



Section 2

Strategic Context

PREAMBLE

This section identifies the key strategic issues that are relevant to the assessment Project, including a review of:

- *strategic support and justification provided by key government strategies policies and plans;*
 - *key features of the Project Site and surrounds;*
 - *potential cumulative impacts;*
 - *existing and proposed agreements; and*
 - *feasible alternatives considered and rejected.*
-



ENVIRONMENTAL IMPACT STATEMENT

Tomingley Gold Operations Pty Ltd
Tomingley Gold Extension Project

This page has intentionally been left blank



2.1 Strategic Support and Project Justification

2.1.1 Introduction

The NSW and Commonwealth Governments have published a range of planning documents and reports that collectively provide the basis for government strategic planning for Regional NSW. Central to many of these documents is the recognition of the positive economic and social impacts that mining and other large-scale infrastructure have on rural communities. The planning documents that are relevant to the Project and how each of those documents provides strategic support to the Project are outlined in the following subsections.

2.1.2 Government Strategies, Policies and Plans

2.1.2.1 Economic Development Strategy for Regional NSW

The *Economic Development Strategy for Regional NSW* published by the Department of Trade and Investment, Regional Infrastructure and Services aims to drive economic growth in regional NSW. The Strategy covers all of regional NSW, encompassing all industries and sectors within the State, with mining highlighted as one of the key drivers of economic growth. The Strategy identifies five high level goals encompassing twenty-three actions for Governments. The following identifies those areas where the Strategy provides strategic support for the Project.

Goal 1 – Promote key regional sectors and regional competitiveness

The Strategy highlights the mining industry as one of the top three contributors to Gross Regional Product, alongside manufacturing and healthcare and social assistance. The Project would be consistent with the following actions.

- Action 1.2 - Increase the value of NSW's mineral industry and the energy sector.

The Project would help to increase the value of the NSW mineral industry through the continued extraction of a State-owned resource and the continued support, employment and development of the Applicants' employees, contractors and suppliers.

Goal 2 – Drive regional employment and regional business growth

Regional employment and business growth is a key goal of the Strategy, with a number of Government actions and programs in place to support this goal. The Strategy identifies increasing the regional skill base to offset the effects of population decline as a key priority; in particular, the development of youth and Aboriginal employment outcomes.

- Action 2.1 - Promote regional job creation.

The Project would enable the retention of approximately 230 existing and up to 363 existing and proposed positions, as well as supporting additional Regional employment associated with increased economic activity generated by the Project.



- Actions 2.4 and 2.5 - Increase regional skills base and improve Aboriginal employment and business outcomes.

The Project would allow the Applicant to continue to employ employee apprentices and trainees and contribute to training programs for the local community, including the Peak Hill and Narromine Aboriginal communities. TGO is a significant sponsor of the Clontarf Foundation through Narromine High School. The current three year partnership the Clontarf Foundation seeks to improve the education, discipline, life skills, self-esteem and employment prospects of young Aboriginal and Torres Strait Islander men

2.1.2.2 Central Orana Regional Economic Development Strategy

The *Central Orana Regional Economic Development Strategy 2018 – 2022* relevantly aims to capitalise on the growth potential of the mining sector to boost economic development of the Region. The Strategy identifies mining as a growing industry in the Region and that growth in mining sector will likely increase demand in the construction, manufacturing, professional, scientific and technical services and transportation sectors. The Strategy proposes to capitalise on the growth in the mining industry to drive development in renewable energy projects and major infrastructure projects, while providing training opportunities for local and increasing demand for skilled and professional services.

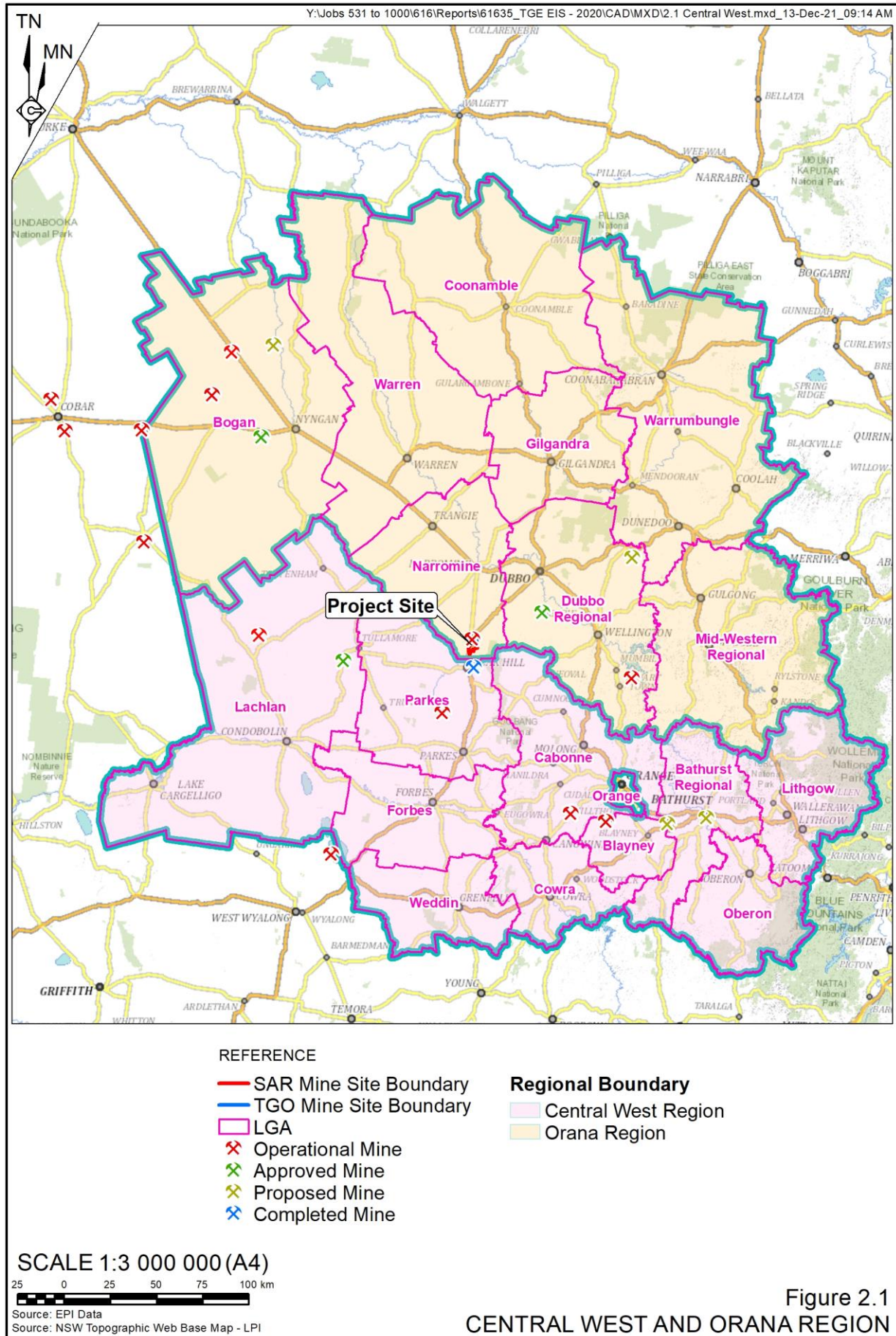
2.1.2.3 Central West and Orana Regional Plan 2036

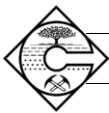
The *Central West and Orana Regional Plan 2036* published by the NSW Department of Planning and Environment in June 2017 sets out the NSW Government's blueprint for the future of the Central West and Orana Regions to 2036 (**Figure 2.1**). The Plan identifies four goals, each with multiple sub-goals. The following also identifies how the Plan provides strategic support for the Project.

