



Appendix 17

Socio-Economic Impact Assessment

Appendix Section	Description
17A	Socio-Economic Impact Assessment

Brandy Hill Expansion Project
Environmental Impact Statement



Appendix 17A

Socio-Economic Impact Assessment

Brandy Hill Expansion Project
Environmental Impact Statement



Document Control

Version	Prepared by	Internal reviewer
Draft	Pip Cox: Hanson Construction Materials PTY LTD	Andrew Driver: Hanson Construction Materials PTY LTD
Final	Pip Cox: Hanson Construction Materials PTY LTD	Andrew Driver: Hanson Construction Materials PTY LTD

Executive Summary

The extraction and utilisation of natural resources has heterogeneous and specific impacts on the social and economic infrastructure of the local communities in which such practices occur (Hajkowicz et. al., 2011). To quantify the dynamic nature of change and the unique way it manifests on the local amenity requires a specialised socio-economic impact assessment. The Brandy Hill Quarry Expansion Project (the Project) is anticipated to generate considerable economic benefits at each government tier, whilst simultaneously minimising any potential social impacts on the regional and local amenity by implementing control measures to mitigate potential adverse impacts.

Potential social issues primarily relate to the way in which the Project may impact on the local amenity. An agglomeration of noise and vibration, air quality, visual and traffic impact assessments combine to generate a measure of social amenity impact on the local and regional environment. These impact assessments have been conducted and are included in **Section 5.0** of the Project's Environmental Impact Assessment (EIS).

Economic

The construction industry is of vital economic significance at a national level, facilitating the development of state and national infrastructure, and thereby enabling localised planned urban development. The construction industry as a collective sector has a major influence on premeditated anthropogenic development, enabling the progressive evolution of vital infrastructure including but not limited to roads, residential dwellings and engineering construction.

The major economic benefit for the proposed Brandy Hill Quarry Expansion Project is to provide security in the supply of construction materials to primarily meet the demand from the Central Coast, Hunter and Newcastle regional markets, and secondly allow Hanson's other metropolitan quarries (Kulnura and Bass Point) to meet the demands from the Sydney Metropolitan markets. The estimated cost for the quarry expansion is \$15 million, and will inject economic benefits into the local economy as well as providing 31 employment positions upon completion of Project stage 5. Additional benefits include employment opportunities during the construction and operation phases' of the Project, and flow on effects in the local economy.

Social

The proposed project will be situated in a predominantly rural zoned area with projected regional development (Lower Hunter Regional Strategy (LHRS), 2010). The site is currently operating under approval for the operation of a hard rock quarry and processing plant. The proposed Project includes continuation of this land use and the introduction of a proposed concrete recycling, batch plant, and pug mil, all of which are ancillary to quarrying operations and will not alter the nature of land use. The major local predicted Project generated concerns are visual, traffic, noise and vibration and air quality environmental impacts.

Findings identify that traffic increases are anticipated to generate a moderate impact on the local amenity, whilst noise and vibration and visual are set to remain nil or targets within pre-

determined criteria. Air quality impacts are considered low as any exceedances are driven by high background concentrations.

The major regional social impacts are associated with the maintenance of natural area. Assessment of local and regional natural conservation areas, Stockton Sand Dunes and Hunter Estuary Wetlands reveals that the project is not anticipated to have associated detrimental impact on these sites.

Community Consultation Process

Hanson has been actively engaged in the community, through the donation of construction materials, sponsorship, the provision of a fact sheet pertinent to the project, and the foundation of an informal Community Consultative Committee (CCC). In particular the CCC has provided a dynamic avenue for the exchange of information between Hanson and the local community. The most paramount concern for the local community is the projected increase of heavy vehicles along predetermined local haulage routes.

Mitigation

To mitigate against detrimental consequences of the Project, Hanson will engage in the following where possible;

1. Encourage employment from the local district;
2. Provide training and certification to ensure suitable applicants can improve or acquire the necessary skills;
3. Manage heavy vehicle traffic;
4. Maintain use of existing transit paths to reduce “spread” of traffic impacts;
5. Maintain Continuous Community Involvement; and
6. Promote driver awareness where relevant.

The proposed Brandy Hill Quarry Expansion Project is expected to have considerable economic and social benefits related to securing the supply of construction materials to the Sydney market transcending into local expenditure and employment opportunities. The major concern to the local social amenity is the increase of heavy vehicles along pre-determined local haulage routes. Hanson’s Brandy Hill Quarry Expansion Project is anticipated to have net positive socio-economic benefits on local, regional and national amenity, with potential negative impacts effectively managed through proposed mitigation measures.

Contents

1. Introduction	7
1.1. The Project	7
2. Applicable Planning Documents.....	8
3. Methodology	9
3.1. Impact Classification	9
4. Requirement for this Report	10
5. National Considerations	11
5.1. Economic Considerations	11
5.2. Net benefits of the Construction Industry	11
5.2.1. Gross Domestic Product (GDP) Contribution	11
5.2.2. Employment.....	12
5.3. Socio-economic Impact Assessment Rating	12
6. Regional Considerations	14
6.1. Regional Economic Drivers.....	14
6.2. Regional Social Demographic.....	14
6.2.1. Population.....	14
6.3. Regional Area Assessment.....	14
6.3.1. Existing Local and Regional Land Use Character	17
6.3.2. Transportation Characteristics	17
6.3.3. Physical Landform Characteristics	18
6.4. Socio-economic Impact Assessment Rating	19
6.4.1. Economic Impact Assessment Rating.....	19
6.4.2. Social Impact Assessment Rating.....	19
7.0 Local Considerations	22
7.1 Local Employment Statistics	22
7.2 Local Area Assessment	26
7.3 Socio-economic Impact Assessment Rating	27
8.0 Project Considerations	29
8.1 Cost of Construction	29
8.2 Employment Opportunities.....	29
8.3 Sales.....	30

9.0	Assessment and Findings	31
9.1	Existing Social Concerns	31
9.1.1	Sense of Community and Place	31
9.2	Community Involvement.....	32
9.2.1	Community Identified Concerns	34
10.0	Potential Impacts.....	37
10.1	Visual	37
10.2	Noise and Blast	37
10.3	Traffic	38
11.0	Mitigation Measures	39
11.1	Hanson will encourage project employment from the local district.	39
11.2	Hanson will provide training and certification to ensure suitable applicants can improve or acquire the necessary skills.....	39
11.3	Manage Heavy Vehicle Traffic.....	39
11.4	Maintaining use of existing transit paths to reduce “spread” of traffic impacts.....	39
11.5	Continuous Community Involvement	39
11.6	Driver Awareness	40
12.0	Conclusion	40

List of Figures

Figure 1: Site Locality.....	8
Figure 2: Construction Industry Contribution to GDP.....	12
Figure 3: Identified Land with Social Amenity Value in the Surrounding Site Locality	16
Figure 4: Heavy Vehicle Haulage Route	17
Figure 5: Regional Social Amenity Areas	21
Figure 6: Brandy Hill Suburb - ABS Data.....	22
Figure 7: Brandy Hill Occupation Characteristics for persons 15 years and above.....	23
Figure 8: Persons Employed by Occupation for Brandy Hill and Port Stephens Local Government Area.....	24
Figure 9: Employment Status in Brandy Hill as percentage to total labour force.....	25
Figure 10: Dwelling Composition in Brandy Hill and Port Stephens LGA.....	26
Figure 11: Land Use Zoning.....	27
Figure 12: "Keep Seaham Rural" Sign Erected on Brandy Hill Drive	32
Figure 13: Concern Rating of Project Issues	34
Figure 14: Average Rating of Negotiation Topic Potential for Positive Community Outcomes as Rated and Analysed by BHSAG.....	35

List of Tables

Table 1: Strategic and Statutory Planning Framework.....	8
Table 2: Impact Classification Guide	9
Table 3: Contribution of Construction Industry to GDP	11
Table 4: Construction Sector Employment	12
Table 5: National Socio-Economic Impact Rating Assessment	12
Table 6: Regional Economic Rating	19
Table 7: Regional Social Impact Assessment Rating	20
Table 8: Local Socio-Economic Impact Assessment Rating	27
Table 9: Employment Opportunities	29
Table 10: Community Consultation Structure	33
Table 11: Impact Assessment Rating for BHQE Project.....	37

Brandy Hill Quarry Socio-Economic Impact Assessment

1. Introduction

Fundamentally economic, social and environmental issues are interrelated (Cavaye, 2003). Natural resource utilisation can form the basis for economic sustenance in local communities, and can alternatively impose huge detrimental impacts on the social infrastructure of the local amenity. These impacts are however not homogenous over projects and hence require specialised and specific assessment of identified factorial inputs (Cavaye, 2003). A socio-economic impact assessment pertinent to the Brandy Hill Expansion Project (the Project) will analyse the manner in which change manifests in local social and economic situations, coupled with an assessment of the dynamic impacts of these project generated changes on the surrounding social and economic local amenity. A socio-economic impact assessment is defined as an analysis of the likely effects that a change will have on the social and economic fabric of a community. This report documents the systematic investigation of how people and communities may be affected by the proposed Brandy Hill Quarry Expansion and to assist in determining the scale of change (if any) within the local district.

The socio-economic impact of potential issues pertaining to the Brandy Hill Quarry Expansion Project relate to social amenity and quality of life in the surrounding locality as well as economic distributional impacts. In order to accurately quantify potential impacts pertaining to the proposed Brandy Hill Quarry Expansion, a socio-economic impact assessment involving a categorical assessment of a full range of issues including noise and vibration, air quality, visual impact and traffic impact assessments has been conducted based on findings presented in the aforementioned impact assessment reports. These environmental inputs interrelate to characterise the local amenity, and hence a measure of socio-economic impact is calculated by considering the findings from these issues in the context of the local, regional, state and even national characteristics.

This assessment methodology links the likelihood of effect on the distinct, individualised local amenity in regards to an overarching agglomerated impact assessment as influenced by other external inputs. The socio-economic impact assessment is also followed by an assessment of the implication of each particular change in the dynamic and characteristics of each issue assessment area.

1.1. The Project

Hanson Construction Materials Pty Ltd has been operating Brandy Hill Quarry (see **Figure 1**) since 1983 and has developed relationships with the local community during this time. Historically, the Proponent engaged the construction of a local purpose built road to service the quarry, known as Brandy Hill Drive. Residential lots off Brandy Hill Drive were released for sale and now form the township of Brandy Hill.

The extension of the quarry is required to both meet current demand and also meet projected increasing market demand for construction materials to service local, regional and state growth. The Brandy Hill Quarry Expansion Project (the Project) will result in considerable social and

economic benefits at local, regional and state levels. The foremost benefit is related to the security of supply of construction materials for the Central Coast, Hunter and Sydney markets. Employment during the operation and construction of the quarry will have flow on effects into the local and regional markets and is projected to contribute considerable economic benefits to the local economy. Additionally the project will generate flow-on effects to subsidiary and associated industries and businesses of the Project.

