

CTL-17-04 MOD6_EA_MT_2088

Figure 5

3.2.2 Potential Impacts

Soils

Potential impacts of the Modification on soils would relate primarily to:

- disturbance of *in situ* soil resources within modified accommodation camp area;
- alteration of soil structure beneath infrastructure items, infrastructure areas and roads;
- possible soil contamination resulting from spillage of fuels and other chemicals;
- increased erosion and sediment movement due to exposure of soils during construction; and
- alteration of physical and chemical soil properties (e.g. structure, fertility, permeability and microbial activity) due to irrigation of the treated waste water.

Land Use – Agricultural Activities and Productivity

The modified accommodation camp area would result in the disturbance or alteration of approximately 38 hectares (ha) of existing agricultural lands for the life of the Project.

The potential agricultural productivity impacts associated with the accommodation camp ETL and water pipeline and site access road would be limited given their linear nature.

Agricultural activities would continue to occur on the Sunrise property outside the accommodation camp area during the Project.

Land Contamination Potential

Potential land contamination risks include leaks/spills and fires associated with the transport, storage and use of diesel and chemicals during construction and operational activities.

Bushfire Hazard

Any uncontrolled fires originating from Project activities may present potentially serious impacts to nearby rural properties. Similarly, fires originating outside the Project could pose a significant risk to Project infrastructure. The degree of potential impact of a bushfire would vary with climatic conditions (e.g. temperature and wind) and the quantity of available fuel.

The expansion of the approved Project operations to incorporate the modified accommodation camp area would increase the potential for fire generation. However, given the range of management measures in place, the overall risk of increased bushfire frequency due to the modified Project is likely to be low.

3.2.3 Mitigation Measures, Management and Monitoring

Soils

General soil management practices would include the stripping and stockpiling of soil resources for use in rehabilitation. The objectives of soil resource management would be to:

- identify and quantify potential soil resources for rehabilitation;
- optimise the recovery of usable soil reserves during soil stripping operations;
- manage soil reserves so as not to degrade the resource when stockpiled; and
- establish effective soil amelioration procedures to maximise the availability and suitability of soil reserves for future rehabilitation works.

Sediment control structures such as sediment dams and sediment fences would be employed where necessary within and downstream of disturbance areas. Sediment control structures would be designed, installed and maintained in accordance with *Managing Urban Stormwater: Soils and Construction* in accordance with Condition 29, Schedule 3 of Development Consent DA 374-11-00.

The irrigation of the treated waste water would be undertaken in accordance with the *Environmental Guidelines Use of Effluent by Irrigation* (DEC, 2004).

Land Use – Agricultural Activities and Productivity

Agricultural land resource management at the modified Project would include the following key components:

- minimisation of disturbance to agricultural lands, where practicable;
- continued utilisation of areas on the Sunrise property outside the accommodation camp area for agricultural activities; and
- inclusion of agricultural lands in the modified accommodation camp rehabilitation strategy (Section 2.4).

Land Contamination

General measures to reduce the potential for contamination of land would include the following:

- Contractors transporting dangerous goods loads would be appropriately licensed in accordance with the provisions of the *Australian Code for the Transport of Dangerous Goods by Road and Rail* (National Transport Commission, 2007).
- On-site consumable storage areas would be designed with appropriate bunding and would be operated, where applicable, in compliance with the requirements of Australian Standard (AS) 1940-2017: *The Storage and Handling of Flammable and Combustible Liquids*.
- Fuel storage areas would be regularly inspected and maintained. In addition, during construction and operations, diesel and chemicals would be managed to minimise the risk of spills which could cause soil contamination.

Bushfire Hazard

Clean TeQ would implement bushfire management measures at the Project in accordance with Condition 49, Schedule 3 of Development Consent DA 374-11-00 in consultation with the Mid Lachlan Valley Fire Management Committee.

3.3 Biodiversity

A Biodiversity Development Assessment Report (BDAR) has been prepared for the Modification by Resource Strategies (2017) and is provided in Appendix A. The BDAR has been completed in accordance with the *Biodiversity Assessment Method Order, 2017* (BAM) (OEH, 2017b) established under the NSW *Biodiversity Conservation Act, 2016* (BC Act).

3.3.1 Existing Environment

Landscape Features

The modified accommodation camp area is located in the Nymagee Interim Biogeographic Regionalisation of Australia (IBRA) Sub-region of the Cobar Peneplain IBRA Region (Department of Environment and Energy, 2017). The modified accommodation camp is located within a predominantly cleared agricultural landscape. The remnant woodland surrounding the modified accommodation camp is mainly confined to low hills and along shallow first order drainage features.

Plant Community Types

AMBS Ecology & Heritage (2017) (Attachment B of Appendix A) identified and mapped Plant Community Types (PCTs) in the modified accommodation camp area and surrounds in accordance with the BAM (OEH, 2017b) and BioNet Vegetation Classification (OEH, 2017c) (Figure 6 and Table 4). The modified accommodation camp area is located on previously cleared land with regrowth of predominantly native grasses, herbs and low shrubs, assigned to PCT 217 (Figure 6 and Table 4).

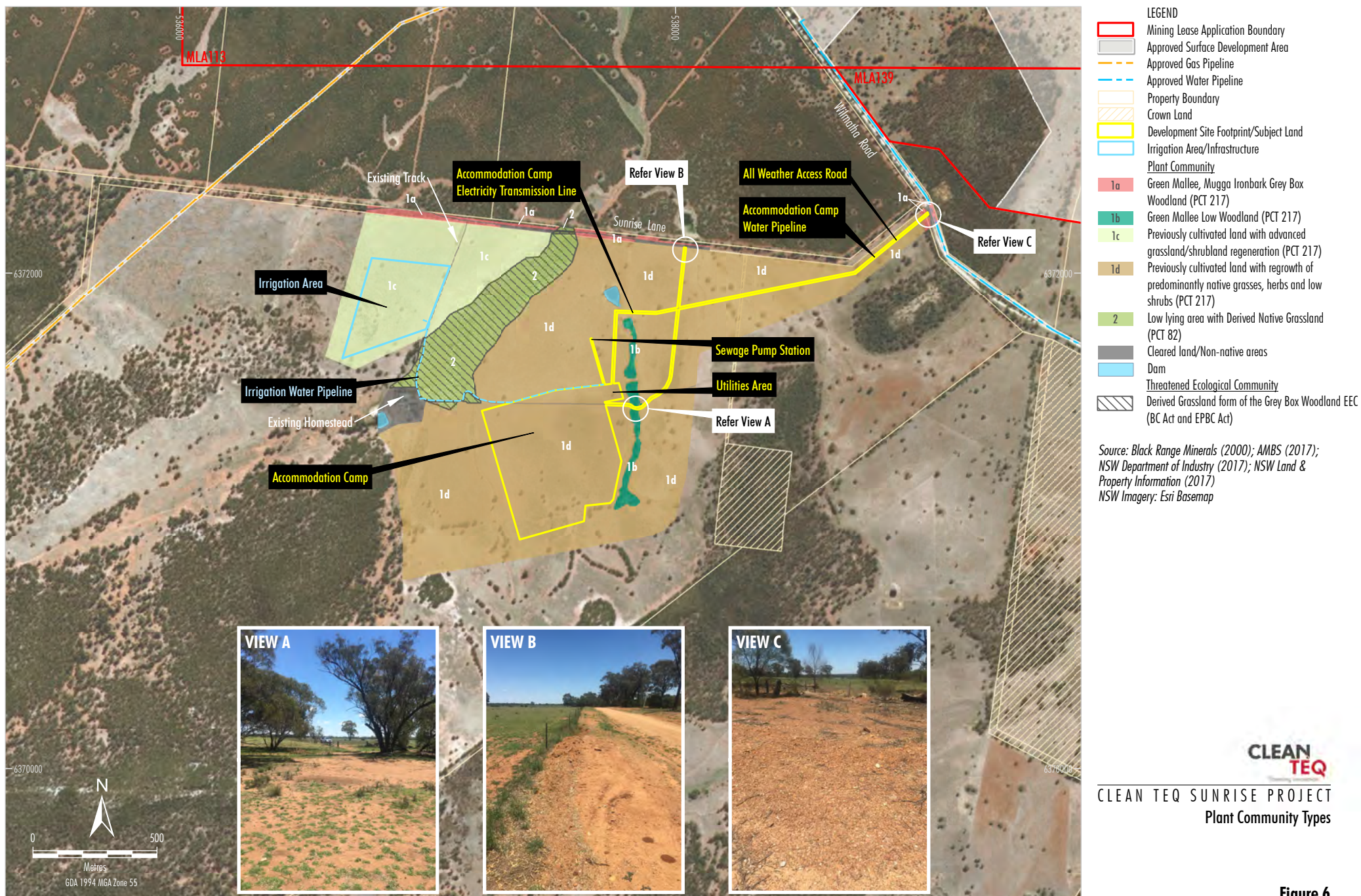


Table 4 Plant Community Type

#	Map Unit Name	Plant Community Type		Clearance Area (ha)
1d	Previously cleared land with regrowth of predominantly native grasses, herbs and low shrubs	217	Mugga Ironbark - Western Grey Box - cypress pine tall woodland on footslopes of low hills in the NSW South Western Slopes Bioregion	27.5

Source: Appendix A.

