary Study Area, being Watanobbi – Warnervale and Wallarah North. Neither of these precincts formally take in the underground mining area but they do include the Tooheys Road Site and Buttonderry Site (WSC, Community Precinct Committees, Guidelines inc Charter, 2010, Council Website,).

The role of the Council's Community Precinct Committees is described as to *"encourage residents, workers and property owners to take an active role in providing input into the operations of Council and the precincts promote community consultation and involvement. The Community Precinct Committees perform an advisory role to Council, which includes making recommendations on issues that may affect their area or the whole Shire"*. Precinct meetings play an integral part in the communication between community members and Council staff and Councillors. These Committees are planned to have meetings on a monthly basis.

#### **1.5.4 Community Strategic Plan 2030 Creating our Ideal Community**

The *Community Strategic Plan 2030 Creating our Ideal Community* (WSC, 2011) is the main social planning policy providing strategic guidance and has a planning horizon of 20 years. It lays out planning principles that *"must apply in the future"* and identifies eight priority objectives to create what is considered to be *"the best possible quality of life"* for Wyong LGA residents

The plan provides a direction and focus for the community in all levels of government to achieve the most significant long-term benefits. This document was formulated as a partnership with the community and NSW Government during 2008 and 2009.

It was updated in 2011, to ensure that the most up-to-date strategies and directions were incorporated in the plan while retaining the principles and objectives of the original document.

#### **1.5.5 Wyong Shire Community Plan 2008-2013**

The *Wyong Shire Community Plan 2008 - 2013* (WSC 2009) (WSCP) is the working five year social plan for implementation in the current period of 2008 -2013. The WSCP aims to use the communities as a resource to bring about change in the social environment rather than more traditional "top down" approaches which were focused on providing facilities based on perceived need by interpretation of supply and demand benchmarks. It also integrates social and community demand for infrastructure and services with a credible flow of financial resources through close coordination with the WSC financial strategic planning process.

The WSCP is built around an extensive community survey carried out in 2007 by the CSIRO and Hunter Valley Research Foundation.

The WSCP notes that: *"More than 1,300 residents highlighted the importance of community, networking, "local" places and spaces, community centres, parks, playgrounds, cafes, barbeque area, walking tracks and cycleways, to bring people together and build a sense of pride and identity."*

The WSCP is considered to be a comprehensive expression of what the local community's perceive that they need and discusses the various roles that WSC consider can help to bring about outcomes under each of the various infrastructure and service components.

The WSCP provides considerable information on the current social profile of the Wyong LGA and the community's perceived social infrastructure and services' needs. As a result the WSCP has been utilised as a basic input into understanding current social conditions of the Wyong LGA in **Section 2**.

### 1.5.6 Development Contributions - Section 94 Plan

This Plan outlines the contributions that may be collected from a range of development across the Wyong LGA for the embellishment of public open space, community facilities, the public road network, drainage, water quality, environmental protection and public car parking. It was prepared in accordance with the EP&A Act. DP&I forecasts which are aligned with the regional and local estimates of population and housing are the basis for the preparation of the proposed development schedule, which outlines the types of infrastructure to be provided through this Plan and the costs. This plan and the two below will help form the basis for the assessment of the need and extent of social impact mitigations.

### 1.5.7 Warnervale District Development Contributions Plan

The purpose of the *Warnervale District Development Contributions Plan* (WSC, 2005) is to determine the contribution rates and means of providing the following public services and amenities necessary as a consequence of proposed development within the Warnervale and Wadalba Urban Release Areas, the North Wyong Industrial Estate and the wider Warnervale District:

- Roads and Intersection Improvements;
- Community Facilities;
- Public Open Space;
- Drainage and Water Quality Control; and
- Costs of further Studies and a Warnervale Study Area Co-ordinator.

The Warnervale/Wadalba Urban Release Area identified in the S94 Plan covers the suburbs of Warnervale, Hamlyn Terrace, Woongarra, Wallarah and Wadalba. It includes a mix of new housing estates, an established residential village at Warnervale, rural areas and a rural-residential section. It also includes the North Wyong Industrial Estate.

The Section 94 Plan states that *“For over 30 years, the Warnervale District has been identified as a growth area in metropolitan planning strategies but its growth has never quite reached expectations. Nonetheless planning of the area has continued to create the physical planning framework for future physical development of the surrounding area. In July 2006, the NSW Minister for Planning declared that two of the major projects in the Warnervale district would be considered as state significant sites, under the State Environmental Planning Policy (Major Developments) 2005. The Minister has determined new planning controls for these important projects. These projects are the Warnervale Town Centre and the Wyong Employment Zone.”*

The proposed Tooheys Road Site is located more than 2 km to the north of the new planning area and is already zoned for such a use. Consequently, the Project relates well to the intended continuing use of the immediate area.

### 1.5.8 Section 94A Levy Development Contributions Plan

There is also a more general *Section 94A Levy Development Contributions Plan* (WSC, 2011) which applies to all land within Wyong LGA. It is applicable to both development applications and complying development applications, where the value of proposed development exceeds \$100,001 and where there are no other Section 94 contributions imposed (as distinct from Water and Sewer Contributions payable under the Water Management Act 2000). The objective is to provide Council with an opportunity to ensure that appropriate development contributions can be levied on developments that currently do not pay contributions under Section 94, or pay a minimal contribution when compared to the size and value of the development.

The levies collected under the Section 94A Levy Contributions Plan are planned to assist in the future provision of The Art House, Wyong Shire Performing Arts and Conference Centre and the cycleway network. The rate of the levy is presently set at 0.5% of the cost of development between \$100,001 - \$200,000 and 1% of the cost of development over \$200,001.

### 1.5.9 Voluntary Planning Agreements Policy

This Policy sets out WSC's policy, principles and procedures relating to the use of Planning Agreements under the EP&A Act.

This Policy became effective on 13 January 2010 and applies to land and development within the WSC LGA and replaces requirements under Section 94.

### 1.5.10 Promoting Choice: A Local Housing Strategy for Wyong Shire

The Wyong Shire Council Local Housing Strategy (WSC LHS) is the locally developed housing strategy which identifies how WSC can support and encourage developers and others to provide more affordable housing choices in any new development. It was adopted by WSC in 2008.

The approach is centred on WSC developing policies and a statutory framework that provides for housing choice and diversity, for example, the Local Environment Plan. It will also ensure WSC continues to play a leadership and advocacy role to promote awareness of housing issues in the LGA and is a potential partner in joint venture projects.

*"The main private sector supply of affordable housing in the Wyong Shire is in the form of low cost rental accommodation, caravan parks and manufactured home estates. This form of housing often comes under threat as land prices rise and the need to improve the quality and amenities of neighbourhoods and buildings increases. Councils can be proactive in their attempts to either protect existing affordable housing or pursue impact mitigation strategies for the loss of affordable housing through development." (WSC LHS)*

This policy is aimed at housing developers but could also be used to address assessed impacts of industrial development. The WSC LHS also refers to the State Government Central Coast Regional Homelessness Action Plan

### 1.5.11 Central Coast Regional Homelessness Action Plan

The *Central Coast Regional Homelessness Action Plan* (NSW Housing, 2009) (HAP) was prepared in order to address the issue of homelessness. The HAP reported that for the 2006 Census, 817 people were considered homeless on the Central Coast of which 50% were from the Wyong LGA. The Central Coast's relative share of homeless people was the lowest of all NSW housing regions representing 3% of the State total.

## 2 EXISTING EMPLOYMENT AND POPULATION

### 2.1 INTRODUCTION

This section discusses the current population and employment characteristics of the Primary Study Area and makes comparisons with mainly Wyong LGA. These characteristics have then been used as the basis for determining the social impacts in the Primary Study Area, Secondary Study Area and the Directly Affected Area associated with the Project.

### 2.2 POPULATION CHARACTERISTICS

The 2006 population of Wyong LGA was 139,801 (Place of Usual Residence Data) which had grown at an annual average growth rate of 1.73% for the previous ten years. The growth rate has slowed considerably in the period from 2001 - 2006 to 1.03% per year (Place of Enumeration data) (ABS, Census 2006).

In the Primary Study Area, the total population of the community in 2006 was 2,435 or 1.74% of the total Wyong LGA population. Even though there were issues with comparability of the data, the figures suggest only a slight increase in the population of the Primary Study Area since the 2001 census with the population growing by 79 or approximately 26 households which translated to approximately 5 households per year over the five year inter-censal period. The Primary Study Area was growing slowly in relation to other parts of the Wyong LGA.

The population of the Directly Affected Area, as shown in **Figure 3**, in 2006 was estimated to be considerably lower at 1,428 or 1.03% of the Wyong LGA population. Population size and other characteristics for both the Primary Study Area and the Wyong LGA are reported in **Table 2**.

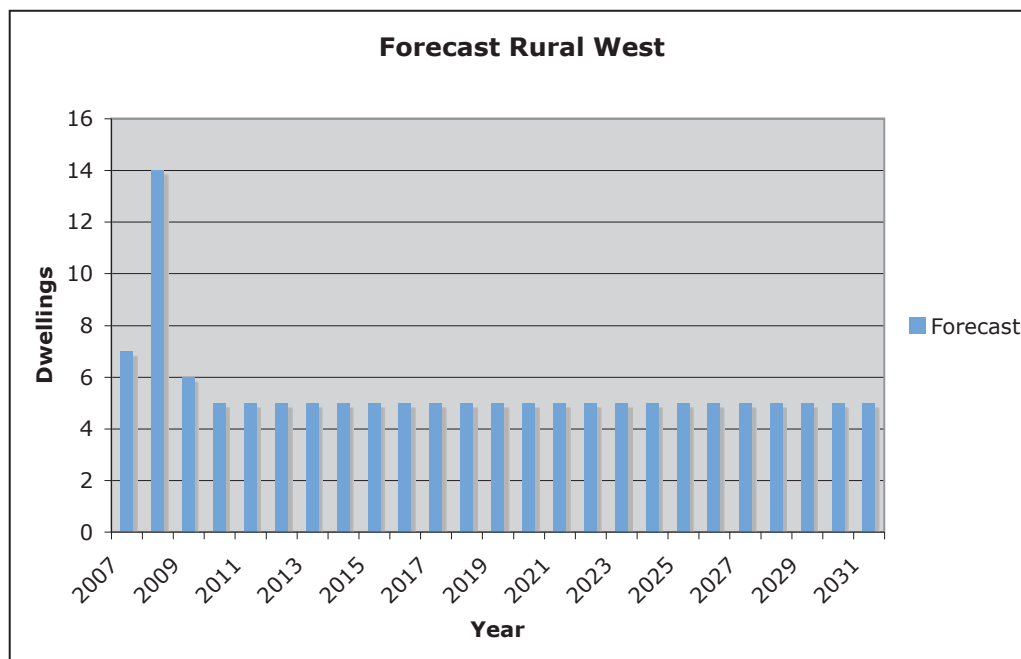
As shown in **Table 2**, the population density of the Primary Study Area was very low with a density of 46 persons/km<sup>2</sup> compared to 169 persons/km<sup>2</sup> for the Wyong LGA. In general terms the area in the vicinity of the Hue Hue Subdivision is considerably denser in population than the rest of the Directly Affected Area (Note the difference between CD 1211903, CD 1211905 and CD1211910 in **Table 2**) (ABS Census 2006).

#### 2.2.1 Population Forecasts

In order to understand where future population and housing growth is expected to occur without the influence of the Project, there are baseline growth forecasts produced by WSC. It has produced population forecasts broken down by sub area for the period 2002-2031. In 2031, the population of the Wyong LGA is predicted to be 200,015 - an increase of 57,329 persons (40.18%) from 2006. This represents an average annual growth rate of 1.36% (WSC RDS 2003 Updated). These forecasts will be used as one basis for assessing the degree and intensity of the impact of the Project.

The area which includes the majority of the Extraction Area is located in the Rural West planning area. The population forecast of the Rural West Planning Area is shown in **Figure 5**. The other components of the Project are included in the Warnervale Wadalba Planning Area and the forecast for that Planning Area is shown in **Figure 6** (WSC RDS 2003 Updated).

**Figure 5**  
**Wyong LGA Dwelling Forecast Per Year for Period 2007 to 2031 For Rural West Planning Area**



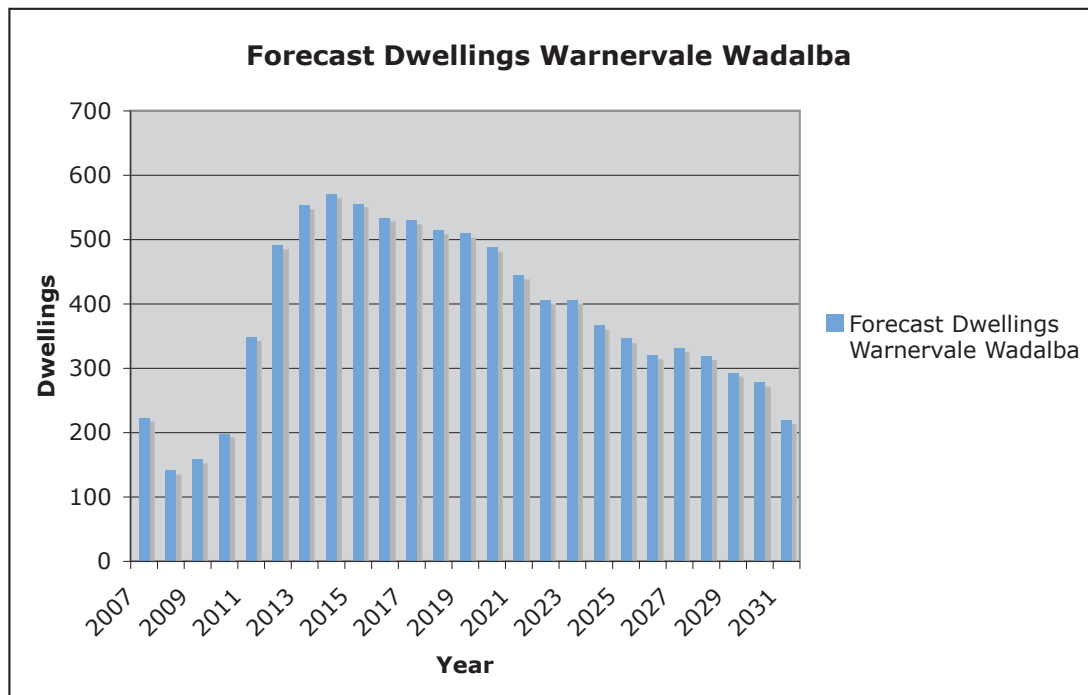
Population and Housing Forecasts 2006 -2031 prepared by ID Consultants (Updated Jan 2009)

With the current projected increase of approximately five households per year for part of the Primary Study Area, the area is symptomatic of the Wyong LGA in that it has not kept pace with expectations during the 2001-2006 period.

The other components of the Project are included in the Planning Area of Warnervale Wadalba and includes the Extraction Area partly under the Hue Hue subdivision area, the Buttonderry Site and the Tooheys Road Site. The forecast number of dwellings in this Planning Area is much higher than in the Rural West area with an average of approximately 500 dwellings forecast for the period 2013-2021. **(Figure 6)**



**Figure 6**  
**Wyong LGA Dwelling Forecast per year for Period 2007 to 2031 for Warnervale- Wadalba Planning Area**



Source: WSC Website, 2011 Population and Housing Forecasts 2006 -2031 (ID Consultants, Updated Jan 2009)

The principal land development and infill assumptions for the period 2006-31 for this Planning Area include:

- 2006-09 dwelling additions are based on actual building approvals, lagged by 6-18 months. For forecasting purposes from 2009 onwards the assumptions were as follows:
- Greenfield development will contribute - 5,833 dwellings (2009-31);
- Warnervale Town Centre will contribute- 2,700 dwellings (2009-31); and
- There will be a high level of infill development in areas already developed (up to 75 dwellings per annum).

The amount of residential development which has occurred in the period 2006-2012 was reported to be slightly ahead of the forecast shown in **Figure 6**. This was in contrast to the rural west area which was developing more slowly than forecast. However it should be emphasised that the Rural West has always had a relatively low overall population and growth rate.

### 2.2.2 Demographic Characteristics

Selected demographic characteristics of the residents in the Primary Study Area, compared to the Wyong LGA, are shown in **Table 2** and **Table 3**.



