Fraser Earthmoving Construction Pty Ltd

ABN: 84 476 527 814

Part 11
Social Impact Assessment

for the

Howlong Sand and Gravel Expansion Project

State Significant Development 17_8804

Prepared by
Dr Jonathon Howard

March 2020

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Social Impact Assessment for Howlong Sand and Gravel Quarry Increased Extraction Rate

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March 2020

I, Jonathon Howard, the lead author of the Social Impact Assessment hereby declare that the assessment does not contain false or misleading information.

Signature J Howard

Date 12 March 2020

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Definitions

Term	Meaning
Community:	A group of people living in a specific geographical area or with mutual interests that could be affected by a State Significant Project.
EIS: (Environmental Impact Statement)	The report that identifies, predicts, evaluates and mitigates the environmental, social, economic and other relevant effects of a proposal.
Environment:	Defined in the EP&A Act to include all aspects of the surroundings of humans, whether affecting any human as an individual or in his or her social groupings.
Likelihood Rating:	We have adopted the rating on p42 of the Social Impact Assessment Guideline for State Significant Mining, Petroleum Production and Extractive Industry Development (2017).
Local:	Howlong Census District.
Mitigation:	Action taken to reduce the impact that a project may have on a matter.
Region:	Federal LGA, Greater Hume LGA, and Albury LGA.
Scoping:	Identifying what elements of the natural or human environment are expected to be impacted by activities associated with a State Significant Resource Project (whether positively or negatively), how those impacts should be assessed, and to what level of detail.
SEARs:	The SEARs (Secretary's Environmental Assessment Requirements) set out clear expectations on the level of assessment required for each relevant matter which must be addressed by the proponent in the EIS.
Stakeholder:	Any person or group with interests in, or the potential to be affected by, a State Significant Project.
State Significant Projects:	A State Significant Development or State Significant Infrastructure Project as defined under the Environmental Planning and Assessment Act 1979.

Executive Summary

Background

Fraser Earthmoving Construction Pty Ltd (FEC) proposes to increase production at its existing Howlong Sand and Gravel Quarry located at 4343 Riverina Highway. The proposal will involve replacing existing outdated equipment and refurbishing infrastructure such as roads and bridges to allow increased annual extraction volume so the quarry can service a wider market. The proposal will increase the annual maximum extraction limit from 30,000 tonnes per annum (tpa) to a maximum limit of 300,000 tonnes per annum (tpa).

The proposal requires the preparation of a detailed assessment detailing the likely social impacts of the development on the local and regional community in accordance with the Social Impact Assessment Guideline for State Significant Mining, Petroleum Production and Extractive Industry Development (2017).

The Social Impact Assessment (SIA) conducted in order to identify, predict, evaluate and develop responses to this proposal has involved a number of methodologies and techniques to triangulate and collect information. These included:

- Review of Australian Bureau of Statistics data;
- Desktop review of Council policies, documents;
- Interviews and consultation with the local community;
- Exhibitions in local libraries and information available on various websites;
- Direct mail to people;
- Consultation with Indigenous groups; and
- Community forums.

Key Assessment Findings

This Social Impact Assessment identified that the proposal has significant social and economic benefits for the area and few potential negative impacts. Many of the negative impacts and concerns can be mitigated through appropriate site management and mitigation, and/or have already been considered as part of the design process. The key benefits identified are:

- Resource Availability: increased production of sand and aggregate for the local market;
- Direct and Indirect Employment: the proposal will require an operational workforce estimated to be up to 16 jobs and a further 25 jobs in ancillary services. Forty additional jobs equates to a 6% increase in full-time employment opportunities for machinery operators and drivers, trades workers, and administrative staff for the Howlong region;
- Flow on Effects: the purchase of services, machinery, repairs to equipment, office supplies will boost other local businesses;
- Alternative Employment: many members of the community are employed indirectly or directly with agriculture. The proposal provides an alternative should the market conditions for agricultural products or weather change;
- Increased Biodiversity: 55 ha will be revegetated with indigenous species as a result of this proposal.

The different sectors of the community identified the following:

- Businesses that buy, on-sell, or use the products provided by Fraser Earthmoving Construction Pty Ltd quarries are supportive of the operation expanding;
- The landowner is supportive of the proposal;
- Neighbouring land users have raised no concerns with the proposal;
- Indigenous groups have no claim on the land, there are no sites of significance and they do not object to the proposal as long as an artefact scatter found on a dune to the north of the Quarry (outside the subject property) is not disturbed during the course of the development;
- The community raised issues and questions about traffic management, water management, pollution control, dust control, noise pollution, site access, and infrastructure safety.

Social wellbeing and lifestyle are important to the Howlong community, and many residents seem particularly wary of any impact that an increase of trucks on the Riverina Highway may have on their way of life. Thus, a key recommendation within this Social Impact Assessment is the implementation of a system to facilitate an ongoing dialogue between local residents and Fraser Earthmoving Construction Pty Ltd.

Overall, it is concluded that the benefits of this proposal outweigh the impacts, and that the risks and impacts can be managed through a suite of appropriate mitigation, monitoring, and operating procedures.

1. Introduction

1.1 Background:

Fraser Earthmoving Construction (the Proponent) have made a State Significant Development Application to the Department of Planning, Industry and Environment for an increase in the volume of materials to be extracted at an existing sand and gravel quarry located at 4343 Riverina Highway, Howlong, approximately 25 km west of Albury. While the location has been subject to approved extractive industry development since early 1960s, the proposal involves increasing the annual maximum extraction limit from 30,000 tonnes per annum to 300,000 tonnes per annum (tpa).

The quarry is situated on land owned by Nangunia Pastoral Pty Ltd. Extraction of sand and gravel material from the quarry both currently and into the future will be undertaken by Fraser Earthmoving Construction Pty Ltd under lease agreement with Nangunia Pastoral Pty Ltd, the owners of the land. There are no known lease restrictions that will prevent quarry operations in the future.

This proposal led to an issuing of the Secretary's Environmental Assessment Requirements (SEARS – see: EIS Section 2) which required a Social Impact Assessment (SIA) be developed in order to provide a detailed assessment of the likely social impacts of the development on the local and regional community.

The site is within the Federation Council LGA in southern New South Wales. This LGA is located about 560-600 kilometres south-west of the Sydney CBD, 350-400 kilometres south-west of the Canberra CBD, and 300-380 kilometres north of the Melbourne CBD. The Federation Council area is bounded by Narrandera Shire in the north, Lockhart Shire and Greater Hume Shire in the east, the Murray River and the Victorian border in the south, and Berrigan Shire and the Murrumbidgee Council area in the west. The nearest town is Howlong (population approx. 2,800 people) and the closest major regional centre is Albury-Wodonga.

The project will provide an important construction resource to support the planned growth of the NSW Riverina region and beyond. The existing rate of extraction (up to 30,000 tpa) is regarded as insufficient to meet the demand of local and regional development.

1.2 About this Document:

This document was prepared by Dr Jonathon Howard with research and data collection provided by Ms Andrea Mason of Finding North. Mr Peter Clinnick of Advanced Environmental Systems undertook consultation for the Project. A brief summary of the authors' qualifications and experience is provided below.

Key team members and their experience outlined below.

- Dr Jonathon Howard, B.Env.Sc., Grad Dip Nat Res., Grad Dip Bus Mgt., PhD. Jonathon has been academic at Charles Sturt University with a background in teaching and researching within the social sciences. He was previously Head of School in the School of Humanities and Social Sciences and, prior to that, Deputy Head of the School of Environmental Sciences. He has been a Ministerial appointee to several government boards including as Chair of the NSW Nature Conservation Trust.
- Andrea Mason, B. App. Sc. Andrea is Director of Finding North Aspects of Sustainability for Elken Cove Pty Ltd. She has over 25 years' experience in community development and natural resource management across rural and urban communities

- Peter Clinnick, B Ag Sc.Hons. Peter is currently Managing Director of the regionally-based environmental consulting company Advanced Environmental Systems Pty Ltd. He has been engaged by CSIRO Forestry, industry, community groups and local government to work in extension, research and statutory planning throughout Australia. Peter has been a Federal Ministerial appointee to Regional Development Australia-Murray.

The assessment has been prepared with careful attention paid to the Department of Planning and Environments Secretary's requirements for an Environmental Impacts Statement for the Howlong Sand and Gravel Quarry Expansion (7/11/17) which requested:

- a detailed assessment of the likely social impacts of the development on the local and regional community in accordance with the Social impact Assessment guideline for State significant mining, petroleum production and extractive industry development.

1.3. What is Proposed?

Fraser Earthmoving Construction (FEC) currently operates the Howlong Sand and Gravel (HSAG) Quarry, which has been in use for in excess of 60 years, but only managed by the current operator for the past 18 months. The existing operation is considered to be a medium-sized operation supplying mainly to private projects that are managed by Fraser Earthmoving Construction Pty Ltd and other companies such as Hanson and Rivalea.

Fraser Earthmoving Construction Pty Ltd is seeking approval to expand current sand and gravel extraction operations over a period of 30 years. The proposal will increase the annual maximum extraction limit from 30,000 tonnes per annual to 300,000 tonnes per annum (tpa).

It is estimated that the sand and gravel quarry would access a total resource of approximately 8.9 million tonnes. The proposal therefore takes operations over the 5 million tonne threshold criteria listed within Schedule 1 c.17(1)(b) of the State Environmental Planning Policy (State and Regional Development) 2011 as being designated as a State Significant Development (SSD).

In order to increase extraction rates, the development will generally involve the following:

1. Ongoing use of existing infrastructure including:
   - on-site processing plant and associated equipment; and
   - Internal haul roads (privately owned on land leased by the proponent) and the bridge over the Black Swan Anabranch.
2. New infrastructure, including:
   - installation of a permanent quad deck weighbridge for the accurate weighing of materials coming onto or leaving the site; and
   - construction of an office block of approximately 130 m^2 at the north eastern end of pit two adjacent the access laneway.
3. Expansion of Operating Areas including:
   - extraction within existing Stage 1 and Stage 2 areas to an elevation of 119m AHD;
   - expansion of extraction areas to include Stage 3 and Stage 4, also to an elevation of 119m AHD; and
   - association vegetation clearing involving single remnant trees lining the Stage 2 extraction area.
4. Actions to mitigate environmental impacts including:
   - revegetation and site rehabilitation plantings;

- construction of an infill buffer (2.3ha) between the excavation area and the Murray River to control:
  - water cross flows, that occur via the groundwater system, between the quarry and river;
  - the risk of the river breaking across the quarry area;
- Construction of levee banks from ground level (140.0m AHD) to a height of 142.7m AHD around the perimeter of the excavated area to prevent the ingress of water during flood events and to prevent any materials being washed downstream. Based on flood modelling conducted for the EIS, the proposed levee banks would prevent floods up to and including the magnitude of a 1-n-100 year event.

Operations would occur in accordance with an Environmental Management Strategy and associated environmental management plans that describe processes for environmental management and monitoring. In addition, operations would be subject to annual review and reporting as well as independent auditing (every three years).

This project will provide an important construction resource to support the planned growth of the NSW Riverina region and beyond. The material would boost the supply of building and construction sand to local and regional markets. Local markets recently supplied by the quarry include Corowa, Albury-Wodonga, Howlong, Euroa, and Yarrawonga. Regional markets include Bendigo, Axedale, Wangaratta, and a concrete manufacturing facility at Benalla, which subsequently supplies pre-cast concrete for large infrastructure projects such as the Westgate Tunnel (in Melbourne) and the inland rail line

In the context of State's guidelines, a social impact is a consequence experienced by people due to changes associated with a project. This project requires a 'medium' approach to engagement (c.f. NSW Department of Planning and Environment, 2016) which suggests the key stakeholders are likely to be:

- State and Commonwealth Government authorities;
- Current landowner;
- Neighbouring landowners;
- Businesses associated with the quarry's activities (e.g. as part of the supply chain, or suppliers of goods and services for operations);
- Aboriginal stakeholders, individuals, communities and associations;
- Relevant local community and environment groups;
- The Howlong community;
- The regional centre of Albury/Wodonga; and
- Federation LGA community

The economic impact assessment (see Appendix of EIS) for the proposal indicates that the estimated benefits of the project exceeds project costs by approximately $11.8 M. It is anticipated that 8 staff will be employed for the operation of the site. Site development and preparation are also likely to create up to 8 jobs. Ancillary services derived from the quarry are likely to employ a further 25 people. Additionally, there will be flow-on effects with local employment and suppliers benefiting from this increased activity. This equates to an important increase in employment opportunities for machinery operators and drivers, trades workers, and administrative staff in the region.

2. Our Approach

2.1. Overview

Social Impact Assessment (SIA) is the process of identifying, predicting, evaluating and developing responses to the social impacts of a proposal. The Social Impact Assessment process provides an opportunity for the community to participate in the proposal planning process and ensures social and economic issues are incorporated into the overall proposal.

2.2. What is a Social Impact?

In the context of the NSW SIA guidelines (2017), a social impact is a consequence experienced by people due to changes associated with a significant project. It therefore requires effective engagement of affected communities in the participatory processes of identification, assessment, and management of social impacts.

Vanclay (2003) identified the various components of social impact as involving changes to:

- the way of life: how members of a community live, work and play;
- culture: their shared beliefs and customs (including Aboriginal culture and connection to country);
- community: including its composition, cohesion, character, how it functions and sense of place;
- access to and use of infrastructure, services and facilities: whether provided by local, state, or federal governments, or by for-profit or not-for-profit organisations or volunteer groups;
- health and wellbeing: including physical and mental health;
- surroundings: including access to and use of ecosystem services, public safety and security, access to and use of the natural and built environment, and its aesthetic value and/or amenity;
- personal and property rights: including whether their economic livelihoods are affected, and whether they experience personal disadvantage or have their civil liberties affected;
- decision-making systems: particularly the extent to which they can have a say in decisions that affect their lives, and have access to complaint, remedy and grievance mechanisms; and
- fears and aspirations related to one or a combination of the above, or about the future of their community.

Best practice assessment of these impacts suggests it is important to garner an understanding from the perspective of the stakeholders and build a picture of the benefits and burdens associated with a proposal. The approach to social assessment for this particular proposal involved:

- Profiling: to better understand the community and obtain baseline information;
- Scoping: to identify stakeholder views and issues associated with the proposal;
- Assessing: examining the potential issues/ impacts and predicting the likely effects associated with the proposal; and
- Managing, Mitigating, and Monitoring: identifying strategies to address and/or minimise the risk of any negative impacts that are of concern.

The primary aim being to capture the full range of potential issues and opportunities associated with the proposal. If any negative impacts are predicted, it is the role of the SIA to determine how such impacts could be best managed.

2.3. Methodology Used for this Assessment

A range of methods were used to gather the necessary qualitative and quantitative data. It is an approach referred to as 'triangulation' and enables the research to not only overcome the problems inherent in the use of a single methodology, but to also create a 'rich' source of data from a variety of perspectives. It addresses issues associated with impartiality (i.e. reliability, validity and bias) that can occur in Social Impact Assessment. The assessment included the following:

- Project team integration: The staff and reports involved in the EIS as well as the SIA shared resources and reports in order to ensure new data, research, and understandings between the two documents;
- Profiling to create a social baseline:
    1. Project briefing: Understanding of the proposed change and the implications;
    2. Desktop research: demographic and social research was undertake with particular focus on the Australian Bureau of Statistics website- 2006-2011;
    3. Literature/data review: A review was conducted of Federation, Greater Hume and Albury City's documentation as well as information from the Bureau of Statistics.
- Scoping of the proposal with the community:
    1. Community research: A stakeholder and community consultation plan was developed to identify the key community stakeholders (including those identified in the SEARs requirements), present the stakeholders with details of the proposed quarry development, and give stakeholders and community members an opportunity to provide feedback and identify any issues or concerns they may have. The consultation plan was focused on the landowners adjacent the proposed quarry development and individuals within the local community with an interest in the development. This report provides an overview of stakeholder engagement, the methodology employed to initiate consultation and engagement, a description of the stakeholder engagement activities undertaken and a summary of the findings and outcomes.
    2. Action research: information provided by stakeholder interviews provided avenues for further investigations and data gathering. For example, looking at additional ways to address the concern.
- Analysis and development of strategies: All data gathered has been analysed and potential negative and social impacts identified, and appropriate mitigation and monitoring strategies identified.

2.4. Principles Underpinning our Approach

The NSW SIA Guidelines (2017) identify a number of principles that should underpin social impact assessment. This Assessment is considered to align with the principles outlined in the SIA Guideline as summarised below:

Table 2.1: Alignment with SIA Principles

Principle	Alignment
Action-oriented	Social impacts can be difficult to assess as the impacts created by proposal will often be unique to the context and locality. Our processes for community consultation used a variety of techniques to facilitate participation by various sections of the community. Our responses to concerns have been both immediate and longer term. Where uncertainty exists we have embedded an adaptive approach as an astute approach to risk management, should new issues arise in the development assessment, approval and post-approval stages. We also include measures for ongoing engagement and communication through the life cycle of this project. The mitigation strategies are practicable, achievable, and effective steps. See Sections 4.4, 4.9, and 5.
Adaptive	We have identified a number of aspects about this proposal that are to be monitored, reviewed, and adjusted to ensure their ongoing effectiveness (for example see EIS - site rehabilitation or groundwater management) We have considered and attempted to respond appropriately to the information provided by stakeholders to date. We have incorporated wider community plans for the region in this SIA and its recommendations. See: Sections 4.4.6, 5 and the EIS.
Distributive Equity	The baseline data has helped identify potentially vulnerable and under-represented groups and the impacts that may occur throughout the project lifecycle, including for future generations. The impacts have been interpreted within the regional context. See: Sections 4.3.3.
Impartial	Consultation techniques and their documentation were designed so that consultation was open, truthful, and transparent—so that a wide variety of stakeholders had the opportunity to participate in a meaningful way. Details are provided on the authors/reviewers involved in the SIA and Curricula Vitae (CV) are included in Appendix 5. See: Sections 4.4, Appendix 5.
Inclusive	Consultation techniques were accessible, responsive, fit for purpose, and balanced. Reasonable attempts were made so stakeholders that may be harder to reach could have had their views heard. Individuals were given the opportunity to express their views in respectful and meaningful forums. See: Section 4.4.
Integrated	A range of specialist studies were undertaken as an overall approach to the EIS (see Appendixes of EIS), some of which, helped to provide information for the SIA. These studies include an Aboriginal Cultural Heritage Assessment, a Noise Impact Assessment, and a Visual Impact Assessment. This SIA has attempted to cross-reference these other studies where appropriate. Several management, mitigation, and monitoring strategies identified address multiple issues other than just social impacts. See: throughout the SIA and Section 5.
Life-Cycle Focused	This social impact assessment has identified the various stages of the project and identified impacts throughout the project lifecycle: construction, operation and post-closure. See: Section 4.2.3, and Section 5.