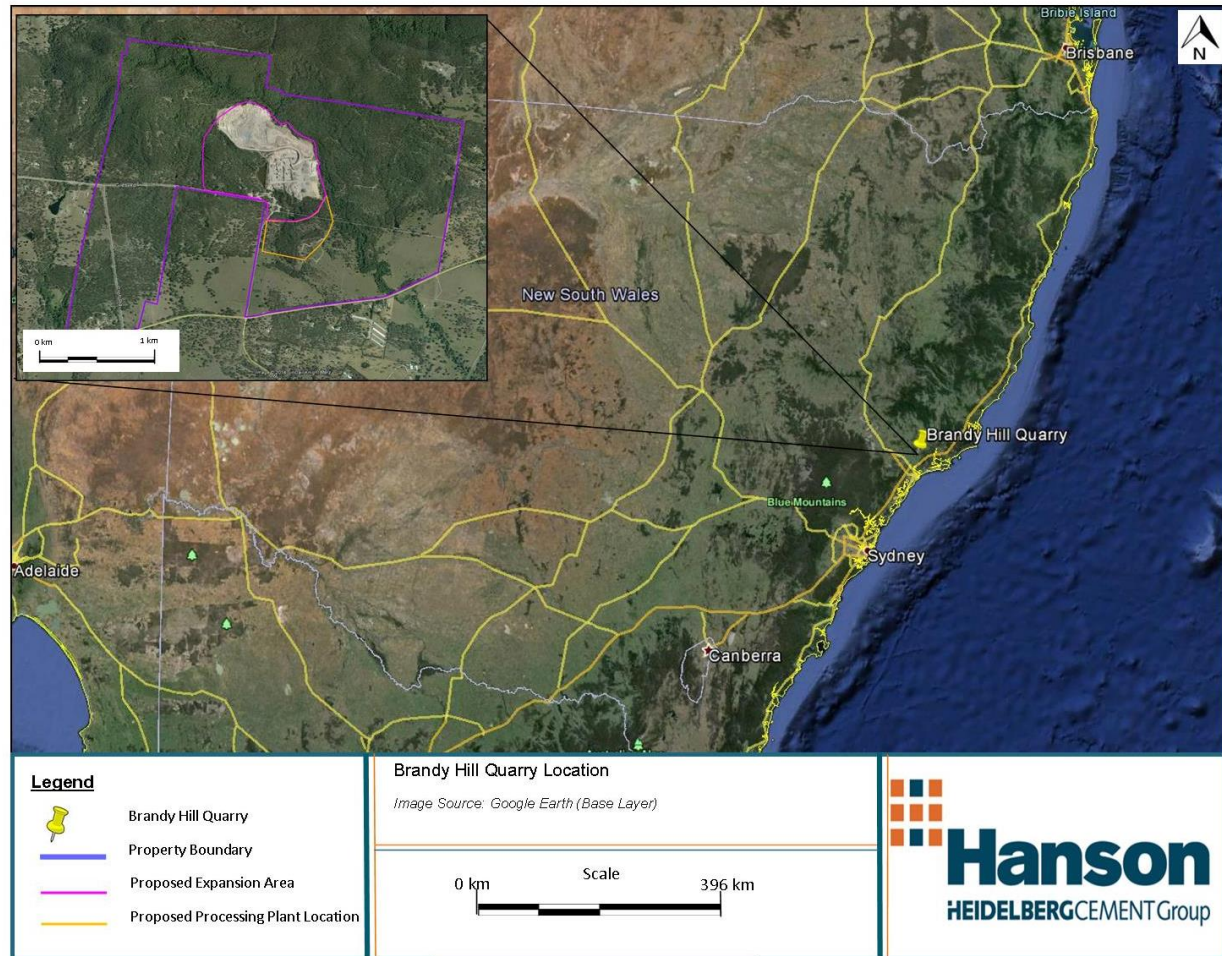


Figure 1: Site Locality

2. Applicable Planning Documents

The Brandy Hill Quarry Expansion socio-economic impact assessment utilises the following key documents to ensure valid conclusions are made in conjunction with the regional character, infrastructure, and future development directionality;

Table 1: Strategic and Statutory Planning Framework.

Level	Key Documents
-------	---------------

Regional Vision and Plan	Lower Hunter Regional Strategy, 2010
	Lower Hunter Regional Conservation Plan, 2009
	Port Stephens Economic Development Strategy, 2007
	Port Stephens Planning Strategy 2011 – 2036, 2011
	Port Stephens Futures Strategy, 2009
Council Plans	Operations Plan/Delivery Program
Strategic Planning Framework	Port Stephens Planning Strategy (PSPS)
	Local Area Strategies
	Port Stephens Commercial and Industrial Land Study (CILS), 2010
	Australia to 2050: Future Challenges - the 2010 Intergenerational Report, 2010
	State of Australian Cities Report, 2010
Implementation Plans, Development Planning	Port Stephens Local Environmental Plan (LEP)
	Development Control Plan (DCP) and locality and generic provision within the DCP.

3. Methodology

This socio-economic impact assessment will collectively identify economic and social characteristics at national, regional and then local levels. Secondly, this impact assessment will present the anticipated socio-economic benefits concerning the Project. Following this, the report will provide an assessment and related findings of the predicted socio-economic impacts of the Project. This section of the EIS will conclude by highlighting proposed and potential mitigation measures of the project on the social and economic character of the Project and the surrounding amenity.

3.1. Impact Classification

Socio-economic change will be assessed by producing a net positive and negative value. This report will use **Table 2** to categorise Project impacts.

Table 2: Impact Classification Guide

Impact	Category
--------	----------

1	Desirable/undesirable
2	Intentional/unintentional
3	Distributional impacts (direct/indirect)
4	Positive/Negative

4. Requirement for this Report

This report has been prepared for inclusion in the Brandy Hill Environmental Impact Statement in accordance with the Director General Requirements for submission to the Department of Planning and Environment. In such, the impact assessment will include;

- *An assessment of potential impacts on local and regional communities, including impacts on social amenity.*
- *Detailed description of the measures that would be implemented to minimise the adverse social and economic impacts of the development, including any infrastructure improvements, or contribution and/or voluntary planning agreement or similar mechanism; and*
- *Detailed assessment of the costs and benefits of the development as a whole, and whether it would result in a net benefit for the NSW community.*

5. National Considerations

5.1. Economic Considerations

The major economic benefit of the proposed Brandy Hill Quarry Expansion Project is to provide security in the supply of construction materials to primarily meet the demand from the Central Coast, Hunter and Newcastle region, and secondly allow other Hanson metropolitan quarries to meet the demands from the Sydney Metropolitan Region. The construction industry is of vital economic significance at a national level, facilitating the development of state and national infrastructure, and thereby enabling planned urban development.

5.2. Net benefits of the Construction Industry

The construction industry as a collective sector has a major influence on premeditated anthropogenic development, enabling the progressive evolution of vital infrastructure including but not limited to roads, residential dwellings and engineering construction. The construction industry holds a significant position in the national economy, which consequently results in inter-sectional interaction. The construction sector symbiotically interacts with parts of the professional service industry, more specifically architectural and engineering sectors, during the design and erection of infrastructure. The success of these sectors is closely linked and integrated within the success of the construction industry. Therefore the ongoing supply of affordable construction materials is required to exude net positive benefits for the Australian economy.

The construction industry operates in three main broad areas; residential, non-residential and construction. The demand for and work output distribution over and among these areas is driven by economic inputs including but not limited to, population growth, market demands, market security and changes in interest rates or inflation. Hanson actively and continuously engages in all three categories.

5.2.1. Gross Domestic Product (GDP) Contribution

The construction industry is the fourth largest contributor to Gross Domestic Product in the Australian Economy (ABS, 2010), of which economic benefits transcend to local, regional, state levels, promoting and enabling economic development at each government tier. Specifically, in chain terms the construction industry accounted for 6.8% of GDP in 2008-2009 (**Table 3**), which equates to \$151.3 billion (ABS, 2010). Prior to the 2008-2009 reporting period, the construction industry had experienced seven consecutive years of growth as a proportion of GDP, since the introduction of the Goods and Services Tax (GST) in 2000 – 2001.

Table 3: Contribution of Construction Industry to GDP

Year	GDP (%)
2001 – 2002	5.4
2002 – 2003	6.2
2006 – 2007	6.8

2007-2008	7.0
2008-2009	6.8

Figure 2 illustrates the contribution of the construction industry as a percentage of total GDP

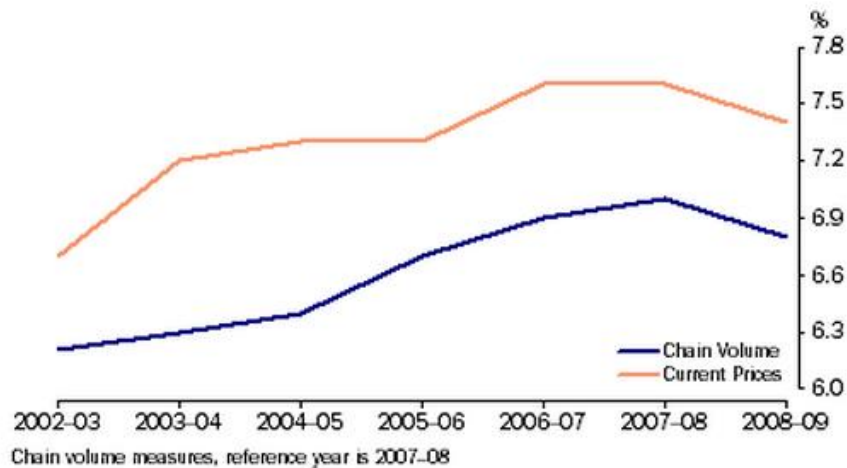


Figure 2: Construction Industry Contribution to GDP

5.2.2. Employment

The construction industry contributed 9.1% of the Australian national workforce, employing 984,100 people as recorded in May 2009, making it Australia's fourth largest industry by employment. More people are employed in the construction industry than ever before (ABS, 2010) (**Table 4**).

Table 4: Construction Sector Employment

Year	Persons Employed Nationally	Percentage Rise (%)
2006	892,100	10.3
2009	984,100	

5.3. Socio-economic Impact Assessment Rating

Intertwined nature of national social and economic issues has resulted in a combined social and economic impact assessment (**Table 5**).

Table 5: National Socio-Economic Impact Rating Assessment

Category	National Socio-Economic Rating
Desirable/undesirable	Desirable
Intentional/unintentional	Intentional

Distributional impacts	Direct and carry on economic gains in the construction sector and related industries.
Net positive/negative impact	Positive

6. Regional Considerations

6.1. Regional Economic Drivers

Port Stephens has developed positive economic drivers, with regional growth over the last 10 years being attributed to four identified economies below (Port Stephens Planning Strategy (PSPS), 2011);

- Defence;
- Global Manufacturing and Logistics;
- Services; and
- Tourism.

The Port Stephens LGA is dependent upon tourism, agriculture, manufacturing, defence, industry and retail and business. Therefore the maintenance of the physical amenity and natural areas in the LGA is an integral component driving tourist activities and related economic gains (PSPS, 2011).

The presence of a solid industry base is considered a major advantage to support economic development and employment growth. The proposed project will enable the region to cement a solid industrial presence by injecting vital economic and social gains into the state economy and work force.

6.2. Regional Social Demographic

6.2.1. Population

Port Stephens has experienced the highest population growth in the Hunter Region from 1991 - 2006 (25.6%), with a projected population of 117, 700 by 2031 (Port Stephens Futures Strategy (PSFS), 2009). In 2011 Port Stephens Local Government Area (LGA) had a resident population of 64,807 (ABS, 2011). Additionally the Port Stephens LGA supports higher percentages of both the younger age bracket (0-17) and the older age groups (60+) compared to other LGAs comprising the Hunter Statistical Division (Lower Hunter Regional Strategy (LHRS), 2010).

Significant past and projected future increases in population size generates a range of challenges surrounding the dispersal of towns and villages. The settlement pattern of Port Stephens also identifies funding challenges surrounding the provision of infrastructure and services (PSFS, 2009). Infrastructure gaps are recognised in the Port Stephens Futures Strategy as a major constraint on economic development and employment provisions.