Goal 1 – The most diverse regional economy in NSW

The Plan identifies that agriculture, manufacturing and mining are the Regions' traditional industries. The Project would be consistent with the following Directions.

- Direction 1: Protect the region's diverse and productive agricultural land.
The Project would disturb limited area of agricultural land. However, the Applicant has committed to undertaking a range of measures to increase the agricultural productivity of the land under its control to ensure that the Project would result in an increase in the overall agricultural productivity of the Region.
- Direction 6: Expand education and training opportunities.
The Project would permit the Applicant to continue to employ employee apprentices and trainees and contribute to training programs for the local community, including the Aboriginal community through its partnership with the Peak Hill and other local Aboriginal communities and the Clontarf Foundation.





- Direction 7: Enhance the economic self-determination of Aboriginal communities.

The Applicant has since the early 1990's worked with the Peak Hill Aboriginal community and has recently committed to supporting the Clontarf Foundation to promote training and opportunities for the local Aboriginal community.

- Direction 8: Sustainably manage mineral resources.

The Project would ensure that the identified mineral resources would be developed in a manner that would optimise the benefits to the community and State, while minimising environmental and social impacts to the greatest extent practicable.

Goal 2 – A stronger, healthier environment and diverse heritage

The Plan identifies that the Regions have some of the most unique ecological systems in Australia and that achieving environmentally sustainable development will balance rural and urban compatibility issues. The Project would be consistent with the following Directions.

- Direction 13: Protect and manage environmental assets.

The Project would disturb limited areas of native vegetation and would retire suitable biodiversity credits to offset any residual impacts.

- Direction 14: Manage and conserve water resources for the environment.

The Project would divert surface water around disturbed sections of the Project Site and would retain all Project-affected water within the Project Site. In addition, the Project would intersect limited volumes of saline groundwater and would appropriately licence all inflows. As a result, the management and mitigation measures surrounding this potential disturbance would coincide with the Direction's need for careful management of all water sources.

- Direction 16: Respect and protect Aboriginal heritage assets.

The Project would disturb a limited number of Aboriginal objects. The Applicant has a long history of consulting with the Aboriginal community and developing suitable mechanisms to manage any impacts that may occur as a result.

Goal 3 – Quality freight, transport and infrastructure networks

The Plan identifies that the Central West and Orana Regions are a major exporter of agricultural, mining and other value-added products and reliance is placed on efficient freight and transport infrastructure. The Project would result in changes to the alignment of the Newell Highway, with additional safety measures, including safety barriers and intersections with channelised turning bays, removing five farm driveways from the 110km/hr speed zone, as well as substantially improved flood protection. The changed alignment would result in an additional approximately 0.41km travel distance and approximately 13 seconds of travel time. Overall, the Applicant contends that the Project would improve the road freight network in the vicinity of the Project Site.



Goal 4 – Dynamic, vibrant and healthy communities

The Plan identifies that Central West and Orana Regions are home to some of the most diverse communities in NSW. Population growth will not be evenly distributed, with larger towns such as Orange, Bathurst, Mudgee and Dubbo (**Figure 2.1**) expected to grow, while smaller towns and villages are likely to remain relatively stable or in some cases decline. The Project would be consistent with the following Directions.

- Direction 23: Build the resilience of towns and villages.

The Project would ensure continued operation of the Mine until 31 December 2032. This would help support the small villages and towns surrounding the Project Site, including Tomingley, Peak Hill and Narromine, and provide additional economic activity in those communities.

- Direction 24: Collaborate and partner with Aboriginal communities.

The Applicant has a long history of collaborating with the Peak Hill Aboriginal community and has recently committed to supporting the Clontarf Foundation. The Project would provide the resources for that ongoing collaboration to continue.

2.1.2.4 Narromine Shire Local Strategic Planning Statement

The *Narromine Shire Local Strategic Planning Statement* published by the Narromine Shire Council in June 2020 provides the community vision and aspirations for the future of the Narromine Shire and a long-term framework to guide and influence delivery of that vision. It is noted that the Planning Statement identifies Alkane as providing “*significant employment opportunities*”. The Planning Statement considers the *Central West and Orana Regional Plan 2036* (Section 2.1.2.3) and the *Narromine Shire Community Strategic Plan 2027*¹. The Planning Statement lists a number of relevant guiding themes which are built upon these documents. The following also identifies how the Project is consistent with each of those themes and identified planning priorities.

Theme 1 – Vibrant communities

Priority 3 - Access to formal and informal education, information, and other services and opportunities to enhance their lives.

The Project would ensure that the Applicant can continue to offer a range of training and education opportunities for its employees and others consistent with Priority 3 of the Planning Statement.

Theme 2 – Growing our economy

Priority 6 - Sustain and grow our local population.

Priority 7 - Development, diversification and sustainability of the local business and industry base.

¹ The *Narromine Shire Community Strategic Plan 2027* provides a broader overview of those matters identified by the *Narromine Shire Local Strategic Planning Statement*.



Priority 8 - Encourage employment and skills development to address industry needs and grow the region's knowledge base.

The Project would ensure continued operation of the TGO Mine and would ensure that the Applicant is able to continue to employ local residents, support local business diversity and continue to offer training and skills development to local people, both employees and through community partnerships such as the Clontarf Foundation. It should be noted that Priority 6 of the Planning Statement specifically identifies the Applicant as Narromine Shire's largest employer.

Theme 3 – Protecting and enhancing our environment

Priority 9 - Manage natural environments for current and future generations.

Priority 11 - Values the efficient use of utilities, natural resources and energy.

The Project has, to the extent practicable, been designed to minimise impact on the environment within and surrounding the Project Site to ensure that all impacts are consistent with relevant assessment criteria and reasonable community expectations. In addition, the Applicant would undertake a range of initiatives to maximise the efficient use of resources, including water and energy, as well as enhancing agricultural productivity within its own land.

2.1.2.5 Regions at the Ready: Investing in Australia's Future

Regions at the Ready: Investing in Australia's Future was released June 2018 by the Commonwealth. The report presents principles of rural development which provide the foundation for building and sustaining regional Australia, as well as providing discussion on key values and challenges faced by rural Australia. The Project would be consistent with the following principles, values and elements of regional development.

Principles of Regional Development

Principles for building and sustaining regional Australia

- *The key to regional development across Australia is to facilitate and secure sustainable economic development.*

The Applicant anticipates contributing between \$135 million to \$145 million to the Australian economy during Financial Year 2022, including salaries and wages (including taxes), energy costs, equipment maintenance and contractors. Should the Project be approved, the Applicant anticipates capital expenditure of approximately \$115 million and operating expenditure of approximately \$788 million between 1 July 2021 and 30 June 2032. This expenditure would substantially support a wide range of businesses and employment throughout the Central West and Orana Regions.