Principle	Alignment
Material	We have used the social impact assessment tools, the preliminary EIS report, community feedback, and the impacts and concerns raised by Government agencies to identify the potential social impact that matter the most and pose the greatest risk. See: Section 5 and in particular 5.3
Precautionary	Were there may be threats of serious or irreversible environmental damage, in terms of biodiversity, water, or air, a lack of full scientific certainty has not been used as a reason for postponing cost-effective, or adaptive measures to prevent environmental degradation. Similarly a precautionary approach has been taken and all cost-effective measures implemented to prevent or reduce damage to Aboriginal sites or artefacts and that this approach is reflected in its proposed management strategy. See: Appendix of EIS Report.
Proportionate	Our investigation of social impacts and their mitigation has been proportionate to the scoping of impacts, their scale, and impact of the decision. This means that less complex issues are more simply addressed. See Section 5.
Rigorous	The profiling section outlines the research undertaken to help inform the SIA including rigorous review of preliminary socio-economic data, housing data, community plans, and media reports. We have incorporated the most up to date information on the communities affected and the project. See Section 3.
Transparent	The report provides references and hyperlinks throughout, to clearly indicate where information has been obtained. The EIS and supporting materials, outline how and when the community and other stakeholders have participated throughout the project and how required outcomes from participation have been achieved. The stakeholder comments and concerns are included in Section 4.6 and 4.7.

2.5. The Specific Requirements from the SEARS

The Secretary's Environmental Assessment Requirements (SEARs) stated consultation must occur with relevant local, State and Commonwealth Government authorities, service providers, Aboriginal stakeholders, community groups, and affected landowners. Specifically:

- affected landowners;
- community groups;
- Federation Council;
- Office of Environment and Heritage (including the Heritage Branch);
- Environment Protection Authority;
- Division of Resources and Geoscience within the Department;
- Department of Primary Industries (including Crown Lands and Water, NSW Forestry, Agriculture and Fisheries);
- Murray Local Land Services;
- Roads and Maritime Services; and
- NSW Rural Fire Service.

This includes:

- describing the consultation process used and demonstrate that effective consultation has occurred;
- describing the issues raised by public authorities, service providers, community

These matters are covered in Section 4 of this assessment.

3. Profiling- Social Baseline (Phase 1)

3.1. Introduction

This section of the assessment provides an overview of the social context in which Howlong Sand and Gravel Quarry operations are based. A social profile is an important part of the social assessment as it provides an opportunity to: identify the key attributes of the area and the community that exists within it; confirm the key stakeholders who may have an interest in what is being proposed; and identify relevant issues that could be explored in the scoping phase of this assessment.

This profiling phase involved drawing on the necessary secondary sources of data already compiled by a range of government agencies as well as gathering data from other reports such as the census, the relevant local government agencies, media, and various state authorities. Social impacts from this proposal were assumed to potentially fall largely on the immediate surroundings of the project, the local community, the regional centre of Albury-Wodonga, and the various supply chains who provide haulage, or supply of goods and materials for operations. This work (and the information collated) provides a baseline from which the potential impacts can be predicted (see: section 3.11).

This section contains the following subsections:

- Regional Overview: Providing a Background to the Location
- Landholders in Close Proximity to the Proposal
- Nearby Towns/Urban Centres
- Regional Governance
- Local History
- Social Economic Characteristics
- Community Infrastructure and Services
- Community Aspirations
- Project Implications

3.2. Regional Overview

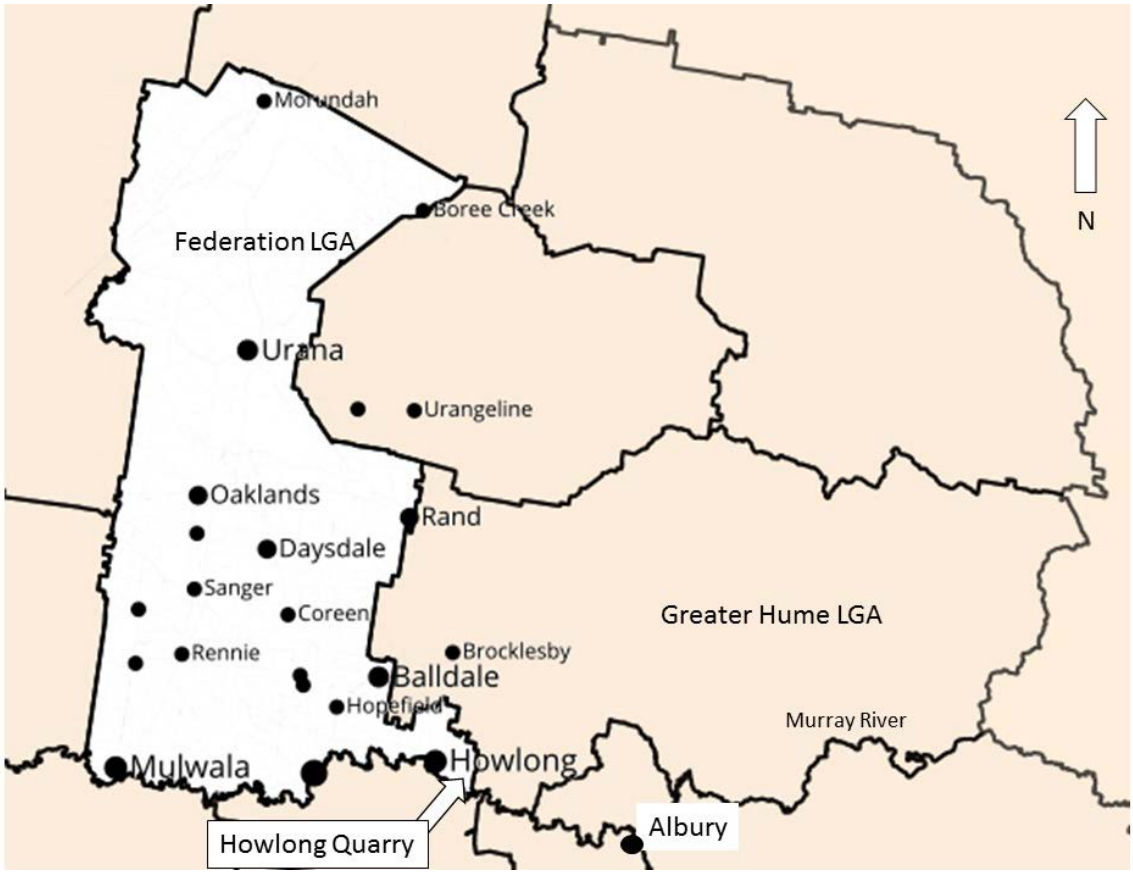
Much of the economic activity in the region is focused largely on agricultural production. The floodplain along the Murray provides a fertile base for cropping, centre pivot irrigation, and grazing. Agricultural enterprises away from the floodplain include beef cattle production (beef production, commercial and stud stock breeding), sheep (lamb production and growing wool), and the production of grain crops primarily wheat, oats, barley and canola. Boutique wine and small scale olive oil are also produced in the region.

The quarry is located on the eastern edge of Federation local government area (Figure 3.1). Federation Council area comprises of 5,685 square kilometres of predominantly rural land used for cropping and sheep and cattle grazing. At the time of its establishment in 2016, the Council had an estimated population over 12,000 people (ABS 2017) and this population level has been relatively stable since the 1990s (https://profile.id.com.au/federation/about).

Only twenty five kilometres to the east of quarry is the regional centre of Albury-Wodonga. Albury is located on the north side of the Murray River in New South Wales, while Wodonga is located on the south, in Victoria. The twin city is home to more than 80,000 people and is the major retail, commercial, administrative and cultural centre for the region. The Albury economy is diverse and

resilient, dominated by manufacturing, construction, business services, retail, wholesale and health services. Gross regional product is estimated to be almost $4 billion annually with a positive outlook for growth, investment and employment.

Figure 3.1: Regional Location



3.3. Landholders in Close Proximity to the Proposal

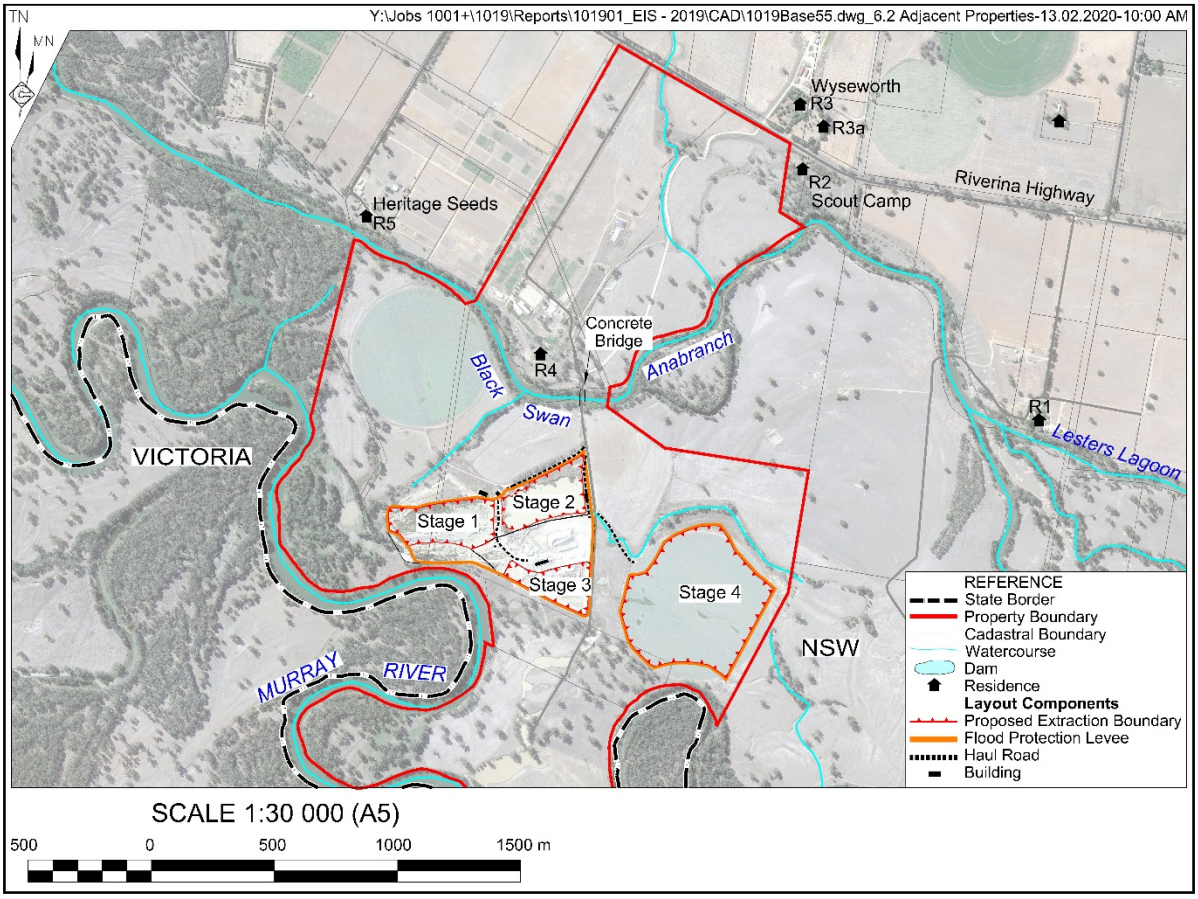
The land surrounding the site is currently zoned for environmental management and is largely used for grazing and cropping. The quarry itself is located on lower lying land and is visually isolated from the neighbours, and the highway at front of the property by large remnant red gums and riparian vegetation on the Black Swan Anabranch (see EIS for Visual Impact Assessment).

There are five neighbouring landholders (see Figure 3.2) including:

- R1 - 'Morebringer'. This property is about 1.5 km east of the quarry and has a historic double bricked homestead with frontages to Palour Creek anabranch and Lesters Lagoon. It consists of 328 ha of river flats and 526 ha of higher tiered country. About 400 ha of this land is cropped for canola, wheat, and barley, with the rest for grazing on a share farming basis.
- R2 -'Scout camp'. This site is about 1.5 km North East of the quarry and is only occupied on the occasional weekend or school holidays by local scout groups.
- R3 -'Wyseworth'. A 433 hectare house and farm on the northern side of the Riverina Highway. There is a site manager and the land has been managed for dairy and irrigated lucerne production for the last 5 years. The 'Wyseworth' Homestead, garden and outbuildings have cultural heritage significance to the local area of Federation Council. The property is owned by Fraser Earthmoving Construction Pty Ltd (the proponent).

- R4 - ‘Tarcoola’. Nangunia Pty Ltd own the land on which the quarry is located and Tarcoola (see Figure 3.3). They have agreed to allow ‘unfettered access and control’ for the proposal and provide ‘full and unconditional support’ (Appendix 4 of SIA.) Tarcoola is separated from the quarry by the Black Swan Anabranch.
- R5 - Heritage Seeds Pty Ltd. The company is one of Australia's largest seed companies. The site at Howlong has a strong research and development focus with significant programs being conducted trials of new grasses including Ryegrass, Lucerne, Cocksfoot, Cereals and Clover for use as fodder crops, forage cereals, field crops and turf and amenity grasses (shown as the small rectangular beds on Figure 3.2)**.**

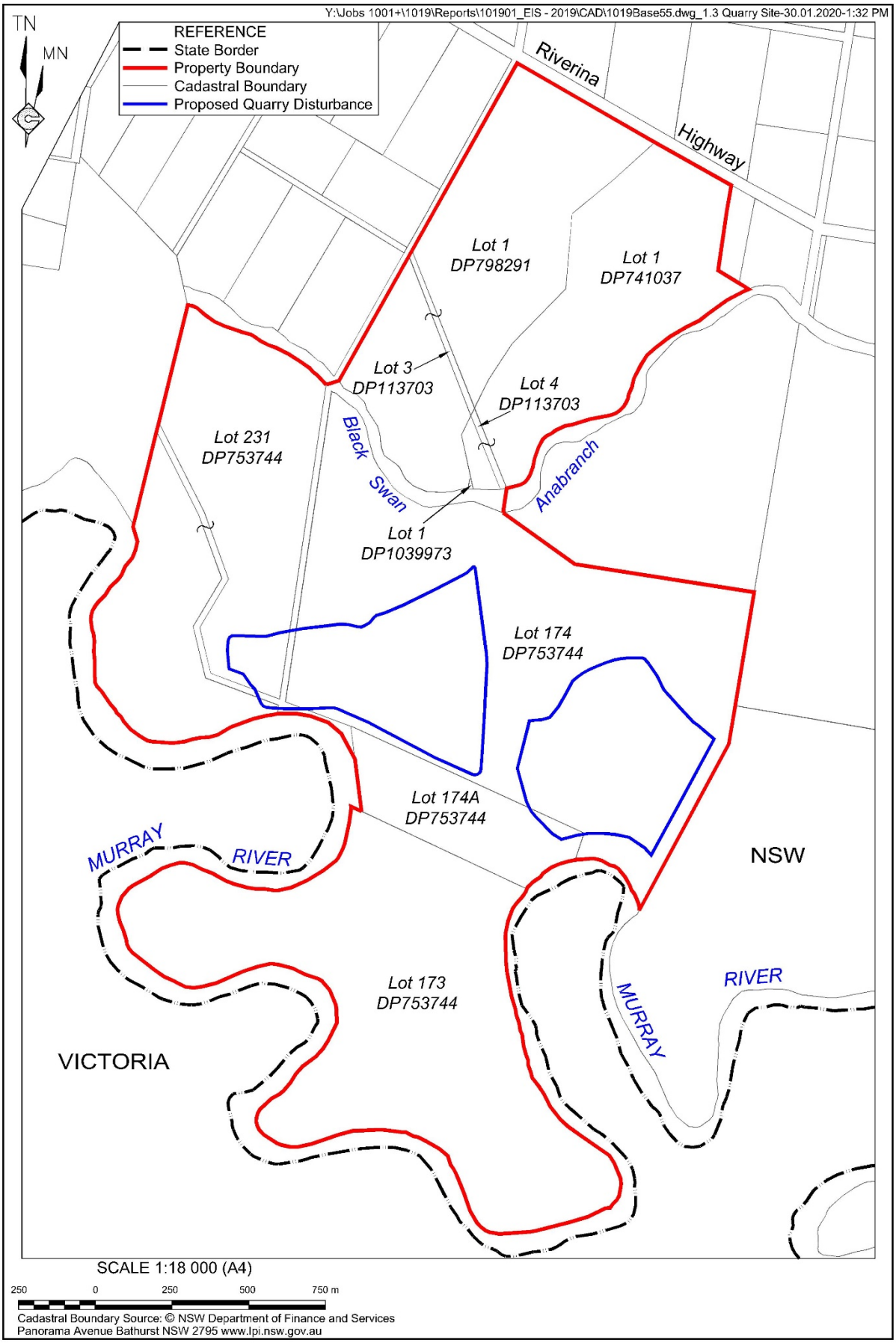
Figure 3.2: Landholders in Proximity to the Proposal



The other specialist reports associated with the EIS, that report on neighbour impacts include:

1. A Visual Impact Assessment (Appendix of the EIS) and it found:
   a) the quarry will not impact on the ‘Wyseworth’ homestead, garden and outbuildings as it is not visible from the Riverina Highway due to vegetation screening, distance, siting and topography.
   b) the operational area is not visible from neighbouring farmhouses, the Scout camp, or the Murray River for the same reasons.
2. A Noise Impact Assessment (Appendix of the EIS) and it found:
   a) haulage of quarry material is generally conducted when the Scout camp is not occupied. Transport operations on a Saturday would only occur between 9:00am and 12:00pm.
   b) noise levels generated by the proposed operations would satisfy all relevant assessment criteria.