Table 2  
Population Characteristics of the Primary Study Area and Wyong LGA 2006

Population	Primary Study Area (Directly Affected Area)						Wyong LGA	
	Extraction Area			Total/ Extraction Area	Area to North and enclosing Infrastructure Boundary	Area to South of Infrastructure Boundary	Primary Study Area Total	Wyong LGA
	Persons	Persons	Persons	Persons	Persons	Persons	Persons	Persons
Collection District (CD)	CD 1121093	CD1121905	CD1121910	CD1211907	CD1210306			
Total persons	450	452	692	1,594	482	359	2,435	139,801
Density Persons/Km <sup>2</sup>	52.5	6	192	83.5	10.4	44	46.0	169
Aged Up to 19 Years	110	113	276	499	134	118	751	39,124
Aged 65 years and over	54	52	31	137	38	27	202	25,585
Born in Australia	358	361	586	1,305	402	289	1,996	114,269
Born overseas	60	55	76	191	45	48	284	16,659
Speaks English only	415	406	647	1,468	448	323	2,239	128,569
Speaks other language	10	17	18	45	7	26	78	4,925
Australian citizens	396	404	638	1,438	433	333	2,204	125,664

Source: 2006 ABS Census

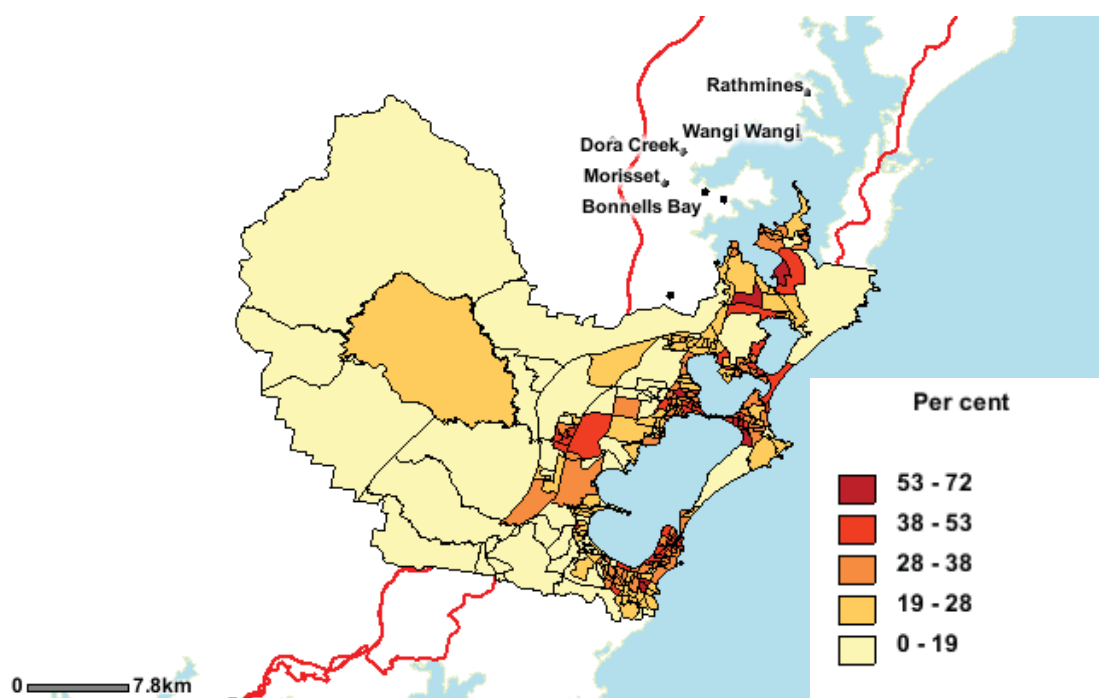
**Table 3**  
**Selected Income & Financial Characteristics Primary Study Area and Wyong LGA 2006**

Selected Population Characteristics	Primary Study Area (Encloses Directly Affected Area)						Wyong LGA	NSW
	Extraction Area			Total Extraction Area	Area to North of Infrastructure Boundary	Area to South of Infrastructure Boundary	Primary Study Area Total	
Median age of persons	41	43	34	39	36	39	38	37
Median individual income (\$/weekly)	468	581	511	520	393	495	469	461
Median family income (\$/weekly)	1,233	1,599	1,475	1,436	1,011	1,351	1,266	1,181
Median household income (\$/weekly)	1,089	1,345	1,460	1,298	922	1,223	1,147	1,036
Median housing loan repayment (\$/monthly)	1,733	1,900	2,000	1,878	1,600	1,822	1,767	1,517
Median rent (\$/weekly)	200	150	250	200	320	224	248	210
Average household size	2.6	2.9	3.6	3.0	3.1	3.0	3.1	2.6
% 0-19 Years	24.44%	25.00%	39.88%	29.78%	27.80%	27.80%	28.46%	33.1
%65+ Years	12.00%	11.50%	4.48%	9.33%	7.88%	7.88%	8.37%	13.8

Source: 2006 ABS Census

The residents of the Primary Study Area have language, citizenship and ethnicity characteristics very similar to the Wyong LGA, as shown in **Table 2**. When the two areas are compared it is noted that they differ markedly in their household, population and income characteristics. The Primary Study Area has a significantly higher mean individual income than the Wyong LGA. The Primary Study Area is younger and not surprisingly the household size was generally larger than at the Wyong LGA level. (3.0 persons/households compared to 2.5). This contrast is also shown in **Figure 7** which shows the location of low income households in Wyong LGA. There was a clear gap found between the Primary Study Area and the Wyong LGA as a whole based on income and employment.

**Figure 7**  
**Low Income Households in Wyong LGA, 2006**  
**Households with gross weekly income of less than \$500**



With regard to education, Wyong LGA has experienced significantly lower rates of children staying at school than at the NSW level. In 2010, the school retention rates for Wyong LGA from Year 7 to 12 (defined as the proportion of students who started Year 7 and have continued to Year 12) for government schools increased by 3% from 2009 to 53.12%. This figure is still 16.62% lower than the NSW average rate of 69.74% (WSCP, 2009).

## 2.3 MOBILITY OF THE POPULATION

The mobility of the population in the Primary Study Area and Wyong LGA in the 2006 Census is shown in **Table 4**. The Primary Study Area population was found to be more stable than the Wyong LGA as a whole. This was similar for those with the same address one year before and five years before. Assuming the Primary Study Area is indicative of the enclosed Directly Affected Area approximately 40% of the people did not live in the Directly Affected Area five years before the 2006 Census.

**Table 4**  
**Mobility of the Population - Primary Study Area and Wyong LGA 2006**

Collection District	Extraction Area			Area Around Infrastructure Boundary		Primary Study Area	Wyong LGA
	CD 1211903	CD 1211905	CD 1211910	CD 1211907	CD 1210306		
Same usual address 5 years ago as in 2006	57.8%	59.7%	63.8%	62.9%	58.6%	60.5%	55.9%
Different usual address 5 years ago:							
Same Statistical Local Area (SLA)	3.0%	8.6%	10.8%	10.3%	15.7%	9.7%	14.5%
Different SLA in:							
NSW	28.8%	24.3%	20.6%	17.4%	20.1%	22.2%	20.2%
Victoria	0.0%	0.0%	0.0%	0.7%	0.0%	0.1%	0.3%
Queensland	0.9%	0.0%	0.0%	0.9%	0.0%	0.4%	0.8%
South Australia	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Western Australia	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Tasmania	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Northern Territory	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Australian Capital Territory	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.1%
Other Territories	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	29.7%	24.3%	20.6%	19.0%	20.1%	22.7%	21.8%
Overseas	1.2%	0.9%	1.1%	0.0%	1.5%	0.9%	1.1%
Not stated(a)	0.0%	0.0%	0.0%	0.7%	0.0%	0.1%	0.6%
Total	33.9%	33.8%	32.4%	30.0%	37.3%	33.5%	38.0%
Not stated(b)	8.4%	6.5%	3.7%	7.2%	4.1%	6.0%	6.2%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: ABS Census 2006

## 2.4 LABOUR FORCE CHARACTERISTICS

The industry of employment of employed people over 15 years in the Primary Study Area and Wyong LGA and Secondary Study Area in 2006 is shown in **Table 5**. Mining workers made up 0.8% of employed people in the Primary Study Area, which was a higher share than for Wyong LGA (0.5%). This was considerably lower than Lake Macquarie LGA at 1.9% which has a long history of underground mining. Also noted was that manufacturing and construction industry workers made up the highest share of total employment after the retail industry and social services in the Secondary Study Area. The number of construction workers in the secondary study area was 18608 or 9.6% of the workforce.

**Table 5**  
**Comparative Employment Structure, 2006 - Primary Study Area, Wyong LGA**

Industry	Wyong		Gosford		Lake Macquarie		Secondary Study Area		Primary Study Area	
	Number	%	Number	%	Number	%	Number	%	Number	%
Agriculture, forestry & fishing	433	0.8%	564	0.8%	322	0.4%	1,319	0.7%	34	4.30%
Mining	244	0.5%	163	0.2%	1,397	1.9%	1,804	0.9%	6	0.80%
Manufacturing	6,077	11.3%	5,649	8.4%	8,348	11.1%	20,074	10.2%	97	12.20%
Electricity, gas, water & waste services	841	1.6%	676	1.0%	1,297	1.7%	2,814	1.4%	22	2.80%
Construction	5,648	10.5%	6,075	9.1%	6,885	9.1%	18,608	9.5%	150	18.90%
Wholesale trade	2,066	3.8%	2,606	3.9%	2,711	3.6%	7,383	3.8%	38	4.80%
Retail trade	7,830	14.5%	8,698	13.0%	9,698	12.9%	26,226	13.4%	68	8.60%
Accommodation & food services	3,961	7.4%	4,319	6.5%	4,555	6.0%	12,835	6.5%	60	7.50%
Transport, postal & warehousing	2,584	4.8%	2,737	4.1%	3,244	4.3%	8,565	4.4%	54	6.80%
Information media & telecommunications	834	1.5%	1,580	2.4%	892	1.2%	3,306	1.7%	9	1.10%
Financial & insurance services	1,549	2.9%	2,659	4.0%	2,601	3.5%	6,809	3.5%	16	2.00%
Rental, hiring & real estate services	954	1.8%	1,333	2.0%	1,160	1.5%	3,447	1.8%	21	2.60%
Professional, scientific & technical services	2,162	4.0%	4,069	6.1%	3,835	5.1%	10,066	5.1%	25	3.10%
Administrative & support services	1,610	3.0%	2,027	3.0%	2,027	2.7%	5,664	2.9%	25	3.10%
Public administration & safety	3,218	6.0%	4,302	6.4%	4,265	5.7%	11,785	6.0%	39	4.90%
Education & training	3,289	6.1%	4,969	7.4%	6,377	8.5%	14,635	7.5%	31	3.90%
Health care & social assistance	6,322	11.7%	9,158	13.7%	9,895	13.1%	25,375	12.9%	41	5.20%
Arts & recreation services	699	1.3%	986	1.5%	770	1.0%	2,455	1.3%	6	0.80%
Other services	2,169	4.0%	2,785	4.2%	3,296	4.4%	8,250	4.2%	37	4.70%
Inadequately described/Not stated	1,371	2.5%	1,502	2.2%	1,736	2.3%	4,609	2.4%	16	2.00%
<b>Total</b>	<b>53,861</b>	<b>100.0%</b>	<b>66,857</b>	<b>100.0%</b>	<b>75,311</b>	<b>100%</b>	<b>196,029</b>	<b>100.0%</b>	<b>795</b>	<b>100.00%</b>

In 2006, the Wyong LGA had the majority (56.4%) of employed people over 15 years of age working in the occupations of tradespersons, labourers, clerical and sales workers. The most common occupation in the LGA was technicians and trade workers (17.1%). Between 1996 and 2006 there was an increase in the proportion of people employed as professionals (from 11.1% to 13.2%), however there remained an under representation in professional and managerial roles (23.3%) compared with Sydney and NSW (State of the Shire Report, WSC, 2011). The % in the secondary study area was 28% (see **Table 6**). There were 32,371 Technicians and Trades workers and 12,950 Machinery operators and drivers within the Secondary Study Area.

With the mix of proportion of technicians and trade workers, there were also considerable differences in income levels in different parts of the LGA as shown in **Figure 7**. The 2006 Census found that weekly individual and household incomes in Wyong LGA were below the State average – with the median weekly individual income for persons aged 15 years and over in Wyong LGA being \$381, compared with \$461 for NSW and \$466 for Australia.

The 2006 Census found that the most significant industries employing LGA residents were retail trade (14.5%), health care and social assistance (11.7%), manufacturing (11.3%), and construction (10.5%). This dependence on the construction, manufacturing and tourism sectors was also considered to expose the local economy to the cyclical variations in demand for those products and services (SOS, WSC, 2011). Nonetheless, the overall numbers of appropriate industries & occupations shown in **Table 5** and **Table 6** within the Secondary Study Area to service and supply mining construction and operations are considered substantial when measured against the demand for labour from the Project.

**Table 6**  
**Comparative Occupational Structure, 2006 - Secondary Study Area, Wyong LGA**

Occupation	Wyong		Gosford		Lake Macquarie		Secondary Study Area	
	Number	%	Number	%	Number	%	Number	%
Managers	5,450	10%	7,991	12%	7,429	10%	20,870	11%
Professionals	7,123	13%	13,128	20%	13,532	18%	33,783	17%
Technicians & trades workers	9,209	17%	10,156	15%	13,006	17%	32,371	17%
Community & Personal Service Workers	5,764	11%	6,788	10%	6,794	9%	19,346	10%
Clerical & Admin workers	7,696	14%	10,535	16%	11,579	15%	29,810	15%
Sales workers	6,601	12%	7,558	11%	8,477	11%	22,636	12%
Machinery Operators & Drivers	4,257	8%	3,287	5%	5,406	7%	12,950	7%
Labourers	6,866	13%	6,407	10%	7,867	10%	21,140	11%
Not stated	892	2%	1,008	2%	1,220	2%	3,120	2%
Total	53,858	100%	66,858	100%	75,310	100%	196,026	100%

Source: ABS Census, 2006

## 2.5 EMPLOYMENT POLICY AND TRENDS

The NSW Government considers chronic unemployment as a major issue on the Central Coast of NSW (CCRS). Wyong LGA has experienced a continuing employment problem. The NSW Government also identified the major growth areas within the Central Coast region over the next twenty years as: Warnervale North Wyong (40,000 additional people), the Peninsula (10,000), The Entrance (6,000) and Gosford City centre (5,000). The CCRS also forecasts 45,000 new jobs in the region by 2031 of which the North Wyong area is planned to have 10,500. The remainder of the growth of both population and jobs is concentrated across the area in numerous urban centres. Projections estimate that the overall population of the Wyong LGA will be larger than that of Gosford LGA after 2014. Warnervale is the closest growth area to the Project Boundary being located approximately 10 -15 minutes to the south of the proposed Infrastructure Boundary (CCRS).

Although the Central Coast has been attractive for residential living over the last 30 years, it has not had the same success in attracting businesses. The regional economy depends heavily on the retail and construction industries (with proportionally higher employment in both sectors than the state average) and has a smaller demand for labour, particularly in highly skilled occupations.

Data in **Table 7** show the latest published small area unemployment rate in December 2011 (DEWR). In December 2011 the Secondary Study Area unemployment rate was 5.0% (Gosford City LGA 4.7%, Lake Macquarie 4.2% and significantly different was Wyong LGA at 8%) compared with 5.2% for NSW. Also importantly North East Wyong where the Project is located stood at 8.3% suggesting the degree of difficulty in attracting jobs and the ongoing structural issue referred to above in the North Wyong area.

**Table 7**  
**Number of Unemployed and Unemployment Rates, Wyong, Gosford, Lake Macquarie, Cessnock & NSW Dec 2010 –Dec 2011**

Location	Unemployment (no of people)					Unemployment Rate (%)					Labour Force	
	Dec 2010	Mar 2011	Jun 2011	Sept 2011	Dec 2011	Dec 2010	Mar 2011	Jun 2011	Sept 2011	Dec 2011	Dec 2011	Dec 2011
Wyong - North-East	2,408	2,249	2,237	2,523	2,683	7.0	6.8	6.9	7.8	8.3	32,518	
Wyong - South and West	2,276	2,097	2,069	2,346	2,522	6.4	6.1	6.3	7.1	7.6	33,349	
<b>Wyong Total</b>	<b>4,684</b>	<b>4,346</b>	<b>4,306</b>	<b>4,869</b>	<b>5,205</b>	<b>6.7</b>	<b>6.5</b>	<b>6.6</b>	<b>7.5</b>	<b>8.0</b>	<b>65,867</b>	
Gosford - East	1,176	1,074	1,048	1,170	1,253	3.3	3.1	3.2	3.5	3.7	33,546	
Gosford - West	2,434	2,291	2,273	2,541	2,684	4.9	4.8	4.9	5.5	5.8	46,517	
Lake Macquarie - East	1,567	1,511	1,493	1,421	1,396	4.8	4.6	4.5	4.3	4.2	32,996	
Lake Macquarie - North	1,691	1,637	1,612	1,530	1,504	3.8	3.7	3.6	3.4	3.4	44,488	
Lake Macquarie - West	1,491	1,455	1,447	1,395	1,381	5.6	5.4	5.4	5.2	5.1	26,883	
Totals/Average	13,043	12,314	12,179	12,926	13,423	4.9	4.7	4.7	4.9	5.0	250,297	
<b>New South Wales</b>	<b>197,600</b>	<b>193,300</b>	<b>191,200</b>	<b>193,900</b>	<b>196,900</b>	<b>5.3</b>	<b>5.1</b>	<b>5.1</b>	<b>5.1</b>	<b>5.2</b>	<b>3,797,200</b>	

Source: Dept of Employment and Workplace Relations, Small Area Labour Markets Dec 2011



**Table 7** shows Wyong LGA unemployment at 8% in December 2011 which is significantly higher compared to Gosford at 4.7% with the NSW figure at 5.2%. The gap between the need for work and the number of local jobs has been a major problem over the last three decades for the broader Central Coast and the data suggest that Gosford LGA and particularly Lake Macquarie has fared considerably better than Wyong LGA.