There are small areas of bare ground without native vegetation (cleared land) associated with existing tracks/roads (Figure 6). The overall footprint is approximately 27.5 ha.

Other PCTs are located in the vicinity of the modified accommodation camp (Figure 6). Clean TeQ has modified the design of the modified accommodation camp to avoid these PCTs (Section 3.3.3).

Vegetation Integrity Assessment

According to the BAM Credit Calculator (OEH, 2017d), Vegetation Community 1d (Vegetation Zone 1) has a Vegetation Integrity Score of 16.6. This is a low Vegetation Integrity Score below the relevant BAM (OEH, 2017b) threshold for ecosystem credits (17) (Appendix A).

Threatened Species – Ecosystem Credit Species

An assessment of ecosystem credit species is not required due to the low Vegetation Integrity Score below the relevant BAM (OEH, 2017b) threshold for ecosystem credits (Appendix A). Only one threatened species, the Grey-crowned Babbler (eastern subspecies) listed as 'Vulnerable' under the BC Act has been recorded in the modified accommodation camp area.

Threatened Species – Species Credit Species

As a result of the surveys by AMBS Ecology & Heritage (2017) (Attachment B of Appendix A), no species credit species are present, or are likely to use habitat on the modified accommodation camp.

3.3.2 Potential Impacts

Clearance of Habitat and Vegetation

The modified accommodation camp is proposed to be constructed solely within the previously cleared/cultivated land with minimal biodiversity values. The Modification would result in the clearance of approximately 27.5 ha of previously cleared land with regrowth of predominantly native grasses, herbs and low shrubs (PCT 217).

Scattered trees would need to be cleared for the Modification, however trees which could provide habitat for threatened 'species credit species' (as defined by the BAM) were surveyed and such trees would be avoided (Appendix A).

Irrigation

The irrigation area is approximately 10.5 ha over previously cleared land with advanced grassland/shrubland regeneration (PCT217) (Vegetation Community 1d) (Figure 6). The proposed irrigation is unlikely to adversely impact the native vegetation because (Section 2.2):

- the irrigation rate would not cause irrigation water runoff from the irrigation area; and
- the irrigation rate would not exceed the capacity of the soil in the irrigation area to effectively absorb the applied nutrient, salt, organic material and hydraulic loads.

Indirect Impacts on Native Vegetation and Habitat

Indirect impacts (such as pest animals and weeds) are assessed in Appendix A. Measures to mitigate and manage potential impacts are provided in Section 3.3.3.

3.3.3 Mitigation Measures, Management and Monitoring

Measures to Avoid and Minimise Impacts

Measures to avoid and minimise potential biodiversity impacts are listed in Table 5.

Table 5 Measures to Avoid and Minimise Potential Biodiversity Impacts

Component	Refinement
Site Access Road	<ul style="list-style-type: none"> The turnoff to the site access road from Sunrise Lane would be located in a previously cleared section of the road reserve in order to avoid clearance of the Green Mallee, Mugga Ironbark, Grey Box Woodland (Vegetation Community 1a) (Figure 6). The site access road would traverse the first order drainage feature in the alignment of an existing track in order to avoid clearance of the Green Mallee Low Woodland (Vegetation Community 1b) (Figure 6). The modified accommodation camp area site access road corridor would be 8 m wide across the drainage feature (reduced from 9 m) in order to avoid clearance of the Green Mallee Low Woodland (Vegetation Community 1b) (Figure 6).
Accommodation Camp ETL (between the mine site and the accommodation camp)	<ul style="list-style-type: none"> The ETL was originally proposed to occur along Sunrise Lane but was re-aligned in order to avoid clearance of Green Mallee, Mugga Ironbark, Grey Box Woodland (Vegetation Community 1a) (Figure 6). The ETL would be aligned to avoid paddock trees with habitat features for species credit species. The ETL would pass through an existing gap (approximately 17 m wide) in Green Mallee, Mugga Ironbark, Grey Box Woodland (Vegetation Community 1a) along Wilmatha Road.
Accommodation Camp Water Pipeline (between the mine site and the accommodation camp)	<ul style="list-style-type: none"> The water pipeline was originally proposed to occur along Sunrise Lane but re-aligned in order to avoid clearance of Green Mallee, Mugga Ironbark, Grey Box Woodland (Vegetation Community 1a). The water pipeline would be aligned to avoid paddock trees with habitat features for species credit species.
Temporary Construction (Laydown) Areas	<ul style="list-style-type: none"> Temporary construction (laydown) areas would be within the operational modified accommodation camp area.
Irrigation Water Pipeline	<ul style="list-style-type: none"> Irrigation water pipeline was originally proposed to occur across Low lying area with Derived Native Grassland (Vegetation Community 2) (equivalent to the Grey Box Endangered Ecological Community) (Figure 6) but would instead be placed beside an existing track.

Source: Appendix A.

Measures to Mitigate and Manage Impacts

Measures to mitigate and manage potential biodiversity impacts are listed in Table 6.

Table 6 Measures to Mitigate and Manage Potential Biodiversity Impacts

Mitigation Measure	Techniques
Vegetation Clearance Protocol – Timing of Tree Clearance	<ul style="list-style-type: none"> Trees used for nesting would not be felled until young have left the nest, where possible.
Vegetation Clearance Protocol – Pre-clearance Surveys	<ul style="list-style-type: none"> Pre-clearance vertebrate fauna surveys would be undertaken in two stages: <ul style="list-style-type: none"> Identify habitat features that could harbour vertebrate fauna and place them at risk during vegetation clearance activities (e.g. tree hollows), or features that could be salvaged and reused such as mature trees and stags. Identify vertebrate fauna most likely to be at risk during vegetation clearance activities and those that would be managed during clearing activities.
Vegetation Clearance Protocol – Delineating Clearing Limits	<ul style="list-style-type: none"> Approved disturbance limits near areas to be cleared would be delineated on the ground prior to clearing activities (e.g. flagging tape and posts). Scattered trees which could provide habitat for threatened 'species credit species' would specifically be identified with flagging tape during nearby construction works.

Table 6 Measures to Mitigate and Manage Potential Biodiversity Impacts (Continued)

Mitigation Measure	Techniques
Staff and Contractor Inductions	<ul style="list-style-type: none"> Initial staff and contractor inductions would include the following: <ul style="list-style-type: none"> measures to reduce the occurrence of fauna-vehicle collisions; and bushfire prevention and management strategies.
Weed Control	<ul style="list-style-type: none"> Agricultural activities would continue to occur on the Sunrise property outside the modified accommodation camp area (including the management of weeds). Additional weed monitoring and control would be undertaken around the accommodation camp, as necessary.
Feral Animal Control	<ul style="list-style-type: none"> Agricultural activities would continue to occur on the Sunrise property outside the modified accommodation camp area (including the management of feral animals). Additional feral animals monitoring and control would be undertaken around the accommodation camp, as necessary. The modified accommodation camp would be kept as a clean, rubbish-free environment in order to discourage scavenging and reduce the potential for colonisation of these areas by non-endemic fauna (e.g. rodents). The workforce in the modified accommodation camp would not be permitted to keep native fauna or to encourage fauna through feeding. Domestic pets would not be allowed at the modified accommodation camp.
Bushfire Control	<ul style="list-style-type: none"> Bushfire management measures at the Project would be implemented in accordance with Condition 49, Schedule 3 of Development Consent DA 374-11-00 and would include the site being suitably equipped to fight fires; develop asset protection zones in accordance with the Rural Fire Service's (2006) <i>Planning for Bushfire Protection 2006</i>; and consultation with the Rural Fire Service. The modified accommodation camp would include fire-fighting infrastructure (e.g. fire water tank and reticulation system).

Source: Appendix A.

3.4 Aboriginal Cultural Heritage

An Aboriginal Cultural Heritage Assessment (ACHA) has been prepared for the Modification by Landscape Natural and Cultural Heritage Management (Landscape) and is presented in Appendix B. The ACHA focuses on the modified accommodation camp area and has been undertaken in consideration of (but not limited to) the following codes, guidelines and regulations (Appendix B):

- *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010a);
- *Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales* (DECCW, 2010b);
- *Due Diligence Code of Practice for the Protection of Aboriginal Objects in New South Wales* (DECCW, 2010c);
- *Guide to investigating, assessing and reporting on Aboriginal cultural heritage in NSW* (OEH, 2011b);
- *The Burra Charter: The Australia ICOMOS Charter for the Conservation of Places of Cultural Significance* (Australia International Council on Monuments and Sites, 2013);
- *Aboriginal Cultural Heritage: Standards and Guidelines Kit* (NSW National Parks and Wildlife Service, 1997);
- *Ask First: A Guide to Respecting Indigenous Heritage Places and Values* (Australian Heritage Commission, 2002);
- *Engage Early* (Commonwealth Department of the Environment, 2016);
- *NSW Minerals Industry Due Diligence Code of Practice for the Protection of Aboriginal Objects* (NSW Minerals Council, 2010); and
- *NSW National Parks and Wildlife Regulation, 2009*.