Figure 3.3: The Property Owned by Nangunia Pty Ltd



c) the preferred levee banks would provide additional noise mitigation (particularly during Stage 2 operations).

d) with greater than 100 m from the road side to the Wyseworth Farm at 4364 Riverina Highway the sound level generated by a truck would be well below the accepted noise limits. There is no significant concern for the noise levels from an increase in truck noise at 'Wyseworth' (across the highway).

3.4. Nearby Towns/Urban Centres

There are two significant towns: Howlong around 4 km to the west, and Albury, a regional centre about 25 km east.

3.4.1. Howlong

Howlong, 4 km to the west of the quarry, is located on the banks of the Murray River. The township includes residential, commercial and industrial land uses, which are surrounded by rural areas to the west, north and east. The waterway to the south is an important recreational and tourist attraction, providing a range of waterskiing, canoeing, swimming, and camping opportunities in the summer.

The town had an official population of 2,777 in 2016 (Australian Bureau of Statistics 2016). The median age of residents within Howlong is 47. Of these 49.9% were male and 50.1% were female. Howlong has become an important inland township that services the smaller villages of the area with a range of stores that meet most of the everyday needs of the people of the area.

3.4.2. Albury

Albury, 25 km to the east of the Quarry, is also located on the banks of the Murray. This is a major regional centre with a population of over 50,000 (Australian Bureau of Statistics 2016). Local government is the responsibility of Albury City Council. The city is separated from its twin city in Victoria, Wodonga, by the Murray River. Together, the two cities form an urban area with a population almost 100,000. The majority of residents (>80%) are Australian born and speak English at home.

Albury serves as a major administrative centre for the agricultural communities around the area, and the city is the home of the Norske Skog newsprint paper mill which processes the pine logs planted in the mountains to the east, a major processing centre of the Australian Taxation Office, and many other smaller secondary industries.

3.5. Regional Governance

3.5.1. Federation LGA

Howlong Sand and Gravel quarry lies on the eastern boundary within the Local Government Area (LGA) of 'Federation'. The LGA extends from the Murray River in the South, to Borree Creek in the north (see Figure 3.1). This area was formed in 2016 from the merger of the Corowa Shire with its neighbouring Urana Shire. At the time of its establishment the Federation Council LGA had an estimated population of 12,600.

The LGA comprises an area of 5,685 square kilometres (2,195 sq. mi) with key towns being Howlong, Corowa, and Mulwala. The economic profile for the region indicates much of the land in the north is used for cropping and grazing. Key industries include a piggery feedlot and abattoir, agriculture

machinery sales and services, food processors, grain storage, a munitions factory, numerous freight transport companies, and tourism. Federation Council's economy supports almost 1,300 businesses and over 5,000 local jobs. Gross Regional Product is equivalent to $524 million annually.

3.5.2. Greater Hume LGA

Greater Hume Shire is located immediately east of Federation LGA, adjacent to the Hume, Olympic, and Riverina Highways. The Shire was formed in 2004 incorporating Culcairn Shire, the majority of Holbrook Shire, and part of Hume Shire. Major towns include Holbrook and Culcairn. The LGA had an estimated population of 10,378 as at 2015.

The LGA is roughly rectangular in shape, approximately 110 km from east to west and 60 km north to south, covering an area of 5,929 km².The eastern area features steeper and extensively vegetated (both remnant and plantation) country, changing to low rolling hills and plains country in the west. Much of the land is used for cropping and grazing.

Jindera, the fastest growing town in Greater Hume, is 25 km away from the quarry. Jindera's population at the 2016 Census was 2,222 and is located within a short commute to Albury. The availability of residential and industrial land, quality services and its proximity to Albury-Wodonga has contributed to making Jindera a popular and viable alternative for many families.

3.5.3. Albury City LGA

The City of Albury LGA covers 305.9 square kilometres (118.1 sq. mi) to the north of the Murray River. The area extends around 10 to 12 kilometres (6.2 to 7.5 mi) east and west along the river from the centre of Albury and up to 20 kilometres (12 mi) north.

Over 50,000 people live in Albury local government area making the City of Albury the largest regional centre close to the proposed quarry. The City has a strong economy, provides a range of educational facilities, good medical and health services, a vibrant cultural and artistic scene, and a variety of leisure and recreational opportunities. Albury City Council's economy supports 4,573 businesses and a labour force of close to 30,000 local jobs, and the Gross Regional Product is over $4 billion annually (source: https://www.economyprofile.com.au/albury/industries/gross-regional-product).

3.6. Local History

The Wiradjuri were the first known people to occupy the area, although little remaining evidence has been found of their use or habitation of the local area. The richness of the floodplains in terms of wildlife would suggest that the region was an important hunting ground.

The first European explorers where Hume and Hovell who arrived at the Murray River in Albury on 16 November 1824. Twelve years later, in 1836 the NSW surveyor-general, Major Mitchell set up camp on the southern bank of the Murray River near Howlong before crossing the river as part of his Australia Felix expedition (Bayley 1954).

These explorers' routes were followed by white squatters with large numbers of stock, mainly sheep and cattle. Many families began taking up parcels of grazing land on the rich river flatlands.

In 1837 John and Joseph Hawdon established the formation of the Howlong Station estimated to be 64,000 acres (Bayley 1954). Albury was also progressing: the first permanent white dwellings were built in the Albury in the mid-1830s. By 1847 the Albury settlement included two public houses (Inns), a handful of huts, a police barracks, a blacksmithery, and a post office. A log punt was

established in 1844 and serviced the crossing of the Murray River (Bayley 1954). Increased commerce between Sydney and the new townships of Melbourne and Adelaide to the south led to Albury's continued growth.

No heritage items in the form of building structures or remains thereof have been identified on the quarry site during a recent visual inspection. The State Heritage Register of NSW has no listings that affect this site or any site within the surrounding vicinity. There is one Federation Council listing located 1.7 km from the subject site – Heritage Item Registration Number 173 – 'Wyseworth' Homestead, garden and outbuildings, Riverina Highway, Howlong (see Figure 3.2).

3.7. Socio-economic Characteristics of the Region

This section of the report provides a brief discussion of the socio-economic characteristics of the Howlong district based on data available from the latest census. This is been done based on the assumption that quarry employees are likely to be drawn from the Howlong district, or settle nearby. Comparisons are made to data for the whole of the Federation LGA, Albury LGA, and regional NSW where appropriate.

3.7.1. Population and Age Structure

The population of an area allows an insight into the size of the place and its rate of growth over different time periods. The number of people living in Federation LGA has remained fairly constant at around 12,500 people over the last two census periods. Howlong's population is about 2,800 people and has also remained fairly constant with annual growth rates generally being less than one percent (https://profile.id.com.au/federation/population-estimate?WebID=110).

Both Howlong and Federation LGA population pyramids have a higher proportion of the population in those clusters between 55-85 years old than that of regional NSW as a whole.

Overall, 18.0% of the population in Howlong was aged between 0 and 15, and 25.7% were aged 65 years and over, compared with 17.1% and 27.5% respectively for Federation Council area.

The major differences between the age structure of Howlong and Federation Council area are:

- A larger percentage of persons aged 0 to 4 (6.1% compared to 5.2%), consistent with a higher proportion of parents or home builders (35-49)
- A smaller percentage of persons aged 75 to 79 (4.4% compared to 5.3%)
- A smaller percentage of persons aged 50 to 54 (5.9% compared to 6.7%)

The major differences between the age groups of Howlong, Federation Council area, and Albury (Table 3.1 and Figure 3.4) are:

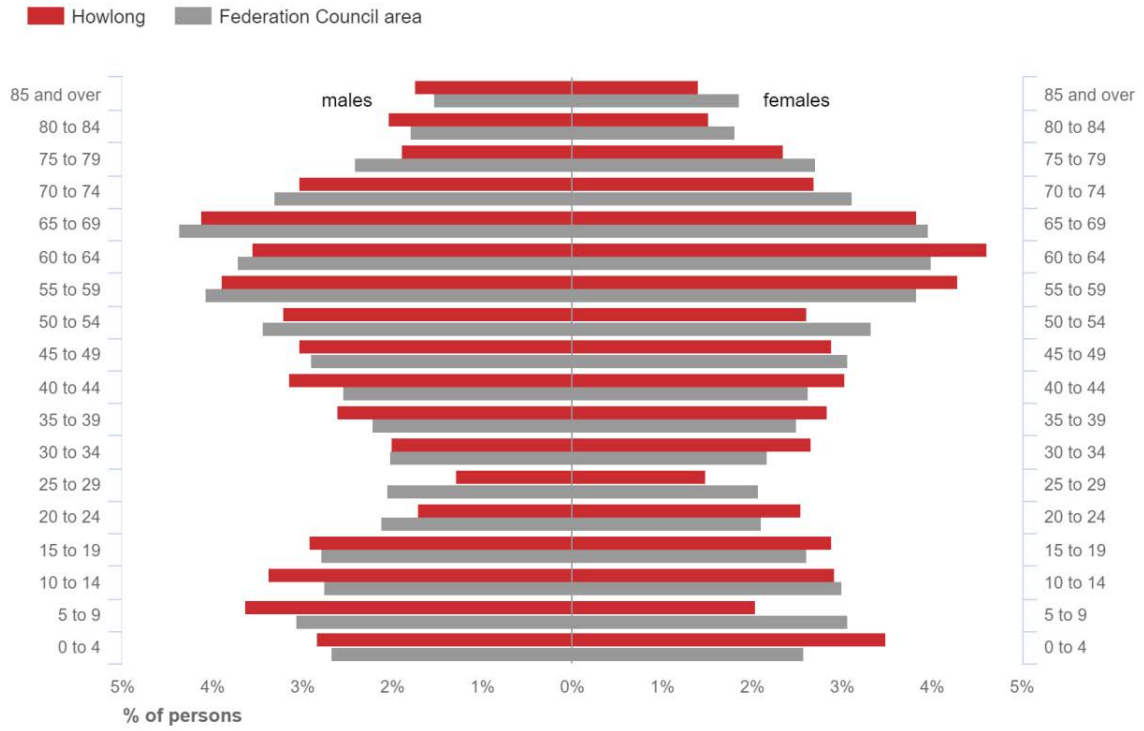
- Howlong compared to Federation/Albury
  - Albury has a younger population with higher proportions of the population being young workforce, parents and homebuilders, or in tertiary or secondary education
- Howlong compared to Federation
  - Howlong has a larger percentage of 'Parents and homebuilders' (16.7% compared to 15.6%) and 'Babies and pre-schoolers' (6.1% compared to 5.2%)
  - Howlong has a smaller percentage of 'Seniors' (13.9% compared to 15.5%) and 'Older workers & pre-retirees' (13.5% compared to 14.4%)

In sum, Howlong has a stable but aging population. Some young families have moved into the district. It is possible that young families are choosing to live in Howlong due to its proximity to Albury for working opportunities.

Table 3.1: Comparison of Service Age Groups

Service age group (years)	Howlong (Number)	Percentage	Federation LGA %	Albury LGA %
Elderly aged (85 and over)	89	3.2	3.3	2.7
Seniors (70 to 84)	385	13.9	15.5	11.4
Empty nesters and retirees (60 to 69)	474	17.1	16.4	13.1
Older workers and pre-retirees (50 to 59)	376	13.5	14.4	13.8
Parents and homebuilders (35 to 49)	463	16.7	15.6	18.0
Young workforce (25 to 34)	222	8.0	8.0	11.0
Tertiary education and independence (18 to 24)	182	6.5	6.3	7.9
Secondary schoolers (12 to 17)	185	6.6	6.8	7.3
Primary schoolers (5 to 11)	231	8.3	8.4	8.9
Babies and pre-schoolers (0 to 4)	170	6.1	5.2	5.8
Total	**2777**	**100**	**100**	**100**

Figure 3.4: Age Pyramids for Howlong and Federation LGA



(source: https://profile.id.com.au/federation/age-sex-pyramid?WebID=110)

3.7.2. Occupations, Industries of Employment, and Educational Qualifications

Howlong's employment statistics are an important indicator of socio-economic status. The levels of employment, labour force participation, and work location give some indications about the strength of the local economy and social characteristics of the population. There were 1,122 people who reported being in the labour force in the week before Census night in Howlong. Of these, 56.8% were employed full time, 32.1% were employed part-time and 4.9% were unemployed.

In 2016, the main industry sector of employment in Howlong was manufacturing followed by retail trade and health care and social assistance (see Table 3.2). Almost half of those employed, work as (see Table 3.3):

- Technicians and trades workers (172 people or 16.7%)
- Labourers (169 people or 15.3%); or
- Managers (147 people or 14.0%).

Table 3.2: Major (i.e. >5%) Industry Sector for Employment in Howlong

	2011		2016		
Industry Sector	**Howlong**	**Regional NSW**	**Howlong**	**Regional NSW**	**%Change since 2011**
Agriculture, forestry and Fishing	7.2	5.8	9.5	5.7	32%
Manufacturing	18.1	8.3	14.1	6.0	-18%
Construction	10.3	7.9	9.9	8.7	1%
Retail trade	11.5	11.4	10.9	10.3	-5%
Health care and social Assistance	10.8	13.0	14.4	14.4	33%
Accommodation and Food services	6.7	7.7	6.9	7.9	3%

Source: Australian Bureau of Statistics, Census of Population and Housing 2011 and 2016.

Table 3.3: Major (i.e. >5%) Occupations of People in Howlong and Regional NSW

	2011		2016		
Occupation	**Howlong**	**Regional NSW**	**Howlong**	**Regional NSW**	**%Change since 2011**
Managers	12.4	13.4	14	13.0	12%
Professionals	10.9	17.4	11.3	18.1	4%
Technical and Trades	17.4	15.2	16.7	14.8	-4%
Community and personal workers	11.1	10.7	9.7	11.9	-4%
Clerical and administration	9.8	13.0	12.2	12.4	2%
Sales	9.3	9.7	9.3	9.6	0%
Machinery operators	9.5	7.6	9.8	7.1	3%
Labourers	18.0	11.3	15.3	11.4	-15%

Source: Australian Bureau of Statistics, Census of Population and Housing 2011 and 2016.

The distinctive nature of Howlong's workforce (see above) is:

- A larger percentage of persons employed as labourers (15.3% compared to 11.4% for regional NSW);

- A larger percentage of persons employed as Machinery Operators and Drivers (9.8% compared to 7.1%);
- A smaller percentage of persons employed as Professionals (11.3% compared to 18.1%);
- A smaller percentage of persons employed as Community and Personal Service Workers (9.7% compared to 11.9%)

Table 3.4: Industry of Employment in Howlong and NSW (Australian Bureau of Statistics 2016)

Industry of employment, top responses Employed people aged 15 years and over	Howlong	%	NSW	%
Supermarket and Grocery Stores	48	5.9	74,487	2.2
Prepared Animal and Bird Feed Manufacturing	38	4.6	1,372	0.0
Aged Care Residential Services	31	3.8	67,209	2.0
Road Freight Transport	27	3.3	37,995	1.1
Pig Farming	23	2.8	554	0.0

Almost ninety percent of the population rely use cars to get to work. Sixty percent of them work within the Federation Local Government Area. Fourteen percent travel east to Albury-Wodonga and another fourteen percent travel south to work in Victoria. This lends support to the hypothesis that to some extent Howlong is a 'dormitory' town where many residents commute out to work.

Education not only provides information on the general level of educational achievement of the community but also allows patterns between levels of education and employment outcomes, income, and other socioeconomic variables to be investigated. The types of educational institutions that community members attend can reflect several factors such as age, family structure, and/or availability of tertiary education.

In Howlong 29.7% of people were attending an educational institution. Of these, 25.5% were in primary school, 18.8% in secondary school and 11.2% in a tertiary or technical institution. The figure for university attendance is significantly different for Howlong compared to the rest of NSW (see Table 3.5).

Table 3.5: Education Qualifications of the Community

Level of highest educational attainment People aged 15 years and over	Howlong (numbers)	Howlong %	Federation %	NSW %
Bachelor Degree level and above	203	9	9	23.4
Adv Diploma & Diploma level	134	5.9	7	8.9
Certificate level IV	69	3	3	2.8
Certificate level III	382	16.8	17	12
Year 12	250	11	11	15.3
Year 11	170	7.5	7	3.3
Year 10	360	15.9	16	11.5
Certificate level II	3	0.1	0	0.1
Certificate level I	0	0	0	0
Year 9 or below	306	13.5	13	8.4
Not stated	341	15	15	10.3

3.7.3. Households and Dwellings

Howlong's household and family structure is one of the most important demographic indicators. It reveals the area's residential role and function, era of settlement, and provides key insights into the level of demand for services and facilities. The types of dwellings can be an indicator of the housing market.

In Howlong, 23.5% of households were made up of couples with children in 2016, and 25% of households in Howlong contained only one person. The most dominant household size being 2 persons per household (30% of residences). The average number of bedrooms per occupied private dwelling was 3.1. The average household size was 2.4 people (Table 3.6).

Of occupied private dwellings in Howlong, approx. 90% were separate houses, 3.5% were semi-detached, row or terrace houses, townhouses etc., 3.8% were flats or apartments, and 1.0% were other dwellings.

Table 3.6: Social Snapshot of the Howlong Region (Australian Bureau of Statistics 2016)

Item	**Howlong**
People	2777
Male	49.9%
Female	50.1%
Median Age	47 (average is 49 for Federation LGA)
Birthplace	7% overseas (4% UK, 1% NZ)
Families	732
Average children per family (with children)	1.9
Average children per family (total)	0.6
Total Private dwellings	1275
Percentage private dwellings	88.6%
Average people per household	2.4
Median weekly household income	$1006 (average for Federation LGA is $1017)
Median monthly mortgage repayments	1300
Median weekly rent	235
Average motor vehicles per dwelling	1.8

The major differences in the household size for Howlong compared to Federation LGA are:

- A larger percentage of households with 4 persons usually resident (12.9% compared to 10.5%);
- A smaller percentage of households with 1 person usually resident (26.7% compared to 30.8%);
- Analysis of the housing tenure shows the town generally has a larger proportion of households who own their dwelling or are purchasing their dwelling. There is a smaller proportion of people who are renting (17% compared to 26% for the LGA, and 30% for NSW).