The CCRS was prepared in order to address some of the continuing problems associated with growth. The employment challenges were described as follows:

- *“ensuring that sufficient employment lands and commercial office space is provided in appropriate locations to accommodate growth in existing and emerging industries and*
- *businesses increasing and diversifying job opportunities and increasing the level of employment self containment promoting innovation and skills development within the Region supporting and strengthening the existing employment base to help key industries achieve critical mass encouraging*
- *and investigating opportunities to diversify the Region’s economy “*

The benefit of having a diversified economy is that it has the potential to offer a degree of stability when individual sectors are in decline. Current economic activity appears to be weak relative to what has been experienced on the Central Coast in previous years. The selected indicators discussed in the previous sections show that there is a degree of volatility in the Central Coast economy and this is reflected in an unemployment rate that has consistently remained generally higher than the State average.

A characteristic of the Central Coast economy is that a substantial proportion of its residents travel to neighbouring regions for work. The Final Central Coast Regional Strategy has identified the creation of local jobs as a regional challenge. The benefit of local employment opportunities will be a reduction of travelling times (and associated costs) for those commuting long distances to work. There will also be a greater likelihood that income earned locally will be spent locally, that is, leakage to neighbouring economies will be reduced. WSC has endorsed the Final Central Coast Regional Strategy but in a recent State of the Shire Report (2011) WSC states that *“it remains uncertain whether Wyong Shire can fulfil...”* the Final Central Coast Regional Strategy growth targets.

The document goes on to say that:

*“Council is required to prepare a new Local Environmental Plan (LEP) by 2012. Part of that is the preparation of a Settlement Strategy which will consider issues related to Centres and Housing, Economy and Employment, Environment, Heritage, Recreation, Natural Resources, Natural Hazards, Water, Infrastructure and Transport. The Settlement Strategy will also implement the actions identified by various State Government Plans, including the Central Coast Regional Strategy, 2011; Central Coast Regional Conservation Plan, and the Regional Economic Development and Employment Land Strategy.” WSCSOE*

In the Primary Study Area the pattern of employment in 2006 was considerably better than at the Wyong LGA level with a generally high level of employment. The most rural western area has the most total unemployment (7.2%) but it was still lower than the Wyong LGA level (8.2%).

**Table 8**  
**Employment Status - Primary Study Area Compared to Wyong LGA, 2006**

Status	Extraction Area			Vicinity Industrial Area of		Wyong LGA
	CD 1211905	CD 1211903	CD 1121910	CD 1121907	CD 1210306	
Employed, worked:						
Full-time	53.02%	64.73%	58.79%	59.83%	54.72%	54.97%
Part-time	31.90%	27.80%	35.45%	30.13%	31.45%	30.46%
Employed, away from work	3.88%	4.56%	3.46%	2.62%	5.03%	3.55%
Hours worked not stated	3.88%	1.66%	0.86%	4.80%	4.40%	2.82%
Total	92.67%	98.76%	98.56%	97.38%	95.60%	91.80%
Unemployed, looking for:						
Full-time work	5.60%	0.00%	1.44%	0.00%	4.40%	5.50%
Part-time work	1.72%	1.24%	0.00%	2.62%	0.00%	2.69%
Total	7.33%	1.24%	1.44%	2.62%	4.40%	8.20%
Total labour force	232	241	347	229	159	58,662

Source: ABS Census 2006

### 3 COMMUNITY SERVICES & INFRASTRUCTURE

This Chapter outlines the current range of community services and infrastructure that are provided in the Study Area, with a focus on the services provided in the Primary Study Area and Secondary Study Area. The services and facilities include:

- Retail and household services;
- Education;
- Early childhood services;
- Health services;
- Community services;
- Emergency Services; and
- Public Transport.

#### 3.1 RETAIL AND HOUSEHOLD SERVICES

Residents located above the Extraction Area predominately use Wyong or Tuggerah Shopping Centre or a combination of both, using Jilliby Road and Hue Hue Road to do their daily and weekly shopping. The pattern for residents located surrounding the Infrastructure Boundary is slightly different with more of a spread between Charmhaven, Wyong and Tuggerah.

#### 3.2 EDUCATION

##### 3.2.1 Primary and Secondary

There are a wide range of education facilities available within the Primary Study Area and its immediate surroundings. Jilliby Primary School is the only school in close proximity to the Underground Mining Area. There are six primary schools and four secondary schools within the Wyong LGA that are considered to be within one half hours commute of the Primary Study Area.

**Table 9**  
**Inventory of Primary and Secondary Schools & Current Enrolment, 2006-2011\***

School Name	Enrolment*
Wyong Public School	372
Wyong Grove Public School	115
Wyong Creek Public School	63
Yarramalong Public School	19
Jilliby Public School	112
St Cecilia's Catholic School	391
<b>Primary Total</b>	<b>1,072</b>
Wyong High School	733
Wyong Christian Community School	486
Mackillop Catholic School	932
St Peters Catholic School	996
<b>Secondary Total</b>	<b>3,147</b>

Source: NSW DET & Annual Reports

\* reporting Years vary depending on website info

### 3.2.2 Tertiary Education

Tertiary education is seen as one aspect of social planning where the mining proposal can provide an increased range of training and job opportunities for young people at the tertiary level. The *Wyang Shire Social Plan (2008-2013)* reported that the “*The Quality of Life Survey (2008) found that those residents with bachelor degrees were likely to have significantly higher well-being than those with certificate qualifications*”.

Trend data on participation in tertiary level education shows that the number of Wyong residents participating in TAFE has increased by around 300 between 1996 and 2006. The proportion however, has decreased. There has been an increase in both the number and proportion of residents attending University. These rates are noticeably below the State average. Only 6% of residents in Wyong (NSW 16%) hold formal qualifications (Bachelor or higher degree; Advanced Diploma or Diploma; or Vocational qualifications) (WSCSS, 2009).

There is one Technical and Further Education college (TAFE) in Wyong Township. Presently there are no courses which cater to the mining industry and particularly underground mining. There is a Central Coast (Ourimbah) Campus of the University of Newcastle together with the Community College and TAFE co-located in Ourimbah, which provides local access to tertiary education and further training. In 2010 there were 4,205 students enrolled at the University (Ourimbah Campus) and 14,004 TAFE NSW enrolments spread across the three TAFE campus locations of Wyong, Ourimbah and Gosford (WSCP, 2009). A total of 571 students completed a University Course at the Ourimbah Campus in 2010 (University of Newcastle; TAFE NSW – Hunter Institute).

### 3.3 EARLY CHILDHOOD SERVICES

There are a number of early childhood services operated by both WSC and private sector operators in and around Wyong, including Treelands Pre-School and Childrens Centre, Wyong Preschool Kindergarten, Small World Preschool, IE Academy Excellence In Infant Education as well as Wyong Family Day Care. Waiting lists for childcare services are typically full. The community baseline survey prepared for this SIA found childcare was a significant deficiency in community infrastructure, particularly for younger families in the area around the Hue Hue subdivision.

WSC operates six Care and Education Centres at Kanwal, Toukley, San Remo, Wyong, Killarney Vale and Berkeley Vale and five Vacation Care programs at Bateau Bay, Blue Haven, Toukley, Ourimbah and Wyong. WSC provides care to 240 children each day for 50 weeks per year in the six Care and Education Centres and offers 230 vacation care places each day during school holiday periods in the five Vacation Care programs.

### 3.4 HEALTH SERVICES

Health services in Wyong LGA are managed by the Northern Sydney Area Health Service (NSAHS). Since 2011, some of these services have been decentralised to local health districts. Northern Sydney Central Coast Health (NSCCH) is one of 17 Area Health Services in NSW. The service manages four hospitals: Wyong Hospital, Gosford Hospital, Woy Woy Hospital, Long Jetty Health Centre and four community health centres in Wyong LGA at Lake Haven, Long Jetty, Toukley and Wyong Central. There is one private health care facility within the Wyong LGA at Berkeley Vale (NSW DOH, Website).

In 2006, Wyong LGA was ranked as ‘disadvantaged’ on the Socio-Economic Indexes for Areas (SEIFA) index. Compared to the other areas within the NSCCH, Central Coast residents were reported to have poorer health, higher mortality rates and high rates of behavioural health-risk factors such as smoking and obesity, and poorer access to General Practitioners (GPs), primary care and diagnostic and specialist healthcare (NSCCH, 2008). This is reflected in the high incidence of diseases frequently related to lifestyle such as diabetes and hospitalisation for alcohol related reasons. Wyong LGA also has one of the highest levels in NSW of lung cancer and other cancers (WSCP, 2009).

Wyong LGA residents are reliant on access to the public health system with only 38 percent having private health insurance compared to 63 per cent for residents of the NSAHS. For residents of Wyong LGA, nearly as many patients were treated at Gosford Hospital as at Wyong Hospital (NSCCH, 2008). This shows the higher than normal demand being generated by the residents of Wyong LGA compared to Gosford LGA (WSCP, 2009).

Also, Wyong LGA has a pattern which is typical of many retirement areas where the demand for health services is outstripping population growth. In the ten years 1996 to 2006, the population grew by 1.8% per year and the growth in demand for hospitalisations at Wyong Hospital grew by over 4.5%. Socio economic status and demographic structure has significant implications for the provision of health services in the area. Population growth and the ageing population places considerable pressure upon the resources of NSAHS to meet the changing needs of the area (WSCP, 2009).

The Wyong LGA has a higher proportion of people aged over 65 than NSW which is increasing yearly as the 'baby boomers' generation ages and as more people move into the LGA to retire (WSCP, 2009). This age group has a high demand for all types of health services. The ageing of the population will continue to change the pattern of health problems. Increased prevalence of chronic health problems will necessitate a greater focus on the integration of community health and hospital based services. The lack of both high and low care beds (nursing homes and hostel accommodation) for the frail aged, also places increased demand on inpatient and community based health resources.

The Wyong LGA is also characterised by a higher proportion of children than the NSW average. This age group also places high demands on health services.

A significant ongoing issue reported by WSC was the lack of GPs to service the current population (WSCP & WSC Staff). The Commonwealth Department of Health's guide for good doctor-to-patient ratios is 1:1,100 to 1:1,200 persons. This ratio is substantially exceeded in Wyong LGA at 1:1,604 (CCDGP, 2010). As at July 2010, there were 304 GPs working in the Central Coast of which 204 (67%) were male and 100 (33%) were female. There was a higher proportion of GPs in Gosford of 177 GPs (58%) compared with Wyong's 127 (42%). Also, in 2009 the Central Coast Division of GPs conducted a GP survey which indicated that 30% of GPs were looking to retire in the next 5 years with the average age of GPs at 54.4 years.

The NSW Government has been redeveloping Gosford and Wyong Hospitals under the area's Health Access Plan. The progressive development of the new hospital on the Wyong Hospital site has almost doubled the size of the previous existing facility providing significantly increased capacity for the LGA's population.

Wyong Hospital provides inpatient, outpatient and emergency services for the northern sector of the Central Coast. It is designated as a Major Metropolitan Hospital with 360 beds and provides aged care medicine, emergency medicine, general medicine, low risk maternity, rehabilitation medicine, general surgery and sub-specialties and mental health services. In 2007, there was a significant enhancement to inpatient services with the opening of the 50-bed Mental Health Centre and an additional 14 beds in the Emergency Department.

The hospital is supported by a number of community medical centres within Wyong LGA, with the facility at the hospital and Warnervale being closest to the Project. Sparks Road Medical centre was recently significantly upgraded to address some of the issues arising from the well documented lack of access to GPs.

### 3.5 COMMUNITY SERVICES

According to information supplied by WSC, (personal communication, WSC Rep, 2012) there is reasonably good cooperation between local and State Government agencies and community organisations responsible for the provision of community services. These agencies generally work together to find solutions to priority issues affecting the Wyong LGA. The area is considered to be well catered for and as some of the development planned has not reached expectations to date, there are typically issues in providing enough capacity to support a growing urban community.

Some of the priority social issues identified by WSC (personal communication WSC, 2012) were as follows:

- Crime and antisocial behaviour;
- Domestic violence and families in crisis;
- Crisis accommodation for young people;
- Support services for youth, including mental health services and school retention;
- Access to services and facilities;
- Access to affordable transport; and
- Improving coordination of Government.

WSC itself provides an extensive network of community facilities throughout the LGA. These facilities provide spaces for community members, local groups and organisations to meet and for social programs and activities which address the social needs of the community. Community facilities include all purpose facilities (e.g. local Community Centre); activity specific facilities (e.g. Library) and groups' specific facilities (e.g. Youth Centre).

There is extensive infrastructure that supports social development, culture and the arts in the Wyong LGA, consisting of:

- Libraries;
- 50+ Council halls;
- 8 community and neighbourhood centres;
- The Wyong Memorial Hall in Wyong township;
- The Federation Art Gallery at Wallarah Point Park Gorokan;
- A potters studio and arts facilities at Gravity Youth Centre;
- A movement studio at Wadalba Community School;
- Parks and reserves;
- 2 privately operated cinemas;
- Clubs;
- Wyong Community Cultural Centre; and
- The Entrance Community Cultural Hub including studios, gallery, and movement studio. (WSCP).

There is also a diversity of cultural groups, businesses and individual artists and performers in the LGA.

### **3.6 EMERGENCY SERVICES**

Wyong LGA and the remainder of the secondary study area is well serviced by urban standard services for police, ambulance & fire. In the vicinity of the Primary Study Area, the main emergency services immediately available and part of the Wyong District Rural Fire Service are stations at Yarramalong, Warnervale, Wadalba and Charmhaven.

### **3.7 PUBLIC TRANSPORT**

Regular Public Transport in the Primary Study Area is extremely limited so there is high reliance on private transport. The local primary schools have limited school bus services.

## 4 HOUSING

### 4.1 TEMPORARY ACCOMMODATION

**Table 10** shows the temporary accommodation available on the Central Coast and Lake Macquarie LGA for the December quarter of 2011. Occupancy rates of 52% for the combined area were found to be well below the NSW average of 69%. Total rooms available per night on the study area in December Quarter were 2,522 with over 7,000 bed spaces. These numbers do not include private holiday house and flat accommodation in areas adjacent to Central Coast beaches and other holiday locations. This data only counts establishments of 15 rooms or over.

**Table 10**  
**Temporary Accommodation - Listed Hotels Motels & Serviced Apartments,**  
**December 2011 -Primary & Secondary Study Areas and NSW**

Location	Establishments	Rooms	Bed spaces	Persons employed	Room occupancy rate			
	Dec Quarter 2011	Dec Quarter 2011	Dec Quarter 2011	Dec Quarter 2011	Oct 2011	Nov 2011	Dec 2011	Dec Quarter 2011
Wyong (A)	19	768	2,268	350	49.1	52.3	53.0	51.4
Gosford (C)	23	1,179	3,859	446	57.7	54.8	55.3	56.0
Lake Macquarie (C)	17	575	1,819	204	50.2	51.7	47.3	49.7
<b>Total</b>	<b>59</b>	<b>2,522</b>	<b>7,946</b>	<b>1,000</b>	<b>52.3</b>	<b>52.9</b>	<b>51.9</b>	<b>52.4</b>
New South Wales	1,392	70,475	193,577	30,182	70.0	71.0	63.0	67.9

Source: ABS 2006 Quarterly Tourist Accommodation Small Area Data

In 2006 there were an additional 2,013 townhouses, villas and flats & apartment dwellings rented by a real estate agent (ABS2006).

### 4.2 PERMANENT HOUSING

The type of permanent housing in Wyong LGA compared to NSW in 2006 is shown in **Table 11** with a relatively high dependence on separate houses. Housing tenure is shown in the following table (**Table 12**) which shows Wyong to have very similar levels of house ownership to NSW.



**Table 11**  
**Type of Permanent Housing in Wyong LGA – Compared to NSW 2006**

Type of Housing	Wyong LGA		NSW
	Dwellings	%	%
Separate house	44,496	85.10%	71.41%
Semi-detached, row or terrace house, townhouse etc. with:			
One storey	2,959	5.70%	4.98%
Two or more storeys	1,273	2.40%	4.75%
Total	4,232	8.10%	9.73%
Flat, unit or apartment:			
In a one or two storey block	2,050	3.90%	6.36%
In a three storey block	236	0.50%	5.61%
In a four or more storey block	236	0.50%	5.53%
Attached to a house	65	0.10%	0.18%
Total	2,587	4.90%	17.69%
Other dwelling:			
Caravan, cabin, houseboat	901	1.70%	0.69%
Improvised home, tent, sleepers out	4	0.00%	0.10%
House or flat attached to a shop, office, etc.	76	0.10%	0.31%
Total	981	1.90%	1.10%
Dwelling structure not stated	16	0.00%	0.07%
Total	52,312	100.00%	100.00%

(a) Excludes 'Visitors only' and 'Other not classifiable' households.