3.4.1 Existing Environment

Aboriginal Cultural Heritage Assessment

The ACHA (Appendix B) incorporates relevant information from previous assessments (including for the approved Project), the results of the field surveys and associated consultation with the Aboriginal community, including:

- results from extensive fieldwork and archaeological and cultural investigations previously undertaken at the Project and surrounds;
- search results from the OEH Aboriginal Heritage Information Management System (AHIMS) database;
- results from extensive consultation with the Aboriginal community regarding archaeological and cultural heritage values; and
- a detailed description of the methods implemented and the results of archaeological and cultural surveys conducted by archaeologists and representatives of the Aboriginal community for the Modification during 2017.

The key steps involved in the preparation of the ACHA and associated consultation are described below.

Aboriginal History

Aboriginal people of the Wiradjuri language group were traditionally associated with the region encompassing the Macquarie, Lachlan and Murrumbidgee Rivers (Appendix B). The Wiradjuri appear to have had a semi-sedentary lifestyle, being hunter-fisher-gatherers they were often situated on a particular waterway or drainage catchment area where resources were plentiful (Appendix B).

Aboriginal settlement patterns of the southwest slopes are possibly reflected in the distribution of modified trees (Appendix B). Aboriginal people seem to have spent most of their time situated within close proximity to reliable water sources. Areas that people occupied were also influenced by available food sources, including waterbirds, kangaroos, wallabies, and various plant foods (Appendix B).

An Aboriginal Reserve (reserve number R32512) was gazetted for Aboriginal people on the south bank of the Lachlan River at Condobolin on 13 April 1901. Known as the Condobolin Mission, and later the Willow Bend Mission, the reserve was originally run by the Aborigines Protection Board (later Aborigines Welfare Board). Aboriginal people also resided at a self-managed “fringe camp” at the Murie Reserve, approximately 4 km south of Condobolin, between approximately 1900 and 1970 (Appendix B).

Previous Archaeological Investigations

A number of Aboriginal heritage surveys and assessments have previously been undertaken in the Project area and surrounds, including survey and assessment for the Project. Of relevant to the immediate area include the studies prepared by Appleton (2000, 2005) and Landskape (2017a) for the approved Project, and the more recent study prepared by Landskape (2017b) for Modification 4.

The ACHA prepared by Landskape (2017a) as part of an application for an Aboriginal Heritage Impact Permit (AHIP) for the approved Project, covered a portion of the modified accommodation camp area and included extensive surveys and community consultation.

A detailed description of the investigations and surveys undertaken in the modified accommodation camp area and surrounds is provided in Appendix B.

Previously Recorded Aboriginal Heritage Sites

Appleton (2000, 2005) identified 14 Aboriginal cultural heritage sites in or near the approved Project area. These comprised one stone artefact scatter, eight isolated finds of stone artefacts, four scarred trees and a site complex with stone artefacts, hearths, a scarred tree and hundreds of flaked lithics (Appendix B).

A more recent assessment undertaken by Landsape (2017a, 2017b) identified an additional 13 Aboriginal heritage sites in or near the approved Project area, including two stone artefact scatters, eight isolated finds of stone artefacts, two stone quarries and a scarred tree (Appendix B).

There are no previously recorded Aboriginal cultural heritage sites within or immediately adjacent to the modified accommodation camp area (Appendix B). The closest previously recorded Aboriginal cultural heritage sites are a scarred tree (AHIMS site number 35-4-0029) in the Wilmatha Road reserve approximately 1.5 km east of the modified accommodation camp area (Landsape, 2017b) and an isolated find of a volcanic flake (AHIMS site number 35-4-0016) east of Wilmatha Road approximately 1.5 km north of the modified accommodation camp area (Appleton, 2000).

Community Consultation

Consultation for the Modification was undertaken in consideration of the OEH policy *Aboriginal cultural heritage consultation requirements for proponents 2010* (DECCW, 2010a) and clause 80c of the NSW *National Parks and Wildlife Regulation, 2009*.

Table 7 summarises the main stages of the Aboriginal heritage consultation process undertaken for the Modification. A detailed account of the consultation process (including consultation records and a detailed consultation log) is provided in Appendix B.

Table 7 Summary of Aboriginal Heritage Consultation Undertaken for the Modification

Date	Consultation Conducted
Notification of Project and Registrations	
2 December 2016	Modification notifications were sent to the Central West Local Land Services, Condobolin LALC, LSC, National Native Title Tribunal, FSC, PSC, Native Title Services Corporation Limited, OEH, Office of the Registrar, <i>Aboriginal Land Rights Act, 1983</i> , and Peak Hill LALC to identify relevant organisations with a potential interest in the Modification.
6 December 2016 – 18 January 2017	Responses to the above request were received from the Office of the Registrar, NSW <i>Aboriginal Land Rights Act, 1983</i> , the OEH, National Native Title Tribunal and LSC.
6 January 2017 & 18 January 2017	Letters seeking registrations of interest were sent to the Aboriginal parties identified by the above step.
11 January 2017	A public notice was placed in the Koori Mail inviting interested Aboriginal parties or groups to register.
18 January 2017	A public notice was placed in the Condobolin Argus inviting interested Aboriginal parties or groups to register.
22 February 2017	The list of RAPs for the Modification, along with the written notifications and public notice, were provided to the OEH, the Condobolin LALC and the West Wyalong LALC.
Proposed Methodology Review and Information Session	
13 October 2017	The Proposed Methodology for undertaking the ACHA was distributed to the RAPs for review and comment.
October/November 2017	Comments and feedback on the relevant submissions of the Proposed Methodology were received from the relevant RAPs.
Field Surveys	
30 October 2017	Aboriginal heritage survey was conducted by an archaeologist from Landsape accompanied by representatives of the RAPs. The cultural significance of the modified accommodation camp area was discussed with attending representatives.
Draft ACHA Review	
22 December 2017	A copy of the draft ACHA was provided to all RAPs for their review and comment. The draft ACHA included survey results, archaeological and cultural significance assessment (based on feedback received during consultation and fieldwork), potential impacts and proposed mitigation and management measures.
January/February 2018	Comments received on the draft ACHA will be considered and included in the ACHA.

Source: Appendix B.

Consultation with the RAPs regarding the approved Project and the Modification has been extensive and involved various methods including public notices, onsite meetings, written and verbal correspondence, archaeological survey attendance and on-site inspections.

Survey Design and Methodology

The field investigation of the modified accommodation camp area was undertaken on 30 October 2017.

The modified accommodation camp area was inspected on foot, and the field teams examined the ground surface for any archaeological traces such as stone artefacts, hearths, hearthstones, shells, bones and mounds. All mature trees in the areas of proposed disturbance were inspected for scarring or carving by Aboriginal people. Particular attention was paid to areas with high ground surface visibility such as along stock and vehicle tracks and in scalds, gullies and other eroded areas.

The survey sampled the geographic extent of the modified accommodation camp area.

Archaeological Findings

Four Aboriginal cultural heritage sites were identified within the modified accommodation camp area and surrounds. These sites include three stone artefact sites (AHIMS site numbers 35-4-0034, 35-4-0035, and 35-4-0036) and a hearth site (AHIMS site number 35-4-0037). A summary of these sites is provided in Table 8 and the location of each site is presented on Figure 7.

Table 8 Summary of Aboriginal Heritage Sites Proximal to the Modified Accommodation Camp Area

Site	Landform	Site Type	Scientific Significance
35-4-0034	Sandplain	1 silcrete flake	Low
35-4-0035	Drainage line	2 sandstone millstones/mullers	Low
35-4-0036	Drainage line	2 silcrete flakes	Low
35-4-0037	Drainage line	1 hearth	Low

Source: Appendix B.

Archaeological and Cultural Heritage Values

During the archaeological surveys the attending RAPs did not identify any specific locations within the modified accommodation camp area as being of exceptionally high or specific cultural significance. However, a number of sites were identified in the surrounding areas (e.g. Mulgutherie Mountain) as being of specific cultural value to the Aboriginal community. These sites are outside of the modified accommodation camp area and hence would not be subject to impacts by the modified Project.

RAPs identified the modified accommodation camp area as a place that Aboriginal people had occupied in the past. Generally, the Aboriginal representatives viewed all the Aboriginal cultural heritage sites as significant because they preserve a record of how and where people lived in the past.

3.4.2 Potential Impacts

Direct and Indirect Impacts

The ACHA concluded that all four known Aboriginal cultural heritage sites within the modified accommodation camp area and surrounds are of low scientific significance (Table 8).

Of the four sites, only one site (AHIMS site number 35-4-0034) is located in the modified accommodation camp area. The remaining three sites are located outside the modified accommodation camp area (Figure 7). The Modification would therefore only result in direct harm to stone artefact site (AHIMS site number 35-4-0034) as it is the only site located in the modified accommodation camp area¹.

¹ For assessment purposes, the ACHA conservatively assumed that the modified accommodation camp would cause direct or indirect harm to all four known Aboriginal objects.