3.8. Community Infrastructure and Services

The ability of the population to have access to services, facilities and employment is a major social indicator. The data can provide insight into the overall resilience of the community, and the lifestyle opportunities available to employees and their families attracted to the area.

3.8.1. Health Facilities

- Howlong has a medical centre offering general practice.
- Corowa Health Service (28 km away) includes a 53 bed Hospital with 18 in patient care beds and 31 residential aged care beds. Corowa Health Service provides a 24-hour Accident and Emergency Department.
- Yarrawonga Mulwala (104 km away) provides a hospital for lower complexity acute inpatient services, residential aged care, and primary and community health services. The health service comprises of 19 acute medical and surgical beds, 2 labour delivery rooms, a dedicated day-stay unit, 3 residential facilities onsite with a total of 88 beds, as well as an adjacent Community Health Centre.
- Nearby Albury-Wodonga (25 km away) is the largest provider of regional health care services between Sydney and Melbourne. It supports an outer catchment population of 250,000 and covers the North-East of Victoria and Southern New South Wales. Its facilities include:
  - two public hospitals
  - two community rehabilitation centres
  - mental health services
  - a dental clinic; and
  - a cancer treatment centre.

  These facilities are complemented by a number of private operators including a Private Hospital, Day Surgery, Ramsay Health Care, and Charles Sturt University.

3.8.2. Educational Facilities

There are numerous public and independent schools located across the area including a primary school in Howlong. Albury-Wodonga has over 30 public and private preschools, primary, secondary and senior secondary schools. The main tertiary education institutions in the area are Charles Sturt University, La Trobe University, Wodonga TAFE and Albury TAFE, all of which offer a variety of trade and tertiary degree qualifications to the community.

3.8.3. Transport Facilities

Key transport infrastructure in the district includes the Riverina Highway, which provides transport routes east and west, and River Road, which connects the Howlong community with Victoria. Nearby Albury-Wodonga provides important rail and air links for the community. The city also has one of the nation's most important roadways—the Hume Freeway—passing through its centre.

3.8.4. Leisure and Recreation

Important social infrastructure in the district includes Howlong Country Golf Club, Murray Valley Regional Park, Lowe Square, Howlong Common, Howlong Lions Park, Howlong Memorial Park, Pioneer Park, Howlong Swimming Pool, and the Murray River.

The Murray River flows east west along the boundary of the site. It is a significant water resource for a variety of downstream users as well as an important recreation and water source for the local community. Lake Hume, 10 km east of Albury, is stocked with fish. It is also popular for water skiing and boating. Several holiday resorts catering for fishing and skiers are dotted around the upper reaches of the Lake. Lake Mulwala, 70 km west of Howlong, is also a renowned fishery, holiday and water ski location.

3.9. The Community's Aspirations

Understanding how different parts of the community see the future of the area and how these reflect the economic and policy direction for the region, helps guide future industry operations and activities as well as the industry's social licence to operate.

The Federation Shire Council Community Strategic Plan 2028 captures the long-term vision for the local community and indicates their priorities. The plan encompasses civic leadership, social, environmental, and economic issues in an integrated manner. Data presented in the Plan was gathered by a statistically valid phone survey, and twelve community workshops. The priorities identified could be grouped into four clusters:

- Consistent with an aging population, the community identified aged care and healthcare as the leading community priorities;
- Consistent with overall concerns regarding the growth and sustainability of the area, the community identified employment (with particular emphasis on youth employment) and tourism as the highest economic priorities;
- The community identified parks and gardens (including playgrounds), water management (including supply and quality of water), and placemaking (including the improvement of public spaces and main streets) as the highest environmental priorities; and
- The community identified rates affordability, the equitable servicing of all suburbs, and financial sustainability as the highest governance priorities.

The plan adopts the follow outcomes to be realized for the future:

1. 'Built Federation': Maintained and improved infrastructure that meets the needs of residents and industry;
2. 'Economic Federation': Growing, progressive and prosperous communities that build on sustainable manufacturing, agriculture, and tourism, close proximity to other centres on both sides of the Murray and affordability;
3. 'Natural Federation': Sustainable rural landscapes and waterways offering tranquillity and attractive recreational spaces;
4. Social Federation: Close-knit and welcoming communities where people come together and support each other; and
5. 'Well-Governed Federation': Strong civic leadership and governance supporting equity across communities and effective communication with residents.

Both Greater Hume LGA and Albury City have similar plans. For example:

- The vision that guides social and economic growth for Greater Hume is: *'Greater Hume Shire will be a prosperous rural shire with vibrant sustainable communities offering excellent quality of life, and supported by a thriving agricultural, commercial and industrial base that capitalises on the unique opportunities available through the highest standards of ethics,*

service and efficiency". This statement delivers a key message about what the community wants for the future: an excellent quality of life, underpinned by a thriving commerce and industry sector and overseen by good governance.

- For Albury City (Albury 2030) *'Country Lifestyle – City Conveniences'* was a statement repeated and almost unanimously supported in focus group sessions during their survey. As a result Council developed an aim: "*to ensure prosperity through the continued contribution of its key industries and the diversification of its existing economic base, however this is to be done in line with our rural community character and identity".*

The Riverina Murray Regional Plan 2036 (the Plan) which guides the NSW Government's land use planning priorities and decisions for the next 17 years over the wider region has vision of: *"a diversified economy founded on Australia's food bowl, iconic waterways and a network of vibrant connected communities".* The plan acknowledges that the future growth of regional cities will lead to an increase in supply of housing, a diversification of industry, and increased job opportunities. A need to help towns and villages to become more robust and resilient places is also identified.

The expansion of the quarry is consistent with these plans, in particular their emphasis for a growing and diverse economy, as long as lifestyle is not sacrificed.

3.10. Baseline Profile Summary

The quarry is located within Federation LGA, 4 km to the east of Howlong on land owned by Nangunia Pty Ltd.

There are five landholders neighbouring the quarry. Most are somewhat distant from operations (most more than 1 km), and are managed or owned businesses (e.g. Heritage Seeds) or are part of the wider Nangunia holding. The exception being the Scout camp site 'Camp Nelson' which is occupied occasionally on the weekend and school holidays. The quarry is located well away from residential dwellings and locations where substantial human activity takes place.

The township of Howlong, has a relatively stable population that is relatively old compared to the wider population. Although there are also a number of young families in town. Most people live in a privately owned 2-3 bedroom house and are of Australian or English origin. The majority of people tend to have not undertaken further study at university and work in labouring as technicians, or as tradesman in agriculture, forestry or fishing, or in manufacturing, or in construction. Household income is lower than the national average, but not significantly different to the region.

Albury is the largest regional centre close (about 25 km away) to the quarry. The City has a strong economy, provides a range of educational facilities, good medical and health services, a vibrant cultural and artistic scene, and a variety of leisure and recreation opportunities. It also provides a range of housing and lifestyle opportunities for any new workers employed at the quarry.

One of the main economic benefits of the proposed project is the creation of jobs that provide benefits to employees and the broader community. The types of jobs available—labouring and transport—are well suited to the existing community profile in that they match the skill profile of the existing population, and provide alternate opportunities when seasonal conditions reduce regional agricultural production. Indeed, when the region experiences a decline in agricultural production due to seasonal climatic influences or changes in market conditions, the proposal will provide Howlong with a buffer against economic downturn. Thus the proposal could be seen as contributing to the community's cohesion, social capital, and resilience.

Planning documents show the community want to retain their quality of life in the future. That is, to be a growing, progressive and prosperous community that provides a rural/country lifestyle underpinned by a diversified economy. The proposal is consistent with this vision and meets an identified need for sand and gravel in the construction industry. However, it will be important the various components of the supply chain (e.g. haulage) do not disrupt the community's aspirations.

3.11. Issues for Social Impact Assessment Scoping

As documented by the NSW SIA Guideline (on page 17), project scoping "highlights what elements of the natural or human environment ('matters') are expected to be impacted upon by activities associated with a State significant resource project (whether positively or negatively), how those impacts should be assessed and to what level of detail. It is used to focus the SIA on the most relevant and important issues for each project and ensures the scale of assessment required is proportionate to the importance of the expected impacts".

Overall, there are two core objectives specified by the NSW SIA Guideline (on page 17) that should be met during the scoping phase of the SIA, viz:

1. Potentially affected people and the project's area of social influence are identified and understood; and
2. Social impacts needing further investigation in the EIS are identified and assigned a proportionate level of assessment.

The Departmental Guideline's Scoping Tool has been utilised for the purposes of establishing the potential impacts associated with the proposed development.

Twenty three issues were identified (using a combination of the Department's Scoping Tool Worksheet 1, the SEARs document, and the preliminary environmental assessment) to create a 'working list' of items seen as relevant for consideration within either the SIA specifically or within other specialist reports informing the EIS as a whole. These issues are summarised in Table 3.7.

Table 3.7: Issues Identified.

Matters			**Why?**
What does the project mean for people?	Amenity	• Acoustic (noise and vibration) • Visual • Microclimate • Particle deposition;	May impact their way of life and surroundings
	Access	• Access to property; • Road network; • Egress of trucks from the property • Heavy vehicle movement on Riverina highway	May impact their way of life, access, as well as personal and property rights
	Heritage	• Cultural • Aboriginal cultural heritage considerations • Built	May impact their way of life, community, culture, and surroundings
	Community	• Health • Safety • Cohesion, capital and resilience	May impact their way of life and surroundings, incurring health-related costs
	Economic	• Natural resource use • Livelihood • Opportunity cost	May impact the way of life, surroundings, as well as personal and property rights
..and for the natural environment?	Air	• Particulate matter	The issues may involve harm or damage to the natural environment if not properly managed and monitored.
	Biodiversity	• Terrestrial and aquatic ecology	
	Land	• Stability and/or structure; soil chemistry; capability; topography;	
	Water	• Surface and Groundwater, Water quality; hydrological flows	
	Bushfire	• Damage to site, halting operations, and activities of surrounding landholders	
	Flood	• Damage to the site, pollution of waterway, etc.	

4. Scoping - Community Consultation (Phase 2)

4.1. Overview

This section summarises the issues and perceived impacts identified by a range of stakeholders with an interest in the proposal. As indicated in Section 2.2 impact assessments are likely to be deficient if they discount the effect of a proposal on people's values, social dynamics, and beliefs.

The key objectives for this assessment were:

1. Ensuring potentially affected people, groups, organisations and the community are identified and have a sufficient understanding of:
   - the proposed project;
   - how it may affect them;
   - the EIS process for State significant projects in NSW, and how SIA contributes to that process;
   - how they can participate and be informed and consulted.
2. Gaining an understanding of the issues and concerns that potentially affected and interested people have with the proposal; and how potential impacts are predicted to be experienced from their perspectives.
3. Helping people understand how other specialist studies prepared for the EIS (for example, air quality, noise), and any associated proposed mitigation measures, address social impacts.
4. Confirming data, assumptions, findings and recommendations for the SIA and the EIS.

Burdge (2004) outlines stakeholders as being groups or individuals that:

- Live nearby the proposal;
- Have an interest in the proposed action or change;
- Use or value a resource;
- Are interested in its use; or
- Are forced to relocate/change.

Stakeholder attitudes were documented through a range of consultative assessment methods ranging from one-on-one discussions to social media postings and community meetings. Table 4.1 provides a brief summary of the techniques used and Section 4.3 gives more detail.

Overall decisions about the level and techniques of engagement required for this SIA were based on the: scale of the projects area of social influence, the degree of diversity amongst potentially interested people, the needs of different audiences, and the range of impacts identified in the preliminary environmental assessment and SEARs. In addition to this, engagement with the Indigenous stakeholder strove to recognize and respect their rights and be culturally appropriate.

Table 4.1: Summary of Consultation Techniques

Stakeholder group	Mechanisms
Property Owner	One-on-one discussion
Nearby Landholders/Site Managers	Personal interviews
Community Groups	Presentation to the groups on the project
Howlong Residents	Community meeting and presentation Direct mail to 100 residents Notice in newspapers One-on-one consultation on request Social media discussion
Businesses	Interviews, one-on-one discussion
Regional Community	Notice in newspapers Exhibition of proposal in libraries and on Council website
Service Providers	Personal interviews
Indigenous Groups	One-on-one discussion about the proposal Participate in archaeological field surveys

4.2. Context: Implementing the Proposal and the Workforce Needed

4.2.1. Overview

As previous outlined, the quarry has been operating for at least 60 years, with up to 30,000 tpa of sand and gravel extracted currently under licence. The proposal will set the annual maximum extraction limit at 300,000 tpa while reducing the licensed area. The life of the quarry for stages 1, 2, 3 and 4 is expected to be at least 30 years.

The current suite of machinery and plant will not increase in number, however, the frequency of use and loading of additional transport trucks will increase. Truck movements would be limited to a maximum of 40 laden loads per day. Acoustic surveys show the current noise level leaving the site is the same as that "to be expected from a quiet country environment".

The quarry is located on lower lying land and is visually isolated from the neighbours at the front of the property by large remnant red gums and riparian vegetation on the Black Swan Anabranch. Typical hours of operation are 7:00am to 5:00pm Monday to Friday. Operations may be required over the same period on Saturdays. Transport operations, including product loading and despatch would occur from 7:00am to 10:00pm Monday to Friday and from 7:00am to 12:00pm on Saturdays. There would be no operations on Sundays or public holidays. Some variation to these hours may occur as dictated by demand.

It is anticipated that 8 staff will be employed for the operation of the site. Site development and preparation is also likely to create up to 8 jobs. Ancillary services derived from the quarry are likely to employ a further 25 people. The economic assessment associated with the proposal applied the NSW Department of Industry's (NSW DPI 2016) estimated output and employment multipliers for mining and related services and found that for each direct job associated with a project, approximately 4 additional jobs would arise in the relevant area of economic activity. This would give rise to a total of 40 jobs if the multiplier was accurate. This equates to 6% increase in full-time employment opportunities for machinery operators and drivers, trades workers, and administrative staff for the Howlong district.

In terms of social impact, this change in workforce on infrastructure and services, based on the experience of other similar social impact assessments suggests about 30% of the workforce will be sourced locally with 70% needing to be supplied by the surrounding areas. Based on the current the work force it might be expected that about half of those people additionally employed will end up living in Howlong.

In order to then predict impacts of this change on service delivery for the region it is necessary to consider the current capacity of education, health, housing, and accommodation facilities. The social profile showed that while there is limited opportunities in Howlong, the regional centre of Albury-Wodonga has facilities for education, child care, health, and housing that meet the needs of over 50,000 people and its almost 30,000 full-time workforce.

4.2.2 Identification of Potential Cumulative Impacts

The NSW SIA Guidelines (page 6) define cumulative impacts as "the successive, incremental and combined impacts (both positive and negative) of activities on society, the economy and the environment" and can arise from a single activity, multiple activities or from interactions with other past, current and foreseeable future activities.

Adverse cumulative impacts are important to consider in social impact assessment because the proposed development might exacerbate the negative impacts of other activities occurring in the area. This assessment was required to assess any cumulative impacts that might arise for other projects that are currently planned within Federation LGA.

At the time of writing this report there are no known other significant developments in the local area. This was determined from:

- A search of major projects register on the Department of Planning, Industry and Environment website which identified a number of mining and extractive industries currently under consideration across NSW, but none in proximity to this proposal.
- The search of major projects register which located: i) a proposal for Mulwala solar farm: $119-million-dollar project comprising of approximately 300,000 solar panels on 215 ha located about 2 km north of the township of Mulwala and about 70 km west of the quarry; and ii) a proposal for Jindera solar farm about 30 km north west of the quarry that would have a capacity the generate approximately 127 MW. Given: i) the distance between these projects and the quarry, and ii) the substantial difference in the enterprises, it was concluded there would not be any cumulative impacts.
- The baseline information for this assessment which found: i) Cleanaway was proposing to build an enclosed composting facility north of the Howlong Township, near the Howlong Landfill and Howlong Sewerage Treatment but the proposal was rejected; and ii) a proposed ecotourism resort on the Murray River downstream near Corowa, which would have accommodated up to 600 people when fully completed but was rejected.

4.2.3. Proposal Life Cycle: Staging of Works

An important principle underlining of the social impact assessments is identifying potential impacts (including cumulative impacts) at all project stages, from pre-construction to post closure. This proposal has the three key stages:

4.2.3.1 Site Preparation

The initial development works at the site to enable increased extraction activities. This will include:

- pumping water from the Stage 1 extraction area;

- constructing levee banks and haul roads;
- constructing site amenities and offices;
- finalising extraction zone boundaries;
- topsoil stripped and stockpiled; and
- mechanical excavation of material.

4.2.3.2 Staging and Site Rehabilitation

Operations will occur in four stages, commencing with extraction of materials and the rehabilitation at the western existing pit (Stage 1 - see figure 4.1). This will be followed by the eastern existing pit Stage 2. Stage 3 would be developed in an area of existing disturbance. Stage 4 will be for expansion as required (see Figure 4.1). This approach allows for a smaller development footprint at any one point of time, allowing environmental mitigation measures to manage impacts, including undertaking progressive rehabilitation.

4.2.4.3 Post Quarry Use

There are a number of options available for future use of the site. The EIS outlines possible uses as:

i) fish farming in tanks and hydroponic food production in glass houses;
ii) native fish breeding, recreational/tourist facilities and biobanking; and
iii) an energy farm using floating solar panels.

These uses would need to be investigated at closure. For the purpose of this application, it is proposed that the land would be rehabilitated to wetland areas.