Source: ABS Census, 2006

**Table 12**  
**Type of Housing Tenure Wyong LGA & NSW**

Type of Tenure	Wyong LGA		NSW
	Number	%	%
Fully owned	16,498	36.52%	34.82%
Being purchased(b)	16,407	32.63%	31.88%
Rented:			
Real estate agent	6,291	15.97%	16.74%
State or territory housing authority	836	3.16%	4.67%
Person not in same household(c)	2,335	5.36%	5.56%
Housing co-operative/community/church group	107	0.46%	0.63%
Other landlord type(d)	284	0.96%	1.10%
Landlord type not stated	250	0.65%	0.82%
Total	10,103	26.55%	29.53%
Other tenure type(e)	232	1.07%	0.83%
Tenure type not stated	1,254	3.23%	2.95%
Total	44,494	100.00%	100.00%

Source: ABS Census, 2006

#### 4.3 PROPERTY VALUES IN WYONG LGA COMPARED TO OTHERS

**Table 13** shows the relative increase in residential property values measured as sales in the period 2001- 2011. Wyong LGA has shown more growth in values than Gosford LGA but is still substantially below the NSW growth rate. (NSW Housing Quarterly Series)

According to the Property Observer website( May 2012), median values of housing in Wyong LGA in the past 12 months (May 2011 to May 2012) have dropped by 2.5% and in the past five years they have increased by 5.5%. The median value in 2012 was \$290,000 and for the price range in the \$350-750 K bracket, the median was \$395,000.

**Table 13**  
**Quartile Median and Mean Property Sales and Unadjusted Growth Rate 2001 – 2011**

	First Quarter	Third Quarter	Median	Mean
<b>Jun-01</b>				
Wyong	\$145,000	\$215,000	\$175,000	\$182,000
Gosford	\$197,000	\$290,000	\$232,000	\$254,000
NSW	\$135,000	\$292,000	\$193,000	\$241,000
<b>Jun-12</b>				
Wyong	\$266,300	\$388,500	\$318,800	\$336,400
Gosford	\$325,000	\$500,000	\$400,000	\$439,000
NSW	\$330,000	\$630,000	\$445,000	\$537,600
<b>% Change/Year 2001 -2011</b>				
Wyong	6.27%	6.10%	6.18%	6.34%
Gosford	5.13%	5.60%	5.60%	5.62%
NSW	9.35%	7.99%	8.71%	8.35%

Source: NSW Housing Quarterly Series March 20011 & March 2011

## 5 COMMUNITY VALUES AND PERCEPTIONS

There have been a number of attitudinal surveys carried out in the period 2006 to 2012 which have regularly monitored attitudes of the community to broader social issues. Also a baseline social survey was carried out in the directly affected area (Martin Associates, 2008) in order to better understand how the community related to the area being affected by the proposal. There were also two more specific surveys carried out on behalf of the proponent to assess community perceptions towards the Project. This section further discusses these surveys and summarises some of the main conclusions.

### 5.1 BROADER BASELINE SOCIAL ISSUES

#### 5.1.1 CSIRO Research on Quality of Life and Sustainability on the Central Coast

In 2007, CSIRO Sustainable Ecosystems and the Central Coast Councils of Gosford and Wyong developed a partnership to explore quality of life and sustainability on the Central Coast. The rationale for the project was that overall quality of life of a region was considered to be a key driver of population and employment growth. The purpose of this project was to better understand the links between regional sustainability issues and the quality of life of local residents and focus on how best to measure quality of life in terms of key indicators.

Four critical sustainability issues were identified through interviews of 3,500 Wyong LGA residents during a two year period from 2007 to 2008 with different focus group discussions on different topics (commuting, lifelong learning, sense of community and climate change) and these formed the focus for the quality of life workshops. Participants in the groups were asked if and why that issue was critical for the sustainability of the region and how it impacts on their quality of life. There was general agreement that the issues identified were important for the sustainability of the region.

Key points are summarised below.

- Sustainability is about maintaining or improving quality of life for all into the future;
- Critical sustainability issues for the Central Coast region were considered to be commuting, climate change, sense of community and lifelong learning;
- In the literature, the link between sustainability and quality of life is expressed firstly as 'liveability', focused on the present and heavily influenced by the social and the physical areas; and secondly as sustainability, focused on the economic and physical. Discussions from the focus group did not support this temporal separation of sustainability elements. Focus group attendees agreed that what makes up quality of life changes through time, but not that some elements of sustainability should be emphasised over others in order to pursue a path of sustainability;
- Focus group attendees also saw the social elements such as community cohesion and community level problem solving as being critical to sustainability for the region. 'Community' was continually raised in the discussion of all the critical areas for sustainability;
- Focus group members saw the built and natural environment as a significant influence to quality of life on the Central Coast. This emphasis is not highlighted in the general literature and demonstrates the need to understand the local community when determining how to ask questions around the seven life domains; and
- If the critical sustainability issues for the areas are not addressed, the general opinions from the focus groups were that quality of life in the region will deteriorate. Specifically, people saw continued social problems with a lack of life-long learning, family stress and break down with continued commuting and increased feelings of uncertainty, discomfort and disempowerment in relation to climate change. At the same time, people could envision positive scenarios. Some of the commuters believed that commuting would become less prevalent in the future, and members of both 'sense of community' focus groups believed that sense of community was improving."(CSIRO, 2007).

### 5.1.2 Central Coast Research Foundation Community Survey, 2008

The CSIRO cited above developed the methodology for measuring quality of life. Subsequently, Gosford and Wyong Councils' partnered with the CSIRO to more comprehensively and clearly identify what quality of life "meant" for local residents and to consider the best approach to continue to measure and monitor this concept. Specifically, the survey sought to identify aspects of people's living circumstances that impact on quality of life. The previous research phase of the survey included a literature review; workshop; interviews with Council staff and community focus groups to identify key issues impacting on people's quality of life. As part of the survey, a framework for measuring and monitoring quality of life across the region was developed. The methodology was then used by the Central Coast Research Foundation (CCRF) as the basis for implementation of a full quality of life survey.

Findings from this project included:

- Quality of life is an important aspect of sustainability and an important measure of social progress;
- More wealth does not equal greater well-being;
- Personal attributes and the external living environment affect quality of life;
- People tend to compare their quality of life with people living in other areas (e.g. better than Sydney);
- Quality of life can be measured at both an individual and community level using facts and perceptions (objective and subjective data);
- To measure quality of life you need to overcome the '75% happy response'; and
- Governments can make a difference to quality of life by focusing on the external environment.

The research project made it clear that it was important for Councils to expand data collection methods to include subjective quality of life information.

The joint Council/CSIRO research broke subjective quality of life into seven 'life domains':

1. Achievements in life;
2. Standard of living;
3. Personal relationships;
4. Community connectedness;
5. Feelings of safety;
6. Future security; and
7. Health.

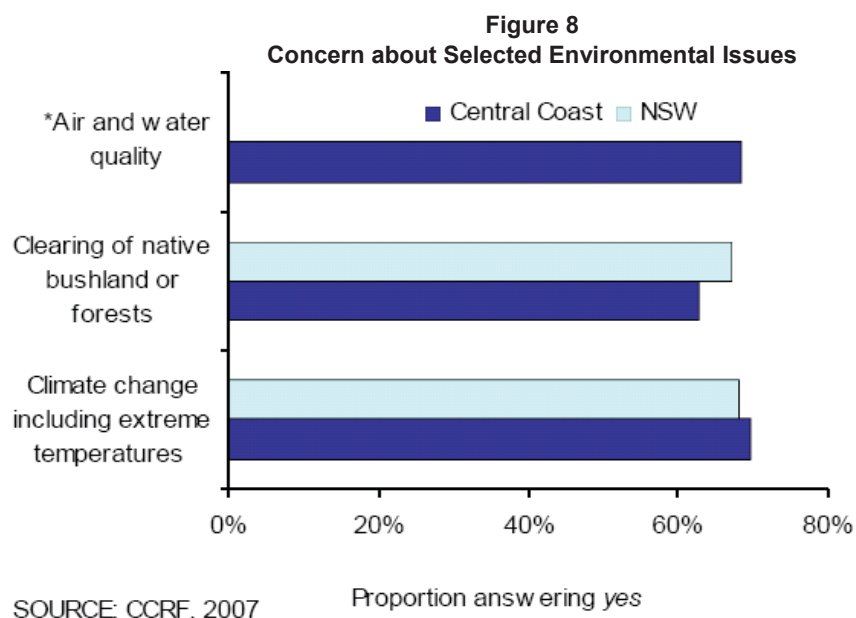
The domains were used to provide the framework for including aspects of people's living circumstances which have an impact on their quality of life, which were then described in each of the relevant domains." The seven domains were also used to structure and develop the WSC Community Strategic Plan 2030 and the WSCP 2008-2013 (CSIRO, 2007).

The CCRF Survey "was undertaken at a time when climate change, the need for alternative energy sources, declining biodiversity and deforestation are regular headlines in the media, Central Coast residents were also asked about whether they were *worried* about some of these 'headline' environmental issues, either from a local or global perspective." (CCRF, 2008).

The issues addressed (with the proportion answering yes shown in brackets) were:

- *Climate change and extreme temperatures (69.8%);*
- *Clearing of native bushland or forests (62.6%); and*
- *Quality of your drinking water (68.3%).*

The first two issues were put to residents in NSW in 2006, and the results obtained were not significantly different from the distribution of responses to these questions in the Central Coast in 2007. The third issue *air and water quality* was not put to NSW residents. The two sets of results, for NSW and the Central Coast, are shown in **Figure 8** (CCRF, 2008).



There were no significant differences in the responses to these questions between Gosford and Wyong LGAs. (CCRF, 2008)

### 5.1.3 Environmental Attitudes Survey 2010

The CCRF also does regular surveys of environmental attitudes on the Central Coast and their most recent 2010 survey has shown that attitudes to the issues of climate change, drinking water, electricity generation have changed with a more conservative outcome.

In comparison with the results from previous Central Coast Region Environmental Attitudes Surveys there was a decline in the proportion of respondents who:

- Believe that climate change will have a direct impact on their lives in the next 20 years (2007- 77%; 2010-67%);
- Would be prepared to use appropriately treated recycled water for drinking (2007- 60%; 2010- 49%);
- Would be prepared to pay more for electricity generated from renewable sources such as solar or wind (2007-62%; 2010-51%);
- Had an electric hot water system (2009-73%; 2010-64%).

(CCRF Working Paper No: 1/10, 2010)

## 5.2 BASELINE SOCIAL SURVEY OF DIRECTLY AFFECTED AREA

As discussed earlier, the existing population of the Directly Affected Area is made up of an estimated 476 households or 1,428 people and has four main sub areas, each one a little different due to its location, density and access attributes. The areas in between these sub areas are very low density cleared agricultural land or secondary open and closed woodland forest.

This survey (Martin Associates, 2008) was conducted in order to better understand community behaviour and interactions. Residents were also given the opportunity, if they opted to do so, to discuss their perceptions about the potential effects of the Project. The results of the survey also included a review of how the community used physical and community infrastructure at that time. Full details of the survey are contained in Annexure 1

The survey was sent out to all 476 households who were defined as potentially affected by the Project at the time. The Directly Affected Area applied to households in the vicinity of the Extraction Area and the Infrastructure Boundary. Potential for perceived impact was measured by potential:

- Noise or air quality impacts;
- Visual impact; and
- Subsidence (or located within 100 metres of the Subsidence Impact Limit).

Respondents were given three choices for the conduct of the survey. They could have chosen to fill out the survey individually and mail (included self-addressed envelope), fax back, or be assisted to fill out the questionnaire by an interviewer from the survey team.

The response rate was 63 households or 12.65 % which was slightly better than normally expected for a letter box drop survey of this kind based on previous experience for an unsolicited letter box drop (U of Kansas, 2012). The response rate in the Valleys sub-area was significantly lower than in the other three cluster areas. Whilst more responses from this area (similar to the overall response rate) would have boosted the ability of the survey to discriminate between the sub- areas, the main objective of the survey was not affected. The purpose of the survey was to carry out a baseline survey of community activities and behaviour in the vicinity of the site. It was particularly focused on understanding possible interactions of residents with the potential surface workforce access and mining industrial area as the mining area itself is on average over 400 metres underground. Questions were asked about work commuting, retail behaviour, education and recreation both active and passive. It asked questions about peoples' perceptions of the performance or gaps in current infrastructure. It also gave respondents the opportunity to comment on specific impacts of the development either as a structured question or as a written narrative comment.

The main conclusion of the baseline survey was that local community infrastructure in the surface areas of the proposal is very limited and travel patterns on access roads for everyday community based activities adjacent to surface areas affected by the proposal were also very limited. Access to Wyong township and Tuggerah shopping areas for residents of the rural west area (Jilliby Road) and Hue Hue Sub division was found to be along Hue Hue Road to the south. Residents from Bushells Ridge need to drive past the Buttonderry Site and use either Hue Hue Road or the Freeway. Residents of the Bruce Crescent area were found to be able to access the freeway with very limited views of the proposed surface facilities at the time (for more detail see Annexure 1).

### **5.3 CENTRAL COAST TELEPHONE SURVEYS ON PROPOSED DEVELOPMENT, 2006 AND 2012**

Two telephone surveys to canvas attitudes of residents of the broader sub region have been conducted on behalf of the proponent one in 2006 and one in 2012.

#### **5.3.1 Central Coast Telephone Survey 2006**

A telephone survey was carried out by the CCRF in Wyong LGA and Gosford City on behalf of the proponent in November 2006. At that time 48% of respondents were opposed to the Project.

**Table 14**  
**Attitude to Construction of the Mine, Central Coast Residents 2006**

<b>Q. Considering everything I would support construction of the mine</b>				
	<b>Number</b>	<b>%</b>		<b>%</b>
Strongly Disagree	124	31%	Opponents	48%
Disagree	67	17%		
Undecided	52	13%	Undecided	13%
Agree	115	29%	Supporters	36%
Strongly Agree	28	7%		
Don't know	13	3%		3%
Total	400	100%		100.0%

Source: CCRF Nov 2006

Respondents to the Central Coast survey in 2006 were very concerned about potential:

- Impacts on the groundwater supply in the local area (mean concern score of 4.1 out of 5);
- Impacts on the surface water supply in the local area (4.1 out of 5); and
- Mine subsidence impacts to houses and structures (3.7 out of 5).

Questions were also asked to determine how residents presently use water. Inspection of aerial photography at the time found that many properties were either dependent on house roof tanks or surface dams for both drinking and also for stock use. Other questions asked included:

- How much groundwater is used by the residents potentially affected by the Project?
- Which residents were dependent on town water supply?
- How do residents with different occupations perceive the Project?
- What are their most basic fears about the Project particularly about subsidence?

Other detailed technical reports specifically address these issues.

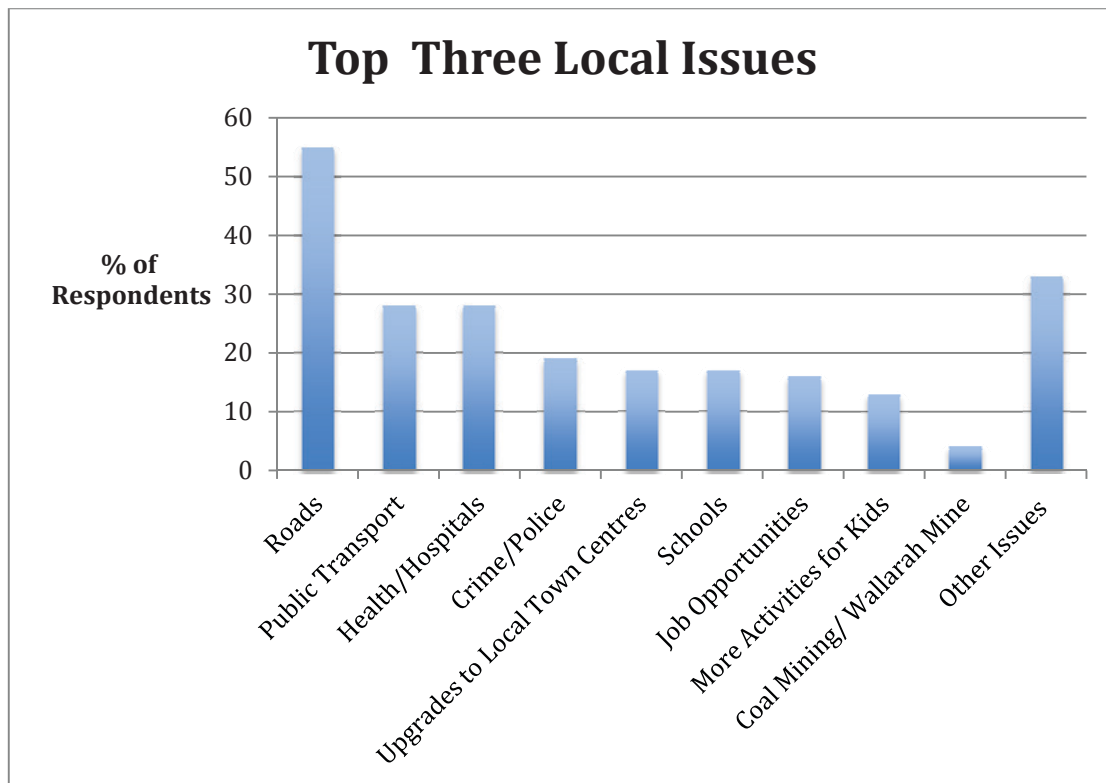
### **5.3.2 Central Coast Telephone Survey 2012**

A follow up randomised survey of 400 residents of Gosford and Wyong LGAs on behalf of the proponent was conducted by URM Research in 2012. It was found that the Project ranked lowly as a spontaneously raised local issue. When asked to name three important issues in the local area, only 4% named either the Project, mining in general or coal mining.