- LEGEND**
- Mining Lease Application Boundary
 - Approved Surface Development Area
 - Approved Gas Pipeline
 - Approved Water Pipeline
 - Property Boundary
 - Crown Land
 - Modified Layout
 - Known Aboriginal Cultural Heritage Sites
 - ▲ Artefact
 - Hearth

Source: Black Range Minerals (2000); Landscape Natural and Cultural Heritage Management (2017); NSW Department of Industry (2017); NSW Land & Property Information (2017)
NSW Imagery: Esri Basemap

**CLEAN
TEQ**

CLEAN TEQ SUNRISE PROJECT
Location of Known
Aboriginal Cultural Heritage Sites

Figure 7

Although the modified accommodation camp area was sufficiently surveyed, there remains the potential to uncover previously unidentified Aboriginal heritage within and in immediate proximity to the modified accommodation camp area (Appendix B). Such previously unidentified features, should they occur, would probably be isolated finds or low-density concentrations of stone artefacts (Appendix B). A strategy for managing any newly identified Aboriginal objects during the modified Project is considered further in Section 3.4.3.

Cumulative Impacts

The modified accommodation camp is located within an area that has already been heavily modified by past clearing, pastoral and agricultural activities. The Modification is considered likely to cause few impacts additional to those that have already occurred. On this basis, it is considered that the Modification would not appreciably increase cumulative impacts to Aboriginal heritage in the region (Appendix B).

3.4.3 Mitigation Measures and Management

The mitigation, management and monitoring measures detailed below have been developed in consultation with the RAPs, in consideration of the cultural and archaeological significance of the Aboriginal heritage sites predicted to be impacted, and the cultural significance of the broader area.

Heritage Management Plan

A Heritage Management Plan would be developed in consultation with the RAPs and the OEH for the Project in accordance with Condition 40, Schedule 3 of Development Consent DA 374-11-00. The Heritage Management Plan would reflect any changes to Development Consent DA 374-11-00 that arise from the Modification and would be developed prior to the commencement of any surface development works which would harm known Aboriginal heritage sites in the modified accommodation camp area.

The Heritage Management Plan would continue to remain active for the life of the Project and define the tasks, scope and conduct of all Aboriginal cultural heritage management activities.

Aboriginal Heritage Impact Permit

Clean TeQ would submit an application for a new AHIP under section 90 of the NSW *National Parks and Wildlife Act, 1974* (and/or a variation application to the existing approved AHIP #C0003049).

General Management Measures

The following general management measures would be undertaken to manage Aboriginal heritage during the life of the modified Project:

- Harm to the hearth site (AHIMS site number 35-4-0037) and two of the stone artefact sites (AHIMS site numbers 35-4-0035 and 35-4-0036) would be avoided. A temporary barrier would be erected around the hearth site (a minimum 10 m radius buffer), while the stone artefact sites would be demarcated with tape to avoid accidental disturbance.
- Clean TeQ would apply for an AHIP (or variation to the existing approved AHIP #C0003049) to collect Aboriginal objects at stone artefact site (AHIMS site number 35-4-0034) and any additional Aboriginal objects located within the disturbance areas for the Modification. These items would be properly curated and stored at the approved "Keeping Place".
- Clean TeQ would continue to provide training to all on-site personnel regarding the Heritage Management Plan strategies relevant to their employment tasks.

3.5 Historic Heritage

3.5.1 Existing Environment

During the field investigation for the ACHA (Section 3.4), project archaeologist Dr Matt Cupper from Landscape examined the modified accommodation camp area for historic heritage items. No historic heritage items were observed in the modified accommodation camp area.

3.5.2 Potential Impacts

As no historic heritage items were observed within the modified accommodation camp area, there would be no impacts to historic heritage items associated with the Modification.

3.5.3 Mitigation Measures and Management

A Heritage Management Plan would be developed in consultation with the OEH for the Project in accordance with Condition 40, Schedule 3 of Development Consent DA 374-11-00. The Heritage Management Plan would reflect any changes to Development Consent DA 374-11-00 that arise from the Modification and would be developed prior to the commencement of any surface development works and would include protocols for the management of any previously unidentified historic heritage items.

3.6 Water Management

3.6.1 Existing Environment

The modified accommodation camp area is located in the Macquarie-Bogan catchment which covers an area of approximately 74,800 square kilometres within the Murray-Darling Basin. Regional north-west-flowing rivers (Bogan, Macquarie, Castlereagh, Namoi and Barwon) drain an extensive floodplain north.

The modified accommodation camp area is located in the upper headwaters of Bullock Creek. Three shallow drainage lines drain northwards from the modified accommodation camp area towards the mine site (Figure 2a). The drainage lines discharge to Bullock Creek to the north-east of the mine site which flows north-easterly and then discharges to the Bogan River.

These drainage lines are shallow broad vegetated ephemeral channels (Golder Associates, 2017).

Given the ephemeral nature of the drainage lines in the vicinity of the mine site, there are no known surface water users immediately upstream or downstream with an access licence.

3.6.2 Potential Impacts

Surface Water Flow Regimes

The Modification would result in very minor changes to flows in local drainage lines in the vicinity of the modified accommodation camp due to the capture of drainage from construction areas during the construction phase and from the utilities area during the operations phase.

Given the above, the Modification is expected to result in negligible change to the approved flow impacts in Bullock Creek and the Bogan River.

Surface Water Quality Runoff and Contaminants

Surface water runoff from the modified accommodation camp could potentially contain sediments, hydrocarbons (e.g. diesel, oil) and chemicals.

Sediment control structures such as sediment dams and sediment fences would be employed where necessary within and downstream of disturbance areas. Sediment control structures would be designed, installed and maintained in accordance with *Managing Urban Stormwater: Soils and Construction* in accordance with Condition 29, Schedule 3 of Development Consent DA 374-11-00.

The irrigation area would be managed in accordance with the *Environmental Guidelines Use of Effluent by Irrigation* (DEC, 2004) and the irrigation rate would be controlled so as not to:

- cause irrigation water runoff from the irrigation area; or
- exceed the capacity of the soil in the irrigation area to effectively absorb the applied nutrient, salt, organic material and hydraulic loads.

In addition, Clean TeQ would operate the Project in accordance with the requirements of an Environment Protection Licence (EPL) issued under Part 3 of the *Protection of the Environment Operations Act, 1997* (PoEO Act).

With these controls in place, the Modification is predicted to have no change to the approved potential water quality impacts in the receiving drainage lines.

3.6.3 Mitigation Measures, Management and Monitoring

The water management measures described in Section 2.2 would be implemented at the modified accommodation camp.

Clean TeQ has reviewed the water management performance measures included in Condition 29, Schedule 3 of Development Consent DA 374-11-00 in the context of the Modification and concluded that no changes are required for the modified Project.

A Water Management Plan would be prepared for the modified Project in accordance with Condition 30, Schedule 3 of Development Consent DA 374-11-00 and would include a Surface Water Management Plan. The Water Management Plan would reflect any changes to Development Consent DA 374-11-00 that arise from the Modification.

3.7 Air Quality

3.7.1 Existing Environment

Previous Assessments

An air quality assessment was prepared for the Project (Zib & Associates, 2000) which included dispersion modelling of a number of construction and operational scenarios. The air quality assessment found that the Project would comply with relevant air quality goals beyond the site boundary and/or at privately-owned dwellings.

Ramboll Environ (2017) prepared an air quality and greenhouse gas assessment for Modification 4 in accordance with the *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (Approved Methods) (EPA, 2016). Ramboll Environ (2017) predicted there would be no exceedances of the Development Consent DA 374-11-00 or Approved Methods criteria at any privately-owned receivers.

Existing Air Quality

Given there are no commercial or industrial facilities that report to the National Pollutant Inventory or hold an EPL in the vicinity of the Project, it is expected that air quality in the vicinity of the Project would be consistent with a typical rural environment. That is, material concentrations of gaseous pollutants would not be likely, however background levels of particulate matter would be present (e.g. from agricultural activities, wind-blown dust from exposed areas, wheel-generated dust from vehicle movements and other sources).

3.7.2 Potential Impacts

Potential air quality impacts associated with the Modification would be associated with the construction of the modified accommodation camp. Once the construction activities at the modified accommodation camp are complete, potential air quality emissions from the modified accommodation camp would be negligible.

Potential particulate matter emissions during construction activities would primarily be associated with material handling, windblown dust from exposed areas and vehicle movements (including vehicle exhaust).

The potential air quality impacts associated with construction activities are difficult to quantify given the tendency for such activities to be short term in duration and sporadic across an overall construction timeframe.

Notwithstanding, the total amount of dust generated during construction of the modified accommodation camp would not be significant in comparison to other initial construction activities for the Project (e.g. development of the tailings storage facility). The modified accommodation camp is also a significant distance from the closest privately-owned receivers to the south-east (i.e. greater than 2.5 km away), while development of the tailings storage facility is approximately 2.3 km away from the closest privately-owned receiver to the south (Figure 8).

It is also noted that prevailing winds in the Project area are generally from the north-east and south-west, with very little wind originating from the north-west (Ramboll Environ, 2017) (i.e. from the modified accommodation camp area toward the closest receivers). This limits the potential for any dust generated at the modified accommodation camp area to be experienced at the nearest receivers to the south-east.