4.3. Identification of Potential Issues, Key Stakeholders

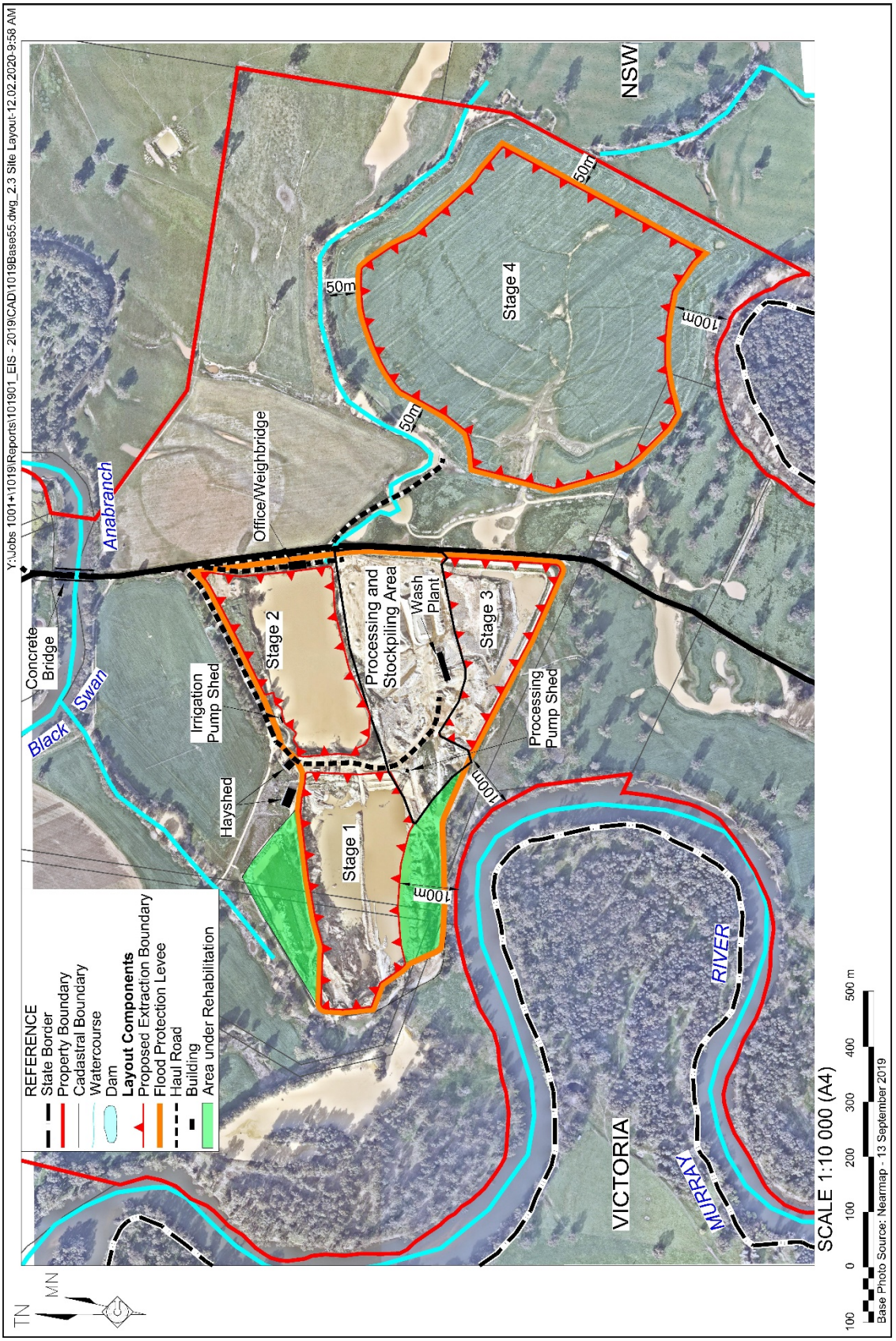
4.3.1. Initial Identification of Potential Issues

A Preliminary Environmental Assessment completed for this project outlined the proposed development at the site in context to the relevant local, state and Commonwealth planning instruments and plans, and characterized the key aspects of the development by conducting a preliminary risk screen. The preliminary risk screen identified the following issues:

1. Air quality.
2. Noise and vibration.
3. Terrestrial and aquatic ecology.
4. Surface and ground water.
5. Visual amenity.
6. Traffic.
7. Socio-economic impacts including analysis of socio-demographics, future trends, economic and community effects cumulative impacts.

As outlined in section 3.7, these seven issues were combined with the Department's Scoping Tool Worksheet 1 and the SEARs document to produce the twenty three issues listed in table 3.7 which became a 'working list' of issues seen as relevant for consideration within either the SIA specifically or within other specialist reports informing the EIS as a whole.

Figure 4.1: The Staging of Works



4.3.2. Identification of Key Stakeholders

As previous mentioned in the overview in section 4.1, Burdge (2004) outlines stakeholders as being groups or individuals that:

- Live near the proposal;
- Have an interest in the proposed action or change;
- Use or value a resource;
- Are interested in its use; or
- Are forced to relocate/change.

In terms of this proposal, the following are considered stakeholders using Burdge's groups and the NSW Exploration Code of Practice 2016 (medium level for potential activity impact):

- State and Commonwealth Government authorities;
- The landowner;
- Neighbouring landholders/ businesses;
- Service providers and Local Businesses associated with the quarry;
- Aboriginal stakeholders, individuals, communities and associations;
- Relevant local community and environment groups;
- The Howlong community;
- The regional centre of Albury/Wodonga;
- Federation LGA community.

A summary of how these groups may be affected is provided below.

- **Government authorities:** Managing the risk of adverse impacts is the main reason why governments regulate the approval of major projects. Such projects have the potential to directly damage sites of environmental and heritage significance. They may also have effects beyond the site itself and impact on the regional environment and nearby communities. An important role for government is to define planning systems and legal rights to allow project proponents and affected parties to achieve better outcomes for the economy, the environment and the community. The government also has a responsibility to enforce these arrangements.
- **The landholder:** Nangunia Pty Ltd owns the land where quarry operations are occurring and has operated the quarry historically. The landholder is aware of the proposed operations and has an agreement with Fraser Earthmoving Construction regarding the proposed ongoing activities.
- **Neighbouring landholders/businesses:** Existing land uses in the vicinity of the existing quarry are characterized by a combination of agricultural enterprises (equine breeding and training, grazing, pivot irrigation and horticulture) and a scout camp. These local landholders/leaseholders could potentially experience direct impacts from the proposal (e.g. increased traffic volumes, noise, and dust). The nearest residence to 4343 Riverina Highway is currently affected by noise from wildlife, farming activities and some distant noise from traffic along Riverina Highway; and the proposal will not contribute to the overall soundscape (Refer Noise Assessment prepared by Octave Acoustics). It is proposed to construct levee banks around operating areas for flood mitigation. These banks would also provide acoustic attenuation and would continue to provide noise reduction.

Land use to the south of the Murray River in Victoria is a combination of dryland grazing and river reserve.

- **Service Providers/Local Businesses:** Direct impacts may also be experienced at a regional level in relation to the proposal's supply network, including road use, logistics arrangements, and relationships with other businesses. The quarry already has established relationships with a wide range of local and regional businesses. Businesses such as Hanson Construction Materials and Rivalea are an important part of the overall supply chain. The Howlong site will also provide substantial amounts of sand aggregates for a range of standard, premium, and high performance concrete, as well as standard and specialty sands for major infrastructure projects throughout NSW and parts of Victoria. Concrete plants in Albury, Corowa and Wangaratta also have requirements for raw materials on an on-going basis.

  Smaller businesses such as Howlong Electrics, Enzed, Stuart Dye plumbing, and Officeworks, provide important work and supplies for on-site office machinery and equipment.
- **Local Aboriginal community:** The Wiradjuri are the traditional custodians of the land where the quarry is located, and the Albury and District Local Aboriginal Land Council (LALC) is the region's peak representative body in Aboriginal Affairs. Aboriginal cultural heritage values have been assessed by the Albury and District Local Aboriginal Land Council (LALC) in detail as part the EIS. This SIA will need to consider whether there is potential for direct or indirect impacts on Aboriginal social values and conditions.
- **Relevant Community Groups:** The key natural resource management groups in Federation Council that focus activities in agricultural landscapes in Federation LGA are West Hume and Corowa Landcare.
- **The Howlong Community:** Howlong is located 4 km away from the quarry. This local community is more likely than other areas to experience direct impacts and benefits originating from construction and operational activities. For example, the township may experience an increase in traffic volumes as well as benefit from increased employment (up to 8 employees) and have business supplier opportunities.
- **The regional centre of Albury Wodonga:** Albury, being a major regional centre that supports 4,573 businesses, has a labour force of close to 30,000 local jobs, and with a Gross Regional Product of over $4 billion annually, is unlikely to be significantly impacted by the proposal. Although the increased local supply of sand and gravel will benefit construction, the diversity of leisure and recreational opportunities offered by the city will be attractive to any new employees who come from outside the region.
- **The wider Federation Council community:** the LGA may also be affected by project employment or supply opportunities (depending on the stage of life cycle of the proposal). The potential for the proposal to have direct impacts (such as amenity issues, housing demands or population change) appears low as the site is located in a rural/agricultural setting, and haulage increase is an increase of 1.6% of all highway traffic/day (GHD 2017). The potential for indirect impacts (such as competition for labour or business supplies or changes to health determinants) at the local or regional levels also appears low.

4.3.3. Potentially Marginalized or Vulnerable Groups

Social development should be a participatory process of planned social change designed to improve the wellbeing of the community as a whole and especially that of the vulnerable, disadvantaged or marginalised groups within a region. Although vulnerability is context dependent and can include a very wide range of groups, typically the concept includes Indigenous peoples, ethnic minorities, migrants, disabled people, the homeless, the poor, those struggling with substance abuse, and isolated elderly people. Vulnerability is associated with having one or more of the many factors that

influence people's ability to access resources and development opportunities. These factors can include being from a low socio-economic background or status, disability, or ethnicity.

The literature indicates particular attention should be paid to impacted and interested people when they are part of, or represent one of the following groups, or any other potentially marginalised or vulnerable group:

- Aboriginal and Torres Strait Islander people/s;
- Young and old people;
- People with disabilities;
- People from culturally and linguistically diverse communities.

The baseline research (phase 1) pointed to some potential vulnerabilities within the populations which will inform assessment of the significance and distribution of the Project's social impacts and benefits. These include:

- The population of Howlong is relatively old, and the number of residents remains static. This may mean the population will continue to age in the future;
- The Indigenous population is few in the Howlong district (around 50 people);
- Few people (less than 5% of residents) in the district come from culturally and linguistically diverse communities;
- The population of Howlong district is relatively disadvantaged, according to education levels and household income, meaning the community might be less able to adapt to changing economic conditions and employment opportunities;
- A relatively high proportion of residents in Howlong are employed in agriculture or agricultural dependent manufacturing resulting in economic vulnerability due to the relatively high concentration of employment in an industry that can be severely impacted by weather and international markets;
- It will also be necessary for the life cycle of the proposal to consider its distributive equity on younger people in the community, older people, and the next generation.

Decisions about how to manage the benefits and burden with marginalised and vulnerable groups should also consider the wider context. Specifically, the regional centre of Albury-Wodonga, less than 30 km from Howlong, means vulnerable groups may be buffered from some issues by the capacity of services and infrastructure provided nearby. For example, issues such as rural isolation and its effects on children and the elderly, or those associated with youth facilities and schools for employees families seem somewhat 'remote' (i.e. unlikely to change as a result of this proposal) nor expected to disproportionately impact on these groups given the services and facilities available in Albury-Wodonga.

4.4. Consultation Methods

4.4.1. Overview

Since the project's inception, the need to actively engage and inform adjacent landholders as well as the wider community has been identified by FEC. Providing new information on the proposed development in a timely and strategic manner has been also seen as vital in meeting the requirements of assessment of the proposal. Through ongoing open lines of communication, landholders were made aware of upcoming community engagement opportunities, including the most effective individual meetings with FEC.

A stakeholder and community consultation plan was developed to identify the key community stakeholders (including those identified in the SEARs requirements), present these stakeholders with details of the proposed quarry development, and give stakeholders and community members an opportunity to provide feedback and identify any issues or concerns they may have. The Plan established a process of community consultation that considered the stakeholders, methods of communication, and the monitoring of, and response to, consultation events.

Stakeholder consultation included both structured and informal consultation. Specific techniques included:

- Notifications in the newspapers;
- Mailing 100 project factsheets to residents;
- One-on-one meetings with concerned individuals;
- Contact with nearby landholders;
- Community consultation meeting;
- Displays in the local libraries;
- Information on websites;
- Social media discussion through Howlong Community Facebook; and
- Relevant Local Community and Environment Group Meetings.

4.4.2. Project Factsheet

Description: A project factsheet was developed to provide an introduction to the proposed development, including an overview of the existing quarry operations and the proposal. The factsheet provides a link to preliminary information about the development plans. Contact details were provided, affording the community with an opportunity to have an individual appointment to discuss the development and answer any questions.

Distribution: Available at Federation Council Libraries in Howlong and Corowa, the NSW Planning and Environment Major Projects website, distributed locally in a mail out, at individual meetings, and the Community Consultation Session.

Audience: All people in the region.

4.4.3. Media Adverts/Notices

Description: Adverts were placed twice in the Border Mail (15 and 22 February) and twice in the Corowa Free Press (21 and 28 February) to make the community aware of the proposal. The Southern Riverina News was also used. Contact details for the proponent's consultant (AES) were provided, affording the community with an opportunity to have an individual appointment to discuss the development and answer any questions.

Distribution: The Border Mail is published in Albury-Wodonga (Monday - Saturday), serving the twin cities and the surrounding region including Corowa, Benalla, Wangaratta, Shepparton, Holbrook, Howlong, and Wodonga.

The Corowa Free Press is published each Wednesday and enjoys strong community support. The distribution covers Oaklands, Corowa, Mulwala, Rutherglen, and Howlong. Information provided by the local news agents in Howlong has shown 1,354 copies of the Border Mail are sold through this outlet on a weekly basis.

Southern Riverina News is published each Wednesday. The distribution covers Deniliquin, Echuca, Corowa, and Shepparton.

Audience: All people in the region.

4.4.4. Direct Mail

Description: The letter provided notification about the proposed change in operations at the quarry as well as the advertisement in Appendix 3. Contact details for the proponent's consultant (AES) were provided, affording the community with an opportunity to have an individual appointment to discuss the development and answer any questions.

Distribution: The mail drop was delivered to 100 residences along all main roads in Howlong.

Audience: Howlong residents.

4.4.5. One-on-One Meetings

Description: The opportunity for individual meetings for stakeholders and community members was provided at all stages of the EIS development. The project factsheet included the contact details for the proponent's consultant (AES), should any community members and stakeholders wish to organise an individual meeting. The meeting provided an opportunity to clarify the proposal to understand any concerns.

Neighbouring landholders and business suppliers were also consulted using this method.

Distribution: Part of the overall information provided at central locations etc.

Audience: The meetings were available to anyone. Three community members took the opportunity to engage in individual meetings.

4.4.6. Community Consultation Session

Description: A Community Consultation Session was conducted on the 2nd March, 2018 at the Mechanics Hall in the Howlong town centre providing community members with the opportunity for individual meetings with representatives from FEC and AES. The meeting commenced at 9am, concluding at 4pm and gave the community an opportunity to book individual meetings with AES and have concerns raised and addressed.

Distribution: Mechanics Hall in the Howlong town centre.

Audience: The meeting was available to anyone. However the location was targeted to specifically encourage Howlong residents to participate.

4.4.7. Libraries

Description: Information about the proposal was put on display in Corowa and Howlong libraries. It provided an overview of the existing quarry operations and the proposal. Contact details for AES were provided, affording the community with an opportunity to have an individual appointment to discuss the development and answer any questions.

Distribution: Howlong and Corowa.

Audience: The libraries are available to all people in the region.

4.4.8. Websites

Description: Information about the proposal was placed on the websites of Department of Planning and Environment, Fraser Earthmoving, and Federation Council. It provided an overview of the existing quarry operations and the proposal. Contact details for AES were provided, affording the community with an opportunity to have an individual appointment to discuss the development and answer any questions.

Distribution: Not location dependent.

Audience: Anyone with web access.

4.4.9. Social Media

Description: A discussion took place on the Howlong Community Facebook page from March 1 2018.

Distribution: Not location dependent.

Audience: Howlong residents. Facebook is available to anyone. There are over 2,000 members on the Howlong Community Facebook page.

4.5. Key Issues raised by Government Agencies

Consultation with government agencies was initiated by the Department of Planning and Environment (DPE) during the preparation of the SEARs. Government Agencies that provided a response to DPE for inclusion into the SEARs for the proposed development are listed below in Table 4.2. The key issues raised by these agencies is included here, with the assessment requirements also summarised in Section 3 of the EIS are presented in full as part of the Appendices of the EIS

Table 4.2: An Outline of the Issues as Stated by the SEARS

Agency	Summary of Key Issue that needs to be addressed
Department of Industry	• Biodiversity**:** impacts to aquatic biodiversity, ecosystems, fish habitats, and listed threatened species; • Land tenure and practices; • Water**: t**he identification of an adequate and secure water supply, a detailed and consolidated site water balance, an assessment of impacts on surface and ground water sources etc.
Department of Planning & Environment (Resources & Geoscience Division)	• The nature of the resource and operations; • A range of Health and Safety Issues; • Information on mineral ownership.
NSW Environment Protection Authority (EPA)	• Address/clarify a range of potential noise, water management, air emissions (dust) and waste & chemical management impacts associated the project.
Office of Environment & Heritage	• Need to appropriately address the biodiversity and offsetting, Aboriginal cultural heritage, and flooding.
NSW Rural Fire Service	• Provide advice on any bush fire protection measures adopted to ensure compliance with the Aims and Objectives identified in Clause 1.2 of Planning for Bushfire Protection 2006.
RMS (Transport)	• A Traffic Impact Assessment (TIA) to be commissioned as part of the EIS for the project.

4.6. Key Issues Raised during the Community Meeting

The following table outlines the key issues raised by the Howlong community and the responses to these issues.

Consultation sought to introduce the proposal and i) document community issues; ii) provide a response/or provide more information to that concern; and iii) if part of the issue remains unresolved what else could be considered. This was undertaken in order to address the relative materiality of the issues raise (e.g. a question about the consent process might be able to be addressed during the dialogue whereas biodiversity impacts may require further consideration and actions).