When asked about coal mining in general, 42% of respondents had no general objection to coal mining. Of the remainder 32 % were negative about coal mining in general and there was a large percentage 21% who were neutral about the issue.

Attitudes to coal mining on the Central Coast were favourable with 60% of respondents responding in a positive way but with some wanting to see each project judged on its merits (30%) and others with the condition of wanting to ensure that environmental impacts were minimised (24%).

**Figure 9**  
**Priority Local Issues Wyong LGA & Gosford LGA**



Source: UMR, April 2012

The other important finding of the survey was that awareness of the Project itself was low in 2006 and had decreased in 2012. The level of awareness of the Project was 40.7% in 2006 and this has now decreased to 35%. Both surveys also showed a strong correlation between the level of awareness and either opposition or support for the Project.

In the 2012 survey, of the 35% who had at least some awareness of the Project (only 8% claimed more than a little knowledge), 12% supported and 54% opposed it. However, after a short explanation of the Project, support for the mine increased and overall attitudes changed substantially so that 31% of the total supported the Project with 27% opposed. (More Detail on the Survey is provided at Appendix 2)

#### **5.4 LOCAL COMMUNITY PERCEPTIONS ABOUT THE PROJECT**

In the baseline community survey focussing on the directly affected area (Martin Associates, 2008) respondents expressed high concern about mine subsidence, impacts on groundwater and impacts on surface water. It should be emphasised that at the time the Central Coast was in the midst of an intense drought so concern about the impacts of the project on surface and groundwater were particularly sensitive. The other issues of lesser concern included flooding regime changes, noise from the industrial area, increases in truck traffic around the industrial area and concern over global warming. These results did not show any relationship with prior knowledge about the Project. Also there was no statistical relationship found between the different issues of concern and the location of the respondent within the Directly Affected Area. This finding suggests that information about the surface and underground arrangements of the Project are not fully understood by many respondents as some of the amenity impacts were found by other specialist studies to affect only small portions of this area.



## 6 IMPACTS OF THE PROPOSAL

This Chapter provides:

- A description of the proposed Project construction and operational phase workforces; and
- An analysis of the expected social impacts of the Project on the community profile, values and perceptions, community infrastructure and services and property prices in the Primary Study Area, Directly Affected Area and Secondary Study Area.

The estimated employment impacts of the Project are based on the economic impact analysis prepared by Gillespie Economics (2012) which has been prepared as another technical assessment to the Wallarah EIS.

### 6.1 CONSTRUCTION PHASE

The construction phase of the Project is expected to take three years, starting after granting of development consent.

#### 6.1.1 Employment

The pattern of expenditures and the estimated flow-on impacts that would result from the initial expenditures during the construction was summarised as:

“Over three years, expenditures will be made into the sectors of *Machinery etc* (\$270 million); *Construction* (\$168 million); *Transport equipment* (\$59million); *Retail* (\$26 million); and *Property and business services* (\$20 million). The total initial expenditures are estimated to be \$613.5 million over the construction phase. The total impact on the output of the Central Coast economy from the three years of the mine’s construction is expected to be approximately \$1,058 million.”(Gillespie, 2012).

The pattern of initial and flow-on employment estimated to be generated from the construction of the Project is shown in **Table 15**. In Year 2, an estimated 450 initial jobs are expected to be created on the Central Coast. *In Input-Output (I-O) analysis, a job is defined as lasting for one year and being full-time.* With the addition of the estimated total flow-on jobs of 591, the total employment impact on the Secondary Study Area in Year 2 will be 1,041 jobs.

**Table 15**  
**Estimated Employment Impacts from the Construction of the Wallarah 2 Coal Mine at Peak Year 2**

Type of Job Created	Local	Non Local	Total
Initial	225	225	450
Production Induced	352	0	352
Consumption Induced	239	0	239
Total flow-on	591	0	591
TOTAL JOB IMPACT	816	225	1,041

Source; Gilecon & Martin Associates, 2012

The Project’s construction workforce will peak in the second year and then steadily decline in the final year. The construction workforce will be made up of several large general contractors which will subsequently employ many subcontractors.

Even though the Directly Affected Area looks and feels rural, 25% of the respondents to the baseline community survey commuted to Sydney for work in 2008. Also, more recent data suggest that 61% of Wyong LGA residents are dependent on commuting out of the LGA. This observation suggests that the Directly Affected Area in general is very accessible to the Sydney Newcastle freeway and consequently functions very much as a peri urban region. Modern construction workforces have been found to be highly mobile and prepared to commute relatively long distances if adequate road infrastructure is in place.

In this case, the majority of construction activity is expected to be carried out by local firms from within the Secondary Study Area. As shown in **Section 2.4**, Wyong LGA has a proportionately higher share of people employed in the construction industry than for NSW as a whole. Also as shown in **Section 2.4**, construction workers make up 18% (150 workers) of the work force in the Primary Study Area and comprise 2.6% of the 5,634 construction workers who live within Wyong LGA. It is not unrealistic to expect many of these local workers to participate in the construction of the Project.

### 6.1.2 Impact on the Study Area Accommodation

There will be specialised work areas and trades which will require some import of labour into the region. Non local construction workers who do not commute to the site on a daily basis can be accommodated through their sub-contractors at the many hotel, motel and caravan park facilities within the Central Coast area. Potential for impacts on the main tourist season are expected to be limited as the construction schedule will go into recess over the Christmas and New Year period. No construction village at the industrial area site is proposed nor warranted as the high proportion of local workers can commute to the site on a daily basis and there will be a surplus of accommodation for non-local workers.

Assuming that 50% of the workers were to require accommodation, the results of the impact analysis show that there is still adequate capacity within the temporary accommodation sector to satisfy accommodation needs. The majority of these workers will be single and/or unaccompanied.

**Table 16**  
**Demand and Supply of Temporary Accommodation at Construction Peak Year 2**  
**Considered Worst Case**

Estimated Number of initial round workers needing Accommodation	225
Capacity of Central Coast December 2011	2,522
Occupancy Rate December 2008	52.4%
Surplus Accommodation in December 2011	1,200
% of Surplus required for Project workforce	18.7%

Source: Tourist Accommodation Statistics, ABS December Quarter 2011

The impact on total population coming into the Directly Affected Area on a daily basis will be concentrated in the surrounding major roads leading into and around the Infrastructure Areas. At peak, 450 workers will come into the site area via the Doyalson interchange and/or Sparks Road interchanges. However, only a very small proportion of workers will have any need to visit or use community facilities on the western side of the Freeway other than for entry to and from the Buttonderry Site slightly north of the Sparks Road interchange.

### 6.1.3 Impact on Directly Affected Area Population

As discussed above, 150 construction workers presently live within the Primary Study Area. If 10% or 45 workers of the peak construction workforce (450) were to move into the Secondary Study Area, particularly Wyong LGA, the proportional share of population (based on the existing work force distribution) moving into the Primary Study Area for the three year construction period would be less than 10 households over three years. This level of population increase is considered to be well within the baseline forecast prepared by Wyong LGA for the Rural West and Warnervale – Wadalba Planning Areas as shown in the WSC RDS, 2003 Updated.

### 6.1.4 Impact on Community Infrastructure

Unless facilities are provided on site during mealtimes, local cafes and restaurants to the south and west in Warnervale, Wyong and Tuggerah may be affected by a small increase in business for the duration of the construction phase of the Project. As the majority of the construction workforce will be commuting to the site on a daily basis, no significant impacts are anticipated on the various elements of community infrastructure.

There may be slight impacts on the outpatient health services facilities at Wyong Hospital and in Wyong and Warnervale due to servicing of the normal needs of the construction workforce on a daily basis. No significant impacts on local schools are anticipated as any non-local workforce is expected to commute to the site on a daily or weekly basis. However, if 10% of the construction workforce were to move into the Secondary Study Area, particularly Wyong LGA, the total demand for schooling and childcare facilities would not exceed a total of 45 school students and childcare places at the peak of construction (assuming Household size of 3 with one child in accordance with the 2006 Census average household size for Wyong LGA). On a proportional population basis (i.e. using the % of the population of the Wyong LGA population in the Directly Affected Area) the impact on the Directly Affected Area would be less than a total number of 5 school students and childcare places which is well within current planning assumptions.

### 6.1.5 Amenity Impacts

The main amenity impact on the Primary Study Area will be an increase in traffic volumes (and any associated noise) accessing the proposed Infrastructure Areas. This impact will be mainly confined to the east of the Sydney Newcastle Freeway and the immediate vicinity to the west of the Sparks Road Interchange for workers entering the Buttonderry Site.

## 6.2 OPERATIONS PHASE

The Project is expected to start operations after the construction period with an estimated output of 0.3 million tonnes per annum (Mtpa) of saleable coal. This output will rise to an estimated 5 Mtpa after five years of operation when the operational workforce will peak. The duration of the Project approval is expected to be 28 years which includes 3 years of construction and 25 years of mining.

In order to address the impacts of the operational phase of the Project, two scenarios were developed which varied the proportion of local employment created by the Project as discussed in **Section 1.4.1**.

These scenarios have been selected as they represent both an 'expected case' and an 'alternative case' designed to test the sensitivity of the assumptions utilised for the 'expected case'. Both assume that the non-local portion of the workforce will relocate to the Secondary Study Area. The key differing factor is that Scenario 1 (the 'expected case') will source 70% of its workforce from the Secondary Study Area and under Scenario 2 WACJV will source only 50% of its operational workforce from the Secondary Study Area.

### 6.2.1 Impact on Employment – Scenario 1

The pattern of expected employment from the Project in the study area for Scenario 1 is shown in **Table 17**. Once the workforce stabilises this is considered to be the most likely scenario. This table also shows the flow-on impacts that are anticipated from these expenditures. The proportion of local: non-local employment of the direct initial effect jobs was assumed to be 70% to 30%. As shown in **Table 17**, the direct workforce stabilises at a total of 300 permanent employee jobs and 30 contracted positions. The non-local direct jobs were estimated to be 90 jobs (30% of the permanent employee jobs). As well, the Project is expected to generate 153 (production and consumption induced) non-local flow-on jobs. It should be noted that for the purposes of this SIA, the 30 contractor employees are accounted for in the production induced job number.

**Table 17**  
**Employment Impacts Operations Phase - Scenario 1**

Type of Effect	Local	Non-Local	Total
Initial Direct Jobs	210	90	300
Production Induced	181	78	259
Consumption Induced	172	74	246
<i>Total flow-on Jobs</i>	<i>354</i>	<i>153</i>	<i>506</i>
<b>Total Job Impact</b>	<b>564</b>	<b>243</b>	<b>806</b>

\*Inconsistency in totals due to rounding  
Source: Gilecon & Martin Associates, 2012

### 6.2.2 Impact on the Study Area Population and Housing – Scenario 1

It has been assumed that the workforce location breakdown will be approximately as presented in **Table 18**. It is anticipated that the non-local hires would be spatially similar and both local and non local will be distributed in proportion to the current proportion in each LGA.

**Table 18**  
**Workforce Location Breakdown– Scenario 1**

Location of workforce	% of Workforce	Direct Jobs	Total Flow-On Jobs	Total Job Impact
Currently Wyong LGA	40%	120	203	322
Currently LMCC LGA	23%	69	116	186
Currently Gosford LGA	7%	21	35	56
<b>Total Local hires</b>	<b>70</b>	<b>210</b>	<b>354</b>	<b>564</b>
Relocate to Wyong LGA	17%	51	86	137
Relocate to LMCC LGA	10%	30	51	81
Relocate to Gosford LGA	3%	9	15	24
<b>Total Non-local hires</b>	<b>30</b>	<b>90</b>	<b>153</b>	<b>242</b>
<b>Total workforce</b>	<b>100</b>	<b>300</b>	<b>506</b>	<b>806</b>

Assuming that all 90 direct employees from the Project and 153 flow-on jobs choose to locate in the Secondary Study Area, the number of employees moving into the Primary Study Area was estimated to be 6 households. This figure is based on the 2006 Census share of employment in the mining industry in Wyong LGA for the Primary Study Area of 2.4% totalling 6 workers of 244 people employed in the mining sector in the Wyong LGA.

However, as parts of the Primary Study Area currently have high amenity, it may prove attractive for relatively higher income mining industry and flow-on employees. Consequently, the current share of mining jobs was doubled so the total number of households predicted to live in the Primary Study Area was increased to 12 households. This number will double the number of people working in the mining related industries in the Primary Study Area but is still a relatively small share of total employment. The balance of 231 mining and flow-on jobs would be in-migrating elsewhere and mainly in Wyong LGA.

**Table 19** outlines the predicted population impacts associated with the operations phase under Scenario 1.

**Table 19**  
**Population Impacts during Operations Phase – Scenario 1**

Location of workforce	Total Job Impact	Population Increase	< 18 years Population Increase
Currently Wyong LGA	322	0	0
Currently LMCC LGA	186	0	0
Currently Gosford LGA	56	0	0
<b>Total Local hires</b>	<b>564</b>	<b>0</b>	<b>0</b>
Relocate to Wyong LGA	137	416	137
Relocate to LMCC LGA	82	246	82
Relocate to Gosford LGA	24	72	24
<b>Total Non-local hires</b>	<b>243</b>	<b>734</b>	<b>243</b>
<b>Total workforce</b>	<b>806</b>	<b>734</b>	<b>243</b>

The total population increase in the Primary Study Area will be an estimated 36 people at 3 persons per household. This level of increase is considered to be manageable within the baseline population forecast prepared by WSC for the Rural West and Warnervale – Wadalba Planning Areas as presented in WSCRDS (2003 Updated) **Table 2 & Table 3**. The balance of the operational phase direct and flow on workers of 231 workers would be located within the Secondary Study Area with 125 located within the Wyong LGA. The total population increase to the Secondary Study Area is approximately 734 people (total non-local hires x average household size). Of these it is anticipated that approximately 416 would relocate to the Wyong LGA. This represents 0.27% of the estimated 2011 Wyong LGA population of 152,758.

### 6.2.3 Impact on Employment – Scenario 2

Scenario 2 is considered to be an unlikely and 'worst case scenario' in terms of additional impact on social infrastructure. The proportion of local to non-local hires of the direct initial effect jobs for this scenario was assumed to be 50:50. As shown in **Table 20** the direct workforce stabilises at a total of 300 jobs direct permanent employees so the non-local direct jobs were thus estimated to be 150 jobs. As well the Project is expected to generate 130 (production induced) non-local flow on jobs taking into account that there is already considerable excess capacity in the local economy for these types of support jobs particularly those which are consumption induced.

**Table 20**  
**Employment Impacts Operations Phase – Scenario 2**

Type of Effect	Local	Non-Local	Total
Initial Direct Jobs	150	150	300
Production Induced	130	130	260
Consumption Induced	123	123	246
Total flow-on Jobs	<b>253</b>	<b>253</b>	<b>506</b>
<b>Total Job Impact</b>	<b>403</b>	<b>403</b>	<b>806</b>

\*Inconsistency in totals due to rounding  
Source: Gilecon & Martin Associates, 2012

### 6.2.4 Impact on the Study Area Population and Housing – Scenario 2

It has been assumed that the workforce location breakdown under Scenario 2 will be approximately as presented in **Table 21**. It is anticipated that the non-local hires would relocate to approximately the same residential breakdown as the local hires.

**Table 21**  
**Workforce Breakdown – Scenario 2**

Location of workforce	% of Workforce	Direct Jobs	Total Flow On Jobs	Total Job Impact
Currently Wyong LGA	29%	87	146	233
Currently LMCC LGA	16%	48	81	129
Currently Gosford LGA	5%	15	25	40
<b>Total Local hires</b>	<b>50</b>	<b>150</b>	<b>252</b>	<b>402</b>
Relocate to Wyong LGA	28%	84	141	225
Relocate to LMCC LGA	17%	51	86	137
Relocate to Gosford LGA	5%	15	25	40
<b>Total Non-local hires</b>	<b>50</b>	<b>150</b>	<b>253</b>	<b>403</b>
<b>Total workforce</b>	<b>100</b>	<b>300</b>	<b>506</b>	<b>806</b>

Assuming that all 150 potential non-local employees from the Project and 141 flow-on jobs choose to locate in Wyong LGA, the number of employees moving into the Primary Study Area is estimated to equate to approximately 10 households. This figure is based on the 2006 share of employment in the mining industry in Wyong LGA for the Primary Study Area of 2.4% totalling 6 workers of 250 people employed in the mining sector in the LGA.

However, as the areas in the Primary Study Area currently have high amenity, they may prove attractive for relatively higher income mining & flow on industry employees. Consequently, the current share of jobs was doubled so the total number of households predicted to live in the Primary Study Area was increased to 20 households. This number will more than double the number of people working in the mining industry in the Primary Study Area but is still a relatively small share of total employment. The balance of mining and flow-on jobs would be created elsewhere in the Secondary Study Area.