6.3. Regional Area Assessment

The proposed Brandy Hill Quarry Extension Project is located approximately 12 kilometres (km) north-west of Raymond Terrace, 3.5km west of Seaham, and 175 km north of Sydney in New South Wales (**Figure 3**). The Port Stephens LGA land use zoning is an agglomeration of primary production, rural landscape, residential (general, large lot residential), national parks and nature reserves, environmental management, environmental conservation, special activities, public recreation, mixed use etc. (Port Stephens Local Environmental Plan, 2013).

The surrounding locality is typical of a rural area, with progressive residential development, agricultural properties and industry presence.

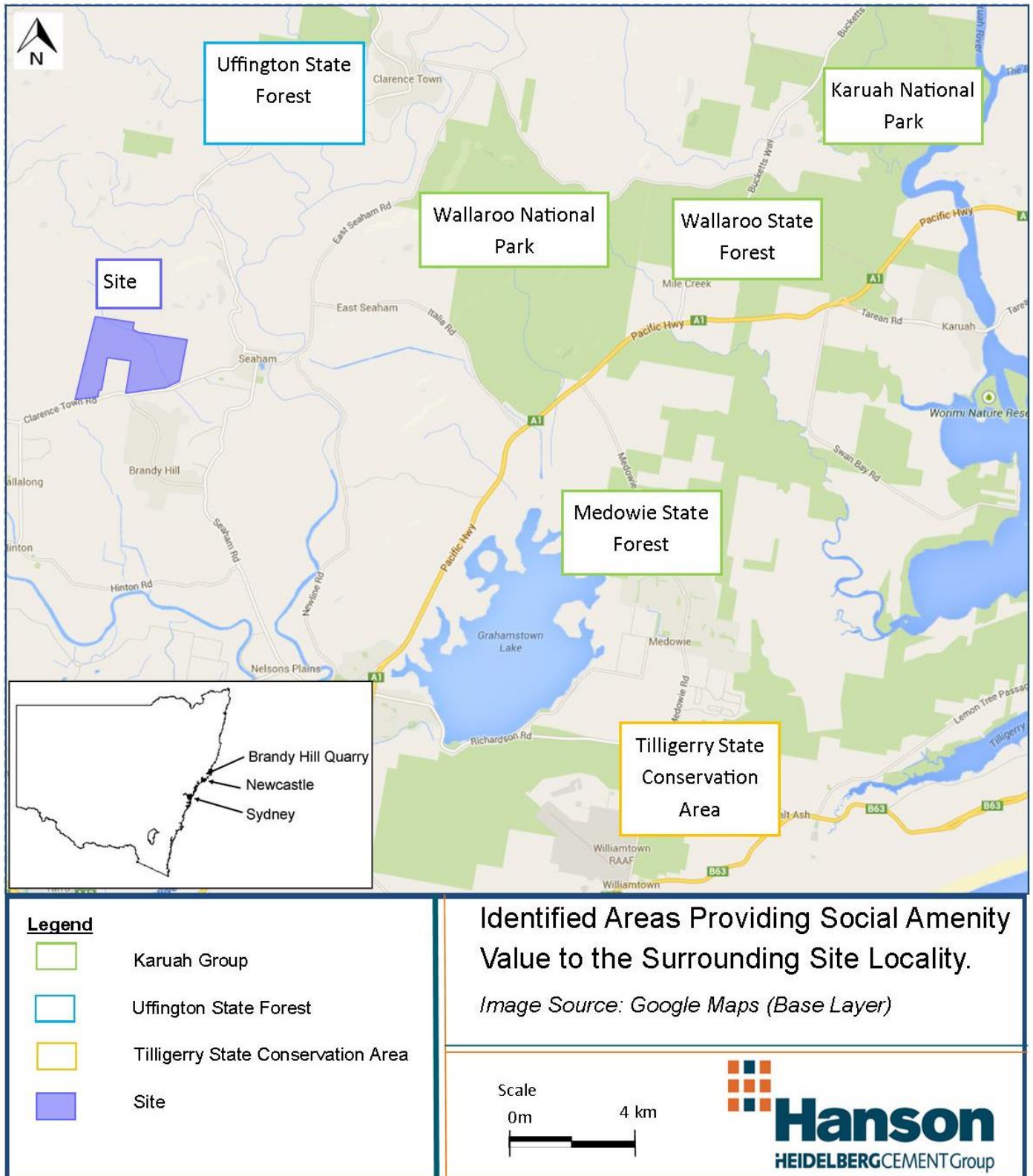


Figure 3: Identified Land with Social Amenity Value in the Surrounding Site Locality

6.3.1. Existing Local and Regional Land Use Character

The site is currently operating under approval for the operation of a hard rock quarry and processing plant. The addition of a concrete batching plant and concrete recycling facility on site, both of which are ancillary to quarrying operations, will not alter the nature of land use. The existing Brandy Hill quarry operates in the same region as Daracon's Martin's Creek Quarry which is situated approximately 10km to the north west of the Project. The Project will not result in an introduction of any new land use to the local and regional amenity.

6.3.2. Transportation Characteristics

The Seaham area is located off the Pacific Highway which is a major transport link in a northerly/southerly direction. Other local, regional and state arterial roads that are used in the project include but are not limited to Clarencetown Road, Brandy Hill Drive, Seaham Road and the New England Highway (**Figure 4**).

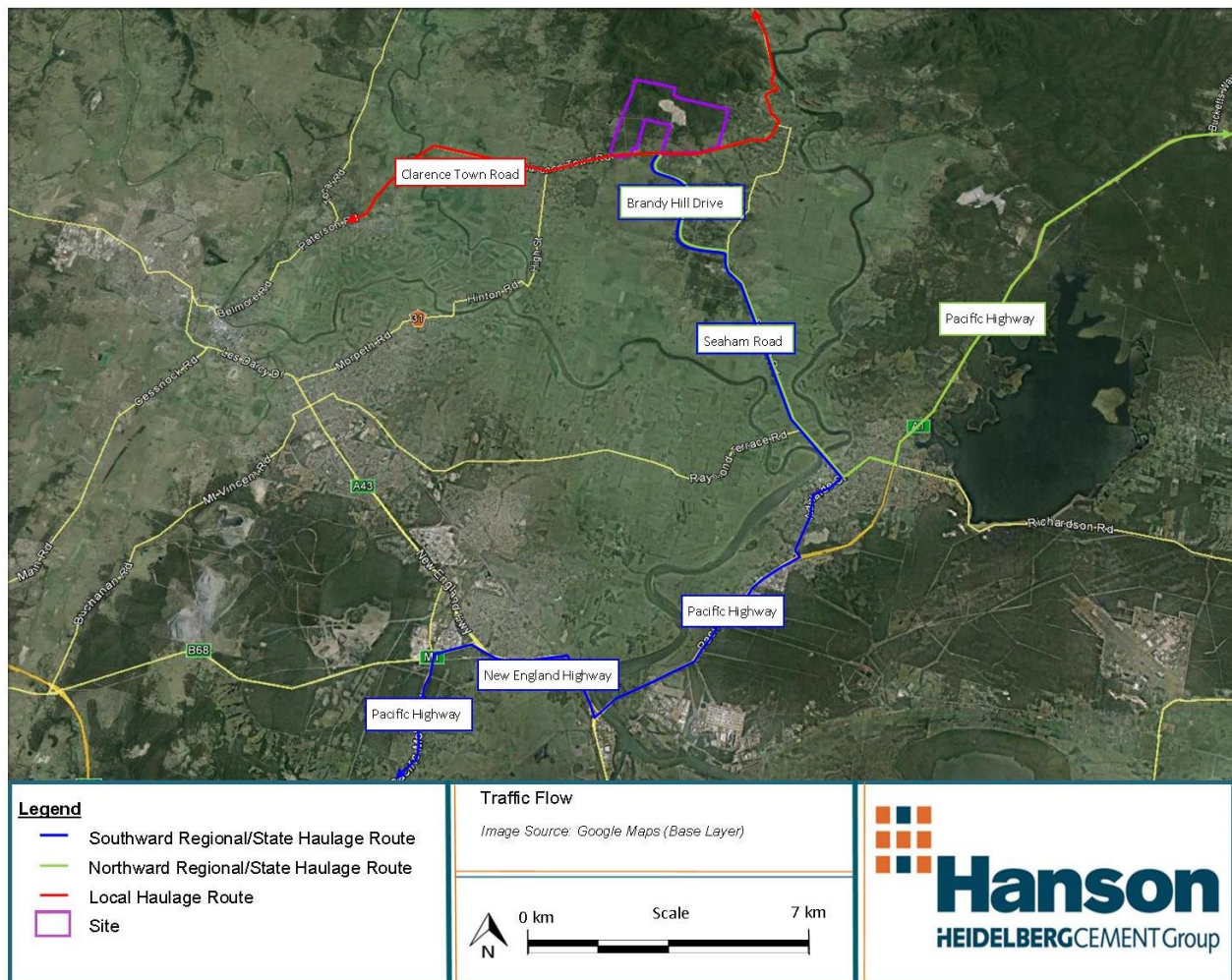


Figure 4: Heavy Vehicle Haulage Route

6.3.3. Physical Landform Characteristics

There is a positive correlative relationship between the environment, quality of life, and regional identity. Thus, the desire to protect environmental assets based on their value to local amenity is high. In this light an assessment of significant natural elements has been conducted to assess any potential impact on the regional amenity surrounding the site.

Major physical characteristics of the area are the Hunter estuary and wetlands to the south, the Stockton sand dunes and beaches to the east, the major waterways of Port Stephens in the northeast, and the rural hinterland and Williams River to the west (PSPS). Additionally there are large areas of natural conservation within the LGA.

6.3.3.1. Natural Conservation

In a broad regional geographic context, the Project is located within declared wilderness areas. Social values of these natural settings are encapsulated by recreational activities and tourist opportunities predominately within the Central Coast and Hunter region and more immediate locality including Seaham and Karuah. **Figure 3** situates the Project in respect to the surrounding identified areas significant to social amenity value.

Wollaroo National Park, Kuruah National Park, Medowie State Conservation Area, Karuah State Conservation Area, Medowie Nature Reserve and Karuah Nature Reserve are situated between 10 and 20 kilometres (km) to the east of the Project (**Figure 3**). This area is referred to as Karuah group from hereon. Karuah group provides a range of recreational opportunities, including bushwalking, camping, four-wheel driving, motorcycling, cycling/mountain bike riding, horse riding, boating and fishing (NSW OEH, 2012). The Karuah group is managed under a Draft Plan of Management 2012 by NSW National Parks and Wildlife Service under the Office of Environment and Heritage (OEH).

Columbey National Park is located 7km to the north east of the Project and offers similar social amenity values to Karuah group, specifically bird watching, bushwalking, camping, horse riding and off-road motorcycling (**Figure 3**). Columbey National Park is managed under a Plan of Management and Fire Management Strategy by the NSW National Parks and Wildlife Service, under the OEH.

Both Columbey National Park and Wollaroo National Park are not considered as a high visitation parks in NSW (NSW National Parks and Wildlife Service). The majority of visits to these parks are attributed to regional and local sources.

Tilligerry State Conservation Area is located approximately 20km to the south east of the Project site. This area is closed to the public to maintain groundwater quality and protect the water extraction infrastructure. Henceforth the Tilligerry State Conservation Area does not contribute to the social amenity for the purposes of this socio-economic impact assessment. Tilligerry State Conservation Area is also managed by the NSW National Parks and Wildlife Service under the OEH. Visitation rates are not calculated for this area as it is closed to the public.