- *Local education and training that is engaged with its community is pivotal to regional development and decentralisation.*

The Applicant has a long history of deep engagement with the community, including the training and development of the local workforce, including the local Peak Hill Aboriginal Community. The Project would provide the resources for that ongoing collaboration to continue.

Regional Australia

Value of rural and regional Australia

- *The regions are the backbone of Australia's exports sector. The major industries of regional Australia—agriculture, forestry, fishing and mining—accounted for nearly 60 per cent of Australia's merchandise exports in 2016. Seven out of ten of Australia's top exports are primarily produced in the regions.*

...

Mining is not only the driver of many of Australia's regional economies, it contributes significantly to the national economy. For 2015-16, the mining industry contributed approximately \$115 billion to the economy, ranking as the third highest contributing industry to Gross Domestic Product (GDP), at seven per cent. The annual growth of mining output was 6.2 per cent, representing the highest growth rate of all industries. The industry also employs 216,500 people, or around 1.7 per cent of Australia's total workforce.

The Project would help to increase the value of NSW mineral industry through the continued delivery of mineral product as well as the continued support, utilisation and development of the supporting industries.

Elements of Regional Development

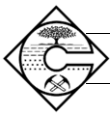
Skilled Workforce

- *Having access to strong human capital in the form of a skilled workforce is also directly related to the growth of regional communities. Conversely, the absence of a skilled workforce is one of the main constraints on regional growth.*

...

Regional development requires significant investment in the education and training of people within regional communities, particularly young people. Such investment will build strong skilled workforces to meet the needs of regional areas. It may also lead to better population retention outcomes.

The Project would assist to retain and attract a skilled workforce in the Orana Region through direct employment and sourcing services and goods locally. In addition, the Project would permit the Applicant to continue to employ employee apprentices and trainees and contribute to training programs for the local community, enabling professional and skills-based development for the local and regional workforce.



2.1.2.6 NSW Infrastructure Strategy 2018 - 2038

The NSW Infrastructure Strategy 2018 – 2038 sets out the NSW Government’s infrastructure vision for the state over the next 20 years, across all sectors. In particular, the Strategy envisions the following.

That regional communities will grow around a hub-and-spoke network of economic regions, linked by key freight and service routes to markets and suppliers in major cities. They will focus on their competitive advantage in agriculture, mining, primary resource manufacturing and the visitor economy.

In particular, the Strategy identifies the importance of ensuring that major infrastructure is resilient to shocks and stresses, including floods. The Project would result in an improved flood immunity for the Newell Highway, increasing from the current flood immunity under an Annual Exceedance Probability (AEP) rainfall event of 25% (i.e. there is a 1 in 4 chance of the Highway being cut by flooding in any one year) to 0.1% AEP (i.e. there is a 1 in 1 000 chance of the Highway being flooded in any one year).

In addition, the Strategy seeks to secure water supplies for regional centres. The Project would facilitate continued access for the Tomingley village to the Applicant’s water supply pipeline, ensuring secure and high quality water for the residents of Tomingley.

2.1.2.7 NSW Freight and Ports Plan 2018-2023

The NSW Freight and Ports Plan 2018-2023 objectives are relevantly as follows.

- *Increased efficiency, connectivity and access – by improving the efficiency of existing infrastructure and ensuring greater connectivity and access along key freight routes*
- *Greater freight capacity – by maximising infrastructure investment and increasing land use capacity to accommodate growth*
- *Improved safety – by creating a safer freight supply chain involving safe networks, safe transport, safe speeds and safe people*
- *Enhanced sustainability – by developing a sustainable supply chain that delivers benefits to our environment and continued operations into the future*

The Project through the proposed upgrades to the Newell Highway and surrounding local roads would contribute to each of these objectives as follows.

- The proposed Newell Highway would include additional safety measures, including 1m wide centre lines, wire rope barriers, 1:6 (V:H) road-side embankments and channelised turning bays for each of the proposed intersections, removal of farm driveways and removal of advertising billboards resulting in substantial safety improvements for the realigned section of the Highway.
- Improved flood immunity as described above.



2.1.2.8 Residential and Large Lot Residential Land Use Strategy 2018

The *Residential and Large Lot Residential Land Use Strategy 2018* forms the first of two parts of the Narromine Shire Council's Rural Land Strategy and was published in 2018. The Strategy applies to existing and future residential land uses in the vicinity of the towns of Narromine and Trangie, and to a lesser extent, Tomingley Village.

The Project Site does not include any land zoned as RU5 Village or R5 Large Lot Residential under the *Narromine Local Environmental Plan 2011* and is unlikely to present any long-term risks to future residential developments within Tomingley Village. Therefore, the *Residential and Large Lot Residential Land Use Strategy 2018* has not been considered further.

2.1.2.9 Agriculture Land Use Strategy - Intensive Plant Agriculture

The *Agriculture Land Use Strategy - Intensive Plant Agriculture* forms the second component of the Narromine Shire Council's Rural Lands Strategy and was published in 2018. No land use within or in the vicinity of the Project Site is classified as Intensive Plant Agriculture under the *Narromine Local Environmental Plan 2011*. Therefore, the *Agriculture Land Use Strategy - Intensive Plant Agriculture* has not been considered further.

2.1.3 Regional and Local Planning Context

There is no Regional Environmental Plan that applies to the Orana Region.

The *Narromine Local Environmental Plan 2011* provides the local planning context for the Project. That Plan is addressed in detail in Section 4. A range of Development Control Plans exist for the Narromine LGA, however, as State Significant Development, those plans do not apply to the Project.

2.2 Key Features

2.2.1 Local and Regional Community

Section 6.15 of this document and Section 5.5 of RDC (2021) (presented as Part 13 of the *Specialist Consultant Studies Compendium*) present a detailed profile of the local and regional community.

2.2.2 Surrounding Land Uses

The areas surrounding the Project Site are predominantly used for agriculture, in particular low intensity sheep and beef grazing as well as cropping (**Figure 2.2**). Section 6.9 presents a detailed description of the agricultural setting of the Project Site and surrounds. Other surrounding land uses identified by the Australian Land Use and Management database include the following.

- Mining – Gold was first discovered in the vicinity of Tomingley in 1879, with the initial mining operations continuing until 1913, with the resulting tailing reprocessed initially in 1924 and again in the 1990's. Modern mining operations within the TGO Mine Site commenced in 2014 and are ongoing. Gold was also



discovered at Peak Hill in 1889, with the Peak Hill Gold Mine, operated by the Applicant between 1996 to 2005, now largely rehabilitated. An inferred gold resource of 108 000oz remains at the Peak Hill Gold Mine.

