

Clean TeQ Sunrise Project Road Upgrade and Maintenance Strategy

2020-CTEQ-1220-41PA-0001

27 March 2019

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1. INTRODUCTION

The Clean TeQ Sunrise Project (the Project) is situated near the village of Fifield, approximately 350 kilometres (km) west-northwest of Sydney, in New South Wales (NSW) (Figure 1).

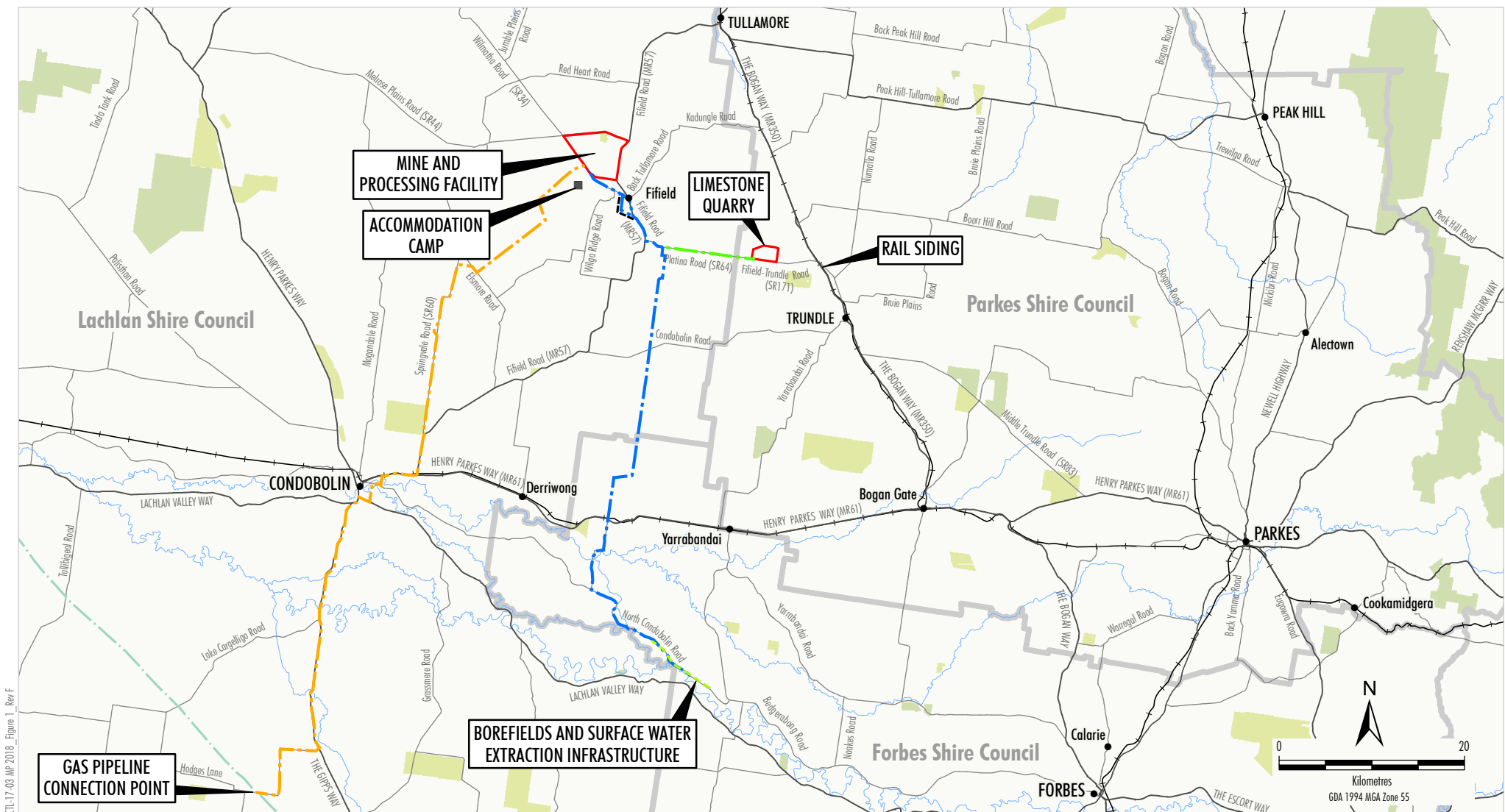
The Project includes the establishment and operation of the following:

- mine (including the processing facility);
- limestone quarry;
- rail siding;
- gas pipeline;
- borefields, surface water extraction infrastructure and water pipeline;
- accommodation camp; and
- associated transport activities and transport infrastructure (e.g. the Fifield Bypass, road and intersection upgrades).