Based on the above, it is expected there would be no material change to the Year 1 scenario modelled by Ramboll Environ (2017), which indicated no potential exceedances of relevant air quality criteria at any receivers. Therefore there would be no significant or prolonged impacts at any privately-owned receivers predicted due to construction of the modified accommodation camp, noting a range of dust management and control measures would be implemented as described in Section 3.7.3.

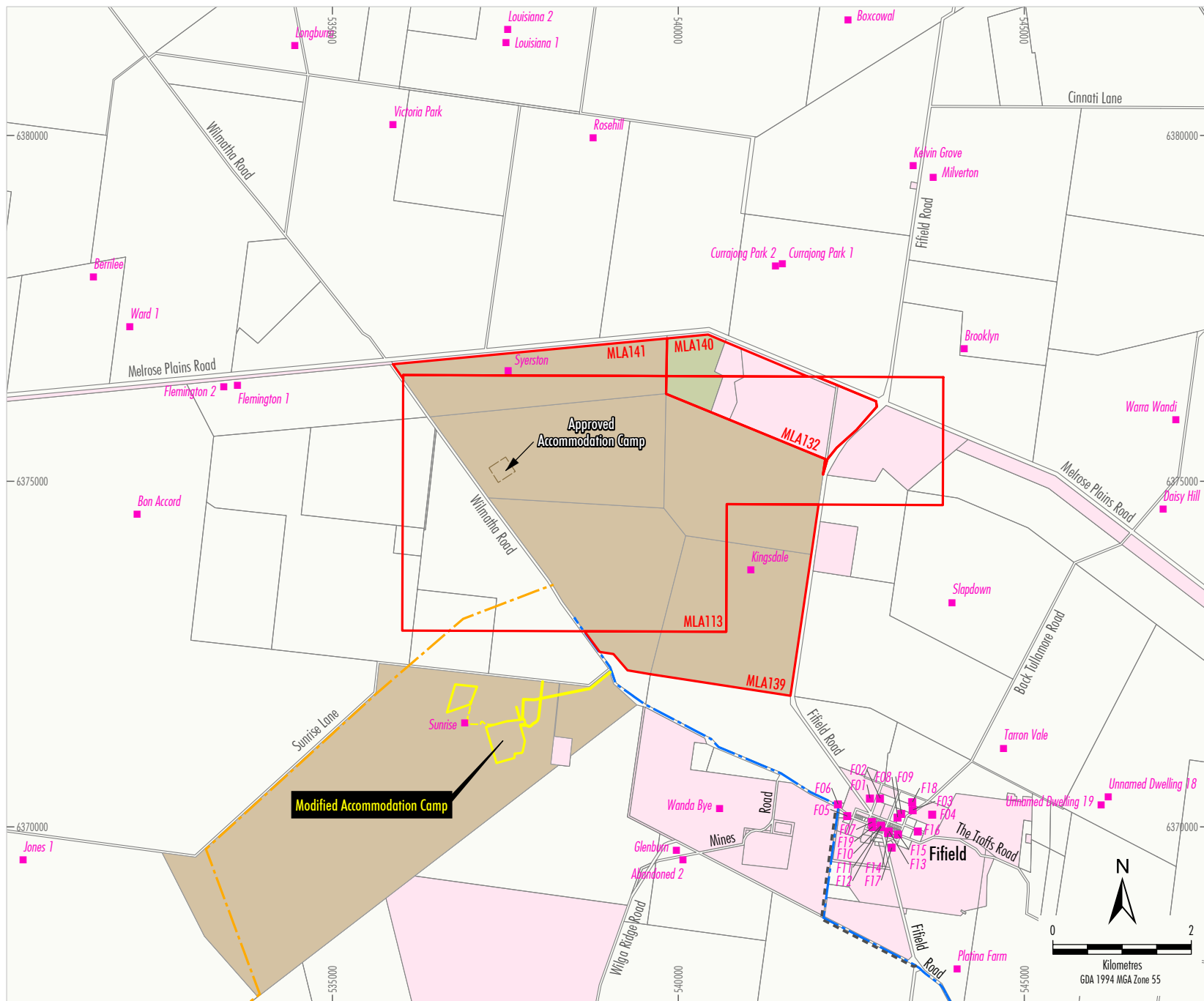
3.7.3 Mitigation Measures, Management and Monitoring

An Air Quality Management Plan would be prepared for the modified Project in accordance with Condition 23, Schedule 3 of Development Consent DA 374-11-00. The Air Quality Management Plan would reflect any changes to Development Consent DA 374-11-00 that arise from the Modification and would relevantly include:

- details of the air quality mitigation measures to be implemented for the Project;
- the air quality monitoring program, monitoring of ambient dust levels;
- details of protocols for measuring environmental performance and triggers for the investigation of additional mitigation measures; and
- complaint management protocols.

It is anticipated that the Air Quality Management Plan would include a range of construction dust management and control measures such as the following:

- site inductions would include air quality requirements to ensure employee and contractor awareness of potential dust impacts;
- minimisation of disturbance areas, and watering cleared areas as required;
- speed limits would be imposed on all roads; and
- water carts would be utilised as necessary to minimise excessive visible dust.



- LEGEND**
- Mining Lease Application Boundary
 - Approved Fiefeld Bypass
 - Approved Gas Pipeline
 - Approved Water Pipeline
 - Clean TeQ Owned Land
 - Crown Land
 - Fiefeld State Forest
 - Private Landholder
 - Dwelling
 - Modified Layout

Source: Black Range Minerals (2000); NSW Department of Industry (2017); NSW Land & Property Information (2017)

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**Land Ownership and
Dwelling Locations**

Figure 8

3.7.4 Greenhouse Gas Emissions

Construction of the modified accommodation camp, rather than the approved accommodation camp, would not materially change the potential greenhouse gas emissions associated with the construction activities.

Clean TeQ would calculate and report annual greenhouse gas emissions and energy consumption of the Project under the Commonwealth Government National Greenhouse and Energy Reporting System.

3.8 Noise

3.8.1 Existing Environment

A noise assessment was prepared for the Project (Richard Heggie Associates, 2000) which included noise modelling of a number of construction and operational scenarios. The noise assessment found that the Project would comply with relevant noise goals beyond the site boundary and/or at all privately-owned dwellings except for Currajong Park.

Renzo Tonin & Associates (2017) prepared a noise and blasting assessment for Modification 4 in accordance with the NSW *Industrial Noise Policy* (EPA, 2000) and *Interim Construction Noise Guideline* (Department of Environment and Climate Change [DECC], 2009). The assessment focused on the mine (including the processing facility) and the predicted construction noise levels at all receivers were found to comply with the relevant noise management levels described in the *Interim Construction Noise Guideline* (DECC, 2009) both within and outside of recommended standard construction hours.

3.8.2 Potential Impacts

Once the construction activities at the modified accommodation camp are complete, potential noise emissions from the modified accommodation camp would be negligible.

Potential construction noise emissions would primarily be associated with equipment such as cranes, trucks and other mobile equipment.

Construction activities would be short term in duration and sporadic across the overall construction timeframe. In other words, the magnitude and nature of construction noise would vary throughout the construction timeframe.

The total amount of noise generated during construction of the modified accommodation camp would not be significant in comparison to other initial construction activities for the Project (e.g. development of the tailings storage facility). The modified accommodation camp is also a significant distance from the closest privately-owned receivers to the south-east (i.e. greater than 2.5 km away), while development of the tailings storage facility is approximately 2.3 km away from the closest receiver to the south (Figure 8).

It is also noted that prevailing winds in the Project area are generally from the north-east and south-west, with very little wind originating from the north-west (Ramboll Environ, 2017) (i.e. from the modified accommodation camp area toward the closest receivers). This limits the potential for noise generated at the modified accommodation camp area to be experienced at the nearest receivers to the south-east.

Based on the above, it is expected there would be no material change to the Year 1 construction noise scenario modelled by Renzo Tonin & Associates (2017), which indicated no potential exceedances of relevant noise criteria at any receivers. Therefore there would be no significant noise impacts at any privately-owned receivers predicted due to construction of the modified accommodation camp, noting a range of noise management and control measures would be implemented as described in Section 3.8.3.

3.8.3 Mitigation Measures, Management and Monitoring

A Noise Management Plan would be prepared for the modified Project in accordance with Condition 9, Schedule 3 of Development Consent DA 374-11-00. The Noise Management Plan would reflect any changes to Development Consent DA 374-11-00 that arise from the Modification and would relevantly include:

- the noise monitoring program;
- details of protocols for measuring environmental performance and triggers for the investigation of additional mitigation measures; and
- complaint management protocols.

It is anticipated that the Noise Management Plan would a range of construction noise management and control measures such as the following:

- site inductions would include noise requirements to ensure employee and contractor awareness of potential noise impacts;
- all plant and machinery used for construction activities would be operated in a proper and efficient manner and regularly maintained to minimise noise generation;
- lesser noise generating construction activities (e.g. welding and electrical works) would be conducted during the evening and night-time periods; and
- temporary cessation of work (by a single item of particularly noisy equipment, or a number of items if required) would be considered when adverse conditions are present (e.g. strong temperature inversions).