6.3.3.2. Other Regional Land Uses

The Hunter Estuary Wetlands are a RAMSAR site consisting of Kooragaga Nature reserve and Hunter Wetlands Centre Australia, which are situated on the northern edge of Newcastle. These wetlands have international significance which govern targeted management objectives of the Hunter Estuary Wetlands on rehabilitation, restoration and ongoing management, with opportunities for research, education, recreation and tourism also being inputs into the management of this natural amenity source. The Hunter Estuary Wetlands are located 17 km from the Project site. The Project is not anticipated to impact on any of these identified management factors (Refer to **Figure 5**).

The Stockton sand dunes and beaches to the east of the project site contribute to the Worimi Conservation Lands. The sand dunes, 32km beach stretch, 1800ha of forest, and ephemeral wetlands are a major tourist driver and also hold cultural significance to the Worimi people. The closest point of the Worimi Conservation Lands is 23 km from the site, and hence the Project is not anticipated to have any detrimental impact on Stockton sand dunes.

6.4. Socio-economic Impact Assessment Rating

The assessment rating individualises social and economic concerns due to the significantly different ways in which the regional character can be impacted by the proposed Project over social and economic categories.

6.4.1. Economic Impact Assessment Rating

The Project will provide economic support for regional development through securing the supply of construction materials in regional markets (**Table 6**).

Table 6: Regional Economic Rating

Category	Regional Economic Rating
Desirable/undesirable	Desirable
Intentional/unintentional	Intentional – Planned regional growth.
Distributional impacts	Direct and indirect/distributional
Net positive/negative impact	Positive

6.4.2. Social Impact Assessment Rating

The social impact rating is based on the potential impact of the Project on the social infrastructure of the region. Detrimental Project impacts are not probable due to;

1. Long distances to “sensitive” areas; and
2. Low potential for any Project attributed environmental issues.

Additionally, regional truck haulage routes bypasses sites with high regional social amenity value. The only movement of trucks in the locality of the social amenity value areas will be for

local construction jobs. Project assessment impacts outlined in **Section 5.0** of the corresponding EIS states that visual, noise, air and traffic impacts will remain low provided that relevant compliance criteria and mitigations are applied. Therefore there is projected to be minimal social impact on the regional social amenity value (**Table 7**). Small impacts will be isolated to truck transport to meet supply local jobs.

Table 7: Regional Social Impact Assessment Rating

Category	National Social Rating
Desirable/undesirable	Undesirable
Intentional/unintentional	Unintentional
Distributional impacts	Direct
Net positive/negative impact	No impact

Therefore, there is projected to be no detrimental socio-economic effect on the regional amenity

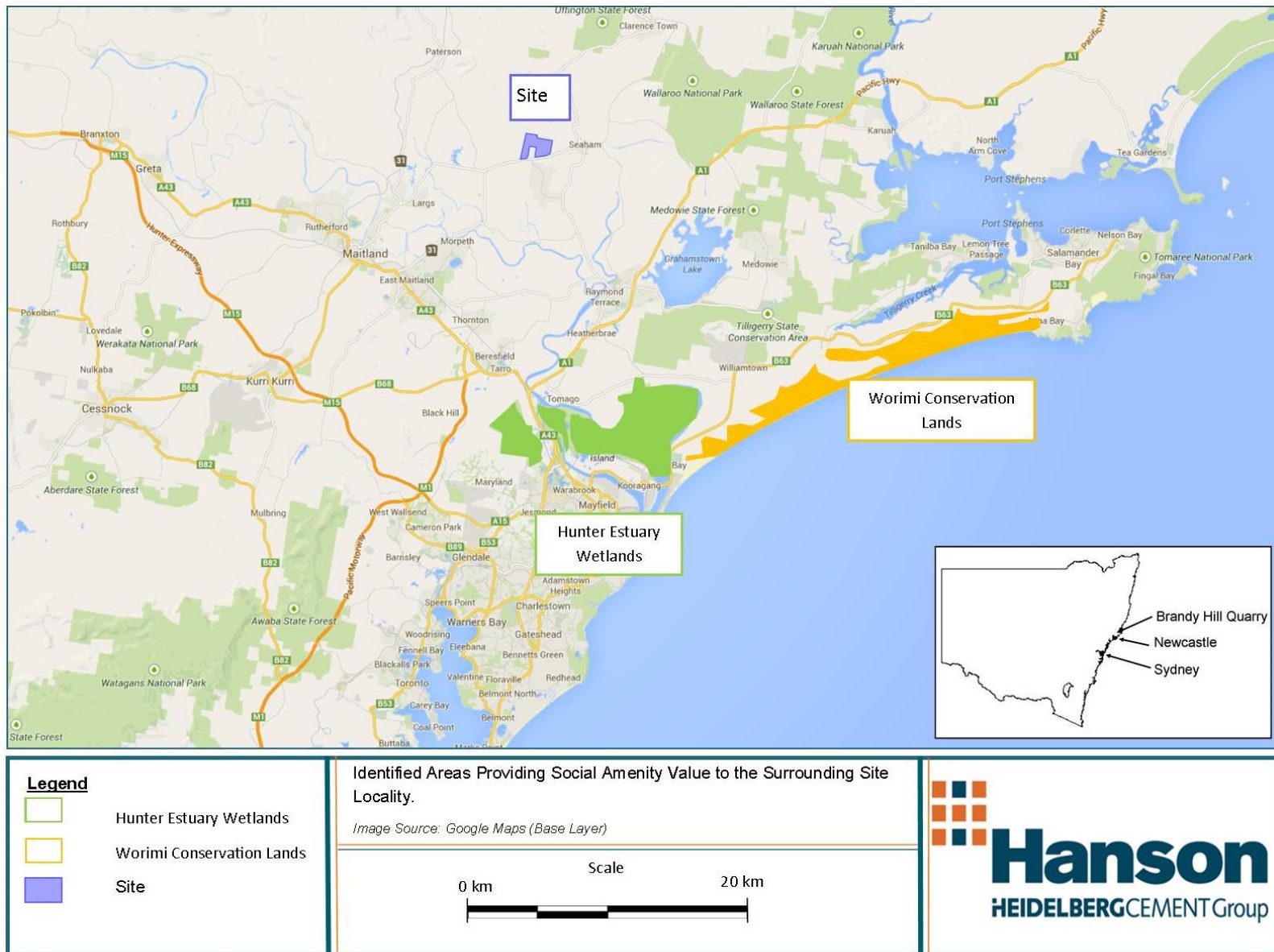


Figure 5: Regional Social Amenity Areas

7.0 Local Considerations

7.1 Local Employment Statistics

In the most recent 2011 census, there were 673 people residing in Brandy Hill. 49.6 percent (%) of these were male and 50.4% were female (ABS, 2011). **Figure 6** illustrates the Brandy Hill suburb, and the area included in ABS analysis in this section (**Section 7.0**). **Figure 7** below illustrates employment by industry for Brandy Hill residents 15 years and above. The construction industry employs 10.9% of Brandy Hill residents on census night. Comparatively the construction industry employs 8.5% of the Port Stephens Local Government Area workforce.