- Transport – the Newell Highway is a State road that provides the principal north – south heavy vehicle route between central Victoria and southern Queensland via central NSW. Surrounding Regional and Local roads including Tomingley Road, Tomingley West Road, Back Tomingley West Road, McNivens Lane and Kyalite Road permit access from the Newell Highway. Finally, the Parkes – Narromine Railway has recently been upgraded as part of the Inland Rail Project which will permit more efficient rail freight transportation between Melbourne and Brisbane.
- Residential and farm infrastructure – including the Tomingley village and surrounding rural residences and agricultural infrastructure.
- Water infrastructure – including numerous farm dams, and two small reservoirs to the northwest of Tomingley which provide water for the residents of the village.
- Communications infrastructure – there are a number of mobile communications towers, fibre optic cables connecting Melbourne and Brisbane and Telstra copper phone lines in the vicinity of the Project Site.
- Forestry, managed lands, “minimal use” and nature conservation – a range of native vegetation-based land uses exist, including areas managed for commercial timber, preserved for carbon and other offsets and nature conservation, including the Goobang National Park, located approximately 5.5km to the east of the Project Site.

2.2.3 Land Ownership

Figure 2.3 presents the landownership and residences within and surrounding the Project Site. With the exception of Road Reserves and Crown Land, all land within the Project Site is owned by the Applicant.

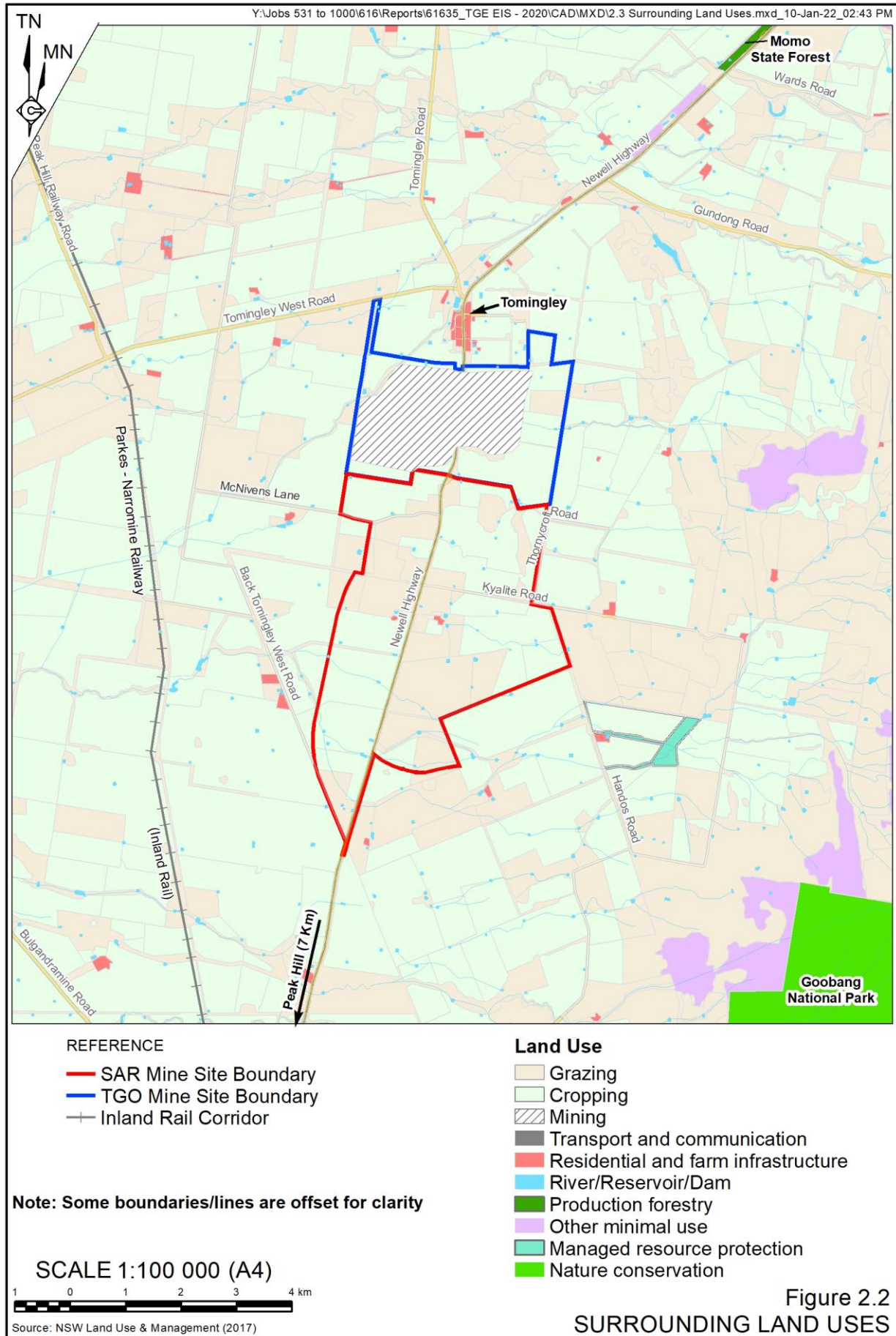
Residences surrounding the Project Site may be classified as follows.

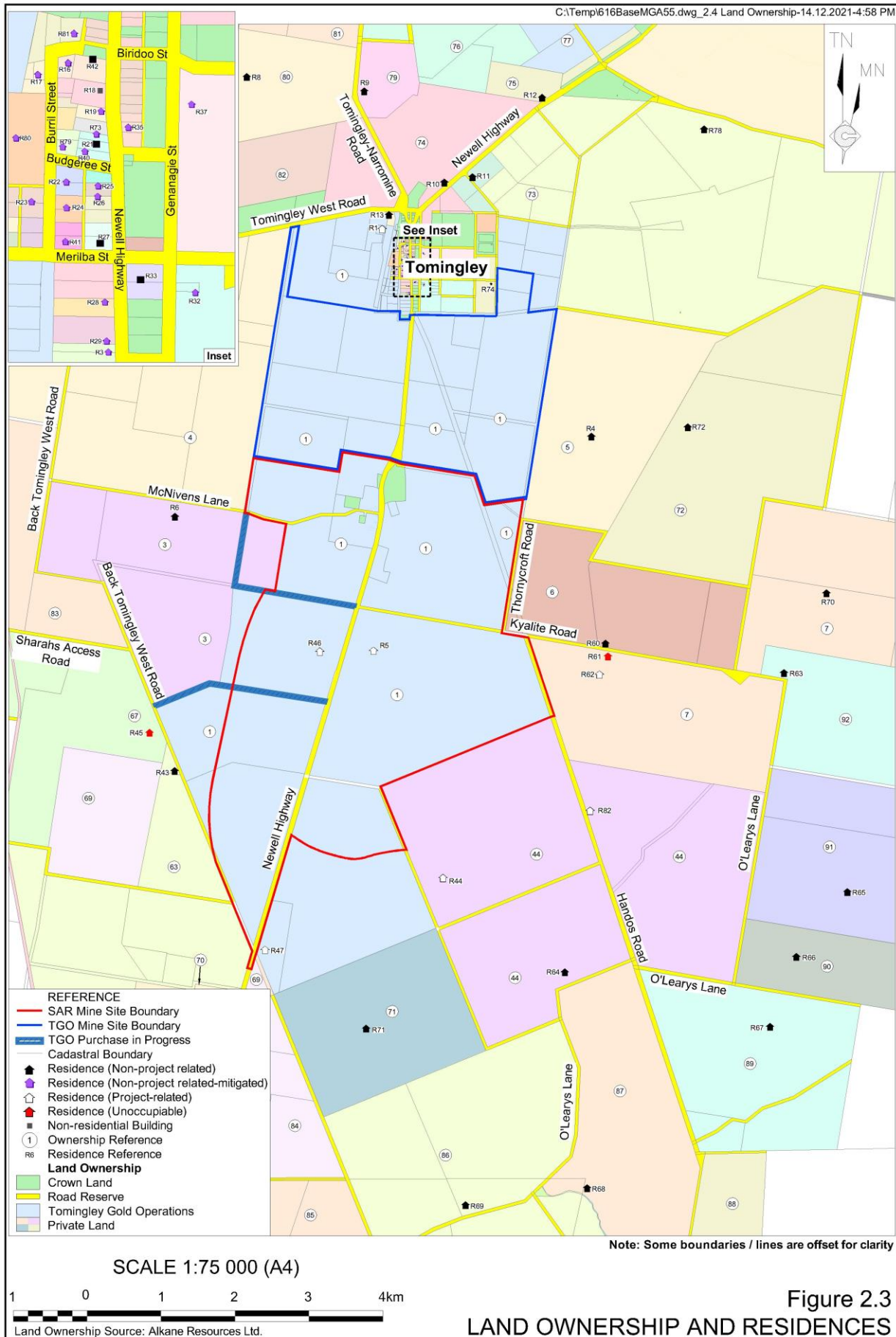
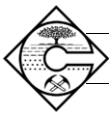
Non-project related – privately owned residence.