3.9 Road Transport

GTA Consultants (2017) prepared a road transport assessment for Modification 4 in accordance with the *Guide to Traffic Generating Developments* (NSW Roads and Traffic Authority, 2002) that also considered the modified accommodation camp. The conclusions of the GTA Consultants (2017) are considered in this section where relevant.

3.9.1 Existing Environment

The following key roads are of relevance to the modified accommodation camp (Figure 3):

- Wilmatha Road – extends north-west from Fifield and past the mine site; and
- Sunrise Lane – extends west from Wilmatha Road.

Traffic survey data on Wilmatha Road (north of Sunrise Lane) indicates that existing daily volumes (19 movements per day [traffic in both directions]) are low (GTA Consultants, 2017). Although there is no traffic survey data available for Sunrise Lane, it is also expected to be low.

There are no intersection operation capacity concerns in the vicinity of the Project (GTA Consultants, 2017).

A review of NSW Roads and Maritime Services (RMS) accident data in the vicinity of the Project during the period 1 January 2011 to 14 November 2016 indicated that no accidents were reported on Wilmatha Road (GTA Consultants, 2017).

3.9.2 Potential Impacts

The relocation of the accommodation camp would change Project road traffic movements on Wilmatha Road (between the approved mine site access road and Sunrise Lane) and on Sunrise Lane (between Wilmatha Road and the modified accommodation camp access road) (Figure 3).

Project Traffic Generation

The modified Project is predicted to result in the following daily vehicle movements (traffic in both directions) (GTA Consultants, 2017):

- Wilmatha Road (between the approved mine site access road and Sunrise Lane) – up to an additional 289 movements per day during the peak construction period; and
- Sunrise Lane (between Wilmatha Road and the modified accommodation camp access road) – up to an additional 391 movements per day during the peak construction period.

With regard to the wider road network in the region, the modified accommodation camp would have negligible effect on the operation of the key access routes (GTA Consultants, 2017).

Roadway Capacity

Austroroads (2013) defines a Level of Service as a qualitative measure describing operational conditions within a traffic stream (in terms of speed, travel time, freedom to manoeuvre, safety and convenience) and their perception by motorists and/or passengers. Level of Service A provides the best traffic conditions, with no restriction on desired travel speed or overtaking. Level of Service B to D describes progressively worse traffic conditions. Level of Service E occurs when traffic conditions are at or close to capacity.

GTA Consultants (2017) forecast a Level of Service B on Wilmatha Road which represents good operating conditions. The Modification is not expected to significantly change the Level of Service on Wilmatha Road.

Road Safety Review

The Modification would not result in significant impacts on the safety of the road network with implementation of the road upgrades (Section 3.9.3).

3.9.3 Mitigation Measures, Management and Monitoring

Road Upgrades and Maintenance

The proposed road upgrades and road maintenance contributions for the modified Project are outlined in Section 2.3.

The modified road upgrades and road maintenance contributions are based on recommendations of GTA Consultants (2017).

Road Upgrades and Maintenance Strategy

A Road Upgrades and Maintenance Strategy would be developed in consultation with the RMS, LSC, PSC and FSC for the modified Project in accordance with Condition 43, Schedule 3 of Development Consent DA 374-11-00.

The Road Upgrades and Maintenance Strategy would reflect any changes to Development Consent DA 374-11-00 that arise from the Modification and would include a program for the implementation of the road upgrades and a program for road maintenance.

Traffic Management Plan

A Traffic Management Plan would be developed in consultation with the RMS, LSC, PSC and FSC for the modified Project in accordance with Condition 45, Schedule 3 of Development Consent DA 374-11-00. The Traffic Management Plan would reflect any changes to Development Consent DA 374-11-00 that arise from the Modification and would relevantly include:

- details of transport routes to be used by the Project;
- measures to minimise traffic safety issues and disruption to the local community during the construction of the Project; and
- a Road Transport Protocol for all drivers transporting materials to and from the Project.

3.10 Visual Amenity

3.10.1 Existing Environment

The regional visual character is generally characterised by cleared agricultural land, with areas of remnant bushland on elevated areas or along road sides. The small village of Fifield is located to the south-east (Figure 8), with Condobolin (the largest nearby town) located approximately 45 km to the south-west (Figure 1).

The topography of the area is relatively flat with the main topographic features being Boona Mountains approximately 20 km to the west and Gobondry Mountains approximately 10 km to the east (Resource Strategies, 2000). The main topographic features in the modified accommodation camp area are three shallow drainage lines that drain towards Sunrise Lane in the north. Elevations in the modified accommodation camp area range from approximately 305 m AHD in the north to approximately 320 m AHD in the south (Figures 2a and 2b).

Views of the modified accommodation camp area would be limited due to the lack of public vantage points, the relatively flat topography and shielding roadside vegetation. Views of the modified accommodation camp would however be available from Sunrise Lane. No views of the modified accommodation camp would be available from privately-owned dwellings due to the presence of intervening topography and vegetation.

3.10.2 Potential Impacts

The modified accommodation camp and associated supporting infrastructure would be visible from Sunrise Lane. Due to roadside vegetation along Sunrise Lane, these views would generally be intermittent or partial views. The modified accommodation camp would therefore contribute to a low level of visual modification along Sunrise Lane. As Sunrise Lane is a local road and users would be exposed to the views of the modified accommodation camp for a relatively short period of time and the number of users is limited, the visual sensitivity of users of Sunrise Lane would be low.

For users of Sunrise Lane, the low level of visual modification coupled with the low level of visual sensitivity indicates a low level of potential visual impact would be expected.

Any potential impact associated with night-lighting required for the modified accommodation camp (i.e. for safety reasons) would be insignificant compared to the mine site. These potential impacts would be minimised as far as possible through the implementation of the mitigation measures described in Section 3.10.3.

Overall, the potential visual impacts associated with the modified accommodation camp would be low.

3.10.3 Mitigation Measures and Management

Clean TeQ would implement a number of measures to minimise potential visual impacts at the modified Project:

- The visual appearance of the modified accommodation camp (including paint colours, specifications and screening) would be designed to blend in as far as possible with the surrounding landscape.
- The modified accommodation camp would be landscaped as soon as practicable following disturbance in order to reduce the contrast between the modified accommodation camp and the surrounding environment.
- Whilst ensuring that safety is not compromised, Clean TeQ would minimise light emissions from the modified accommodation camp by select placement, configuration and direction of lighting so as to reduce off-site nuisance effects where practicable.
- All external lighting at the modified accommodation camp would be operated in accordance with AS 4282 (INT):1997 – *Control of Obtrusive Effects of Outdoor Lighting*.

4 Statutory Context

This section outlines the statutory requirements relevant to the assessment of the Modification.

4.1 Environmental Planning and Assessment Act, 1979

The Project was approved under Part 4 of the EP&A Act in 2001 (Development Consent DA 374-11-00).

Clause 12 of Schedule 6A of the EP&A Act provides that section 75W of Part 3A of the EP&A Act continues to apply to modification of development consents referred to in clause 8J(8) of the *Environmental Planning and Assessment Regulation, 2000* (EP&A Regulation) following the repeal of Part 3A.

The Project was approved under Part 4 of the EP&A Act in 2001 by development consent under Division 4 of Part 4 of the EP&A Act (relating to State significant development). Therefore, Development Consent DA 374-11-00 is a development consent that falls within clause 8J(8)(c) of the EP&A Regulation. That is, section 75W of the EP&A Act continues to apply to modifications to Development Consent DA 374-11-00, notwithstanding its repeal².

Approval for the Modification will be sought as a modification to Development Consent DA 374-11-00 under section 75W of the EP&A Act. Section 75W of the EP&A Act relevantly provides:

75W Modification of Minister's approval

(1) *In this section:*

Minister's approval means an approval to carry out a project under this Part, and includes an approval of a concept plan.

Modification of approval means changing the terms of a Minister's approval, including:

- (a) *Revoking or varying a condition of the approval or imposing an additional condition of the approval, and*
- (b) *Changing the terms of any determination made by the Minister under Division 3 in connection with the approval.*
- (2) *The proponent may request the Minister to modify the Minister's approval for a project. The Minister's approval for a modification is not required if the project as modified will be consistent with the existing approval under this Part.*
- (3) *The request for the Minister's approval is to be lodged with the Director-General. The Director-General may notify the proponent of environmental assessment requirements with respect to the proposed modification that the proponent must comply with before the matter will be considered by the Minister.*
- (4) *The Minister may modify the approval (with or without conditions) or disapprove of the modification...*

4.2 Environmental Planning Instruments

4.2.1 Local Environmental Plans

The Project is located within the Lachlan, Parkes and Forbes LGAs, which are covered by the *Lachlan Local Environmental Plan, 2013* (Lachlan LEP), *Parkes Local Environmental Plan, 2012* (Parkes LEP) and *Forbes Local Environmental Plan, 2013* (Forbes LEP), respectively.

As the Modification would not change Project components located in the Parkes and Forbes LGAs, the Parkes LEP and Forbes LEP have not been considered further in this section.