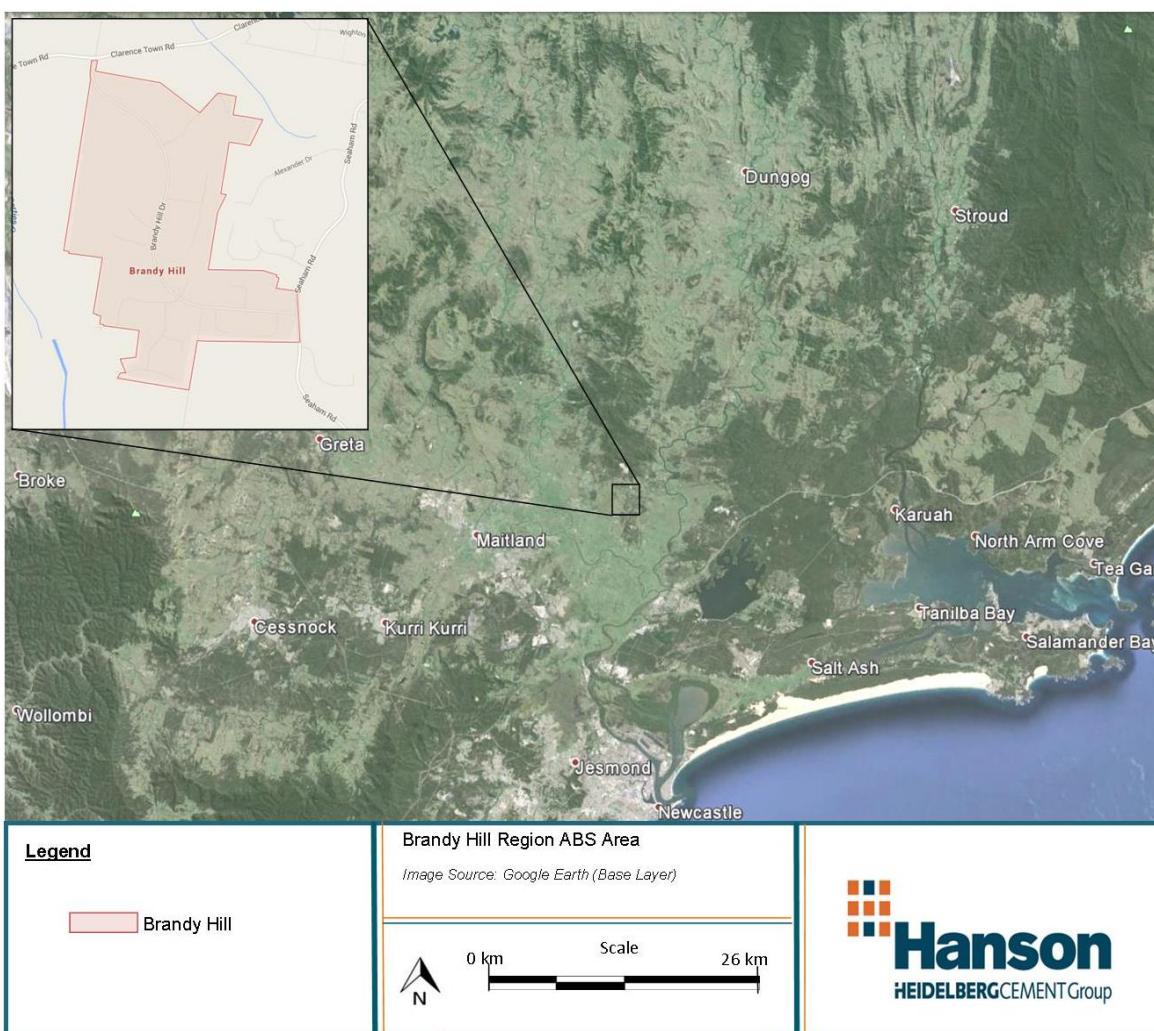


Figure 6: Brandy Hill Suburb - ABS Data

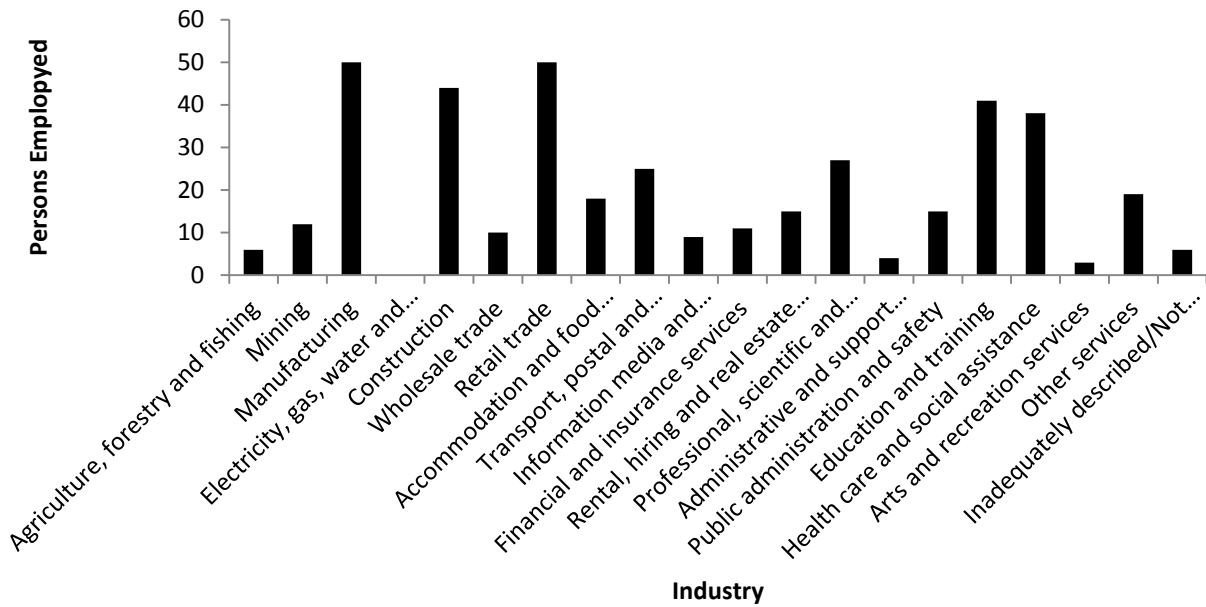


Figure 7: Brandy Hill Occupation Characteristics for persons 15 years and above.

Source: ABS 2011 Census data of Population and Housing.

Brandy Hill supports larger percentages of managers, professionals, administrators and sales employees in comparison to the remaining Port Stephens LGA (**Figure 8**). Alternatively Brandy Hill supports smaller percentages of technicians and trades works, community and personal service and labourers in comparison to the wider Port Stephens LGA (**Figure 8**).

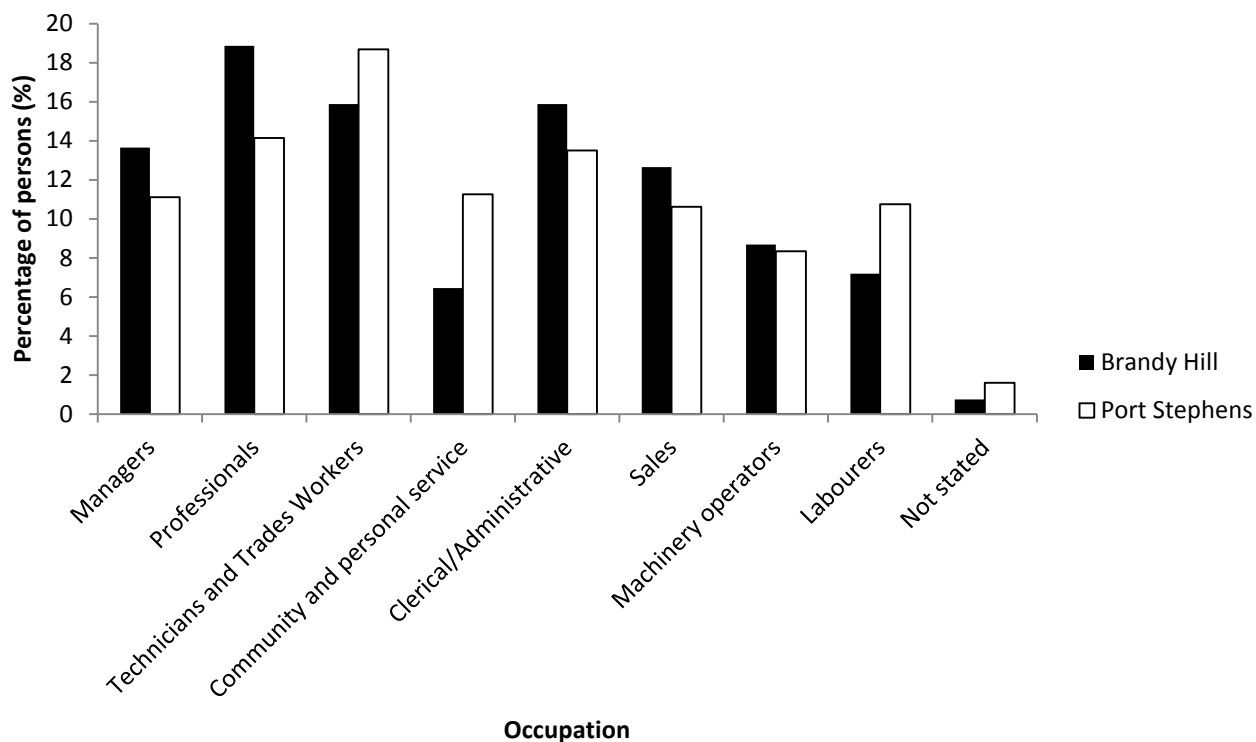


Figure 8: Persons Employed by Occupation for Brandy Hill and Port Stephens Local Government Area.

Source: ABS 2011 Census data of Population and Housing.

Of the total 403 Brandy Hill residents in the workforce, 58.6% are employed full time, 32.7% are employed part time, 5.8% are away from work, and 2.9% are looking for work. Comparatively Port Stephens LGA supports higher percentages of unemployment and residents whom are looking for work (**Figure 9**).

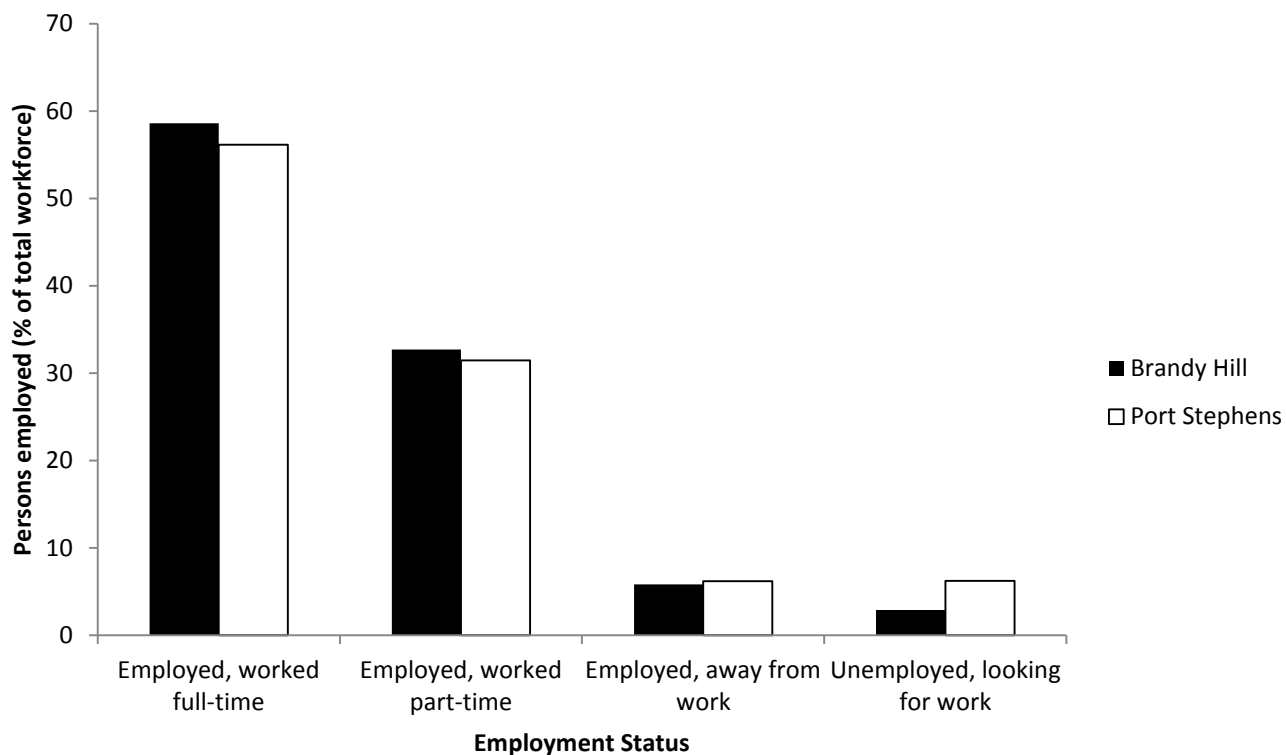


Figure 9: Employment Status in Brandy Hill as percentage to total labour force.

Source: ABS 2011 Census data of Population and Housing.

Dwelling type and composition in Brandy Hill, compared to the Port Stephens LGA show that the area is still predominantly rural, situated in a surrounding region of development and progressive urban consolidation. 98.6% of Brandy Hill dwellings are separate standalone houses, with the remaining 1.4% of dwellings semi-detached. Comparatively, Port Stephens LGA supports 82.4% of separate stand along houses, with the remaining percentages being attributed to semi-detached, flat, unit or apartment, other dwelling and not stated dwellings (Figure 10).

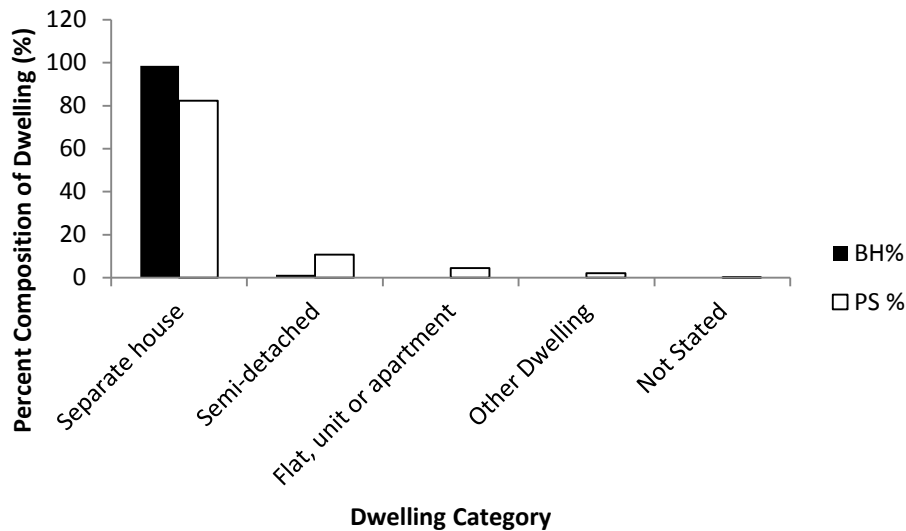


Figure 10: Dwelling Composition in Brandy Hill and Port Stephens LGA

Source: ABS 2011 Census data of Population and Housing.

Brandy Hill supports employment characteristics and housing composition which are consistent with those of the broader Port Stephens Local Government area. High levels of employment in retail, manufacturing and construction sectors together with dominance of separate, standalone housing suggest that the area is currently characterised as a predominately rural area, with a strong industrial presence and an increasing reliance on the occupation divisions which support tourism and regional development.

7.2 Local Area Assessment

Hanson owns approximately 561 hectares (ha) which includes the existing Brandy Hill Quarry proposed expansion site as well as surrounding buffer land. The location of the proposed quarry in respect to the surrounding land is shown in **Figure 11**.