Table 4.3: Community Consultation Meeting

Key Issue Raised	Comments
Traffic Management: • Right and left hand turning lanes need to be implemented. • A bypass to the north of Howlong that may potentially be built to redirect large vehicles that would normally come through town should be supported by Howlong Sand and Gravel. • Concern for the road and river – particularly debris on the road. • How many trucks will there be per day? • Weight restrictions placed by Council on some streets. • The entrance to the site on the Riverina Highway will need widening. • Lack of crossings for school children and elderly people from the nearby Oolong home.	A comprehensive Road Transport Assessment has been prepared to consider impacts to the road network and road performance, capacity and condition. The Project would require a maximum of 40 laden truck loads per day and operations would be limited to no more than six laden loads in an hour. Transport operations would also be guided by a Drivers Code of Conduct that would specify preferred routes, speed limitations, potential conflicts and driver behaviour requirements. It is not anticipated that the proposed six trucks per hour would be a noticeable difference for residents.
Water and the River: Protection of the Murray River with specific reference to: • Water Quality (the size of the operation is an issue as there are two water tables, one at 15 metres and one at 65 metres. This is water that the town uses for drinking. • Discharge into the river, including feeding the sludge pit into the river. • Water monitoring • Engineering issues due to hydraulic pressures from the river and water in the pit.	Operations would occur within levee banks, designed to limit the potential for flood incursions into the operational areas. As a result, it is not anticipated that water within the Quarry Site would need to be discharged to the Murray River. Excess water captured within the Quarry Site would be irrigated over the broader property consistent with existing procedures. There is limited risk of engineering issues due to proximity to the Murray River, however a 100m buffer would be maintained. Historic extraction activities have already occurred within 100m of the river and this area would be backfilled and rehabilitated.
Pollution Control / Waste Management, specifically: • Fuel and oil storage • Oil spills / leakage/ clean up kits on site • Employees trained to use spill kits • Regular spill kit inspection	All fuels and oils would be stored in bunded and secured areas with provision for spill kits and management of issues. Given the long history of operations and minimal accidents, this is considered a low risk.
Bridge Safety Are you going to improve the bridge? It is pretty narrow.	An engineering report has been compiled by SJ Street Associates Pty Ltd. The report concluded that the bridge is suitable for use by trucks as proposed as long as the gross vehicle mass does not exceed 67.5t That report provided a range of recommendations for remedial measures that would be progressively implemented with a focus on stability and safety.

Key Issue Raised	Comments
Dust Control	A full time employee will be operating the water truck during working hours covering the roads for trucks and the haulage routes. Processing operations are a mostly 'wet' process that limits dust generation.
Noise Pollution (e.g. from equipment)	Noise that would be generated by operations under the Project have been assessed and would be acceptable.
Public Awareness and Social Licence A concern whether people have heard about the project and people in the town are not happy with the community not being informed based on previous development proposals (e.g. Cleanaway proposal).	Public consultation undertaken in early 2018 was broad and inclusive. It is recognised that consultation needs to be an ongoing process, especially given the length of time between the original consultation and document submission.
Employment How many people will be employed for the project?	Eight people are currently employed from local communities and this would continue under the Project.
Day and Time of Operation Is it a 5 or 6 day operation?	Working hours will predominantly be 7am to 5:00pm Monday to Friday with the possibility of work on Saturdays depending on demand. Transport operations on a Saturday would be limited to the hours of 7:00am to 12:00pm (midday). There would be no activities on a Sunday or on public holidays.
Access Issues – Representatives Manage Land in Trust. The river has changed course over time. Our land has become isolated. We cannot get across, only around 5% is accessible. We manage Crown Lands. It is a trust. The concern from our point of view is access. We used to have access on this road on the map be we do not anymore.	Given the length of time required for natural changes to impact access, it is not considered likely that his would constrain the Project.

4.7. Key Issues Raised by Other Stakeholder Groups and/or Through Various Other Engagement Mechanisms

4.7.1 Neighbouring Landholders

The people directly affected are in the best position to say how they actually experience events. Consultation was carried out with all adjoining land owners during the January and February 2018 (i.e. Heritage Seeds, Jim Edwards, Warwick Ashby and Grant Cameron). Nangunia Pty Ltd the owners of the land have supported the proposal with *'full and unfettered access and control of this project'* having looked at the proposal given it *'full and unconditional support'* (see Appendix 4). The Scouts have stated they had no concerns and pointed out: i) the quarry was not visible; and ii) the scouts only use their land when the quarry is not operating. Indeed to date there has been no feedback or criticism from any of the adjoining land owners.

The nearest neighbour is located 740 m north from the Quarry's material separation area, and approximately 500 m north west from the quarry's access road. The occupants stated that they have no concerns about the quarry operation and have not noticed any deposited dust related to it.

Furthermore, the investigation shows that there are no complaints of the quarry operation from any of the nearest neighbours or there is no evidence of the deposited dust from the quarry at any of neighbouring properties.

Note also: Realm Design's assessment on visual amenity (See Appendices of EIS) found the existing and proposed works at Howlong Sand and Gravel Quarry will not impact on the 'Wyseworth' homestead, garden and outbuildings as the quarry is not visible from the Riverina Highway due to vegetation screening, distance, siting, and topography. Similarly the activity area is not visible from neighbouring farmhouses, the Scout camp or the Murray River for the same reasons.

Assessment of noise generation under the Project found that the proposal will not have any significant vibration generating components and thus the potential for vibration impacts is negligible. Typical operation hours are planned to be business hours: 7:00am to 5:00pm Monday to Friday with transportation (loading and despatch) occurring until 10:00pm. Operations could also schedule noisy activities for less sensitive times, (for example, bridge maintenance.)

The life of the quarry for stages 1, 2, 3 and 4 is expected to be at least 30 years. The staging of the works is structured so that it increases the distance between the works and the nearest residence where possible. It has been recommended to continue the practice of stockpiling where required to form an acoustic barrier where practicable.

4.7.2. The Indigenous Community

Indigenous community consultation is an acknowledgement of the right of Indigenous people to be involved, through direct participation, on matters that directly affect their heritage. Involving Aboriginal people in all facets of the assessment process ensures that they are given adequate opportunity to share information about their cultural values, and to actively participate in the development of appropriate management and/or mitigation measures.

The 2016 Census indicates there are about 50 indigenous people living in the Howlong district, although Wiradjuri country extends over a much larger area of regional NSW. Indigenous community consultation was undertaken in accordance with OEH's Aboriginal Cultural Heritage Consultation Requirements and included:

- Correspondence sent to the Albury OEH Office, the Registrar of Aboriginal Owners NSW, the Native Title Tribunal, Native Title Services Corporation Limited, the Federation Council and the Murray Local Land Services requesting the identification of interested Aboriginal groups.
- An advertisement was placed in the Southern Riverina News inviting expressions of interest from Aboriginal stakeholders; and
- One-on-one consolation and site visit with members of Albury and District Local Aboriginal Land Council (LALC).

A right to claim land was introduced in 1983 when the Aboriginal Land Rights Act 1983 became law in NSW. A search of the register of Aboriginal owners found there were no claims to land across the development site or nearby.

A ground survey of the proposed development site was undertaken on 9 February 2018 by archaeologist Tim Stone with the assistance of Sam Kirby and Troy McGrath from the Albury and District Local Aboriginal Land Council (see Appendices in EIS)

The draft Aboriginal and Historic Cultural Due Diligence Assessment for Howlong Sand and Gravel Quarry Expansion SSD 17_8804 (Tim Stone, 2018) was sent to Sam Kirby (from the Albury and District Local Aboriginal Land Council) for review. The Aboriginal stakeholders responded to the report by stating: i) There were no specific cultural heritage issues; and ii) they had no objections to the proposed development providing that the Howlong 1 artefact scatter on a dune is not disturbed during the course of the development. The Due Diligence Assessment for the proposed development has since incorporated the protection of the Howlong 1 artefact scatter into the management recommendations and a contingency Cultural Heritage Management Plan (CHMP) is incorporated in the document.

Angelina Lloyd, the Aboriginal liaison officer for Local Land Services was also consulted and informed of the LALC involvement and did not express any concerns about the proposal.

4.7.3. Business Operators and Suppliers

Fraser Earthmoving Construction Pty Ltd works with a number of other businesses including

- Those part of the logistic chain such as Hanson Pty Ltd, Rivalea, various concrete and building suppliers in Corowa, Albury, and Wangaratta;
- Local businesses that support operations and machinery: such as Lewis Plant Repairs, Enzed, and Howlong Electrics;
- Local businesses that support day to day operations by the workforce: lunches from milk bars, stationery from Officeworks, etc.

Interviews that were conducted with the key local stakeholder businesses who work with Fraser Earthmoving Construction Pty Ltd were all positive about the proposal. For example, for Hanson Pty Ltd it enabled them to engage in a long-term agreement from a local supplier; *"The ongoing supply from Howlong is essential for Hanson to provide a quality product at a completive price going forward to the North East Market".* For Howlong Electrics it meant possible increased business opportunities from the installation of new equipment. For the local shops it meant lunches and normal supplies all being sourced from Howlong. With 8 People currently employed directly at the quarry and up to 15 trucks operating daily, this would have a positive impact on any small town.

4.7.4. Relevant Local Community and Environment Group Meetings

Fraser Earthmoving Construction Pty Ltd outlined the following key points to these groups in relation to the project:

- Licenses and qualifications;
- Overview of current operations;
- Pin notices outstanding (from previous owners);
- Future plans and staging;
- Mitigation and refurbishment; and
- Revegetation.

4.7.4.1 Corowa Landcare

Discussion Point:	**Flooding**: are there levee banks?
Answer/Response:	There are levees to prevent flood waters from entering the quarry. The existing height is 142.2 metres and will increase to 142.7 as a result of the Flood Study recommendations.

Discussion Point:	**Drainage**: Are there no drainage lines?
Answer/Response:	There are two main drainage lines coming out of the site: one enters the wetlands to the west of the site, and the other flows south west overland through a series of wetlands and enters the Murray south of the development site. Both drainage lines are used for surface water drainage and not waste water from production.
Discussion Point:	**Aboriginal cultural heritage:** are there any sites?
Answer/Response:	No significant areas have been found to date. An artefact scatter on a dune is not in the development footprint and will not be disturbed. A CHMP contingency plan is in place should any of this change.
Discussion Point:	**Consent**: What is the consent process?
Answer/Response:	There are multiple stages including the community consultation contained in the Environment Impact Statement (EIS). The quarry currently has licenses in place for 30,000 tonnes. A Preliminary Environmental Assessment (PEA) has been submitted to the State Environmental Secretary for assessment in relation to the increased extraction volume. The Environmental Secretary has provided the Secretary's Environmental Assessment Requirements (SEAR). We are providing a community consultation to provide input into a component of the EIS. This will contribute to the EIS for the approval process to lift quarry volumes to 300,000 tonne.
Discussion Point:	**Revegetation**: Will the revegetation works be finished at the end of the quarry use?
Answer/Response:	There will be progressive revegetation all through operations. This format will allow a smaller development footprint at any one point in time, allowing environmental mitigation measures to be implemented to manage impacts. This investment in the site means that significant revegetation and wetland rehabilitation will occur. Plant species will be based on Majors Creek Redevelopment Plan, the Revegetation Guide for Majors Creek (Stelling, 1998) and Government's principles for mine rehabilitation (DII&S 2016) will be applied. Landcare groups and the Local Land services will also be consulted on species selection.
Discussion Point:	**Public Access:** Is public access permitted and are there safe areas for children?
Answer/Response:	There is no public access to the operational quarry due to health and safety regulations. However, there is potential for the wetland area to be opened to the public for one day every six months in a controlled risk assessed environment to allow for community input and consultation.

4.7.4.2 West Hume Landcare

Discussion Point:	**Revegetation:** West Hume Landcare group expressed their approval and interest in the project and are particularly interested in conducting a planting day in conjunction with local school groups during the revegetation stages.
Answer/Response:	AES and FEC will continue to consult with both Landcare groups throughout the EIS process and post exhibition phase.

4.8. Social Media Discussion

Community discussion regarding the Project was initiated on the Howlong Community Facebook page from 1 March 2018 The resulting discussion centred on how the proposed increased operations would impact the community. It could be clustered around the following themes:

Lifestyle:

> *"expansion from 30,000 tonnes per year to 300,000 tonnes is huge"*
>
> *"We have to get soil from somewhere to keep towns growing and build roads"*
>
> *"Agree, but we need to ensure we don't destroy lifestyles in the process"*

Transport/Traffic Management:

> *"Howlong is a town that has the Riverina Highway running through it. You can't stop all trucks."*
>
> *"I don't know why people think seeking information is bitching. .... I don't like coming to conclusions in ignorance."*

Needing more information:

> *"The HCC suggested the community find out about it, so it seems sensible to do so"*

Expansion of industry/employment:

> *"Bring it on more jobs for the town I'm all for it."*
>
> *"Progress has to occur for the town to continue to grow and develop"*

4.9 Adaptive Consultation Activities

Given the length of time between initial consultation and document completion and submission, it will be important that proactive consultation continues for the Project, including:

- during EIS Public exhibition;
- any other time as interest levels dictates;
- if specific issues arise; and
- as otherwise recommended by DPIE.

Communication in regards to the proposed development will continue via the various methods already employed.

4.10. Synthesis

A synthesis of the points raised suggests that the community acknowledged benefits associated with the proposal while also expressing some concerns about possible impacts. Overall, interest in what was proposed was not high. Neighbours had no concerns about the increase in production from an existing use, and most other groups wanted know that their most obvious issues/concerns were already being incorporated into the proposal (e.g. hours of operation). Broadly speaking, the expansion of the quarry operations was not considered to create any significant opposition, as the enterprise has been a part of the community for a considerable time.

The community also appreciated the benefits attributed to increased business and employment. The anticipated employment of 8 staff directly associated with the proposal was seen as a benefit. The community also thought the increase in other ancillary business opportunities was positive.

How the increased haulage on the Riverina Highway through town would be experienced was difficult for some members of the community to appreciate. It made two competing ideas that were hard to reconcile particularly salient. These were: i) an appreciation that Howlong has the Riverina Highway as its main street which traffic needs to use; and ii) whether the number of additional trucks was a significant increase to the overall volume. The discussion around this issue on social media suggested an underlying context to this dilemma was a previous proposal from Cleanaway to build a composting plant on the edge of town. This had made the community wary any new proposal, such as for this quarry, and whether it might affect the 'existing way of life' in Howlong.

The public meetings and community group consultation also raised a number of questions about operations and their impact on the natural environment: particularly a desire to allay any fears about the relationship/interaction between the quarry and the Murray River. This included: 1) the impact of flooding on the quarry; 2) the risk of any chemical contamination of the river; 3) how the quarry will manage any discharge; and 4) overall impacts on native flora and fauna. The revegetation and rehabilitation plans for the site were seen as a positive outcome from the proposal.

5. Impact Assessment

5.1 Introduction

This section describes and analyses the predicted nature and scale of the potential social impacts for the proposal.

The scoping exercises discussed in other parts of the report have provided a collective understanding of matters to be investigated as part of the applicant's social impact assessment. Some of the social impacts are incorporated and addressed within other specialist reports which have been commissioned for the purposes of the EIS; others are addressed separately within the SIA.

5.2. Identification of Social Impacts

The various EIS specialist reports provide recommendations for mitigation of specific impacts, including some that address social impacts, however likely. The detail of proposed mitigation measures is included in each of the individual specialist reports.

5.2.1. Summary of Key Negative Social Impacts

The Departmental Guidelines suggests that the SIA component of the EIS should include an evaluation of each potential negative social impact without mitigation. The guideline requires that the following matters be taken into consideration:

1. Who is expected to be adversely affected (directly/indirectly or cumulatively);
2. When the potential negative impact is expected to occur;
3. The four impact characteristics assessed by scoping (extent, duration, severity, sensitivity); and
4. The potential level of social risk posed by the negative social impact from the perspective of those expected to be affected (as opposed to risk of the project) having regard to consequence and likelihood levels.

Table 5.1: Assessment of the Key Negative Impacts

Social Impact Matters	Specific Area	Without any mitigation is the proposal likely/unlikely to impact on the matter	Rationale and Assumptions Context/evidence on which this appraisal is based	Who is Impacted* without Mitigation	When could the Impact Occur? (which phase of the development)	Risk rating (in terms of points 3&4 above)
Amenity	Acoustic	(-) Unlikely	History of existing practice. Site in low lying land with tall vegetation surrounding. Relative increase in overall volume of traffic. See Acoustic Assessment: in Appendix of EIS.	Neighbours, Howlong main street.	Development and operations.	Low
	Visual	(-) Unlikely	Site in low lying land out of sight from neighbours. See Visual Impact Assessment: Appendix 10 of EIS.	Neighbours.	Development and operations.	Low
	Microclimate	NA	Site is predominantly located on existing cleared land and has been operating for over 60 years.			
	Particulate deposition	(-) Unlikely	Distance to neighbouring properties. Prior history of operations. Continued use of 'Wet' Operations. See Air Quality Assessment: Appendix 4 of EIS.	Neighbours.	Development and operations.	Low
Access	Access to property	NA	Site is on private property. Against OH& S regulations.	Highway traffic.	Development and operations.	
	Road Network	NA	Highway capable of handling increased road traffic. See: in Appendix of EIS.			
	Egress from property	(-) Likely	Exit is onto Riverina Highway via existing road access point. See traffic assessment (in Appendices of EIS).	Highway traffic.	Development and operations.	Low
	Heavy vehicles on Riverina Highway traffic	(-) Unlikely	Major routes are built to handle increased capacity.	Highway traffic, Howlong main street.	Development and operations.	Low

Social Impact Matters	Specific Area	Without any mitigation is the proposal likely/unlikely to impact on the matter	Rationale and Assumptions Context/evidence on which this appraisal is based	Who is Impacted* without Mitigation	When could the Impact Occur? (which phase of the development)	Risk rating (in terms of points 3&4 above)
Heritage	Cultural	NA	None found (Appendix of EIS, 4.7.2 of SIA)			
	Indigenous	(-) Unlikely	Survey found open campsite on a dune with scattered site but outside the development footprint.	Indigenous groups/community generally	development and operational phase.	Low
	Built	NA	None present			
Community	Health	NA	Location of quarry is 2.5 km away from Howlong township. Availability, accessibility and capacity of, existing social services, facilities and infrastructure is good.			
	Safety	(-) Unlikely	Although haulage route is the Riverina Highway through Howlong, it is an additional 1.6% of existing traffic (GHD2017).	Howlong residents	development and operational phase.	Low
	Cohesion, capital and resilience	(+) Likely	Nature of job opportunities that arise match social baseline profile.	Howlong residents, Federation LGA	development and operational phase.	High
Economic	livelihood	(+) Likely	Economic analysis shows the variety of positive benefit that arise that can have multiplier effects.	Howlong residents, Federation LGA	development and operational phase.	Medium
	Natural Resource Use	(-) Unlikely	History of Use Groundwater assessment show interaction of the aquifer with the pits See: Appendices of EIS.	Community generally	operational phase.	Low
	Opportunity cost	Unlikely	Forgone land and capital opportunities See Section 3.2 and Table A-1 of Economic Impact Assessment (Appendix of EIS)	Community generally	development and operational phase.	Low

Social Impact Matters	Specific Area	Without any mitigation is the proposal likely/unlikely to impact on the matter	Rationale and Assumptions Context/evidence on which this appraisal is based	Who is Impacted* without Mitigation	When could the Impact Occur? (which phase of the development)	Risk rating (in terms of points 3&4 above)
Air	Particulate matter	NA	'Wet operation' in place			
Biodiversity	Vegetation	Not likely	Operations existing on cleared land (+)Proposed rehabilitation will enhance	Community generally	development and operational phases	High
	Fauna	Not likely	Operations existing on cleared land (+)Proposed rehabilitation will enhance	Community generally	development and operational phases	Medium
Land	Stability and structure	NA	site is on low lying agricultural land See: EIS Appendix			
Water	Surface and groundwater flows	Not likely	Flood risk modelling suggests pits should act as 'flow-through' lakes See: EIS	Community members using groundwater	development and operational phases	Low
Risks	Flood	Not likely	Earth levees already in place See: EIS	Proponent, community generally	development and operational phases	Low
	Bushfire	Not likely	Dependent of availability of fuel, ignition sources and water supply. Operations existing on cleared land See: Hazards section of EIS	Proponent, community generally	development and operational phases	Low

(*In some instances, impacts based on perception of impacts rather than actual measurable data)

5.2.2. Summary of the Key Positive Social Impacts

5.2.2.1. Provision of a Sand Resource

The sand resource, consisting of a variety of different sand and aggregate types, has many uses ranging from its use in standard, premium and high performance concretes as standard and specialty sands for major infrastructure projects. Negotiations are underway with Rivalea Australia to supply materials for local plants and farms. The proposed quarry will also produce an income from sales through the supply of sand products to the regional area including Albury, Corowa, and Wangaratta.