As noted in **Table 22** there would be a total population increase in the Primary Study Area of 60 people at a rate of three persons per household. This level of increase is also considered to be manageable within the baseline population forecast prepared by Wyong LGA for the Rural West Planning area and part of Warnervale- Wadalba Planning Area as presented in **Table 2 & Table 3**. The balance of the operational phase direct and flow-on workers of 383 workers would be located within the Secondary Study Area with the majority within Wyong LGA. The total population increase predicted within the Secondary Study Area is 1,206 with 678 predicted to relocate to the Wyong LGA. This represents 0.44% of the estimated 2011 Wyong LGA population of 152,758 (See **Table 22** below).

**Table 22**  
**Projected Impact on Study Area Population and Housing during Operations Phase - Scenario 2**

Location of workforce	Total Job Impact	Population Increase	<18years Population Increase
Currently Wyong LGA	233	0	0
Currently LMCC LGA	129	0	0
Currently Gosford LGA	40	0	0
<b>Total Local hires</b>	<b>402</b>	<b>0</b>	<b>0</b>
Relocate to Wyong LGA	226	678	226
Relocate to LMCC LGA	137	411	136
Relocate to Gosford LGA	40	120	40
<b>Total Non-local hires</b>	<b>403</b>	<b>1,209</b>	<b>402</b>
<b>Total workforce</b>	<b>805</b>	<b>1,209</b>	<b>402</b>

### 6.2.5 Impact on Community Infrastructure

The main stimulus to demand for new housing and community infrastructure in the Primary Study Area and Secondary Study Area is the proportion of non-local jobs anticipated as the local jobs will not lead to an increase in demand for local services during the operational phase.

The majority of the Project's operations phase workforce for Scenario 1 will be travelling to the Buttonderry Site on a daily basis and the impact on the various elements of community infrastructure is expected to be low.

There may be slight impacts on the health services facilities at Wyong Hospital due to servicing of the normal needs of the operational phase workforce. There may also be some impacts on childcare and local primary schools due to the non-local component of the workforce that will permanently move into the Primary Study Area. However such impacts are estimated to range between 12-20 children spread across primary, secondary schooling, tertiary training and child care areas combined and is considered to be well within the normal planning capacity of the existing school and the childcare system.

The biggest gap discovered in current community infrastructure in the Directly Affected Area was the lack of public transport which was mentioned by over 80% of the respondents in the community baseline survey (Martin Associates, 2008).

The Wyong College of TAFE may be subject to an increase in demand as training will be required to improve the skills of the local workforce. Suitable courses are presently only available in Newcastle.



The results of the 2008 baseline community survey (Martin Associates, 2008) revealed that the potential for community from the Directly Affected Area interaction with the mining proposal is very limited. The choice of the community from the Directly Affected Area to use Wyong and Tuggerah for the majority of community services and active recreation activities was clearly shown. Passive recreational activities were concentrated to the west of the Directly Affected Area in the Watagan State Forest. Underground mining is not anticipated to interfere with these current facilities and there will be only minor traffic west of the Infrastructure Boundary associated with any of the workforce who may choose to move into the Directly Affected Area to the west of the Freeway.

The main corridors for community access from the Directly Affected Area were found to be Sparks Road to access the Freeway and Hue Hue Road for access south to Wyong and Tuggerah townships which are well south of the Infrastructure Boundary. The only potential for interaction with the Infrastructure Area was found to be several respondents of the Bushells Ridge Road area who sometimes use the Tooheys Road tunnel under the Freeway to go to the beach.

### 6.2.6 Impact on Physical Infrastructure

The baseline community survey (Martin Associates, 2008) also estimated that 85% of the residents in the Directly Affected Area used roof tanks as their main water supply for domestic purposes and some stock. The secondary source was farm dams in conjunction with roof tanks. The only area using town water was found to be some of the subdivision areas along Hue Hue Road. The community reported a very high level of concern on the need to protect surface and ground water resources. The biggest threat reported by respondents was the potential for dust generated by the Project in the Infrastructure Boundary finding its way into the roof tank systems. Even though the distance to the Infrastructure Boundary to most residents is more than 1 km and dust modelling confirms there will be no impacts on surrounding residences, this perception is still very real to the residents of the Infrastructure Boundary and a consultation and management program should be undertaken.

### 6.2.7 Impact on Property Prices

In the 2006 broader regional survey of 400 Central coast residents (CCRF, 2006) it was found that the effect of the Project on property prices was of concern to 86% of respondents (see **Table 26**).

**Table 23**  
**Results of Question on Property Prices from 2006 Regional Survey**

<b>Q. Property values of the houses and land above a new mine would be negatively affected</b>		
	<b>Number responding</b>	<b>% of total responses to question</b>
Strongly Disagree	2	0.5%
Disagree	28	7.0%
Neither	17	4.3%
Agree	222	55.5%
Strongly Agree	122	30.5%
Don't know	9	2.3%
<b>Total</b>	<b>400</b>	<b>100.0%</b>

Source: CCRF, Nov 2006

The follow up regional survey (URM, 2012) asked slightly different questions about property prices. However, the results revealed that although the general level of concern may have gone down slightly there was still 24% of respondents who felt that property prices would go down as a result of the Project with 54% feeling that prices would be unaffected.

There are a number of variables in the vicinity of the Directly Affected Area that affect property values which make the issue of impact estimates on property values challenging. For example, the impact of the nuisance effects of the F3 Freeway (noise and air quality) versus the increased access for motor vehicle travel times. Another example is the clear economic stimulus to the localities around Warnervale due to the proposed town centre and associated residential and industrial areas. These are both significant variables which affect property values even without the influence of the Project.

In order to address the issue of the Project impact on land values, data on residential housing sales for state suburbs in the extraction area and neighbouring listed suburbs on the western side of the F3 Freeway for the period Oct 2011 to Oct 2012 were compared to listed State suburbs on the eastern side of the F3 Freeway. Benchmark values for the entire Wyong LGA were also included so that further comparisons with overall Wyong LGA wide values were possible with the Gosford LGA and NSW.

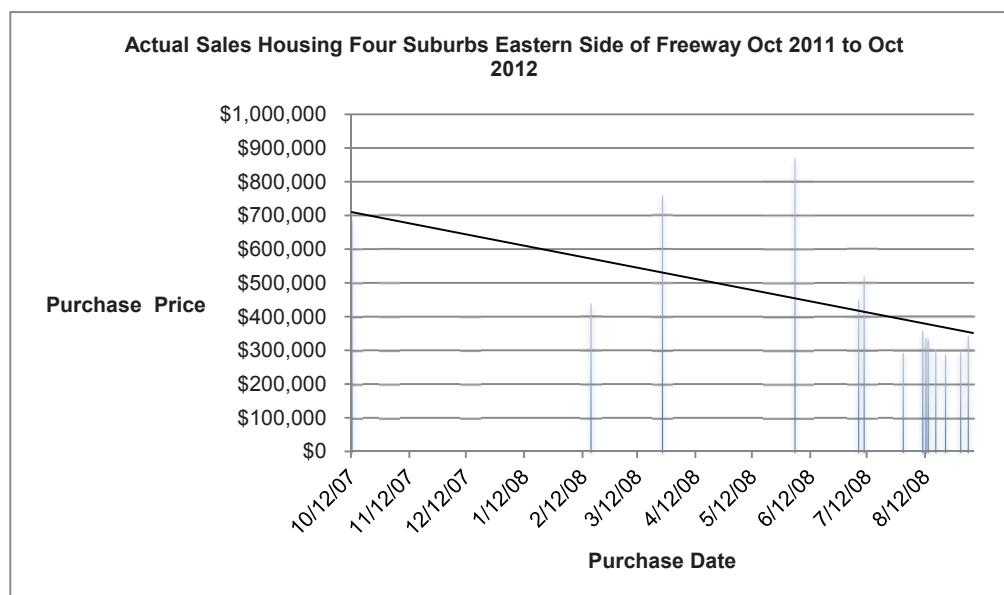
The type of property in the Extraction Area is generally either large lot rural residential, hobby farms and a commercial turf farm. It was difficult to find a comparative area with a similar standard of properties on the eastern side of the F3 Freeway and within Wyong LGA. The data for eight Listed State Suburbs were collected for both the western and eastern sides of the F3 Freeway and the results are shown in **Table 24** and **Figure 10** & **Figure 11**.

**Table 24**  
**Supply of Houses Listed For Sale & Demand Estimate Oct 11 & Oct 12**

Eastern Side of F3 Freeway				Western Side of F3 Freeway More Affected			
State Suburb	No of Properties for Sale Oct 11	No of Properties for Sale Oct 12	Number of Parties Looking Per House	State Suburb	No of Properties for Sale Oct 11	No of Properties for Sale Oct 12	Number of Parties Looking Per House
Blue Haven	60	40	22	Yarramalong	24	34	19
Wallarah	2	4	6	Dooralong	35	22	5
Warnervale	12	8	11	Little Jillyby	1	2	7
Wyong	125	100	10	Jillyby	40	48	18
Total/Ave.	199	152	12.25	Total/Ave	100	106	12.25

Source: RP Sales data Real Estate.com Website for 8 Listed State Suburbs

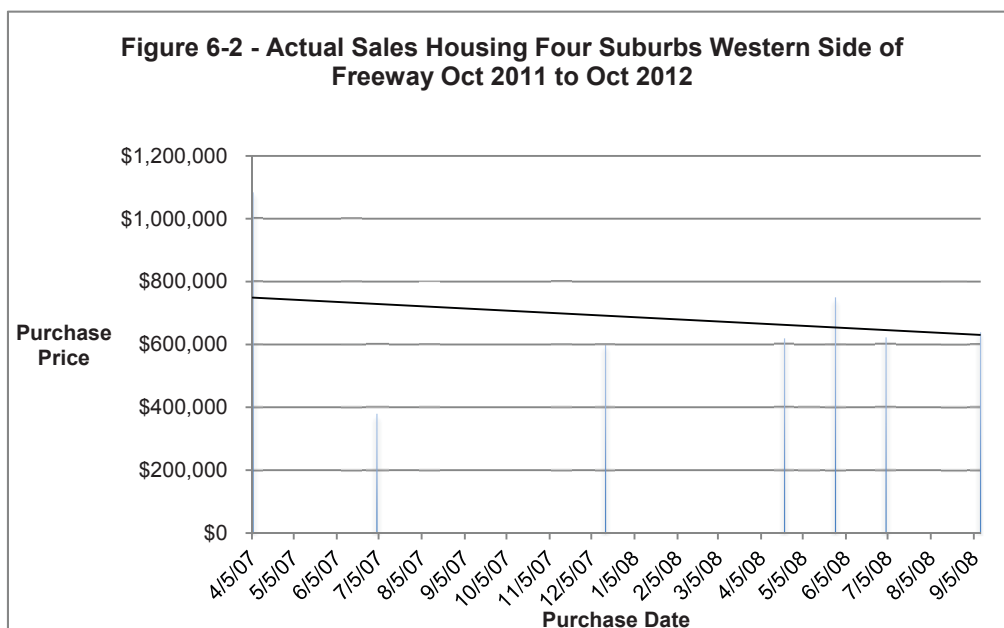
**Table 24** shows an estimate of supply and demand for each of the listed state suburbs on either side of the freeway. The data indicate that there are more properties for sale on the eastern side of the freeway and the supply has decreased over the year compared to the western side where supply has been lower and actual numbers for sale have been virtually stable. Demand measured in terms of interested parties per house was estimated as equal for both sides of the Freeway



Source: RP Reports on Real Estate Monitor Website 2012- Blue Haven, Wallarah, Warnervale & Wyong

**Figure 10**  
**Actual Housing Sales in Four Listed State Suburbs Eastern Side F3 Freeway 2011-2012**





Source: RP Reports on Real Estate Monitor Website 2012 - Jilliby, Little Jilliby, Doorolong, Yarramolong

**Figure 11**  
**Actual Housing Sales in Four Listed State Suburbs Western Side Freeway 2011-2012**

**Figure 10** and **Figure 11** consider actual housing sales during the period. As may be observed in the Figures the prices being achieved on the western side of the freeway have been significantly higher than those on the east with an average value of \$770,500 compared to \$438,000 on the eastern side. As discussed above such a result would be expected due to larger lot sizes and the rural urban mix of land use compared to the eastern suburbs.

As demonstrated in **Figure 10** and **Figure 11** prices have been trending down on both sides of the F3 Freeway but there is a steeper trend noted on the eastern side compared to the western side.

For the listed suburbs on the western side of the F3 Freeway it was found that residential property values were significantly higher than those on the east and also that sales were less frequent compared to the suburbs to the east of the F3 Freeway. The suburbs on the western side which include the majority of the Directly Affected Area are valued for their larger lot sizes and their general semi-rural amenity compared to other parts of the Wyong LGA. Also, when compared to the median values for the entire Wyong and Gosford LGAs and NSW these suburbs were found to be significantly higher in value over the past twelve months. (see **Table 25**). At this stage of development there has been no evidence reviewed which suggested a loss in housing values as a direct result of the Project.

**Table 25**  
**Comparison of Median Housing Sales March 2011 to March 2012**

LGA	Mar-11	Jun-11	Sep-11	Dec-11	Mar-12
Gosford	400	403	378	375	382
Wyong	328	320	320	315	332
NSW	428	450	425	415	433

Source: NSW Housing \* units \*\$000

### 6.2.8 Impact on Local Businesses

The main longer term amenity impact on the Primary Study Area will be an increase in traffic volumes of employees coming to the Infrastructure Areas. This impact will be mainly confined to the immediate east and west of the Sydney Newcastle Freeway between Sparks Road Interchange and the Doyalson Interchange. These increases will be aligned with the significant traffic increases associated with commuting and visitation to the Wyong Employment Zone (WEZ) and the Warnervale Town Centre (WTC).

Similar to the construction phase, the impact on local business of population coming into the Primary Study Area will be significant on a daily basis and will be concentrated in the vicinity of the Infrastructure Area. The estimated increase in the resident population in the Primary Study Area is not expected to exceed a range of 36 – 60 based on a rate of 3 people to each new household generated by the Project. Office based and onsite support workers are expected to follow the current community behaviour and do the majority of any retail and personal services business in Wyong and Tuggerah using either Sparks Road and/or Hue Hue Road to access those businesses.

### 6.2.9 Additional Economic Benefits and Cumulative effects

The development of the proposed Tooheys Road Site will include the provision of power, water and other utilities. The current availability of these services close to this site is lacking and therefore the Project will assist to increase connectivity to these services.

Discussion with representatives of WSC highlighted the importance of future planning for the Warnervale Urban Growth Centre. The Project will provide a range of 243-403 non local direct and indirect jobs and their families into Secondary Study Area. As the Project is located in an area with good proximity to Warnervale, continuing consultation between WSC and the proponent can help to facilitate the development of the growth centre.

## 6.3 SUMMARY OF IMPACTS

The results of the SIA are summarised in the following matrix using criteria developed from (Cox, 1995). See **Table 26** in following section.

**Table 26**  
**Overview of Social Impacts– Wallarah 2 Coal Project**

COMMUNITY ISSUES	WITHOUT THE PROJECT - BASELINE PROJECTION	WITH THE PROJECT - LIKELY SOCIAL IMPACTS
<b>POPULATION AND EMPLOYMENT CHANGES</b>		
What is the likely Employment generation/loss?	Chronic local unemployment has been identified as a major community issue on the Central coast for many years. Unemployment in Wyong Shire in December 2011 was 8% of the workforce representing 5,205 workers whilst the NSW rate was 5.2%. In 2006, there were 244 people (0.5%) in Wyong Shire employed directly in the mining industry and of these 6 people (0.8%) lived within the Primary Study Area. In close proximity the Lake Macquarie mining workforce was 1,332 (3.3%) of which the majority are coal miners.	The Project is expected to generate 450 direct jobs at the construction peak and approximately 1,041 total (direct and flow-on) jobs over the three year construction period. The operational phase will generate 300 direct jobs for the duration of the Project approval (presently assumed at 28 years) and approximately 805 (direct and flow-on) jobs over the life of the Project. The most likely scenario is that the local workforce is expected to provide 70% of the direct workforce or 210 jobs which represents 9.6 % of the present workforce in mining in the secondary study area. The non-local direct workforce for Scenario 1 is estimated at 90 jobs. The local and non-local total (direct and flow-on) workforce is estimated to total 564 and 243 respectively.
Will the resident population change as a result of the project?	The Primary Study Area will continue to attract small numbers of families who have higher incomes compared to areas east of the Freeway. These people will continue to be primarily dependent on urban based rather than rural incomes but who are attracted to the rural appearance and amenity of the area. The forecasted increase in households in the vicinity of the Project averages about five households per year until 2031.	The Primary Study Area may attract a greater share of the mining workforce than would be expected due to the higher incomes and the general amenity of the area. Their population and social characteristics are expected to be similar to the host population. As a result, the proportional share of mining industry workers to move into the Primary Study Area was doubled.
Will the resident population change as a result of the Project? What are total expected increases/decreases and as % of the total population of the suburb and/or LGA	In the rural west area of the Wyong LGA, the 2009 updated baseline forecast is for 5 dwellings per annum to 2031 or up to 15 people. The Warnervale-Wadalba area is projected to increase much more – up to 400 dwellings per year up to 2024.	For Scenario 1 the operational phase of the Project will generate 12 households or 36 people in the Primary Study Area. The Project will generate up to 242 new households or 726 people in other parts of the Secondary Study Area. This increase generated is considered to be within the normal growth expectations of the Primary and Secondary Study Areas. For Scenario 2, the estimate for the worst case scenario was a total increase of 1,206 into the Secondary Study Area with the 675 in Wyong LGA. The level of increase is between 0.3 -0.5% of the 2011 Wyong LGA population.