- Non-project related – mitigated - the Applicant has previously signed Memoranda of Understanding with the majority of residents within the Tomingley village. Each agreement identifies a range of noise mitigation measures that have been implemented to address prior TGO-related noise emissions. Mitigation measures included installing and maintaining air conditioning units, installing insulation and double-glazing windows within private residences within the village. The Applicant also continues to pay a proportion of the electricity bills for each residence to cover the costs of running the air-conditioning units.
- Uninhabitable – former residence that is no longer habitable.
- Project-related – residences either on land owned by the Applicant or under a long-term lease to the Applicant.



Tomingley Gold Operations Pty Ltd
Tomingley Gold Extension Project







2.2.4 Natural and Built Features

Natural and built features in the vicinity of the Project Site include the following (**Figure 2.4**).

- Goobang National Park – occupying elevated sections of the Herveys Ranges, approximately 5.5km to the east of the Project Site.
- Bogan River and associated tributaries (see Section 6.6) – located approximately 7km to the southwest of the Project Site.
- Tomingley village – residential, public amenities and commercial properties (motel, hotel, service station, joinery)
- Newell Highway and associated Regional and Local roads (see Sections 3.4 and 6.2).
- Parkes – Narromine Railway and Inland Rail – located approximately 2.7km to the west of the Project Site.
- Power and telecommunication infrastructure (see Section 3.3.2.2).

2.2.5 Risks and Hazards

2.2.5.1 Risk Analysis

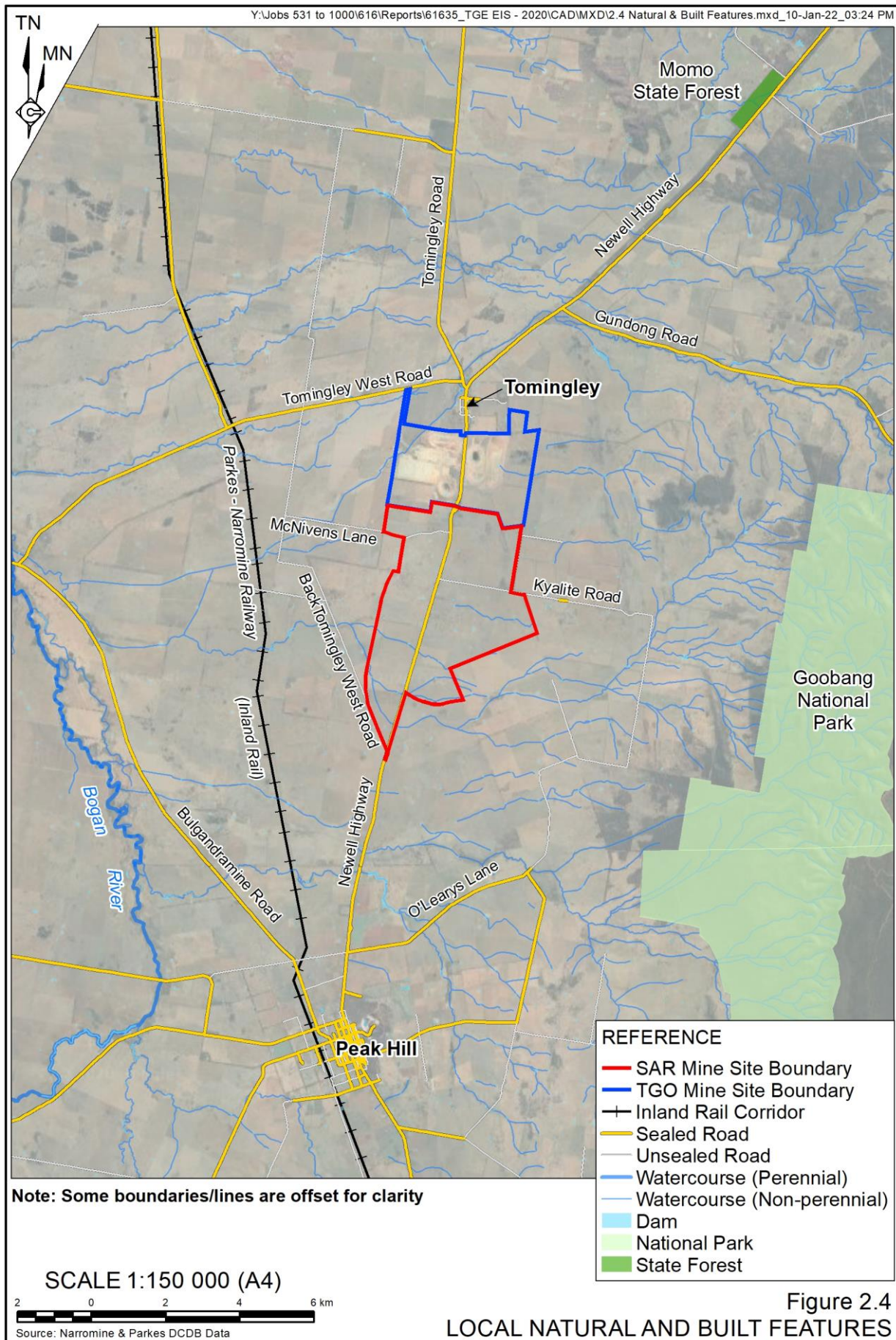
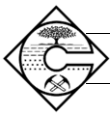
Appendix 3 presents an Analysis of Environmental Risk for the Project. That analysis considered the risks for a range of identified environmental aspects that may be impacted by the Project with the implementation of standard control measures. Where risks identified as “medium” or above were identified, further control measures are proposed to ensure that the Project-related residual environmental risk would be “low” or “as low as reasonably practicable”.