The site is immediately boarded by environment management zoned land to the northeast and northwest, environment conservation zoned land to the true north, rural landscape to the east and immediately to the south, and well as primary production immediately to the east, with large lot residential and primary production zoned land less than 200m to the east of the property boundary (**Figure 11**). The western side of the property is bounded by rural landscape zoned land (**Figure 11**).

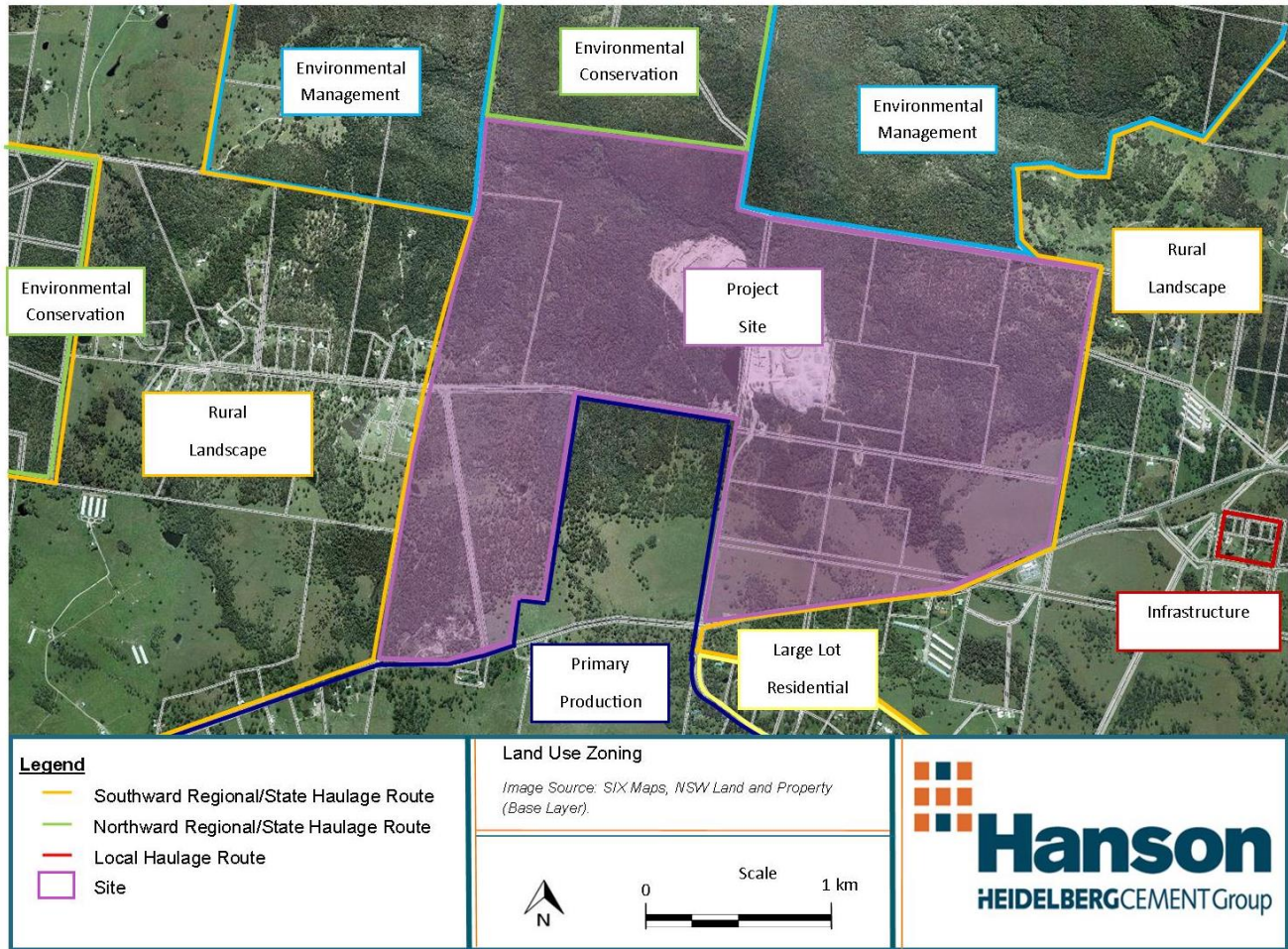


Figure 11: Land Use Zoning

7.3 Socio-economic Impact Assessment Rating

The Brandy Hill Expansion Project is anticipated to inject vital economic benefits into the local economy. Employment opportunities will be created in the labour and trade employment sectors which are currently below the LGA average. This will boost employment in such sectors and make Brandy Hill more likely to meet the regional objectives outlined in the *Lower Hunter Regional Strategy, 2010*.

Table 8 shows the local socio-economic assessment rating.

Table 8: Local Socio-Economic Impact Assessment Rating

Category	National Socio-Economic Rating
Desirable/undesirable	Desirable
Intentional/unintentional	Both
Distributional impacts	Direct

Net positive/negative impact	Positive
-------------------------------------	-----------------

8.0 Project Considerations

Hanson and its subsidiaries operate over 55 quarries in NSW. Of these, only three (3) quarries are able to supply the Hunter and Central Coast with hard rock construction resources, these being Brandy Hill, Kulnura and Sancrox quarries. Primarily three quarries supply the Sydney Metropolitan region with hard rock construction resources, these being Bass Point, Kulnura and Brandy Hill. The recent closure of Wallgrove quarry in 2012 and closure of Emu Plains/Penrith Lakes quarry in 2015 in Sydney has increased the demand on the Proponent's remaining quarries to meet the needs of the Sydney market, whilst regional expansion in the Central Coast and Hunter regions have increased the demands on the existing quarries servicing these areas. Therefore the Brandy Hill Quarry Expansion will primarily service the Hunter and Central Coast markets, with additional assistance to the Sydney Metropolitan region by alleviating the pressures on Kulnura Quarry to service both the Central Coast/Hunter and Sydney Markets in times of high demand.

8.1 Cost of Construction

The estimated cost for the quarry expansion is TBA (exact CIV being calculated), which will occur over the five project stages. The expansion Project will occur in conjunction with continued quarry operations, in which Brandy Hill Quarry will maintain the Company's contribution to local and regional economies through ongoing operational and transitory construction expenditure and employment.

8.2 Employment Opportunities

A construction workforce will be required to enable expansion works associated with the Project. The expected workforce upon completion of stage 5 is up to 31 full time employees (**Table 9**), with additional transport and support employment opportunities. Positions would be advertised on the Company Website, as per standard procedure and would be offered to local and regional residents in the Brandy Hill and surrounding locality. Some positions are open and filled in current quarry operations. Flow on and multiplier employment effects are expected, which will be injected into regional and state economies.

Table 9: Employment Opportunities

Category	Position	Number of Employees Required
Concrete	Manager	1
	Batcher	1
	Agitator Driver	4/5
Concrete Recycling	Operator	1
	Loader Operator	1
Quarry Operations	Quarry workers	18
	Admin/Management	4
Total		30/31

8.3 Sales

A review of sales from 15 June 2013 – 14 June 2014 found that internal sales have accounted for 24.5% of total sales. The main locations for internal sales include;

- Kulnura Quarry
- Hymix Mayfield Concrete Plant
- Adamstown Concrete

External sales contributed to 75.5% of total sales.

9.0 Assessment and Findings

9.1 Existing Social Concerns

9.1.1 Sense of Community and Place

The area is predominantly a rural zoned area with planned regional development (LHRS, 2010). Regional development, in general terms has been opposed by some of the Brandy Hill residents, which has been solidified through the erection of signage along local roads (**Figure 12**). Whilst community protest has not been directed solely toward the Brandy Hill Quarry expansion, it must be noted that the Project generates concern for some local residents. **Figure 12** illustrates an example of “Keep Seaham Rural” sign posted on Brandy Hill Drive.



Figure 12: "Keep Seaham Rural" Sign Erected on Brandy Hill Drive

9.2 Community Involvement

Hanson has been actively engaged with the local Brandy Hill/Seaham community. The Company has provided materials to Seaham & District Cricket Club, Seaham School, Seaham Scouts and for the construction of the Seaham Park playground. Additionally Hanson, through Brandy Hill Quarry, has provided sponsorship to Seaham Netball Club. The Proponent has

offered additional assistance to the local community by offering free aggregates to the aid residents during the flood effort in April 2015.

Additional to sponsorship and provision of construction materials, Hanson has been committed to enabling the exchange of information between the local community and the Company. To facilitate this, Hanson has prepared a fact sheet containing information regarding the quarry expansion proposal to educate the community on this matter and provide the basis for dialogue between the Company and the surrounding community. Hanson has also established an informal community consultation committee (CCC) to provide more specific information pertaining to the proposed Project. This process involves consultation with local residents and has formed a platform for the identification of concerns relating to the proposed Brandy Hill Quarry Expansion Project by the Brandy Hill community. The CCC also forms a dynamic avenue for Hanson to converse relevant facts to the community. At the time of writing Brandy Hill Quarry has held seven (7) CCC meetings, and accommodated the individual needs of CCC members through individual meetings, site tours, and local drive in a truck.

This engagement process has given the community opportunities to provide pertinent feedback regarding the Project. Assessment of community identified issues is documented in **Section 9.2.1** of this report.

Table 10: Community Consultation Structure

Individual	Status	Position
Dom Swinkles	Current	Chairperson
Maragete Ritchie	Current	Community Consultative Committee Member
Neil Ritchie	Current	Community Consultative Committee Member
Robert Adams	Current	Community Consultative Committee Member
Les Fisher	Current	Community Consultative Committee Member
Peter Rees	Current	Community Consultative Committee Member
James Hart	Current	Community Consultative Committee Member
Debbie Charman	Current	Representative from the Voice of Wallalong and Woodville
Bob Beale	Withdrawn	Community Consultative Committee Member
Prue McGee	Yet to attend	Community Consultative Committee Member
Individual	Organisation	Position
Michael Benic	Hanson	BHQ Quarry Manager
Tracey Marks	Hanson	BHQ Administration Supervisor
Shaun Boland	Hanson	Production Supervisor
Steve Williams	Hanson	Eastern Region Transport Metro Quarry
Bryan Tracy	Hanson	Tipper Driver
Andrew Driver	Hanson	Eastern Region Development Manager
Simon Jones	Hanson	Graduate Manager Trainee
Scott Tipping	Hanson	Operations Manager Aggregates Concrete
Sam Hogg	Hanson	Transport Supervisor
Pip Cox	Hanson	Graduate Environmental Manager

In addition to the formation of the CCC, the Company has made contact with the following local community groups;

- Bolwarra Heights Community Group;
- Brandy Hill and Seaham Action Committee; and
- Voice of Wallalong and Woodville.

9.2.1 Community Identified Concerns

Specific concerns relating to the proposed Project were obtained from Brandy Hill and Seaham Community Action Group's online survey and also identified during CCC meetings.

9.2.1.1 BHSCAG Survey

Brandy Hill and Seaham Community Action Group (BHSCAG) is a not for profit community group which acts to represent community concerns, with a particular concern for the potential impacts of Brandy Hill Quarry. BHSCAG generated an electronic survey using Survey Monkey online software which can be accessed via <http://brandyhillaction.org/survey-resident-concerns/>. The results were presented to Hanson during CCC meeting four, and are included in this report as **Appendix 1**, and results have been extrapolated below.