Clean TeQ Sunrise Pty Ltd owns the rights to develop the Project. Clean TeQ Sunrise Pty Ltd is a wholly owned subsidiary of Clean TeQ Holdings Limited (Clean TeQ).

Development Consent DA 374-11-00 for the Project was issued under Part 4 of the NSW Environmental Planning and Assessment Act 1979 (EP&A Act) in 2001. Six modifications to Development Consent DA 374-11-00 have since been granted under the EP&A Act:

- 2005 – to allow for an increase of the autoclave feed rate, limestone quarry extraction rate and adjustments to ore processing operations;
- 2006 – to allow for the reconfiguration of the borefields;
- 2017 – to allow for the production of scandium oxide;
- 2017 – to amend hazard study requirements;
- 2018 – to relocate the accommodation camp; and
- 2018 – to implement opportunities to improve the overall efficiency of the Project.



CTL-17-03 MP 2018_Figure 1_Rer F



- LEGEND**
- National Park/Conservation Area
 - State Forest
 - Local Government Boundary
 - Railway
 - Existing Gas Pipeline
 - Mining Lease Boundary (ML)
 - Fifield Bypass
 - Gas Pipeline
 - Water Pipeline
 - Limestone Quarry Water Pipeline
 - Borefield Infrastructure Corridor

Source: Black Range Minerals (2000); Clean TeQ (2017, 2018); NSW Department of Industry (2018); NSW Land & Property Information (2017); Office of Environment and Heritage NSW (2017)

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Regional Location

Figure 1

1.1 Purpose

This Road Upgrade and Maintenance Strategy (RUMS) has been prepared by Clean TeQ in accordance with the requirements of Condition 43, Schedule 3 of Development Consent DA 374-11-00 (Table 1).

Table 1 – Specific Development Consent Conditions

Development Consent DA 374-11-00 Schedule 3	Section Where Addressed in this TMP
Road Upgrade and Maintenance Strategy 43. <i>Prior to carrying out any development under this consent after 6 May 2017, the Applicant must prepare a Road Upgrade and Maintenance Strategy for the development, in consultation with RMS and Council, and to the satisfaction of the Secretary. This strategy must:</i>	This RUMS
a) <i>identify the road and intersection upgrades required for the project, including all those outlined in Appendix 5;</i>	Sections 2
b) <i>include a program that details:</i> <ul style="list-style-type: none"><i>– the scheduling of road upgrades required to be implemented in accordance with Appendix 5; and</i><i>– the maintenance of the relevant sections of the road network following the upgrades; and</i>	Section 6 and 7
c) <i>be consistent with the terms of the VPA outlined in Appendix 3.</i>	Throughout

In accordance with the above requirements and the requirements listed in the Voluntary Planning Agreement (VPA) dated 13th December 2018, this RUMS will:

- Detail the scope for the road and intersection upgrades;
- Nominate the applicable specifications for the road upgrades;
- Provide a schedule for the execution of the road and intersection upgrades; and
- Provide a maintenance strategy for the relevant sections of the road network.

1.2 Structure of this Road Upgrade and Maintenance Strategy

The remainder of this RUMS is structured as follows:

- Section 2: Describes the scope of the road and intersection upgrades.
- Section 3: Identifies the statutory requirements, design standards and Council and RMS requirements applicable to the works.
- Section 4: Describes the existing road and provides baseline traffic data.
- Section 5: Describes the expected construction and operational traffic.
- Section 6: Describes the road and intersection upgrade execution strategy and schedule. Including execution of design, commercial activities, construction and handover.
- Section 7: Details the road maintenance strategy.

2. SCOPE OF ROAD INSPECTION UPGRADES

Road and intersection upgrades will be undertaken within the Lachlan Shire Council (LSC) and Parkes Shire Council (PSC) Local Government Areas (LGAs) in accordance with Condition 43, Schedule 3 of Development Consent 374-11-00 and the VPA. Figures 2a/b and 3a/b/c show the locations of road and intersection upgrades in the LSC and PSC LGAs, respectively.

Road Upgrades

The scope for the road upgrades for the Project is described below.