2.2.5.2 Bushfire

The Project Site is situated within a heavily modified landscape of modified pastures and low to medium density of natural vegetation. Vegetation density generally increases towards population centres and in the vicinity of road reserves and watercourses. Plant communities are typically a mixture of native regrowth and remnant communities, including endangered ecological communities, as well as non-native vegetation, including pastoral and weed species. The native vegetation comprises eucalypt woodlands and grasslands found naturally within the surrounding landscape (see Section 6.10) and are typically low fire risk.

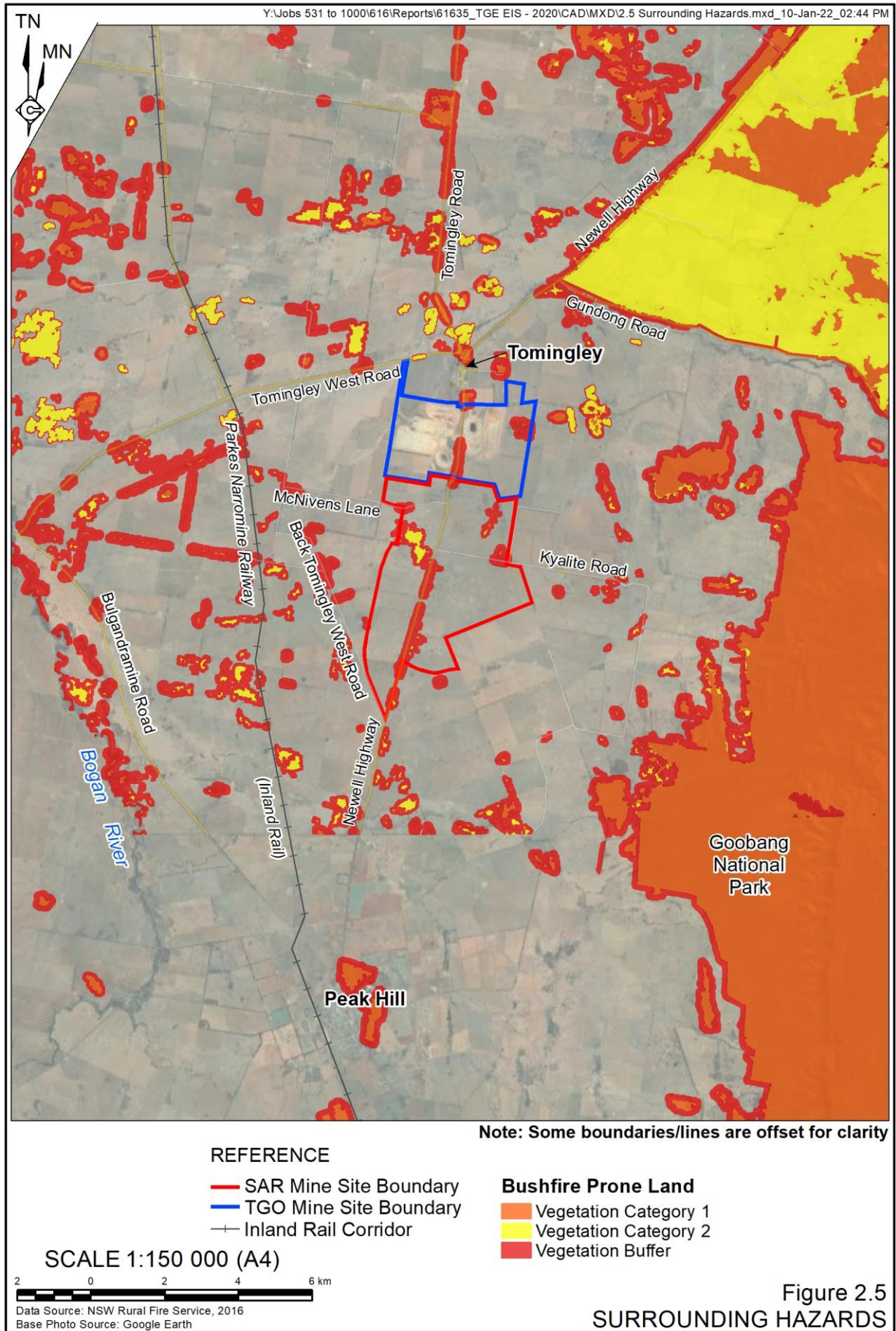
Figure 2.5 provides the bushfire prone land status of the Project Site and surrounds as taken from the NSW Rural Fire Service Bushfire Prone Land Map². Principal bushfire risks are associated with the steep, heavily vegetated Goobang National Park, as well as a large area of mapped “low” bushfire risk land located to the east of the Newell Highway and north of Gundong Road, approximately 3.2km to the northeast of the Project Site.

² <https://data.nsw.gov.au/data/dataset/nsw-bush-fire-prone-land>





Tomingley Gold Operations Pty Ltd
Tomingley Gold Extension Project





The land in the vicinity of the Project Site is not bushfire prone. However, limited patches of land with “low” risk prone land representing Bushfire Vegetation Category 1 (orange) and Bushfire Vegetation Category 2 (yellow) and appropriate buffer zone (100m for Category 1 and 30m for Category 2).

A review of the NSW National Parks and Wildlife Service fire history mapping³, which has a state-wide spatial record of fires since 1902, determined that there have been no recorded grass fires or bushfires in the Tomingley area.

2.2.5.3 Flooding

The Project Site is not situated on or in the vicinity of any flood prone land as identified by the Narromine LEP. However, the area in the vicinity of the Project Site is prone to overland surface water flows. Existing and proposed surface water management is described in Section 3.9.2 and 6.6. In addition, the Applicant holds a Flood Work Approval (80FW723901) for a levy between Gundong Creek and the TGO Infrastructure Area (see Section 1.4.3).

2.3 Cumulative Impacts

Cumulative impacts from the Project are addressed in the relevant impact assessments provided in Section 6.

2.4 Planning and Other Agreements

2.4.1 Planning Agreement with Narromine Shire Council

A Planning Agreement between the Applicant and the Narromine Shire Council was first made on 2 August 2012 for the establishment and operation of TGO. The Planning Agreement has since been modified and **Table 2.1** presents the details of the current Planning Agreement. The Applicant is currently consulting with Narromine Shire Council in relation to extending the current Planning Agreement prior to determination of this application.

Table 2.1
Planning Agreement Terms

Item	Summary Description	Manner and Timeframe for Payment
1	Community Fund	\$53,750/year (base year 2012/13) paid until 31 December 2025 with 50% payable on 1 July and 50% payable on 1 January each year.
2	Road Maintenance (except for Tomingley West Road)	\$45,000/year (base year 2012/13) paid until 31 December 2025 with 50% payable on 1 July and 50% payable on 1 January each year.
3	Provision of Council environmental management expertise	\$20,000/year (base year 2012/13) paid until 31 December 2025 with 50% payable on 1 July and 50% payable on 1 January each year.