Firstly, the survey asks participants to rate their concern level as extremely concerned, somewhat concerned or not concerned in respect to various issues of the quarry expansion. Concerns were quantified in accordance with three categories; these being extremely concerned, somewhat concerned and not concerned. Hanson analysed the raw data from this survey by allocating an average rating for each identified issue. An average rating was determined based on a weighted average calculation to identify issues that generate more concern for the sampled population. **Figure 13** illustrates "road surface deterioration (unevenness and potholes)", "increase in traffic/truck movements" and "quarry working hours" are the three issues that generate the highest level of concern. Alternatively "quarry crushing noise", "quarry blasting" and "quarry dust" were the three topics associated with the lowest levels of concern.

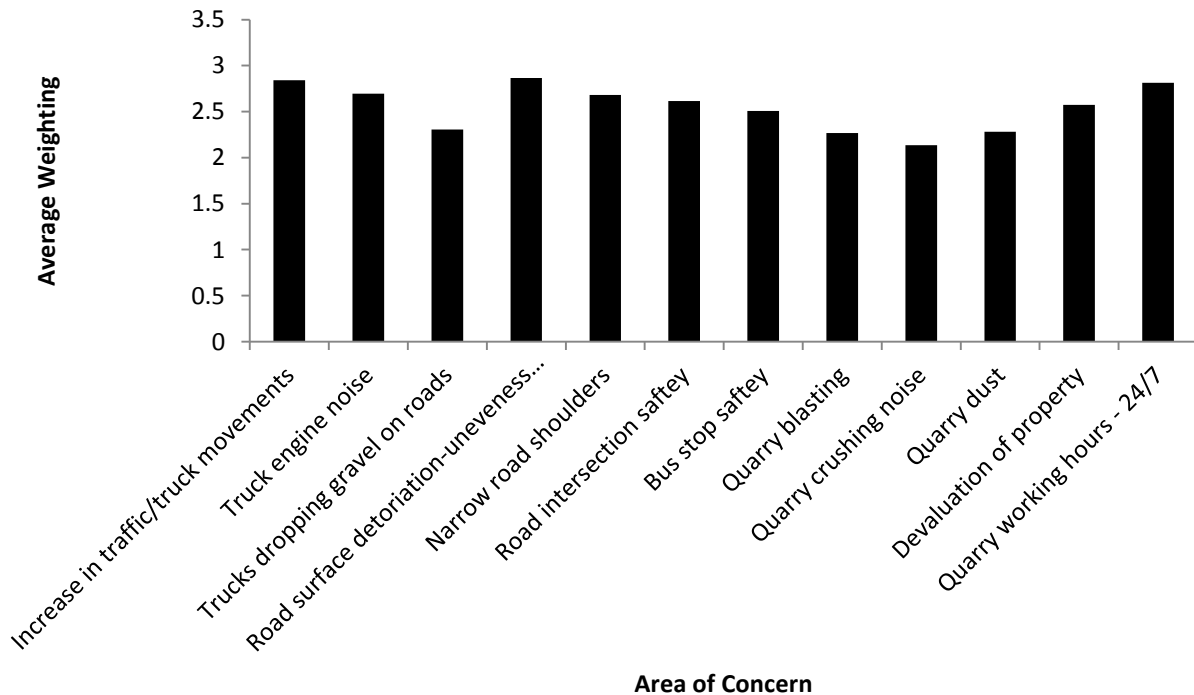


Figure 13: Concern Rating of Project Issues

Secondly, the BHSCAG asked the sampled population to quantify the topics of which they feel the consultation process will yield a desirable outcome for the community. This data was also analysed by Hanson using a weighted average calculation to identify areas that the community views as a valuable negotiation topic. Results are annexed to this report, and replicated in **Figure 14**. Results identify restricted hours as a major negotiation topic with 77% of the sample size raking this topic as extremely valuable, followed by road upgrade (67%), widen road shoulder (57%), pedestrian/cycle path along Brandy Hill Drive (57%), levy on the quarry for community benefit (33%), reduced speed limits on Brandy Hill Drive (24%) and lastly special access days for locals to purchase quarry products by the trailer-load (10.7%).

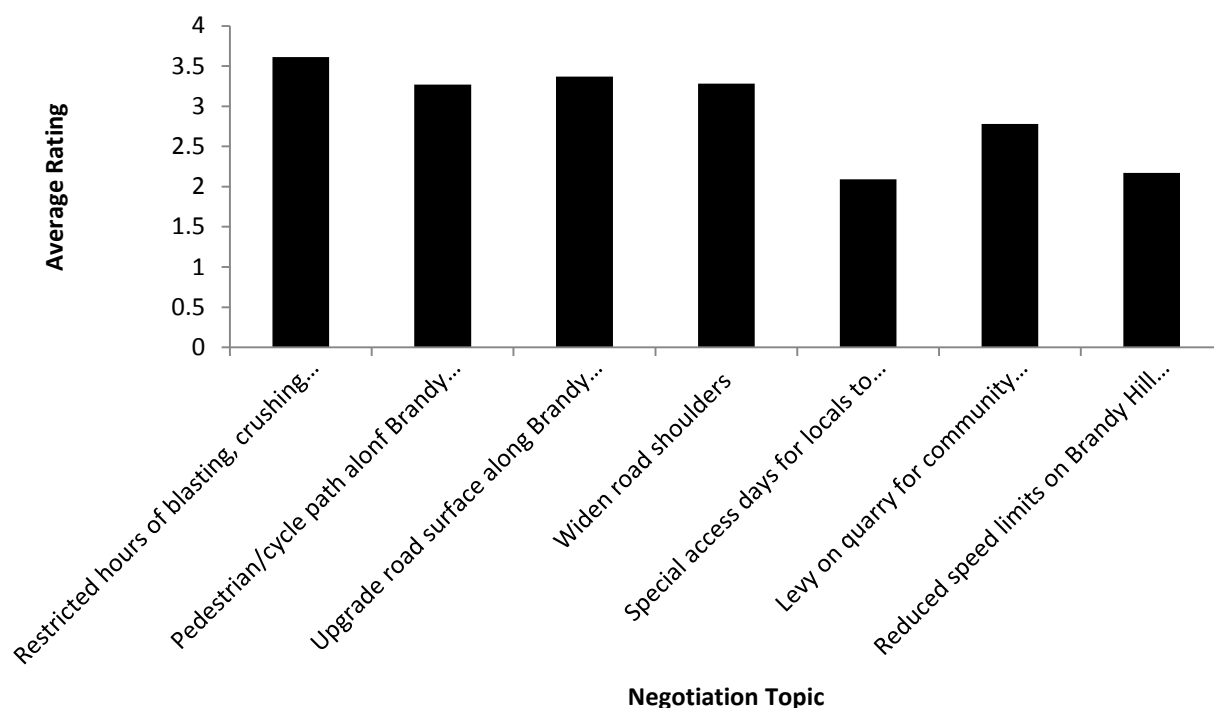


Figure 14: Average Rating of Negotiation Topic Potential for Positive Community Outcomes as Rated and Analysed by BHSAG

9.2.1.2 CCC Identified Concerns

Paths along Brandy Hill Drive

The Brandy Hill Community Consultation Committee have requested to have a footpath constructed along Brandy Hill drive to assist in the safe pedestrian and cycle transfer of residents along Brandy Hill Drive. During CCC meetings, the Proponent committed to providing construction materials to aid in the construction of the proposed footpath and committed to furthering discussions with Port Stephens Council. A representative from Port Stephens Council attended CCC meeting 4, in which said representative stated that Port Stephens Council

focuses on larger population areas for cycleways and footpaths. Therefore council does not have the money to fund a cycle track along Brandy Hill Drive.

The Proponent met with a Port Stephens Council officer and engineer April 2015 to further discussions regarding the community proposal to have a footpath constructed along Brandy Hill Drive. During these discussions, council stated that it would not be feasible to put a path along the length of Brandy Hill drive due to several reasons, but specifically due to space constraints adjacent to the road easement. Council believed that land acquisitions would be required in some circumstances to generate enough space to construct a footpath.

Due to the unfeasibility of constructing a foot path along Brandy Hill Drive, Port Stephens Council proposed a bike path at Seaham Park. To enable community input, maps were distributed on which members could draw/outline desired paths and bus stops. At the time of writing, the proponent had distributed maps to CCC members and is awaiting return of these maps with community information.

Hanson will continue to facilitate the exchange of information between Brandy Hill CCC and Port Stephens Council in an effort to meet community requirements.

Road Shoulder/Bus Stop

In conjunction with the proposal to construct a footpath adjacent to Brandy Hill Drive to enable the safe transit of residents on Brandy Hill Drive, the community has identified concerns of other offsite amenities including bus stops/road shoulders. The community have stated that road shoulders are not large enough to be safe for commuters using the road. During the Proponents meeting in April 2015, council identified that there is scope to improve bus stops along Brandy Hill drive in certain areas. Circumstances where this could occur is where one or two driveways converge in close proximity.

10.0 Potential Impacts

A detailed assessment of potential impacts upon local amenity values has previously outlined in the visual, noise, air quality and transport impact assessment chapters. Values are ranked from no impact, low impact, moderate impact, and to high impact. These environmental assessment issues are categorically presented in **Table 11** explored subsequently.

Table 11: Impact Assessment Rating for BHQE Project

Area of Assessment	Impact Rating
Visual	Low Impact
Noise and Blast	Low Impact
Traffic	Low – Moderate Impact
Air	Low Impact

10.1 Visual

The proposed Brandy Hill Quarry Expansion Project area is predominantly shielded from the view of all potential nearby receptors due to landform morphology, topography and vegetation screening. A variety of receptors were selected based on high viewing potential of the site, and concluded that the project will be associated with low visual harm to the existing amenity. Visual assessment modelling suggests that the Project will not be seen from any of the existing natural reserves and national parks, due to distance and topographic shielding. There are some receptors on public roads that will have some minimal views of the quarry; however proposed mitigation measures will severely reduce views to the Project. Refer to the *Visual Impact Assessment Report* (**Appendix 15, Section 5**) for a detailed outline of methodology and visual assessment ratings.

10.2 Noise and Blast

Noise prediction modelling has been undertaken over the proposed 30 year project life and has taken into consideration both neutral and worst-case conditions during the day, evening and night periods. The predicted noise impact associated with the proposed expansion on the noise sensitive receivers ranged between 1 to 41 dB(A), which is within the applicable Project Specific Noise Level criteria during the daytime, evening and night period. Noise results of the noise impact assessment for the construction phases of the proposed quarry expansion also indicate that the predicted noise levels will comply with the applicable noise criteria.

Provided the Brandy Hill Quarry Operations keep within the acceptable limit of 584 truck movements during the day and 78 truck movements during the night on Brandy Hill Drive, the project will comply with the daytime and night time noise criteria.

Sleep disturbance is within acceptable criteria provided the Project complies with criteria.

Blast impacts from the proposed quarry extension can be readily controlled within acceptable values using existing blast practices.

The *Noise and Vibration Impact Assessment* report (**Appendix 9 & Appendix 10**) provides a detailed description of noise modelling methodology and assessment.

10.3 Traffic

As public transport remains a challenge for the Local Government Area, there is a high reliance on motor vehicles (LHRS, 2010). Truck movements will increase to accommodate the transfer of construction materials. These combined factors place pressures on the existing local road network, however the road network has both excellent level of service and sufficient spare capacity to cater for the Brandy Hill Expansion Project and also Daracon's Martens Creek Quarry (see **Section 5.2.3, Appendix 8**). Heavy vehicle traffic on the local road network contributes to 14-17 percent of local traffic.

Geometry, speed zoning and pavement construction is suitable on local network servicing the site. In accordance with Ausroads requirements, Brandy Hill Drive/Seaham Road Safe and Clarence Town Road/Brandy Hill Drive have safe intersection sight distance.