5.2.2.2. Construction Phase Employment

The calculated capital investment (CIV) of the project is $5.8 million. Much of the expenditure is expected and likely to be locally orientated with some of the materials and associated services expected to be provided from within the region. This expenditure includes materials for access roads, equipment, and the construction of buildings.

The initial construction phase is anticipated to provide employment of approximately 8 workers. The construction phase activities are therefore likely to boost the local economy and regional economy directly.

5.2.2.3. Operational Phase Employment

The project will require 8 persons for operational activities in addition to a number of transport contract drivers.

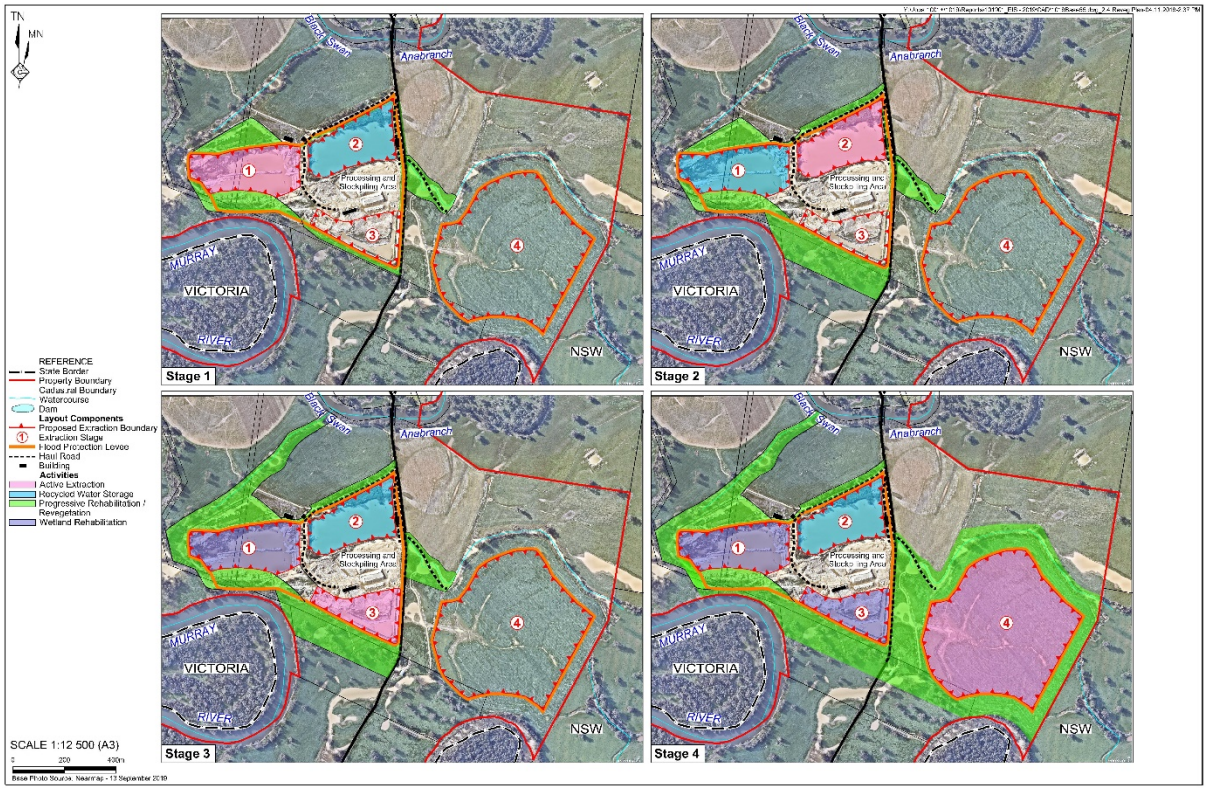
It is anticipated that most of the 25 additional ancillary employees will be hired/sourced from Federation LGA. The employment of these works will be a significant permanent arrangement for them and their families. Additionally, there will be significant, additional direct and indirect economic benefits associated with the increase in local and regional expenditure of wages by these employees, including the contract drivers. Attracting and growing expertise in ancillary services (e.g. transport) through the provision of education and training opportunities as well as practical on-the-job experience will also increase the local skills base.

The operating phase of the project will be a long-term activity that has been estimated to continue for 30 years, subject to market forces and client demands. It is estimated that the gross income will be approximately $4.5 million per year. Annual operating expenditure will include fuel, repairs and maintenance, employee salaries, power, and rates to Local Government. In relation to the sourcing of goods and services from a local supplier, a large proportion of the quarries existing operating costs (excluding labour), are sourced from the local region, defined as the township of Howlong and the regional centre of Albury. These items include things such as repairs and maintenance, fuel, plant and machinery hire, contractors and consultations.

The revenue gains will be used to resource biodiversity enhancement including reinstatement of about 40 ha of indigenous vegetation. This will, in turn, enhance habitats of threatened species and farm shelter values, help conserve old remnant trees, and establish corridors between the Black Swan Anabranch and the Murray River. It includes a reduction of the area that is currently approved (EPA licenced) for gravel extraction across the property and retaining existing young trees and older remnant trees across the property. Restoration will occur in areas of the riparian buffer and wetlands previously used for grazing. A small number of trees lining the existing Stage 2 pad would require removal for expansion within the Stage 2 area. This is discussed in detail the Biodiversity and the Rehabilitation Reports.

The Economic Impact Assessment also indicates there are royalties and other fees to the NSW Government and Federation Council, which contribute to providing services to and infrastructure for the people of NSW.

Figure 5.1: Rehabilitation Areas Identified in the Proposal (~55 ha).



5.3. Addressing the Key Negative Social Issues

This section provides a detailed discussion of the key issues identified in Section 5.2. This section provides more detail on the nature of the key concerns and identifies ways to mitigate, manage or monitor the issue/s.

Where an impact on a matter has been identified as 'likely', an assessment needs to be made of how material the effect of the impact could be, and whether it requires a detailed assessment by a specialist to fully understand the impact and design project-specific mitigation. To decide if this is the case, the Scoping Tool directs the applicant to complete a preliminary assessment of whether the impact, without mitigation, is expected to cause a material effect, considering extent, duration, severity and sensitivity

5.3.1. Amenity:

Outline:
Table 5.1 identifies Acoustic, Visual and Particulate Deposition as low risk issues.

Description:
Community and stakeholder concerns related to social amenity included visual amenity, air quality/dust, and noise. The expanded sand and gravel quarry is expected to increase activity associated with operations (e.g. generate increased truck number/day). The sand and gravel quarry will deliver excavated material to several destinations including Albury, Corowa, Euroa, Wangaratta and Yarrawonga. Trucks will travel through Howlong to and from these destinations.

The technical reports (Traffic Impact Assessment and Noise Assessment) indicate the changes will not have significant impact. The increased truck numbers represent an increase of only 1.6% of traffic, and the acoustic assessment found noise levels will not significantly increase, either on neighbours or through the town. Expected closure of the mine North of Howlong as well as current traffic volumes suggest the additional traffic from the proposal will be negligible.

The visual impact assessment found that, as the quarry is located in low lying land, it is not visible due to vegetation screening, distance, siting, and topography.

The proposal is staged to minimise work area, and revegetation buffers will be built to reduce noise emanating from the site.

Neighbours have stated that they have no concerns about the quarry operation and have not noticed any deposited dust related to it. Survey results show that a negligible amount of dust is generated from the material separation process even in high wind situations. Potential dust impacts are also minimised by the screening and washing process being a 'wet' operation, covering trucks and watering access tracks and periodically all areas of exposed soil created by the project, including stockpiles of excavated material. These actions are documented in the EIS.

Impact Characteristics (Estimation of material effects)

Base on the above our professional judgment is:

Extent: impacts do not extend beyond the boundary of the site and only potentially affects the neighbours

Duration: ongoing at business hours, during operational phase

Severity: the nature of change remains the same as existing use, the frequency will be increased as a result of a ten-fold increase of activity

Sensitivity: neighbours have stated they have no concerns

Mitigation, Management and Monitoring Strategies:

- Normal working hours to be 7am – 5pm, Monday to Friday with the flexibility to permit work on Saturdays, depending on demand;
- Machinery, including haul trucks, will operate at very slow speed on site (<20 km/h);
- The weekend/evening periods are important for community rest and recreation and provide respite. Where possible, operations would be scheduled to avoid these periods;
- Adapt operations and dust mitigation measures according to weather conditions;
- Operate a water truck during working hours covering the road and operational areas.
- Continue the practice of banking extracted materials to form an acoustic barrier where practicable;
- Inform potentially noise-affected neighbours about the nature of any unusual disturbance during development stages (e.g. office construction) and the noise reduction measures that will be undertaken;
- Appoint a principal contact person for community queries. Follow a complaint response procedure suitable to the scale of works;
- Develop an Environmental Management Strategy that includes an air quality and noise monitoring program;
- A 2.3 ha area within the south western section of the existing pit (Stage 1) would be backfilled, a 100 m vegetated buffer to the Murray River to be reinstated.

5.3.2. Access:

Outline:
Table 5.1 identifies egress and capacity of the Highway from the property as a low risk issue.

Description:
Community and stakeholder concerns related traffic management due to increased haulage. Access to the project site is via the private road that runs south from Riverina Highway with a bridge that crosses the Black Swan Anabranch.

A Road Transport Assessment has been prepared. Overall, it was determined that expanded operations would not create a significant impact on traffic and transport. The Riverina Highway is capable of handling the additional heavy loads.

Impact Characteristics (Estimation of material effects)
Base on the above our professional judgment is:

Extent:	impacts occur at boundary of the property as truck egress to highway
Duration:	largely business hours
Severity:	The road transport assessment suggest it is not a significant increased amount of transport seeking access. Appropriate driver behaviour onsite will reduce risk of any traffic accidents between vehicles.
Sensitivity:	Riverina Highway is capable of handling the additional heavy loads.

Mitigation, Management and Monitoring Strategies:

- Machinery, including haul trucks, operate at very slow speed (<20 km/h) on site;
- Implement changes to bridge as per engineering report and limit speed on the bridge to 5km/hr;
- Truck follow designated truck routes;
- Truck drivers entering the Quarry must review, sign and abide by a Driver's Code of Conduct that would include preferred routes, on-site speed limits and expected behaviour when entering and exiting the Quarry Site.

5.3.3. Heritage:

Outline:
Table 5.1 identifies Indigenous Cultural Heritage impacts as being a low risk issue.

Description:
A number of stakeholder groups and other community organisations have an interest in the impacts on heritage. There is both a legal and moral obligation to manage and conserve these sites.

The NSW State Heritage Register, State Heritage Inventory and the LGA Environmental Heritage Schedule show there is no historic cultural heritage sites within the area.

The Aboriginal stakeholders have no objections to the proposed development proceeding. There are no native title claims relating to the site or in the general locality. A survey of the proposed development was undertaken. One Aboriginal site (open campsite) was located outside the footprint of the proposed development site represented by a scattering of eight quartz artefacts.

Impact Characteristics (Estimation of material effects)

Base on the above our professional judgment is:

Extent: There are no known historic cultural heritage sites within the area, no native title claims, and one open campsite located at the periphery of the activity. Wyseworth' Homestead, garden and outbuildings are out of view of the development and remote from quarry operations

Duration: impact to open campsite possible but unlikely during development and operational phases.

Severity: Howlong 1 artefact scatter on a dune that will not be disturbed during the course of reparation of the development.

Sensitivity: LALC involvement and did not express any concerns about the proposal. Owners of 'Wyseworth' Homestead have also not expressed any concern. Unique or widely recognised assets and/or values will not be disturbed

Mitigation, Management and Monitoring Strategies:

- In the unlikely event that unidentified Aboriginal or historic cultural heritage sites or items are encountered during the course of development, all works likely to affect the cultural material must cease immediately and the appropriate authorities consulted about an appropriate course of action prior to work recommencing;
- If human skeletal remains are encountered, all work in that area must cease. Remains must not be handled or otherwise disturbed except to prevent further disturbance, police and OEH must be contacted;
- On-site induction program for employees, contractors, and sub-contractors.

5.3.4. Community Awareness/Social Licence:

Outline:

Not part of Table 5.1 but identified in the social media and the community meeting.

Description:

A common response during stakeholder consultation and meetings was whether the wider community were aware of the proposal and able to make informed comments given their busy lifestyle. An impression by the authors from the discussion both on social media and at the community meeting, is that residents were 'wary' of development based on previous experience concerning a proposal to create a composting site close to town.

Impact Characteristics (Estimation of material effects)

Base on the above our professional judgment is:

Extent: concern/wariness was expressed across various members of the Howlong community

Duration: Likely to be ephemeral. This is based there being a recent history of controversial proposal in the region (Cleanaway composting facility), and the landholder interviews which saw the proposal as an extension of an existing use

Severity: community recognized there was an existing use, will take ongoing time and effort to build trust

Sensitivity: Unique or unexpected activity may increase the community's focus on quarry activities

Mitigation, Management and Monitoring Strategies:

- Appoint a principal contact person for community queries. Follow a complaint response procedure suitable to the scale of works where appropriate;
- Annual consultation with immediate neighbours and inform potentially noise-affected neighbours about the nature disturbance during the different lifecycle phases of development and operation and the noise reduction measures that will be undertaken;

- The proposal to include reinstating an earthen bank to provide a 100 m vegetated buffer to the Murray River to address a number of issues including risk to visual amenity from the river;
- Pursue on-site revegetation and environmental monitoring partnering opportunities with the local landcare groups; and
- Conduct on-going community information sessions as required.

5.3.5. Natural Environment:

Outline:
Table 5.1 identified a number of environmental issues were of concern to the community including vegetation management and the proposal's interaction with the Murray River.

Description:
The proposal has significant measures to reduce impacts on the natural environment. The scale of these impacts from a technical perspective are assessed and mitigation strategies outlined in the EIS. The community relies on the natural environment (particularly the Murray River) and is concerned more broadly about the health of the local environment and the impact of operations.

Impact Characteristics (Estimation of material effects)
Base on the above our professional judgment is:

Extent: impacts occur across a range of biophysical assets (i.e. water, wildlife, fire, pollution) and there may occur beyond the site boundary. The values assigned to these assets are connected to lifestyle and therefore span across a large proportion of the local community- particularly in relation to ripple effects (such as water quality affecting recreation opportunities on the river)

Duration: negative impacts may occur during the development and operational phases with this proposal, and depending in the nature of the issue could be short or medium term. Likely positive impact during the rehabilitation and post-use phases.

Severity: negative impacts unlikely to occur due to a range of control measures outlined in the proposal and based on past history of practice. Potential (both negative and positive) to affect ecological or community function, process, health, lifestyle, or livelihood dependent on actual issue.

Sensitivity: widely held assets or values could be disturbed

Mitigation, Management and Monitoring Strategies:
Addressing community concerns about the retention of native vegetation:

- Stage the development of the site so that rehabilitation measures can be implemented as operations progress;
- The proposal to include reinstating an earthen infill to provide a 100 m vegetated buffer to the Murray River. Revegetation works within nearby natural drainage lines to increase Red Gum and grassy woodland habitat by approximately 40 ha, this would be added to by progressive rehabilitation of the land surrounding the Quarry;
- Retain and protect remnant paddock trees;
- Review rehabilitation principles and objectives every three years;
- Pursue on-site revegetation and environmental monitoring partnering opportunities that the local landcare group;
- After rehabilitation efforts, monitor the success of works fortnightly for at least 12 weeks. Where rehabilitation has been unsuccessful have restoration contingency measures in place.

To address community concerns about existing retaining natural resource use and hydrology:

There are no expected risks to water quality except if there is an unpredicted flood greater than 1:100 year event that might transfer suspended sediment into the river system.