³ <https://data.nsw.gov.au/data/dataset/fire-history-wildfires-and-prescribed-burns-1e8b6>



2.4.2 Landholder Agreements

As identified in Section 2.2.3, the Applicant has previously signed Memoranda of Understanding with the majority of residents within the Tomingley village (**Figure 2.3**). Each agreement identifies a range of noise mitigation measures that have been implemented to address prior TGO-related noise emissions. Mitigation measures included installing and maintaining air conditioning units, installing insulation and double-glazing windows within private residences within the village. The Applicant also continues to pay a proportion of the electricity bills for each residence to cover the costs of running the air-conditioning units.

The Applicant proposes to consult with the owners of Residences R6, R26, R40 and R43 in relation to the required for further Memoranda of Understanding to cover those properties.

In addition, the Applicant has signed long-term rental agreements of 5 years duration with the owners of Residences R44, R62 and R82.

The Applicant has commercial lease arrangements with the owners of Properties 3 and 5 to allow those individuals to undertake farming operations on sections of Company-owned land.

The Applicant has also entered into a commercial arrangement with Toongi Pastoral Company Pty Ltd (Toongi Pastoral), a Company affiliated with Australian Strategic Materials Ltd which was demerged from Alkane in July 2020. That agreement permits Toongi Pastoral to farm the remainder of the Applicant's land not required for mining operations in return for undertaking substantial land and agricultural productivity improvements (see Section 6.9).

2.4.3 NSW Voluntary Land Acquisition and Mitigation Policy

The NSW Voluntary Land Acquisition and Mitigation Policy is addressed in Sections 6.4 and 6.5.

2.4.4 Benefit Sharing Schemes

In addition to the community contributions provided by the Applicant under the Planning Agreement with Narromine Shire Council, the Applicant also contributes to the following organisations and community groups.

- Clontarf Foundation - \$100,000pa until 31 August 2023.

The Clontarf Foundation⁴ exists to improve the education, discipline, life skills, self-esteem and employment prospects of young Aboriginal and Torres Strait Islander men and by doing so equips them to participate more meaningfully in society. The Foundation assists 9 700 students across 6 States to develop improved self-esteem and confidence which assists them to participate in education, employment and society in a positive way.

⁴ <https://clontarf.org.au/>



- Tomingley Picnic Race Club

The Applicant is a major sponsor of the Tomingley Picnic Race Club which holds an annual race day in April of each year with the Applicant providing sponsorship in the form of prize money for the Tomingley Picnic Cup. Since 2013 approximately \$36,000 has been contributed to this race.

In addition, funding has been provided through the approval of applications to the Alkane Community Fund for projects that relate to maintenance and improvements to the Tomingley Racecourse and Recreation ground. Projects completed include construction of new facilities (amenities, office, canteen and bar), fencing and racetrack improvements.

- Narromine Rotary Club

The Applicant has engaged the Narromine Rotary Club to bring their catering van to the TGO Mine Site each quarter to provide lunch for onsite personnel, with four site visits required per quarter to cover each shift. The funds raised are used by Rotary to support their community and other programs.

- Peak Hill Community

Alkane supports the Peak Hill Community through the supply of heavily subsidised rent to the Visitor Information Centre, Open Cut Gallery and Peak Hill Community Radio. Alkane also sponsors various educational, sporting and health initiatives and has been a major sponsor of the Peak Hill Show since 1996.

- Narromine Jets Junior Rugby League Club

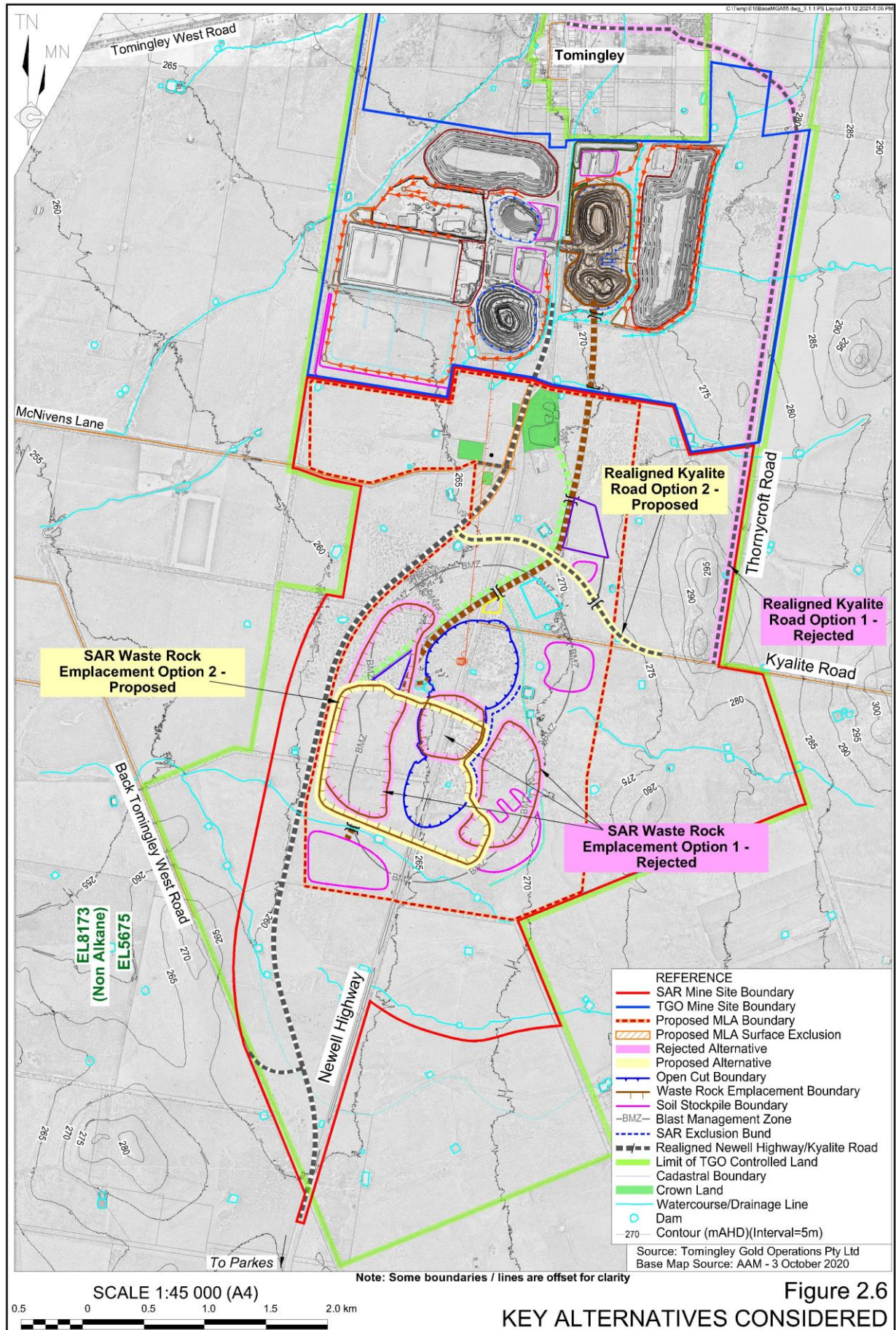
Alkane supports the Narromine Jets Junior Rugby League Club through sponsorship.