² Part 3A of the EP&A Act (as in force immediately before its repeal) continues to apply for the Project. The description and quotations of relevant references to clauses of Part 3A in this document are as if Part 3A of the EP&A Act is still in force.

Lachlan Local Environmental Plan, 2013

The modified accommodation camp would be located in the Lachlan LGA.

Permissibility

The modified accommodation camp is located in land zoned “RU1” (Primary Production) under the Lachlan LEP. Temporary accommodation and/or multi-dwelling residential accommodation are not listed as permissible uses in land zoned “RU1” (Primary Production) under the Lachlan LEP. Open cut mining is listed as permissible activity with consent on lands zoned “RU1” (Primary Production) under the Lachlan LEP.

The Lachlan LEP defines “open cut mining” as:

... mining carried out on, and by excavating, the earth’s surface, but does not include underground mining.

The Lachlan LEP defines “mining” as:

mining carried out under the Mining Act, 1992 or the recovery of minerals under the Offshore Minerals Act, 1999, and includes:

- (a) the construction, operation and decommissioning of associated works, and*
- (b) the rehabilitation of land affected by mining.*

The modified accommodation camp would be associated with the Project’s mining operations carried out under the *Mining Act, 1992*.

The Minister would not be precluded from approving the Modification due to the land zoning under the Lachlan LEP.

Objectives

Clause 2.3(2) of the Lachlan LEP provides:

The consent authority must have regard to the objectives for development in a zone when determining a development application in respect of land within the zone.

The objectives of the “RU1” (Primary Production) zone include:

- *To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.*
- *To encourage the diversity in primary industry enterprises and systems appropriate for the area.*
- *To minimise the fragmentation and alienation of resource lands.*
- *To minimise conflict between land uses within this zone and land uses within adjoining zones.*

The Modification is consistent with the general objectives of the “RU1” (Primary Production) zone as mining is a primary industry and the Modification would minimise potential operational constraints at the mine site.

The Modification would not significantly alter the compatibility of Project with adjoining land uses.

4.2.2 State Environmental Planning Policies***State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries) 2007***

The *State Environmental Planning Policy (Mining, Petroleum Production and Extractive Industries)* (Mining SEPP) regularises the various environmental planning instruments that previously controlled mining activities and aims to provide for the proper management of and development of mineral resources.

Clause 5(3) of the Mining SEPP gives it primacy where there is an inconsistency between the provisions of the Mining SEPP and the provisions of any other environmental planning instrument (except the *State Environmental Planning Policy (Major Development) 2005*, *State Environmental Planning Policy No. 14 [Coastal Wetlands]* and *State Environmental Planning Policy No. 26 [Littoral Rainforest]*).

Clause 2 – Aims

Clause 2 sets out the aims of the Mining SEPP as follows:

- (c) *to provide for the proper management and development of mineral, petroleum and extractive material resources for the purpose of promoting the social and economic welfare of the State, and*
- (d) *to facilitate the orderly and economic use and development of land containing mineral, petroleum and extractive material resources, and*
- (b1) *to promote the development of significant mineral resources, and*
- (e) *to establish appropriate planning controls to encourage ecologically sustainable development through the environmental assessment, and sustainable management, of development of mineral, petroleum and extractive material resources, and*
- (f) *to establish a gateway assessment process for certain mining and petroleum (oil and gas) development:*
 - (i) *to recognise the importance of agricultural resources, and*
 - (ii) *to ensure protection of strategic agricultural land and water resources, and*
 - (iii) *to ensure a balanced use of land by potentially competing industries, and*
 - (iv) *to provide for the sustainable growth of mining, petroleum and agricultural industries.*

Clause 12 – Compatibility with Other Land Uses

Clause 12 of the Mining SEPP requires that, before determining an application for consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must:

- (a) *consider:*
 - (i) *the existing uses and approved uses of land in the vicinity of the development, and*
 - (ii) *whether or not the development is likely to have significant impact on the uses that, in the opinion of the consent authority having regard to land use trends, are likely to be the preferred uses of land in the vicinity of the development, and*
 - (iii) *any ways in which the development may be incompatible with any of those existing, approved or likely preferred uses, and*
- (b) *evaluate and compare the respective public benefits of the development and the land uses referred to in paragraph (a) (i) and (ii), and*
- (c) *evaluate any measures proposed by the applicant to avoid or minimise any incompatibility, as referred to in paragraph (a) (iii).*

Existing and approved land use in the vicinity of the Project is generally characterised by agricultural land uses. Land use at the modified accommodation camp area includes agriculture, vegetated areas and road reserve.

Consideration of the potential impacts of the Project on agricultural and other land uses is summarised in Section 3.2.2.

The modified Project is not incompatible with existing, approved or likely adjoining land uses. As described in Section 3, the modified Project would be operated in a manner as to minimise potential impacts on the environment and alternative land uses on adjoining lands.

Clean TeQ would implement a progressive rehabilitation program (Section 2.4) which aims to rehabilitate the site to a state that would minimise the incompatibility of the Project with existing and future land uses in the area. The rehabilitated modified accommodation camp area would incorporate agriculture as the final land use.

Clause 14 – Natural Resource Management and Environmental Management

Clause 14(1) of the Mining SEPP requires that, before granting consent for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider whether or not the approval should be issued subject to conditions aimed at ensuring that the development is undertaken in an environmentally responsible manner, including conditions to ensure the following:

- (a) *that impacts on significant water resources, including surface and groundwater resources, are avoided, or are minimised to the greatest extent practicable,*
- (b) *that impacts on threatened species and biodiversity, are avoided, or are minimised to the greatest extent practicable,*
- (c) *that greenhouse gas emissions are minimised to the greatest extent practicable.*

In addition, clause 14(2) requires that, without limiting clause 14(1), in determining a development application for development for the purposes of mining, petroleum production or extractive industry, the consent authority must consider an assessment of the greenhouse gas emissions (including downstream emissions) of the development, and must do so having regard to any applicable state or national policies, programs or guidelines concerning greenhouse gas emissions.

The potential impacts of the Modification on water resources are discussed in Section 3.6.2, including measures to minimise potential impacts which are described in Section 3.6.3.

The potential impacts of the Modification on threatened species and biodiversity are described in Section 3.3.2, including measures to minimise potential impacts which are described in Section 3.3.3.

Consideration of the modified Project greenhouse gas emissions is provided in Section 3.7.4.

Clause 17 – Rehabilitation

Clause 17 of the Mining SEPP requires that before granting consent for development for the purposes of mining, the consent authority must consider whether or not the approval should be issued subject to conditions aimed at ensuring the rehabilitation of land that will be affected by the development.

In particular, the consent authority must consider whether conditions of the consent should:

- (a) *require the preparation of a plan that identifies the proposed end use and landform of the land once rehabilitated, or*
- (b) *require waste generated by the development or the rehabilitation to be dealt with appropriately, or*
- (c) *require any soil contaminated as a result of the development to be remediated in accordance with relevant guidelines (including guidelines under section 145C of the Act and the Contaminated Land Management Act 1997), or*
- (d) *require steps to be taken to ensure that the state of the land, while being rehabilitated and at the completion of the rehabilitation, does not jeopardize public safety.*

A comprehensive program would be implemented for the progressive rehabilitation of the modified accommodation camp area, including the remediation of any contaminated soil, if applicable (Section 2.4).

One of the key Project rehabilitation objectives (Section 2.4) is the creation of safe, stable, adequately drained post-mining landforms that are consistent with the local surrounding landscape.

State Environmental Planning Policy No. 55 (Remediation of Land)

The State Environmental Planning Policy No. 55 (Remediation of Land) (SEPP 55) aims to provide a State-wide planning approach to the remediation of contaminated land. Under SEPP 55, planning authorities are required to consider the potential for contamination to adversely affect the suitability of the site for its proposed use.

A consent authority must consider the following under clause 7(1) of SEPP 55:

- (a) *it has considered whether the land is contaminated, and*
- (b) *if the land is contaminated, it is satisfied that the land is suitable in its contaminated state (or will be suitable, after remediation) for the purpose for which the development is proposed to be carried out, and*
- (c) *if the land requires remediation to be made suitable for the purpose for which the development is proposed to be carried out, it is satisfied that the land will be remediated before the land is used for that purpose.*

Clause 7(2) provides that before a consent authority determines an application for development consent, a 'preliminary investigation' is required where:

- the application for consent is to carry out development that would involve a 'change of use'; and
- that 'change of use' applies to certain land specified in clause 7(4).

The certain land specified in clause 7(4) on which the 'change of use' must relate is either:

- land that is an 'investigation area' – defined in SEPP 55 as land declared to be an investigation area by a declaration in force under Division 2 of Part 3 of the *Contaminated Land Management Act, 1997*; or
- land on which development for a purpose referred to in Table A5-1 to the contaminated land planning guidelines (being *Managing Land Contamination – Planning Guidelines SEPP 55 – Remediation of Land* [NSW Department of Urban Affairs and Planning and EPA, 1998]) is being, or is known to have been carried out.

Ground Doctor (Appendix C) completed a Land Contamination Assessment of the modified accommodation camp area, including a Stage 1 (or Preliminary Investigation) in accordance with the *Guidelines for Consultants Reporting on Contaminated Sites* (OEH, 2011a).