Therefore the major socio-economic concern is relational to the increase of trucks transiting through the local and regional arterial road network and subsequently related issues. Provided that traffic mitigation measures presented in the subsequent section of this report are adopted, traffic impacts of the social amenity of the Brandy Hill and Seaham area can be severely minimised.

11.0 Mitigation Measures

The Project is anticipated to have a net positive socio-economic impact for the local amenity and community. However Hanson is committed to operating in a way that reduces any potential impacts where reasonable and feasible. Therefore the company has proposed the following mitigation measures in conjunction with the local and regional growth strategies and plans.

11.1 Hanson will encourage project employment from the local district.

Hanson will advertise employment positions both on the Company's internal intranet and also using external sources such as Seek or Career One. The advertisement will provide a job description, salary and application details. From here applicants will provide documentation (e.g. resume) and enter into a screening process followed by an interview if required.

11.2 Hanson will provide training and certification to ensure suitable applicants can improve or acquire the necessary skills.

Hanson is committed to generating employment opportunities for the local district, and therefore is able to provide training to expand the knowledge and skill base of applicants. The Company provides training topics inclusive of (but not limited to); heavy vehicle operation, working at height, and risk assessment. The requirement to provide training and level of training provided would depend on the job description and also the employee's current skill set.

11.3 Manage Heavy Vehicle Traffic

The Proponent is seeking approval to operate 24 hours a day/ 7 days a week. Despite no current operation time restrictions, Hanson aims to limit truck movements between 6pm and 6am. In fact the Company has rarely deployed any trucks after 6pm during its time in operation.

The Proponent will remain within noise compliance criteria stipulated in the Noise Impact Assessment (**Section 5, Appendix 9**), which stimulates truck movements shall not exceed 584 during the day and 78 during the evening.

Increase of heavy vehicle traffic is a major concern for the local community, therefore Hanson will endeavour, where reasonable and feasible to transport the majority of bulk construction materials from site during daylight hours (approx. 6am – 5pm). It should be noted that Hanson will receive jobs outside of daytime hours and at times will be required to deploy trucks to supply jobs/projects of this nature.

11.4 Maintaining use of existing transit paths to reduce “spread” of traffic impacts.

Hanson will ensure that current heavy vehicle haulage routes are maintained where reasonable and feasible as per **Figure 4**. The existing truck movements occur along local roads including Brandy Hill Drive) and Clarence Town Road, and then to the arterial regional road network, along roads such as Seaham Road, and to state service roads, primarily of which is the Pacific Highway.

11.5 Continuous Community Involvement

Hanson will maintain consultation and exchange of information with the Brandy Hill and Seaham community over the life of the project where appropriate. This will be achieved through scheduled CCC meetings every three months. Additional important information will be relayed to

relevant parties via fact sheets, email correspondence, written correspondence or via face-to-face exchange when relevant.

11.6 Driver Awareness

Drivers will be informed of any traffic relevant concerns for the local community when relevant and instructed to minimise compression breaking and other activities that generate concern for local residents.

12.0 Conclusion

The proposed Brandy Hill Quarry Expansion Project is expected to have considerable economic and social benefits related to securing the supply of construction materials to the Sydney market transcending into local expenditure and employment opportunities. This *Socio-economic Impact Assessment* report involves the analysis of national, regional and local social and economic inputs pertaining to the Project, identification of community concerns followed by a categorical assessment of air-quality, noise, visual and traffic impact in a socio-economic context.

In economic terms the project is required to service the Hunter, Central Coast and Newcastle markets which have positive flow on effects in the Proponents ability to meet the market demands in the Sydney Metropolitan area. Regional growth in the Lower Hunter and Port Stephens region requires increasing amounts of construction materials to enable infrastructure development. Direct and distributional employment opportunities are expected to contribute to local and regional economic growth.

An agglomerated socio-economic impact assessment applying a worst case scenario approach indicates that receptors such as nearby residents and passive recreational users are not subjected to any adverse environmental impacts pertaining to the proposed Project. Visual, noise and blast, traffic, and air quality impact assessments in aforementioned sections of this EIS state that Project will impose only minor detrimental impacts on the socio-economic amenity.

Increases in the approved extraction limit will result in a higher quantity of truck movements per hour to accommodate an increased transfer of construction materials. However, truck movements are not anticipated to have a significant impact on the surrounding natural amenity, as they will remain with the predetermined noise targets with night time movements mitigated.

The Brandy Hill Quarry Expansion will have a net positive socio-economic impact on the local amenity. All proposed mitigation measures will be implemented to ensure that any potential detrimental impacts on the local community are managed and minimised. The maintenance of a successful interface between the local community and the Company will enable Hanson to meet market demands whilst simultaneously reducing potential detrimental impacts on the socio-economic local amenity.

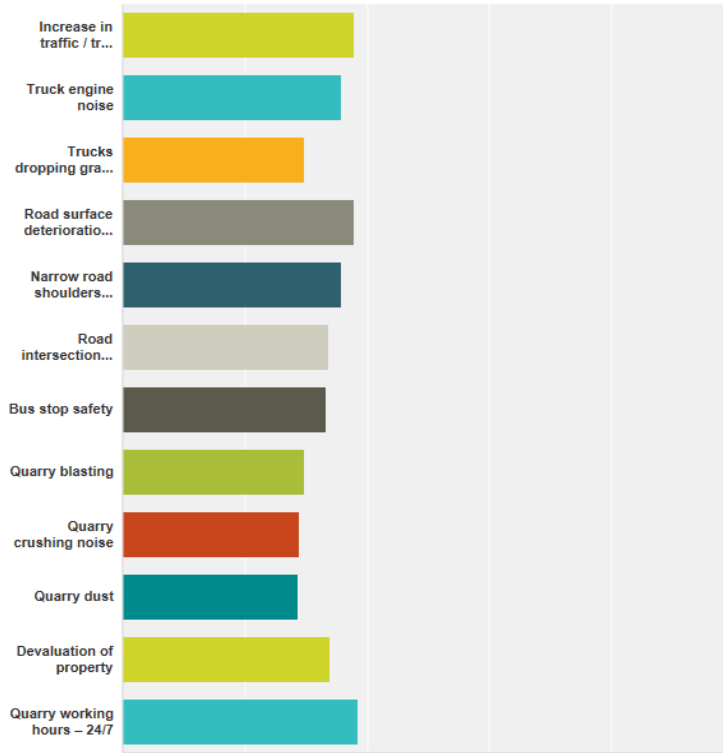


Appendix 1

Brandy Hill Expansion Project
Socio-Economic Impact Statement

What are your concerns? Please read the following list of issues and indicate their importance to you. If your concerns are not listed, please add them in the comment box provided.

Answered: 75 Skipped: 0



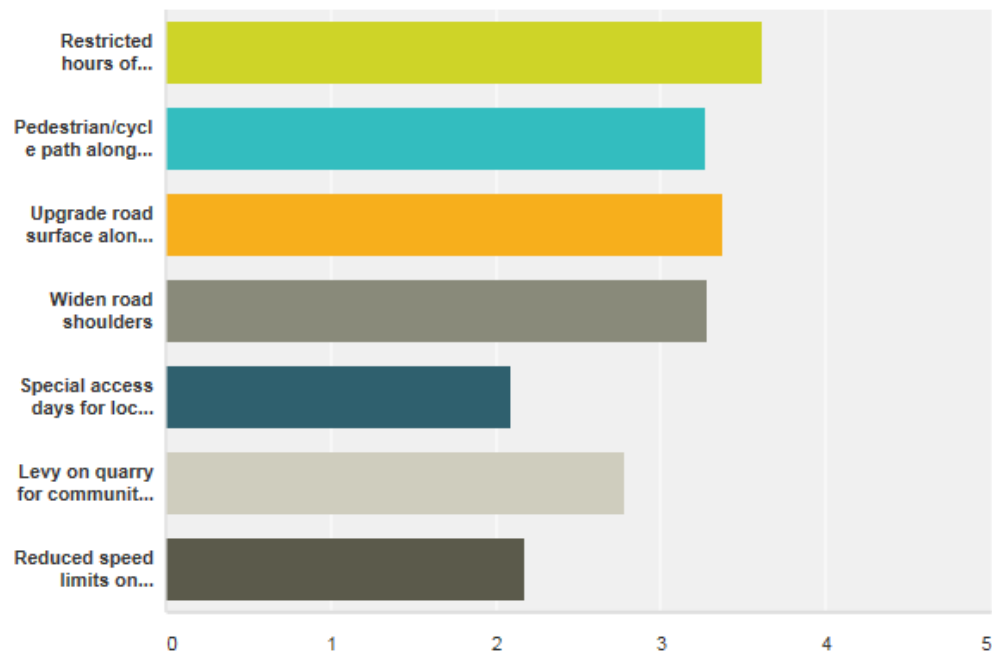
	Extremely concerned	Somewhat concerned	Not concerned	Total	Average Rating
▼ Increase in traffic / truck movements	86.67% 65	10.67% 8	2.67% 2	75	1.89
▼ Truck engine noise	74.67% 56	20.00% 15	5.33% 4	75	1.79
▼ Trucks dropping gravel on roads	42.67% 32	45.33% 34	12.00% 9	75	1.48
▼ Road surface deterioration - unevenness and potholes	88.00% 66	10.67% 8	1.33% 1	75	1.89
▼ Narrow road shoulders (pedestrian & cyclist safety)	77.33% 58	21.33% 16	1.33% 1	75	1.78
▼ Road intersection safety	65.33% 49	30.67% 23	4.00% 3	75	1.68
▼ Bus stop safety	60.00% 45	30.67% 23	9.33% 7	75	1.66
▼ Quarry blasting	41.33% 31	44.00% 33	14.67% 11	75	1.48
▼ Quarry crushing noise	34.67% 26	44.00% 33	21.33% 16	75	1.44
▼ Quarry dust	38.67% 29	50.67% 38	10.67% 8	75	1.43
▼ Devaluation of property	64.00% 48	29.33% 22	6.67% 5	75	1.69
▼ Quarry working hours – 24/7	86.67% 65	8.00% 6	5.33% 4	75	1.92

[Comments \(15\)](#)

One potential outcome of negotiations with the quarry is that they MAY be willing to provide concessions to the community.

Please read the following list of suggestions and indicate whether they are of value to you. Please feel free to add your own ideas at the end.

Answered: 75 Skipped: 0



	Extremely valuable	Very valuable	Somewhat valuable	Of no value	Not sure	Total	Average Rating
Restricted hours of blasting, crushing and truck movements	77.33% 58	10.67% 8	8.00% 6	4.00% 3	0.00% 0	75	3.61
Pedestrian/cycle path along Brandy Hill Drive	57.33% 43	20.00% 15	14.67% 11	8.00% 6	0.00% 0	75	3.27
Upgrade road surface along Brandy Hill Drive (reducing road noise)	66.67% 50	12.00% 9	13.33% 10	8.00% 6	0.00% 0	75	3.37
Widen road shoulders	57.33% 43	14.67% 11	24.00% 18	2.67% 2	1.33% 1	75	3.28
Special access days for locals to purchase quarry products by the trailer-load	10.67% 8	20.00% 15	36.00% 27	32.00% 24	1.33% 1	75	2.09
Levy on quarry for community benefit (via community organisation)	33.33% 25	18.67% 14	36.00% 27	9.33% 7	2.67% 2	75	2.78
Reduced speed limits on Brandy Hill Drive	24.00% 18	9.33% 7	26.67% 20	40.00% 30	0.00% 0	75	2.17