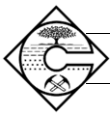
2.5 Alternatives Considered

2.5.1 Introduction

During the design of the Project, the Applicant examined a range of alternatives for a number of the components before deciding upon the location, scale and/or form of the proposed components as presented within the EIS. The following subsections outline the feasible alternatives considered for these components and the reasons for not proceeding with the various alternative(s) and proceeding with the preferred alternative for each component. **Figure 2.6** displays the locations of the key alternatives considered.

The consequence of not proceeding with the Project is presented in Section 7.8.





2.5.2 Underground vs Open Cut Mining Operations

The Applicant has considered the option of an underground-only mining operation. This would have the following advantages.

- No relocation of the Newell Highway or Kyalite Road.
- No surface waste rock emplacement.
- Reduced disturbance of agricultural land and native vegetation.
- No requirement to remove “Rosewood” or “Kenilworth” homesteads.
- Reduced noise, air quality, blasting and visual impacts.

This option would also result in no final void associated with the SAR Open Cut. However, there would also be no opportunity to backfill the Caloma 1 and Caloma 2 Open Cuts. As a result, avoiding a SAR Open Cut final void is neither an advantage nor a disadvantage compared with the Project as proposed.

Notwithstanding the above, an underground only option would have the following disadvantages.

- Reduced gold production.
- Sterilisation of a State-owned resource, in particular oxide and lower grade ore that would not be amenable to underground mining.
- Reduced workforce and economic contributions and associated benefits.
- Reduced royalties as a result of reduced gold production.
- Potential adverse impact on the internal rate of return for the Applicant, thereby reducing the economic resilience of the Company and potentially impacting on the Director’s duty to the shareholders.

Similarly, open cut mining operations only would result in deeper ore not being extracted, with similar sub-optimal outcomes for the State and the Applicant.

In light of the above, the Applicant determined that the optimal outcome is a combination of open cut and underground mining operations.

2.5.3 Design and Location of the SAR Waste Rock Emplacement

The Project would require removal of large volumes of waste rock. A substantial proportion of this material would be placed within the SAR Waste Rock Emplacement. The Applicant originally considered multiple out-of-pit options for out-of-pit waste rock emplacements, including substantial emplacements to the east of the SAR Open Cut (**Figure 2.6**). Following identification of high value native vegetation within the footprint of the proposed eastern waste rock emplacements, the SAR Waste Rock Emplacement was modified to minimise the area of native vegetation to be disturbed.



The Applicant also considered alternate designs for the SAR Waste Rock Emplacement, including the following.

- Traditional bench and batter designs similar to those used for the TGO Waste Rock Emplacements 2 and 3. These designs have the following advantages.
 - Maximum storage capacity for a given area of disturbance.
 - Lower maximum elevation.
 - Lower construction costs.

However, “traditional” waste rock emplacement designs have the following disadvantages.

- Non-natural appearance of the final landform.
 - Potential for long-term erosion and gully development as the steeper faces erode and deposit sediment on the benches, which if not maintained can then bypass the engineered drop structures, resulting in concentrated water flows and gully development.
- A geomorphic design for the SAR Waste Rock Emplacement, with final slopes substantially flatter than a “traditional” design. These designs have the following advantages.

- More natural appearance of the final landform.
- No flat upper surface to pond water and lower side slopes resulting in evenly distributed surface water flows and lower rates of erosion.

However, geomorphic waste rock emplacement designs have the following disadvantages.

- Reduced storage capacity for a given area of disturbance.
- Higher maximum elevation.
- Additional challenges during construction and, as a result, higher construction costs.

In light of the above, the Applicant has determined to use a geomorphic design for the SAR Waste Rock Emplacement.

2.5.4 Design of the Caloma Waste Rock Emplacement

The Applicant initially proposed to place additional waste rock into the Caloma Waste Rock Emplacement to create a small hill approximately 30m high within the footprint of the existing Caloma 1 and 2 Open Cuts. This option would have the following advantages.

- The SAR Waste Rock Emplacement would be reduced in size.
- Waste Rock Emplacement 3 would be less visible from the Newell Highway.



However, the proposed arrangement would have the following disadvantages.

- Additional greenhouse gasses would be emitted during transportation of the additional volume of waste rock.
- The opportunity to use a section of the Caloma Waste Rock Emplacement for stockpiling of low-grade ore and other material would be lost.
- The opportunity to re-establish Land and Soil Capability Class 4 land on the final landform would be lost.
- The opportunity to establish a non-agricultural land use, including industrial or solar power generation, on the final Caloma Waste Rock Emplacement landform would be lost.

In light of the above, the Applicant has determined to use a geomorphic design for the SAR Waste Rock Emplacement.

2.5.5 Design of the Relocated Newell Highway

The proposed SAR Open Cut would impact on the Newell Highway, requiring it to be relocated. The proposed realignment of the Newell Highway has been the subject of extensive consultation with Transport for NSW, with at least 18 design versions prepared to arrive at the starting point for the 50% concept design. Earlier pre-conceptual designs included:

- realignment to the east of the SAR Open Cut (rejected because of the potential for mineralisation in that area); and
- various alignments to the west of the SAR Open Cut to optimise curve radii and road safety within the northern section of the realigned Highway.

Since the commencement of the formal concept design process with Transport for NSW, the Applicant has submitted the 50% concept design and received a range of comments and recommendations from Transport for NSW. The design as presented in this document is the 100% concept design. Further detailed designs will be prepared in consultation with Transport for NSW prior to the commencement of construction operations.

2.5.6 Design of the Relocated Kyalite Road

Two options for realignment of Kyalite Road were considered as follows (**Figure 2.6**).

- Option 1 – diversion of Kyalite Road via Thornycroft Road, the eastern section of the TGO Mine Site and Cemetery Road, with the intersection with the Newell Highway within the Tomingley village in a 50km/h zone. This option would have the following advantages.
 - Substantially lower construction costs as no overpass over the Haul Road and Services Road would be required.



- The intersection with the Newell Highway would be within a 50km/h zone, resulting in reduced risk of serious accident.

This option would however result in an increased travel distance of up to 10km compared with Option 2 for users of Kyalite Road travelling south on the Newell Highway towards Peak Hill. In addition, there would be substantially increased traffic volumes Cemetery Road in the vicinity of existing residences.

- Option 2 – diversion of Kyalite Road approximately 600m to the north of the current alignment, including constructing an overpass over the Haul Road and Services Road. This option would have the following advantages.
 - Reduced travel distance and time for users of Kyalite Road travelling south on the Newell Highway towards Peak Hill.
 - Project related traffic would primarily utilise the Newell Highway to access the SAR Mine Site, thereby minimising impacts on residences that do not currently receive noise emissions.

The Applicant consulted with users of Kyalite Road and the overwhelming preference was for Option 2. As a result, the Applicant has adopted that Option for the Project.



ENVIRONMENTAL IMPACT STATEMENT

Tomingley Gold Operations Pty Ltd
Tomingley Gold Extension Project

This page has intentionally been left blank