COMMUNITY ISSUES	WITHOUT THE PROJECT - BASELINE PROJECTION	WITH THE PROJECT - LIKELY SOCIAL IMPACTS
How would you describe the existing communities' population and income characteristics?	The 2006 existing population of the Primary Study Area is made up of 476 households or 1,428 people and has four main clusters each one varying in population and income characteristics due to its location, density and access attributes.	The operational workforce will have similar income and family characteristics to the host population within the Primary Study Area. As the total number is not expected to exceed 12 households or about 3% of the host population over an area of approximately 146.2 km <sup>2</sup> the negative socio-economic impact will be relatively limited and are not expected to be significant. It should be noted that the variation in the individual collection districts is high with one rural residential area only 3.8 Km <sup>2</sup> and two other very large rural areas.
Will these characteristics change the existing population mix? Will the workforce change as a result?	The residents of the Primary Study Area had language, citizenship and ethnicity characteristics very similar to the Wyong LGA. Where they differed markedly was in their household population and income characteristics. This community has considerably higher household income and had proportionately twice as many people employed in the workforce. It is anticipated that this trend would continue without the Project.	Areas outside the Primary Study Area will provide some employees of the Project who will earn incomes higher than the average median income for the 2006 census. In the Primary Study Area the current social mix is unlikely to change as any incoming mining related workforce will have higher income and similar family characteristics to the host population and the increase in the projected number of households is very low in comparison to the host population.
Does the level of increase/ decrease conflict/agree with State and Local Government Policy	Both State and local Government have the objective of growing the local employment base. The major initiative is the Warnervale urban centre and WEZ. The WSC has been opposing the mining proposal and the technical reasons for the opposition has been continuing concern of residents particularly for impact on groundwater, surface water and mine subsidence. These issues were addressed by a Government Inquiry into Coal Mining in Wyong Shire in 2010.	The Tooheys Road Site is located north of the proposed WEZ urban centre. The Tooheys Road Site is not visually apparent from any part of the WEZ so the physical appearance of the mine with coal stockpiles in a zoned industrial area is not anticipated to detract from the clean industry objective in the WEZ. As the mining activity is all underground the only obvious surface activity is in the Infrastructure Boundary which is already zoned for this type of industrial activity. The existing uses on the site include a clay quarry and tile factory which according to anecdotal evidence have never been the subject of community concern.

COMMUNITY ISSUES	WITHOUT THE PROJECT - BASELINE PROJECTION	WITH THE PROJECT - LIKELY SOCIAL IMPACTS
<p><b>AMENITY</b></p> <p>Is the proposed development sympathetic with area? What are the existing physical characteristics, scale and scenic quality?</p>	<p>The Visual Impact Assessment reported that the Buttonderry Site is situated adjacent to an area that has been designated for employment purposes within the WEZ and the existing Buttonderry Waste Management Facility. The proposed elements of the Project have been designed to be consistent with the future business park development anticipated to occur within the adjoining WEZ. The landscape is typical of the area with no prominent landscape features. This indicates that it has a Moderate scenic quality rating.</p> <p>The Tooheys Road Site is situated in an area that currently has rural characteristics and is typical of the land forms and features of the region. It sits between the F3 Freeway, the Motorway Link Road an active quarry and a ceramics factory. A large portion of the boundary to the west across the freeway is owned by WACJV. It was also rated as being of moderate scenic quality</p>	<p>The physical appearance in the primary study area will only be affected in one sub area - the Bushells Ridge Road community. Some residents to the east of the road will be able to see the new activity in the Tooheys Road Site. In the other three sub areas it is not anticipated that there will be any significant change in resident viewsheds and access corridors. Houses on the south eastern side of the road can already see and hear the Sydney Newcastle Freeway and the existing Quarry and Ceramics plant.</p>
<p>How will the proposed development interact with the neighbourhood and wider community?</p>	<p>The amount of existing social interaction was found to be highly variable in the community survey. As would be expected, the relationship between the frequency of visits to neighbours and the description of the community was found to be significant. Almost 50% of respondents were found to be reasonably independent of their neighbours or rarely interact with them with 45% describing their community as close knit more for local friends than relatives.</p>	<p>There is considered to be a very limited need for the surface activities in the proposal to interact with the neighbourhood and wider community during operations. The mining activities are underground and the Buttonderry Site and Tooheys Road Site are in very close proximity to the freeway corridor. All of the coal transport is by rail. It is unlikely that there will be interaction except for traffic increases at change of shift times in the vicinity of the Sparks Rd Interchange.</p>
<p>Will there be disruption to social and cultural networks / community cohesion/ identity?</p>	<p>Based on the results of the community survey, the two community clusters to the south west of the Primary Study Area (The Valleys and Hue Hue) gravitate to the Wyong/Tuggerah area for retail and community services. In the vicinity of the Tooheys Road Site, the two community clusters use Sparks Road as part of their normal social and cultural network.</p>	<p>The two community clusters to the south west of the Primary Study Area gravitate to the Wyong/Tuggerah area for retail and community services. Consequently, the existing social and cultural networks will not be affected. The two clusters in the vicinity of the Buttonderry Site and Tooheys Road Site may be physically affected by some traffic increases around the Sparks Road Interchange when they go shopping and also to recreation areas such as beaches to the east of the interchange. This may affect their social network but as the disruption will only occur at change of shift times, the duration and intensity of the social impact is limited and not expected to be significant.</p>

COMMUNITY ISSUES	WITHOUT THE PROJECT - BASELINE PROJECTION	WITH THE PROJECT - LIKELY SOCIAL IMPACTS
<b>PUBLIC DOMAIN</b>		
Will the development involve the removal or demolition of structures or demolition of structures or natural features of community significance?	No structures or natural features of community significance were observed in the primary area.	No facilities or natural features of community significance will be affected by the Proposal
<b>COMMUNITY SERVICES AND FACILITIES</b>		
Will an existing service or facility be permanently changed or discontinued?	Not Applicable	Not Applicable
If significant change is expected to resident workforce or other visitor populations arising from the proposal, is there sufficient spare capacity to meet the likely increase in the demand/needs for services and facilities?	<p>The secondary study area is well resourced with community infrastructure with most services at urban standard. On the contrary the primary study area is relatively under resourced due mainly to location associated with the relatively low population. Two primary schools at Jilliby and Wyong Creek provide community focal points for people with younger children. There are also bushfire brigade facilities at these locations which would focus community efforts during emergencies. There are no clusters of neighbourhood retail facilities and the baseline community survey found that residents travelled to Wyong/Tuggerah for the majority of other services. Review of the local school websites suggest that even though numbers are low in one school (Wyong Creek) the school will continue to provide services over the planning horizon for the project. The larger of the schools has over 100 students and anecdotal evidence from the survey suggested that it has slightly increasing enrolment and services more than the immediate area. The most problematic service identified in the survey was the general lack of public transport services.</p>	As the number of new households projected to move into the primary study area is low, the impact on the existing services is not expected to be significant. The addition of an additional 8 households with an estimated total number of 8 children may help to make the smaller local school more viable.



COMMUNITY ISSUES	WITHOUT THE PROJECT - BASELINE PROJECTION	WITH THE PROJECT - LIKELY SOCIAL IMPACTS
LOCATION AND LAND USE		
How far/accessible are new services and facilities from public transport services and facilities and main centres?	Apart from the school bus which services Jilliby Primary School, public transport in the area is very limited. This is due to the relatively low population density found in the area.	The impact of the Project may increase the feasibility of more regular public transport due to the concentration of employees having a common destination in the immediate vicinity of the Spark Road Interchange.
Is there adequate and safe pedestrian and cycle access to new facilities?	Currently there are no bikeways or dedicated pedestrian facilities except some scattered footpath sections.	Due to the location of the Tooheys Road and Buttonderry Sites and proximity to residential areas, the demand for such facilities would not justify the expenditure.
Are there any opportunities for clustering or co-location of new and/or existing services and facilities?	Not applicable	See Public Transport above
COMMUNITY IDENTITY AND COHESION		
Existing values and sense of community?	The Lifestyle survey by the CCRF (2008) found that Central Coast residents generally agreed that their neighbourhoods had a strong sense of community (mean score was 3.45 out of 5, with the mid-way point of 3 representing ambivalence) but the level of agreement was not particularly strong and was significantly lower than the level of agreement in NSW. Gosford residents were significantly more likely to agree that their neighbourhoods had a strong sense of community than their counterparts in Wyong. These results were similar to the baseline community survey 2008 which found that 49% of the respondents were either reasonably independent of their neighbours or rarely interacted with them. The generally large lots and rural properties in the primary area tends to reduce the likelihood of interactions. Existing community focal points were found to be limited and to have single functions.	The CCRF research in 2008 found that sense of community is correlated with density of development and personal well-being. The impact of 12 new households in such a spatially diverse and separated physical area as the Primary Study Area and the low density of housing anticipated indicate that sense of community will not significantly change. Similarly, an increase of 243 households across the Secondary Study Area would not result in a significant change to the community values or sense of community.

COMMUNITY ISSUES	WITHOUT THE PROJECT - BASELINE PROJECTION	WITH THE PROJECT - LIKELY SOCIAL IMPACTS
Will existing rental housing be affected by the proposal?	<p><b>HOUSING</b></p> <p>Rental housing units in Wyong LGA totalled 11,226 units in 2006 which was 25% of the total housing stock. This percentage of rental housing had not changed significantly since 2001 even though the total housing stock was reported as declining during the inter-censal period. In the Primary Study Area the percentage of rental houses was considerably lower (10%) and the total stock was also low (428).</p>	<p>The demand for rental housing in the Primary Study Area may be affected during both the construction stage and operations phase however the number of units required will be low. The estimate of new residents in the Primary Study Area is less than 15 households for both phases of the project. In 2006, the supply of rental housing is very limited (13% of total of 97 units presently rented compared to 25% at LGA level) and it is more likely that there will be more variety and stock of rental housing in the Secondary Study Area.</p> <p>The demand for rental housing should also be considered in the light of the present amount of temporary accommodation that is available in the Central Coast. Surplus accommodation in December 2011 was reported by the ABS survey of temporary accommodation at 1,100 units/ per night with a current occupancy rate of 52%. The timing of construction is not anticipated to conflict with the increase in demand for accommodation over the Christmas – New Year period. During the operational phase of the Project a total increase in demand for rental housing is anticipated while the non local workforce moves into and settles in the Secondary Study Area. Based on the 2006 LGA wide figure for rental housing the demand would be 42 units. This impact would be spread across the entire Secondary Study Area. It should be emphasised that the figure for temporary accommodation available does not include private rental and other holiday accommodation located along the coastal fringes of Lake Macquarie and Lake Budgewoi.</p>



COMMUNITY ISSUES	WITHOUT THE PROJECT - BASELINE PROJECTION	WITH THE PROJECT - LIKELY SOCIAL IMPACTS
Will the proposal affect Property Values	Wyong LGA has shown more growth in values than the city of Gosford but is still substantially below the NSW Growth rate. According to the Property Observer website median values of housing in Wyong LGA in the past 12 months have dropped by 2.5% and in the past five years they have increased by 5.5%. The median value in 2012 was \$290,000 and for the price range in the \$350-750 K bracket the median was \$395,000. Current property values in the directly affected area are much higher than these values because the Directly Affected Area is an area of large lot residential and hobby farming.	It was found that property values overall remain much higher and the number of transactions are much lower in the Directly Affected Area compared to outside the area. The data suggest that the property values within the Directly Affected Area have increased over the period. Outside the Directly Affected Area the results indicate a much more sluggish market with more reduced growth rates but still in line or greater than Wyong LGA Median values. The perception of residents with at least some awareness of the Project is variable with the majority feeling that property values will be unaffected.
Are there other developments or proposals which when combined with proposal result in cumulative impacts?	<p style="text-align: center;"><b>CUMULATIVE IMPACTS</b></p> <p>Discussion with representatives of WSC highlighted the importance of future planning for the Warnervale Urban Growth Centre. The Project will provide a source of immediate seed employment to generate local direct and indirect jobs and also to attract some 242 workers and their families into Wyong LGA and the other parts of the Secondary Study Area. As the Project is located in an area with good proximity to Warnervale, close consultation between the WSC and the proponent can help to facilitate the development of the growth centre.</p>	The development of the Tooheys Road Site will include the provision of power, water and other utilities. The current availability of these services close to this site is poor and therefore the Project will assist to increase connectivity to these services.
<b>Key Performance indicators</b>	<p style="text-align: center;"><b>MONITORING</b></p> <p>There is no current list of agreed community monitoring indicators and subject to agreement, should be prepared in close consultation with the community liaison committee.</p>	The results of the analysis suggest that actual and perceived monitoring of public transport services, the quality of roof tank water, baseline air quality, traffic noise and the provision of skilled job training would be suitable issues to monitor using a before and after study design.

## 7 PROPOSED SOCIAL MANAGEMENT AND MITIGATION PROGRAM

The result of the impact assessment found that the social impacts of the operational phase of the Project in terms of impact on population, housing and community infrastructure is quite limited across both the Secondary and Primary Study Areas.

There is a Community Reference Group (CRG) recently set up to act as a conduit between the community and the Proponent. This CRG is intended to monitor the progress of the Project and regularly share information with the community.

Based on the results of the analysis in the previous Chapter, impacts to community infrastructure do not appear to be a significant issue at this time.

One aspect of community infrastructure that will potentially be affected by the Project will be the need for training and development of the local workforce in order to maximise the benefits of a modern underground mining operation.

As discussed in **Section 1.5** the State Government's CCRS set targets for growth in terms of employment, land and population and housing. Increasing opportunities, improving the quality and balance in skill type of the local workforce and retaining staff in the local area were key challenges identified which the WSC has endorsed.

The CCRS highlighted that during past decade the pattern has been that the growth in local employment opportunities has not kept pace with population increases in the LGA. Consequently around one-third of the LGA's residents continue to commute beyond the Central Coast for employment (with the majority of these heading to Sydney). While the proportion of people commuting outside the region has remained stable, the numbers have increased by between 400-500 per year. (SOE, WSC 2011) This was also confirmed in the community baseline survey of the Directly Affected Area (Martin Associates, 2008).

In order to address the potential skilled labour shortage issues, the proponent will implement local labour force recruitment, training and development strategies with a focus on semi-skilled and unskilled positions. This will be carried out to facilitate improving the local labour force skill and implement state wide labour force recruitment strategies with a focus on non-local professional positions as needed to facilitate workforce balance. Skilled trades are already considered to be available locally.

It is recommended that the proponent adopt the following policies:

- Prepare a workforce recruitment strategy which addresses the needs of the semi-skilled and unskilled workforce which is available locally but will require on the job and more specific operator training;
- Emphasise the importance of hiring locally from within the Secondary Study Area in order to achieve the predictions of Scenario 1 on the basis of 70% of the workforce being recruited locally;
- Prepare a communications program within the Secondary Study Area targeting the current commuting workforce in order to publicise the type of professional and managerial positions that will be available locally;
- Work with College of TAFE in Wyong and/or Newcastle to identify and assist in the development of training and apprenticeship programs for skills relevant to the Project; and
- The development of a local traineeship and apprenticeship program.,

It is recommended that WACJV continue discussions with WSC in relation to the development of a relevant VPA in consideration of the findings of this assessment.

## 8 CONCLUSIONS AND RECOMMENDATIONS

The Directly Affected Area is relatively small when compared to the entire Wyong LGA with an estimated 476 households or approximately 1,428 people. This number amounts to approximately 1% of the total 2006 population in Wyong LGA of 139,800. Since 2006 the number of residents living in Wyong LGA has grown to an estimate of 152,758 - a growth rate of 1.8% per year.

In 2008, a baseline social survey (Martin Associates, 2008) was conducted in the Directly Affected Area. As expected the relationship between the frequency of visits to neighbours and the description of their community interaction was found to be statistically significant. In other words when they saw their neighbours more they felt more part of a community. The sense of community within this area was found to vary considerably. More than 50% of respondents were reasonably independent of their neighbours and socialised with friends outside the area or rarely interacted with their neighbours. The remaining 45% described their community as close knit more because of local friends than relatives. Given the smaller sample size in one of the sub areas, no quantitative statistical relationship was found due to location of the respondent, so sense of community was not found to be necessarily related with the density of development. Based on the results of the 2008 baseline survey, the majority of residents of the area were described as being a collection of reasonably independent individuals. There was some anecdotal evidence which also suggested that more sense of community existed where there were slightly smaller lot sizes and more children with families were present.

The Primary Study Area looks and feels rural but functionally many of the people are dependent on the more urban based economy either within the Central Coast or Sydney. The residents of the Primary Study Area had language, citizenship and ethnicity characteristics very similar to the Wyong LGA. Where they differed markedly was in their household population and income characteristics. This community has a considerably higher income and had proportionately twice as many people employed in the workforce. The overall community was younger and not surprisingly the household size was generally larger than at the LGA level (3.0 persons/households compared to 2.5 at the LGA level.). There was a clear gap found between residents of the Primary Study Area and the LGA as a whole based on income and employment. Property values were found to be substantially higher compared to areas not directly affected as the area is made up of attractive large lot residential and more conventional larger hobby farms and a small number of rural enterprises.