- Implementation of a Groundwater Management Plan;
- Groundwater monitoring should be established up gradient and down gradient of the site;
- Monitor groundwater levels and groundwater dependent ecosystems within proximity of operations.
- A flood watch system will be part of operational procedures;
- Fuel and oil stores can be removed in the event of floods occurring.

To address community concerns about a possible decline of water quality in the impact on the health of the Murray River:

There is no intent to discharge waste water into the actual river system. The potential pollutants (sediment) will be low risk to the community, workers and the environment. The majority of waste water will be recycled for use in the screens. Excess water will be used for irrigation purposes and controlled and tested water will be used to manage wetlands.

- The proposal to provide a 100 metre buffer zone between the river and the edge of the pit.
- All fuels, chemicals, and other potential contaminants are to be stored in bunded and secured areas at least 50 meters away from water bodies and drainage lines. Re-fuelling of plant and machinery to be done at the same distance.

To address community concerns about waste generated:

- Develop a waste management plan that applies the underlying principles of good waste management such as reduce, re-use and recycle, and minimizes the volume of non-recyclable waste transferred to a registered facility.

To address concerns about natural hazards such as bushfire and flooding

- The site will be surrounded by a 1:100 year flood levee that will contain runoff. The existing levees around the working areas are to be upgraded to exclude flood waters (1:100 AEP) from entering the pits and the working area;
- Develop emergency planning procedures in the event of a fire or flood occurring on the site;
- Manage separation distances between ignition sources and fuels;
- Training of onsite personnel with the use of fire extinguishers and water carts;
- Managing operations on the site to minimise likelihood of ignition.

6. Conclusion

Overall, this SIA anticipates that the proposed expansion of activity at Howlong sand and gravel quarry will create a range of social and economic benefits for the local community. Most of the identified key negative impacts seem to be unlikely to occur, and/or can be mitigated or managed through a range of straightforward approaches to operations (e.g. slow speed limits of traffic on site, progressive re-vegetation of disturbed areas). Two key benefits arising from this proposal are that it building on the existing human capital in the community and thereby increases the overall resilience of the local community to fluctuations in agricultural production, and that it provides an additional source of sand and gravel to a growing wider region. It is recommended that mechanisms for on-going liaison with the community be implemented in order for Fraser Earthmoving Construction Pty Ltd to maintain and increase its reputation as a 'good corporate citizen' amongst the community.

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8. Appendices

Appendix 1: Consultation Register

Date	Person	Organisation
1/2/18	Kate Lannarch	Federation Council
6/2/18	Joel Herbert	Planning and Environment (P & E)
14/2/18	Judy Kirk	Landcare Corowa
14/2/18	Miranda Kerr	Office of Environment and Heritage (OE & H)
28/2/18	Judy Kirk	Landcare Corowa
28/2/18	Craig Bretherton	Environment Protection Authority (EPA)
13/3/18	Miranda Kerr	OE & H
16/3/18	Allen Newman	Heritage Seeds
18/4/18	Angelina/Lloyd	Local Land Services (LLS)
24/4/18	Peter O'Shawncosy	LLS
26/4/18	Troy Hitchor	LLS
26/4/18	Judy Kirk	Landcare Corowa
26/4/18	Kathie Liebusque	Landcare West Hume
27/4/18	Kate Lanarch	Federation Council
27/4/18	Miranda Kerr	OE & H
4/5/18	Kathie Liebusque	Landcare West Hume
10/5/18	Lisa	EPBC Referrals
16/5/18	Lauren	Environment Australia
17/5/18	Lauren	Environment Australia
21/5/18	Brendan Christy	Landcare Corowa
21/5/18	Joel Hurbert/Miranda Kerr	P & E/OE & H
23/5/18	Kate Lanarch	Federation Council
23/5/18	Allen Newman	Heritage Seeds
24/5/18	Email	Murray Catchment Authority
24/5/18	Email	Registrar Aboriginal Land Rights
24/5/18	Steve Meredith	OE & H
24/5/18	Email	Native Title Services Corporation
24/5/18	Email	National Native Title Tribunal
24/5/18	Troy Hitchor	LLS
30/5/18	Cressida Gilmore	DPE Resources and Geoscience
29/5/18	Andrew Fisher	OE & H
1/6/18	David Hunter	OE & H
1/6/18	Craig Bretherton	EPA
1/6/18	Steve Meredith	OE & H
4/6/18	Kate Lanarch	Federation Council
4/6/18	Joel Herbert	P & E
22/5/18	Lindsay Bush	Rural Fire Service (RFS) Corowa

Appendix 2: Aboriginal Consultation

Aboriginal people living in southern NSW are concerned about any development that might impact upon Aboriginal sites in the region. Sam Kirby of the Albury and District Local Aboriginal Land Council was contacted about the proposed quarry redevelopment and he agreed to meet with the AES team and inspect the study area along with fellow Land Council member Troy McGrath.

The Aboriginal stakeholders have no objections to the proposed development providing that the Howlong 1 artefact scatter on the dune is not disturbed during the course of development (Figure 5).

The right to claim land was introduced in 1983 when the Aboriginal Land Rights Act 1983 became law in NSW. A search of the register of Aboriginal owners did indicate that there were any claims to land across the development site or nearby (Refer Appendix of the EIS).

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Albury & District Local Aboriginal Land Council

Albury & District Local Aboriginal Land Council - 917 Chenery Street Gelnroy - Po Box 22 Lavington 2641 - lalc-albury@outlook.com - 6025 6075

Advance Environmental Systems
(03) 5482 5882 or 0412 151 225
Email: aes@echuca.net.au Web:
www.environmentalsystems.com.au

Dear Tim & Peter,

Thank you for your consultation regarding the Howlong Gravel Quarry proposed site development.

The Albury & District Local Aboriginal Land Council (A&D LALC) has identified part of the site and items it contains to be culturally sensitive in nature. However further study will not be advised given the cultural site location is outside the proposed work site.

Albury & District LALC has read and will support the: Aboriginal and Historic Cultural Heritage Due Diligence Assessment for Howlong Sand and Gravel Quarry Expansion SSD 17_8804.

The A&D LALC sees no issues with the continuation of this project. However if culturally sensitive items are discovered during any stage of the project the A&D LALC is to be consulted immediately.

A&D LALC maintains this information to be true and correct at the time of issue, any future concerns regarding the site(s) in question can be directed to the CEO of the A&D LALC.

Kind Regards,

Sam Kirby

Appendix 3: Project Advertisement / Factsheet

Environmental Impact Statement (EIS) Community Input
Howlong Sand and Gravel Quarry Redevelopment

The Project

Fraser Earthmoving Construction have re-established operations of the Howlong Sand and Gravel Quarry located at 4343 Riverina Highway Howlong, NSW 2643. The quarry is currently operating on approved licenses for extraction of the materials. As part of this development an EIS is being prepared to feed into a State Significant Development Proposal significantly reducing the area of materials can be removed, but increasing the annual volume of material to be removed from 30,000 T per year up to a maximum of 300,000 T per year. The project will provide employment through progressive extraction, transporting of materials and rehabilitation over the next 30 years. Full time employment is currently being provided for 10 personnel, this will increase as volumes required are increased. The long-term use of the land following rehabilitation will be for agriculture, but also include wetlands, fish farming and floodplain ecosystem renewal.

More Information

Preliminary information about the quarry redevelopment and rehabilitation plans can be viewed at Federation Council Library, 59 Hawkins Street, Howlong.
OR
The NSW Planning and Environment website:
http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=8804

Come and talk to us

The team preparing the EIS is available, by appointment, to provide information and answer any questions about the proposed redevelopment up to the 16th of March.

Contact: Mr Peter Clinnick 0412 151 225 or Email: *info@environmentalsystems.com.au*

Appendix 4: Letter from Landowner

Nangunia Pastoral Pty Ltd
ABN 41 269 568 295
Table Top Holdings Pty Ltd
ABN 53 889 334 126
Suite 4 Level 1
576 Kiewa Street
Albury NSW 2640

1 May 2019

The Secretary
Department of Planning and Heritage
GPO Box 39
Sydney NSW 2001

Dear Sir

Re: SSD 17_8804
Quarry Extension – Riverina Highway, Howlong NSW 2643

I have been asked to write and confirm my understanding and to affirm my consent in respect of the Application referred to above in my Capacity as Director of each of the abovenamed Companies.

In respect of both of the above named Companies being the Landowner and Current License Holder I confirm that arrangements are in place to allow the Applicant full and unfettered access and control of this Project and that the Application/EIS has been reviewed by me and has my consent and full and unconditional support.

If you require any further information or comment, please do not hesitate to contact me.

Yours faithfully

Warwick Ashby
Director

Appendix 5: Authors' Brief Curriculum Vitae

Jonathon Howard.

B.Env.Sc., Grad Dip Nat Res., Grad Dip Bus Mgt., PhD. Jonathon has been academic at Charles Sturt University for over twenty years with a background teaching and researching in social sciences. He was previously Head of School in the School of Humanities and Social Sciences and prior to that Deputy Head of the School of Environmental Sciences. He has been Ministerial appointee to several government boards including as Chair of the NSW Nature Conservation Trust.

Formal Qualifications
Bachelor of Environmental Science
Graduate Certificate in Leadership and Management
Graduate Diploma of Natural Resources
Graduate Diploma of Business Management
PhD

Board Experience
Current:
Albury City Council Sustainability Advisory Committee

Previous:
Chair- Nature Conservation Trust NSW
Murray Catchment Management Authority
Murray Unregulated Rivers Committee
Murray Groundwater Committee
Murray Wetlands Working Group

Peter Clinnick

B Ag Sc.Hons. Peter is currently Managing Director of the regionally based environmental consulting company Advanced Environmental Systems Pty Ltd. He has been engaged by CSIRO Forestry, industry, community groups and local government to work in extension, research and statutory planning throughout Australia. Peter has been a Federal Ministerial appointee to Regional Development Australia-Murray.

Andrea Mason

B. App. Sc. Andrea is Director of Finding North Aspects of Sustainability for Elken Cove Pty Ltd. She has over 25 years' experience in community development and natural resource management across rural and urban communities

Formal Qualifications
Bachelor of Applied Science in Applied Biology
Home Sustainability Assessor
First Rate 5 (Building Thermal Performance Assessor)
Cert IV TAE 40110 Training and Assessment

Board Experience
Current:
Director, Buninyong & District Financial Services Ltd, (Buninyong Community Bank)
Board Member, former Chair, Leigh Catchment Group, Landcare Network
Chair, Australian Landcare International
Upper Williamson's Creek Landcare Group

Appendix 6: Social Impact Assessment – Review Questions

Table A6.1
Social Impact Assessment – Review Questions (Appendix D of the SIA Guideline)

Review Question	Comment
General	
Has the applicant applied the principles in Section 1.3? How?	A review of how these principles have been applied is provided in the following table (Table 2.1)
Does the lead author of the Scoping Assessment meet the qualification and skill requirements in Box 2?	see Appendix 5
Does the lead author of the SIA component of the EIS meet the qualification and skill requirements in Box 4?	see Appendix 5
Has the lead author of the SIA component of the EIS provided a signed declaration certifying that the assessment does not contain false or misleading information?	See Page 2
Community engagement for social impact assessment (Section 4)	
Does the SIA include adequate explanations of how the engagement objectives have been applied? How?	Engagement activities were inclusive and representative of potentially impacted groups as indicated by SEARS, the guidelines and the literature. The concerns of interested groups have been collected and presented in an unbiased manner and those involved in consultation were aware of how the information they provided was to be used. See Section 4.3
Does the SIA demonstrate that there has been a genuine attempt to identify and engage with a wide range of people, to inform them about the project, its implications and to invite their input? How?	Achieved. A variety of methods including direct mail, facebook discussions, listing on websites, and town meetings were used see section 4.4
Does the SIA demonstrate that an appropriate range of engagement techniques have been used to ensure inclusivity and to ensure the participation of vulnerable or marginalised groups? How?	Yes, the approach to consultation was supported by scoping and background review and the opportunity provided for impacted groups to provide detailed feedback. See section 4.3.3 and section 4.4
Scoping – area of social influence (Section 2)	
Does the Scoping Assessment identify and describe all the different social groups that may be affected by the project?	Section 4.3.2 provides a summary of identified stakeholder groups
Does the Scoping Assessment identify and describe all the built or natural features located on or near the project site or in the surrounding region that have been identified as having social value or importance?	Section 3.8 presents an overview of the community assets. Section 3.9 describes the community's values
Does the Scoping Assessment identify and describe current and expected social trends or social change processes being experienced by communities near the project site and within the surrounding region?	Section 3 provides the social baseline as well as trends and aspirations.

Table A6.1 (Cont'd)
Social Impact Assessment – Review Questions (Appendix D of the SIA Guideline)

Review Question	Comment
Does the Scoping Assessment impartially describe the history of the proposed project, and how communities near the project site and within the surrounding region have experienced the project to date and others like it?	Section 2 provides a summary of the project setting and social background.
Does the Scoping Assessment adequately describe and categorise the social impacts (negative and positive), and explain the supporting rationale, assumptions and evidence for those categories?	These are presented in Section 5 as well as table 3.7, Table 5.1, and Section 5.2.2
How has feedback from potentially affected people and other interested parties been considered in determining those categories? Does the Scoping Assessment outline how they will be engaged to inform the preparation of the SIA component of the EIS?	Engagement is described in Section 4
Does the Scoping Assessment identify potential cumulative social impacts?	The cumulative nature of identified potential social impacts is discussed in section4.2.2
Social Baseline Study (Section 3)	
Does the SIA component of the EIS discuss the local and regional context in sufficient detail to demonstrate a reasonable understanding of current social trends, concerns and aspirations?	Regional overview and identified social trends are presented in Section 3.2
Does the SIA component of the EIS include appropriate justification for each element in the social baseline study, and provide evidence that the elements reflect the full diversity of views and potential experiences in the affected community?	Section 3 justifies the use of a socio-economic review to inform the SIA.
Does the social baseline study include an appropriate mix of quantitative and qualitative analysis, and explain data gaps and limitations?	The review of the existing socio-economic context in section 2 included the review of government planning documents, publicly available statistical data and a qualitative review of community infrastructure and setting.
Prediction and Analysis of Impacts (Section 5)	
Does the SIA component of the EIS include an appropriate description of the potential impacts in terms of the nature and severity of the change and the location, number, sensitivity and vulnerability of the affected stakeholders?	Table 5.3 provides an evaluation of social impacts in terms of extent, durations, severity and sensitivity. This review is of unmitigated potential impacts and community concerns and informs mitigation and management strategies
Does the SIA component of the EIS identify potential impacts at all stages of the project life cycle?	All stages of the Project life cycle are considered including the application process and legacy outcomes.
Does the SIA component of the EIS appropriately identify and justify any assumptions that have been made in relation to its predictions?	Any assumptions made in the assessment are justified or explained in section 5

Table A6.1 (Cont'd)
Social Impact Assessment – Review Questions (Appendix D of the SIA Guideline)

Review Question	Comment
Does the SIA component of the EIS include appropriate sensitivity analysis and multiple scenarios to allow for uncertainty and unforeseen consequences? If relevant, does it include comparisons with studies of similar projects elsewhere?	The SIA identifies the challenge of the community's cautious approach to increasing operations given other recent local events. It uses and adaptive approach to encourage the building on 'capital' between the proponent and the community. See section 5.3
Evaluation of Significance (Section 5)	
Does the SIA component of the EIS explain how impacts were evaluated and prioritised in terms of significance?	This is covered in section 5.
Does the evaluation of significance consider cumulative aspects where relevant?	Cumulative impacts are considered in Section 5.3
Does the evaluation of significance consider the potentially uneven experience of impacts by different people and groups, especially vulnerable groups?	The evaluation of significance focuses on those people in the Principal Amenity Impact Area but also identifies other effected groups and ripple effects (e.g. impact of water quality on recreation).
Monitoring and Management (Section 6)	
Does the SIA identify appropriate measures to avoid, reduce, or otherwise mitigate any significant negative impacts of the project, and justify these measures?	Monitoring and mitigation strategies has been proposed for each of the identified issues
Does the SIA explain and justify measures to secure and/or enhance positive social impacts?	See section 5.2.2
Does the SIA component of the EIS impartially assess the acceptability, likelihood and significance of residual social impacts?	Section 5 provides an overview of residual social impacts.
Does the SIA component of the EIS propose an effective monitoring and management framework?	A process of information presentation and feedback has been presented which will provide monitoring of potential social impacts.

Table A6.2
Review of the SIA in Accordance With the Principles of Social Impact Assessment (Section 1.3 of the SIA Guidelines)

Principles	Description	Comment
Action-oriented	Delivers outcomes that are practical, achievable and effective.	See section 2.4
Adaptive	Establishes systems to actively respond to new or different circumstances and information and support continuous improvement.	See section 2.4
Distributive equity	Considers how social impacts are distributed within the current generation (particularly across vulnerable and under-represented groups) and between current and future generations.	See section 2.4
Impartial	Is undertaken in a fair, unbiased manner and follows relevant ethical standards.	See section 2.4
Inclusive	Seeks to hear, understand and respect the perspectives of the full diversity of potentially affected groups of people. It is also informed by respectful, meaningful and effective engagement that is tailored to suit the needs of those being engaged (for example, culturally sensitive, accessible).	See section 2.4
Integrated	Uses and references relevant information and analysis from other assessments to avoid duplication and double counting of impacts in the EIS. It also supports effective integration of social, economic and environmental considerations in decision-making.	See section 2.4
Life cycle focus	Seeks to understand potential impacts (including cumulative impacts) at all project stages, from pre-construction to post closure.	See section 2.4
Material	Identifies which potential social impacts matter the most, and/or pose the greatest risk to those expected to be affected.	See section 2.4

Table A6.2 (Cont'd)
Review of the SIA in Accordance With the Principles of Social Impact Assessment (Section 1.3 of the SIA Guidelines)

Principles	Description	Comment
Precautionary	If there is a threat of serious or irreversible damage to the environment, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental (including social) degradation.	See section 2.4
Proportionate	Scope and scale should correspond to the potential social impacts.	See section 2.4
Rigorous	Uses appropriate, accepted social science methods and robust evidence from authoritative sources.	See section 2.4
Transparent	Information, methods and assumptions are explained, justified and accessible; and people can see how their input has been considered.	See section 2.4. All methods and assumptions have been described and explained.

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