Prior to the commissioning of the Development (as defined in the VPA), Clean TeQ will pay for the following upgrades:

- road pavement (8.0 m sealed pavement and 1.0 m gravel shoulders); and
- all private access roads (3.5 m sealed private access road approach and 3.0 m gravel shoulders along road 30 m either side of all private access roads).

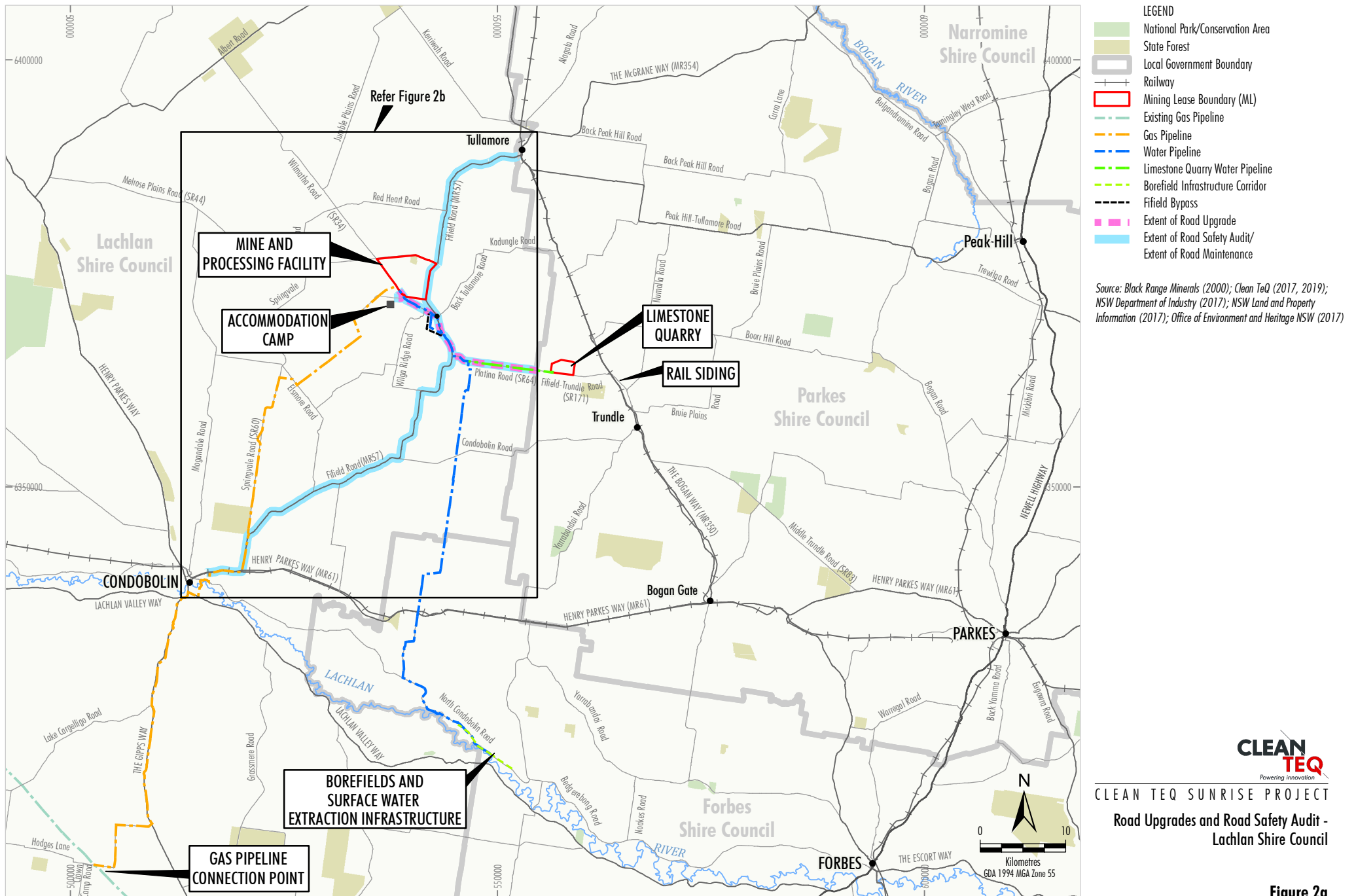
to the following roads:

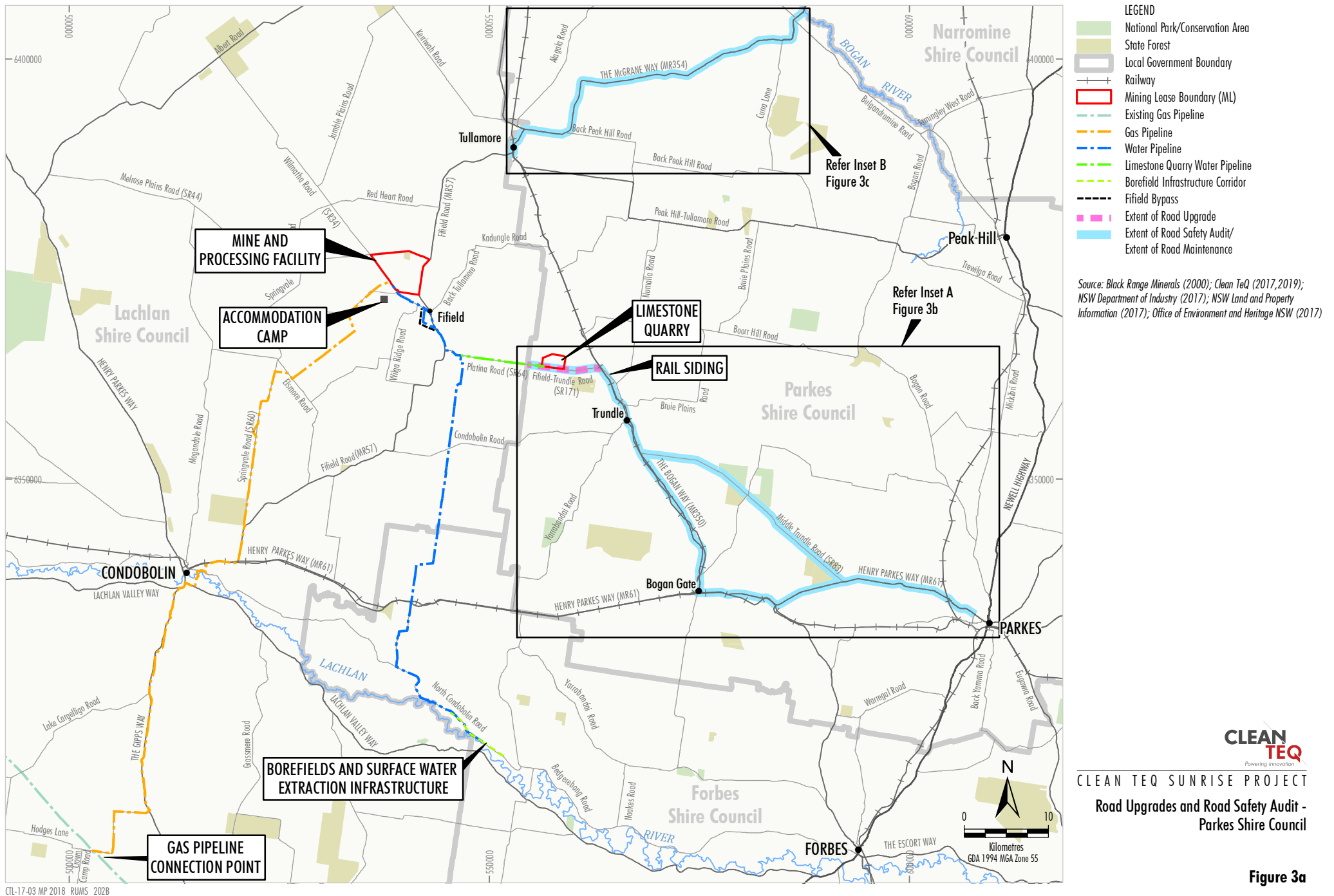
- **Platina Road [SR64]** (between the Lachlan Shire boundary and Fifield Road [MR57]);
- **Fifield Road [MR57]** (between Platina Road [SR64] and Slee St [in Fifield Village]);
- **Wilmatha Road [SR34]** (between Slee St [in Fifield Village] and the mine and processing facility (MPF) access road); and
- **Fifield Trundle Road [SR171]** (between The Bogan Way [MR350] and the Parkes Shire boundary).