On the basis of the Stage 1 (or Preliminary Investigation) Land Contamination, the modified accommodation camp area is suitable for the land use proposed by the Modification (Appendix C).

4.2.3 NSW Government Policy

In September 2012, the NSW Government released the following policy documents potentially relevant to the Modification:

- *Strategic Regional Land Use Policy* (NSW Government, 2012a); and
- *Aquifer Interference Policy* (AIP) (NSW Government, 2012b).

Strategic Regional Land Use Policy

As part of the *Strategic Regional Land Use Policy* (NSW Government, 2012a), the NSW Government introduced a 'Gateway Process' for the upfront assessment of the impacts of State Significant mining and coal seam gas proposal on Strategic Agricultural Land.

The Mining SEPP includes mapping of lands identified as Strategic Agricultural Land and none is mapped in the mine site.

A Site Verification Certificate or Gateway Certificate is not required for the modified accommodation camp area as it located outside the mining tenements (clause 17A[2] of the Mining SEPP).

An assessment of potential impacts on agricultural resources is presented in Section 3.2.2.

Aquifer Interference Policy

The AIP has been developed to ensure equitable water sharing between various water users and proper licensing of water taken by aquifer interference activities such that the take is accounted for in the water budget and water sharing arrangements. The AIP also aims to enhance existing regulation, contributing to a comprehensive framework to protect the rights of all water users and the environment in NSW.

No change to approved water demand or groundwater impacts are expected as a result of the Modification and therefore the AIP is not considered further.

4.3 Development Application Area

The Modification necessitates an extension to the Development Application Area for Development Consent DA 374-11-00. Figure 9 shows the extent of the proposed Development Application Area extension to incorporate the Modification.

The proposed Development Application Area extension includes Lot 17 DP 752086, Road within Lot 17 DP 752086 and Road (Sunrise Lane) bounded by Lot 17 DP 752086 and Lots 3 to 5 DP 754021.

4.4 Environment Protection and Biodiversity Conservation Act, 1999

The Commonwealth *Environment Protection and Biodiversity Conservation Act, 1999* (EPBC Act) defines proposals that are likely to have a significant impact on a matter of national environmental significance as a 'controlled action'. Proposals that are, or may be, a controlled action are required to be referred to the Commonwealth Minister for the Environment for a determination as to whether or not the action is a controlled action.

Matters of national environmental significance include:

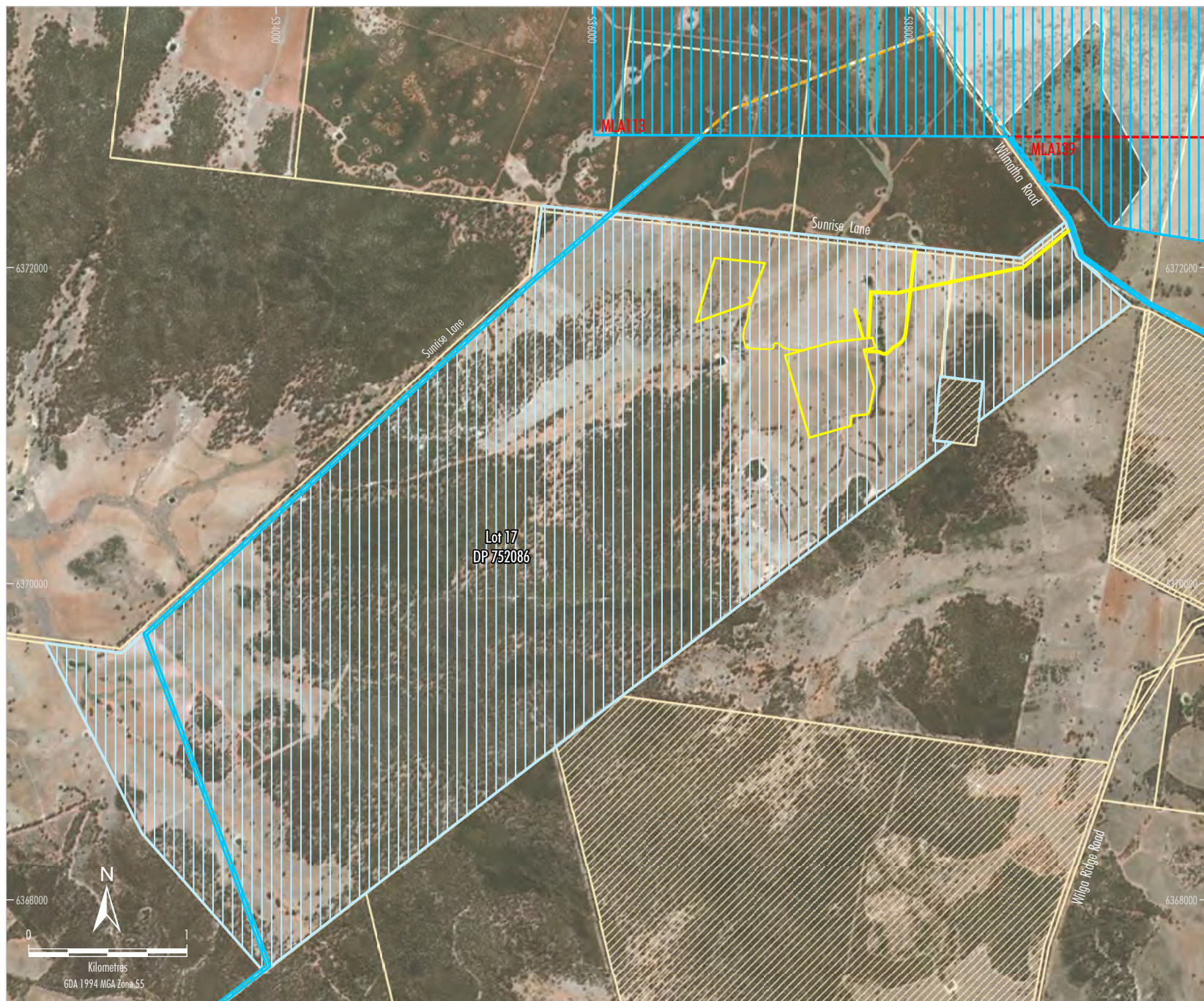
- world heritage properties;
- wetlands listed under the Ramsar Convention;
- listed threatened species and ecological communities;
- listed migratory species protected under international agreements;
- nuclear actions;
- the Commonwealth marine environment;
- national heritage places; and
- water resources, in relation to coal seam gas development and large coal mining developments.

The Project was referred in 2001, and was determined as 'not a controlled action' (EPBC 2001/133).

The Modification is unlikely to impact (or significantly impact) any threatened species or communities listed under the EPBC Act as none have been confirmed to occur and the modified accommodation camp is proposed to be constructed solely within the previously cleared/cultivated land with minimal biodiversity values (Appendix A). Hence, there would be no significant impact on threatened species and communities listed under the EPBC Act as a result of the Modification.

The other matters of national environmental significance are not considered relevant to the Modification.

It is therefore considered that there is no need to refer the Modification to the Commonwealth Minister for the Environment.



- LEGEND**
- Mining Lease Application Boundary
 - Approved Surface Development Area
 - Approved Gas Pipeline
 - Approved Water Pipeline
 - Property Boundary
 - Crown Land
 - Development Consent Area DA 374-11-00
 - Proposed Extension to the Development Application Area
 - Modified Layout

Source: Black Range Minerals (2000); NSW Department of Industry (2017); NSW Land & Property Information (2017)
NSW Imagery: Esri Basemap

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CLEAN TEQ SUNRISE PROJECT
Development Application Area Extension

Figure 9

5 Conclusion

As part of detailed planning for the construction phase of the Project, Clean TeQ has identified an alternative location for the approved accommodation camp that would provide improved amenity for the workforce in the accommodation camp and minimise potential operational constraints at the mine site. Clean TeQ also identified the preference to maintain the accommodation camp (at reduced capacity) during operations for the short-term use of temporary contractors and visitors. The Modification would include:

- development of the accommodation camp (including supporting infrastructure) at an alternative location approximately 4 km to the south of the mine site;
- construction of an ETL and water pipeline from the mine site to the modified accommodation camp site;
- minor road upgrades;
- increased accommodation camp capacity (from approximately 1,000 to 1,300 personnel); and
- the accommodation camp (at reduced capacity) would continue to be operated post-construction.

The Modification would not involve changes to any aspects of the approved mine and processing operations, limestone quarry, rail siding, borefields, water pipeline or gas pipeline (Table 1).

This EA has demonstrated that with the implementation of the mitigation measures described in Section 3, the Modification can be implemented with limited additional biophysical and environmental impacts in comparison with the approved Project.

It is therefore considered that the Modification is justified on environmental, economic and social grounds and that an application to modify Project Development Consent DA 374-11-00 under section 75W of the EP&A Act is appropriate.

6 References

- AMBS Ecology and Heritage (2017) *Clean TeQ Sunrise Project Accommodation Camp - Ecological Surveys*.
- Appleton, J. (2000) *Proposed Syerston Project Aboriginal Heritage Assessment. Report to Resource Strategies Pty Limited*.
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