The potential for community interaction with the coal mining proposal is considered to be very limited. The orientation of the community to use Wyong and Tuggerah for the majority of community service and active recreation activities was clearly shown. Passive recreational activities were concentrated to the west of the area in the Watagan State Forest. The main corridors for community movement were found to be Sparks Road and Hue Hue Road which are well south of the mine surface areas. The only potential for interaction with the mine industrial area was found to be a very small percentage who use the Tooheys Road tunnel under the F3 Freeway generally on weekends. By far the biggest gap discovered in current community infrastructure was the total lack of public transport in the area which was mentioned by over 80% of the respondents. Anecdotal evidence indicated that noise generated from the Sydney Newcastle Freeway and its visual effects represented another important ongoing amenity issue particularly for residents in the Bushell's Ridge area and some sections of the Hue Hue Subdivision.

During the construction phase, the impact on population coming into the area will be significant on a daily basis but will be concentrated in the surrounding roads leading into and around the mining industrial area. At peak, 450 workers will come into the Infrastructure Areas via the Doyalson interchange and/or Sparks Road interchanges. However, only a very small proportion of workers will have any need to visit or use community facilities on the western side of the Freeway other than for entry to and from the office and facilities slightly north of the Sparks Road interchange.

Traffic generated within the Primary Study Area will be due to any local workers who live in the Directly Affected Area and commute to the site. As discussed above, 150 construction workers presently live within the Primary Study Area. If 10% of the construction workforce were to move into the Secondary Study Area particularly Wyong LGA, the proportional share of population moving into the Primary Study Area would be less than 15 households. This level of population increase is considered to be manageable and within the baseline forecast prepared by Wyong LGA for the rural west sub region.

During the operational phase, the projected employment increase from the Project for Secondary Study Area is substantial. Scenario 1 estimates that Project is expected to generate 805 jobs in the Secondary Study Area. The vast majority of these jobs will be created locally as there is considered to be adequate capacity within the Secondary Study Area to service the Project. Of the total, there will be 90 direct jobs and 152 flow-on jobs that will need to be imported from non-local sources. Consequently, the total population increase resulting from the direct non-local workforce will be of the order 726 people. This figure represents 0.27% of the 2011 Wyong LGA population of 152,758. Currently the population increase in Wyong LGA is of the order of 1.8% per year which represents approximately 2,750 people.

The impact on the Primary Study Area is considered to be of the order of 12 households or 36 people which is considered manageable and within the normal population forecast for the western rural sub-region forecast prepared by Wyong LGA. The worst case scenario estimates that the total increase in the population would be 1,206 which represents 0.44% of the 2011 population. This population increase will be spread over the entire Secondary Study Area.

Even with such modest increases in population, the perceived effects of the Project are still of concern to residents surveyed both locally and regionally. They continue to be concerned about the effects of mine subsidence, and impacts of the Project on surface water and groundwater. They continue to have slightly less concern about the effects on flooding, noise in the Tooheys Road area, truck traffic generated in the vicinity of the Project and general concerns about the impacts of the Project on global warming. In order to address these perceptions, there is a need for increased information to be generated about the actual effects of the Project from the results of the considerable number of quantitative studies already generated as part of the Wallarah EIS. The analysis of property values showed that there was no current evidence of any effect on property values in the area even though this issue is still perceived to be of concern to the existing community. The more recent 2012 regional survey found that once information was passed on about the details of the project, 69% believed the project was good for employment and also for business.

There would appear to be significant local social benefits arising from the Project which are fully consistent with current State and Local Government planning policy. The number of jobs generated by the Project within Wyong LGA and the Secondary Study Area is virtually the equivalent as the total Primary Study Area workforce in 2006 with a very low risk of any need for increasing pressure on community infrastructure. The potential for any significant change to lifestyles or amenity impacts from surface facilities in the Directly Affected Area is considered to be low except for a few residences which overlook the proposed site and the Sydney Newcastle Freeway on Bushells Ridge Road. These residences are already affected by background noise and dust from the Freeway. The other sub areas potentially directly affected are through subsidence which is accurately documented in other technical reports.

As this Project will be functioning in a sub region which is part of the Sydney metropolitan region, the area has community infrastructure at a standard which has been planned on the basis of a significantly higher urban population and 25% of the population living in the potentially Directly Affected Area were found to be commuting for employment to Sydney. The WTC and WEZ growth areas are in the same Wyong sub-region and consequently infrastructure which is in place or planned is anticipated to be able to adequately cope with the relatively small numbers of workers and families who will be coming into the area as result of the Project.

The most important State and Local Government policy which relates to the Secondary Study Area in general is the need for the Central Coast to continue to grow and increase its ability to become more self sufficient in employment generation.

The unemployment level of 8% in Wyong LGA (Dec, 2011) is significantly higher than most other subregions of NSW and considerably exceeds the National average at a time when general employment has been at record highs for many years. Consequently, the Project is in full agreement with these stated State and Local government policies. It also has the potential to provide a seed Project for future employment generation for the WTC and WEZ which are within 15 minutes travelling time from the Infrastructure Areas.

One aspect of the 2011 State Government CCRS was to address the chronic shortage of local jobs in the subregion. Included in the scope of the plan is to improve the quality of the local workforce. Consequently, an area of community infrastructure that will potentially be more affected by the proposal will be the College of TAFE in Wyong as training will be needed to improve the skills of the local workforce required to run a modern underground mining operation.

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## Annex 1

### Results of the Community Baseline Survey, 2008

In 2008 Martin Associates prepared a baseline community sample survey as part of the previous EIS. The purpose of the survey was to assist in the preparation of a baseline of community activities and behaviour in the vicinity of the site. It was particularly focused on understanding current interactions with the potential mining and industrial area. Questions were asked about work commuting, retail behaviour, education and recreation both active and passive. It asked questions about peoples perceptions of the performance or gaps in current infrastructure. It also gave respondents the opportunity to comment on specific impacts of the development either as a structured question or as a written narrative comment.

The Survey was sent out to all 476 households who were defined as being directly affected by the project. The Directly Affected Area applied to households in the vicinity of the proposed underground mining area and the industrial area. Impact was measured by:

- Either noise or air quality contours;
- If the houses could see the site (visual impact); and
- If the houses were to be affected by subsidence or within 100 metres of the no subsidence line.

Respondents were given three choices for the conduct of the survey. They could choose to fill out the survey individually and mail back (included self-addressed envelope), fax back or be assisted to fill out the questionnaire by an interviewer from the survey team.

The response rate was 63 households or 12.65 % which was slightly better than normally expected for a survey of this kind. The response rate in the Valleys sub area was significantly lower than in the other two areas. Whilst more responses from this area similar to the overall response rate would have boosted the ability of the survey to discriminate between the areas, the main objective of the survey was not affected.

**Table A1 Survey Response**

Location	Number of Surveys distributed	Percentage of Surveys Distributed	Number Responding	Response Rate
Valleys	177	36%	12	6.78%
Hue Hue Subdivision	270	55%	36	13.24%
Area around Mine Industrial Area included Bruce Cres & Bushells Ridge Sub Areas	51	10%	15	28.30%
Overall	498	100%	63	12.65%

**Table A2 Location of Respondents by Sub Area**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valleys	12	19.0	19.0	19.0
Hue Hue Subdivision	36	57.1	57.1	76.2
Area around Mine Industrial Area	15	23.8	23.8	100.0
Total	63	100.0	100.0	

The survey represented the responses from approximately 190 of the estimated 1428 people living in the Directly Affected Area. The average household size was 3 persons per household which is the same as the Census 2006 finding.



The results demonstrate that the potential for community interaction with the mining proposal is very limited. The orientation of the community to use transport corridors and links within Wyong and Tuggerah for the vast majority of community service and active recreation activities was very clearly shown. Passive recreational activities were concentrated to the west of the area in the Watagan State Forest. The main corridors for community movement were found to be Sparks Road and Hue Hue Road which are well south of the proposed industrial area. The only potential for interaction with the Project's proposed industrial area was found to be several respondents who use the Tooheys Road tunnel under the Freeway to go to the beach on weekends. By far the biggest gap discovered in current community infrastructure was the lack of public transport which was mentioned by over 80% of the respondents.

A selected group of responses under different topics has been prepared below.

### Mobility

The average length of residence in the area was found to be 14.4 years.

**Table A3 Did you have the same usual address 5 years ago?**

		Frequency	Percent	Valid Percent
Valid responses	Yes	42	66.7	72.4
	No	16	25.4	27.6
	Total	58	92.1	100.0
No response		5		
Total responses		63	100.0	

The percentage of residents with same address five years ago was slightly higher than the 2006 Census data reported (61%) and suggests a more stable community than that for the Wyong LGA which had 56% of its residents at the same address five years ago. (ABS Census, 2006)

### Commuting Behaviour

**Table A4 Where does the family's main income earner normally work?**

		Frequency	Percent	Cumulative Percent
Valid responses	Local Area	9	14.3	16.7
	Wyong	4	6.3	24.1
	Tuggerah	2	3.2	27.8
	Other? Central Coast	14	22.2	53.7
	Newcastle	1	1.6	55.6
	Sydney	13	20.6	79.6
	Other	9	14.3	96.3
	Combination	2	3.2	100.0
	Total	54	85.7	
Missing responses	System	9	14.3	
Total		63	100.0	

Commuting behaviour revealed that 27% of respondents worked either within the local area or Wyong and Tuggerah, a further 25 % on the Central Coast and 24 % in Sydney. The percentage working in Newcastle was very low.

## Schools

**Table A5 Where do your children normally attend school?**

		Frequency	Percent	Valid Percent
Valid responses	No Children at School	37	58.7	67.3
	Wyong Creek	2	3.2	3.6
	Jiliby	2	3.2	3.6
	Other	14	22.2	25.5
	Total	55	87.3	100.0
Missing responses		8	12.7	
Total		63	100.0	

More than two thirds of respondents did not have children and four children attended the primary schools in closest proximity to the underground mining area – Wyong Creek and Jiliby. The remainder attended schools on the eastern side of the Freeway but not within the vicinity of the proposed mining industrial area.

## Recreation

Over 90% of respondents to this question specified the Watagan State Forest within the Dooralong and Yarramalong Valleys as their main destination for passive recreation. Active recreation was focussed on Wyong and Tuggerah facilities.

Access to the beach and to other coastal locations was either Sparks Road to Toukley or via Wyong Road to Tuggerah. One or two respondents use the Tooheys Road Tunnel on weekends.

## Water Supply

About 15 % of respondents were found to be dependent on town water supply and 85% rely mainly on roof tanks for mainly domestic supply and some stock with a small percentage supplementing their supply with a farm dam. The only town water supply found was located in the Hue Hue Subdivision.

**Table A6 What is the main source of your domestic water supply by Area**

	Area			Total
	Valleys	Hue Hue Subdivision	Area around Mine Industrial Area	
Town Water	0	9	0	9
	0%	100.0%	0%	100.0%
Roof Tanks	10	23	13	46
	21.7%	50.0%	28.3%	100.0%
Combination Roof & Farm Dam	1	3	2	6
	16.7%	50.0%	33.3%	100.0%
Total	11	35	15	61
	18.0%	57.4%	24.6%	100.0%

**Sense of Community****Table A7 How regularly do you visit your immediate neighbours?**

		<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>
Valid responses	Everyday	3	4.8	5.7
	Two or Three Times a Week	11	17.5	20.8
	Each Week	13	20.6	24.5
	Monthly	11	17.5	20.8
	Hardly Ever	11	17.5	20.8
	Never	4	6.3	7.5
	Total	53	84.1	100.0
Missing responses	System	10	15.9	
Total		63	100.0	

**Table A8 Which statement best summarises how you would describe your interactions with the local community?**

		<b>Frequency</b>	<b>Percent</b>	<b>Valid Percent</b>
Valid responses	Close Knit More Family Oriented	7	11.1	12.7
	Close Knit More Friends Oriented	18	28.6	32.7
	Reasonably Independent Socialise Outside Immediate Community	18	28.6	32.7
	Rarely Interact With Neighbours or Immediate Community	9	14.3	16.4
	Don't Know or No Opinion	3	4.8	5.5
	Total	55	87.3	100.0
Missing responses	System	8	12.7	
Total		63	100.0	

As would be expected, the relationship between the frequency of visits to neighbours and the description of the community was found to be significant. Almost 50 % of respondents were found to be reasonably independent of their neighbours or rarely interact with them with 45% describing their community as close knit more for local friends than relatives.

## Perceptions of Impact

**Table A9 Prior to being contacted for this interview how aware of the Wallarah 2 Coal project did you feel you were?**

		Frequency	Percent	Valid Percent
Valid response	Not at All Aware	4	6.3	7.1
	Slightly Aware	2	3.2	3.6
	Moderately	8	12.7	14.3
	Very Aware	18	28.6	32.1
	Extremely Aware	24	38.1	42.9
	Total	56	88.9	100.0
Missing responses	System	7	11.1	
Total		63	100.0	

The level of awareness about the Project showed that 75% of the respondents were either very aware or extremely aware about the project. The remaining 25% were either moderately aware or less with 7% responding that they had no awareness at all.

Interestingly, the level of prior awareness about the project was significantly related to the level of concern expressed about three issues subsidence, impacts on groundwater, and impacts on surface water. In other words the level of concern increased with the level of prior awareness. However, there was no relationship found with the level of concern about the other issues canvassed which included truck traffic, noise from machinery, flooding and concern about global warming.

Sex of respondent (female) was important in explaining the level of concern about noise from machinery, truck traffic around the mine entrance and increased train movements. For all of the other issues the level of concern shows no relationship with the sex of the respondent.

Also there was no significant relationship found between sub area and the level of concern except for mine subsidence which was found to be approaching significance. Of the 75% of respondents who had prior awareness of the project, there was a high level of concern about the perceived impacts addressed specifically.

## Annex 2

### Wallarrah 2 Coal Project Summary of 'Coal Mining Attitudes' Survey 2012

UMR Research was commissioned by WACJV to undertake a telephone survey regarding 'Coal Mining Attitudes' which was conducted in April 2012.

The survey was a Computer Assisted Telephone Interviewing (CATI) survey, with interviewing undertaken from UMR's national interview facility. Interviewees, who were over 18 years of age, were selected from a geographically stratified random telephone sample. The interviews were conducted from 31 March to 1 April 2012. Four hundred interviews were held, consisting of 214 from the Gosford LGA and 186 from the Wyong LGA. Data was weighted to ensure a representative sample. The maximum margin of error at 95% confidence level was  $\pm 4.9\%$  from the 400 interviews.

Key findings from the survey were:

- The Project ranks lowly as a spontaneously raised local issue. When respondents were asked "*what are three major issues in the local area that are important to you personally?*", 55% responded with 'roads'. 33% with 'other' issues and 28% with both 'public transport' and 'health/hospitals'. Four percent of respondents responded with 'the Project, mining in general or coal mining';
- 42% of respondents had a positive opinion of coal mining generally, 32% a negative view, while 21% were neutral and 5% unsure;
- 60% of respondents expressed no general objection to coal mining on the Central Coast, being prepared to judge each proposed mine on its merits, or supporting coal mines if environmental impacts are minimised;
- 35% of respondents were aware of the Project before the survey. Only 23% of that group knew 'a lot' or 'a fair bit' about it;
- Of the 35% of respondents who had heard of the Project, 12% supported the Project, 54% opposed it, 33% were undecided and 1% unsure;
- After respondents were given a short explanation of the Project, 31% supported the mine and 27% opposed it. Among the 35% aware of the Project prior to the survey, support for the Project lifted from 12% to 23% and opposition declined from 54% to 46%;
- Support for the Project from respondents was greatest among younger people up to the age of 40 and amongst men;
- Respondents were read a list of 8 potential types of environmental impacts of the Project, and the following percentages of respondents were either 'very concerned' or 'extremely concerned' about the potential impacts:
  - Impacts on the water supply in Central Coast – 78%;
  - Mine subsidence impacts to houses and structures – 59%;
  - Dust around the mine's surface facilities – 56%;
  - Increasing the risk of flooding in some areas – 49%;
  - Impact on the local character of the area – 41%;

- Coal mining's impact on climate change – 40%;
- More trains moving on the Sydney Newcastle railway line – 38%; and
- The visual appearance of buildings at the mine's surface facility – 20%.
- 14% believe the Project will lift property values near where they live, while 24% expect it will lower them, while 54% believe they will be unaffected and 8% were unsure. Also, 63% regarded that property prices near the Project would be affected negatively if it were constructed;
- Respondents were read a list of 4 statements about other issues related to the Project. The following percentages of respondents either 'agreed' or 'strongly agreed' with the statements:
  - A new mine would be good for employment on the Central Coast – 82%;
  - A new mine would be good for business on the Central Coast – 71%;
  - Property values near the new mine would be affected negatively – 63%; and
  - A new underground mine would have a significant negative impact on the Central Coast's natural environment – 49%.

### Reference

UMR Research (2012). *Coal Mining Attitudes Survey April 2012*. Commissioned by Kores.