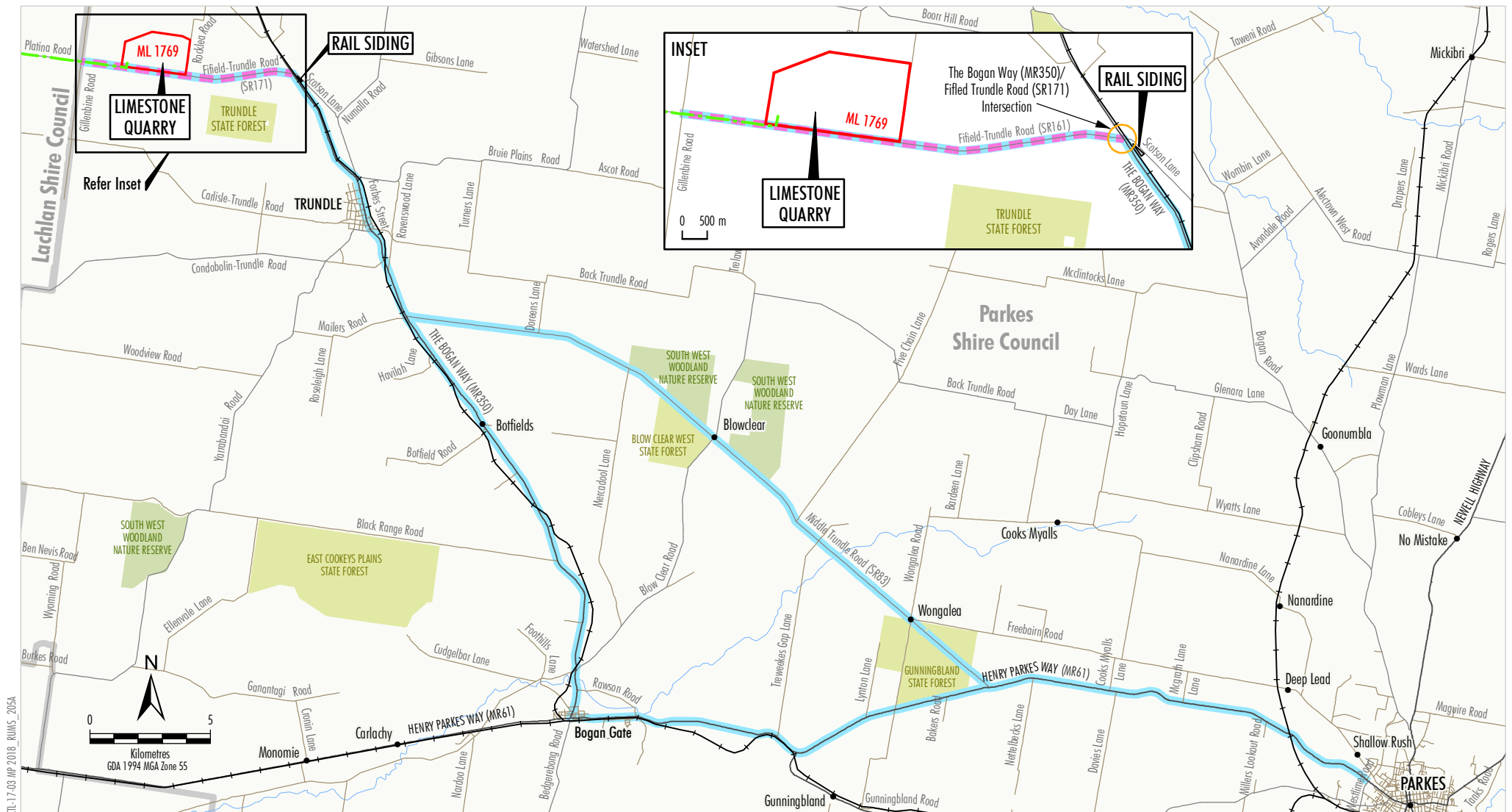
In addition, prior to the commissioning of the accommodation camp, Sunrise Lane will be upgraded between the accommodation camp access road and Wilmatha Road [SR34]) to the following:

- all weather unsealed surface for an operating speed standard of 80 km/h; and
- carriageway width of 9 m (equivalent to two 3.5 m lanes and two 1.0 m wide shoulders).

It is noted that the further widened road shoulders adjacent to private access roads/driveways (i.e. where children are likely to be boarding or disembarking school buses) will provide an improved area for school buses to park during boarding/disembarkation.







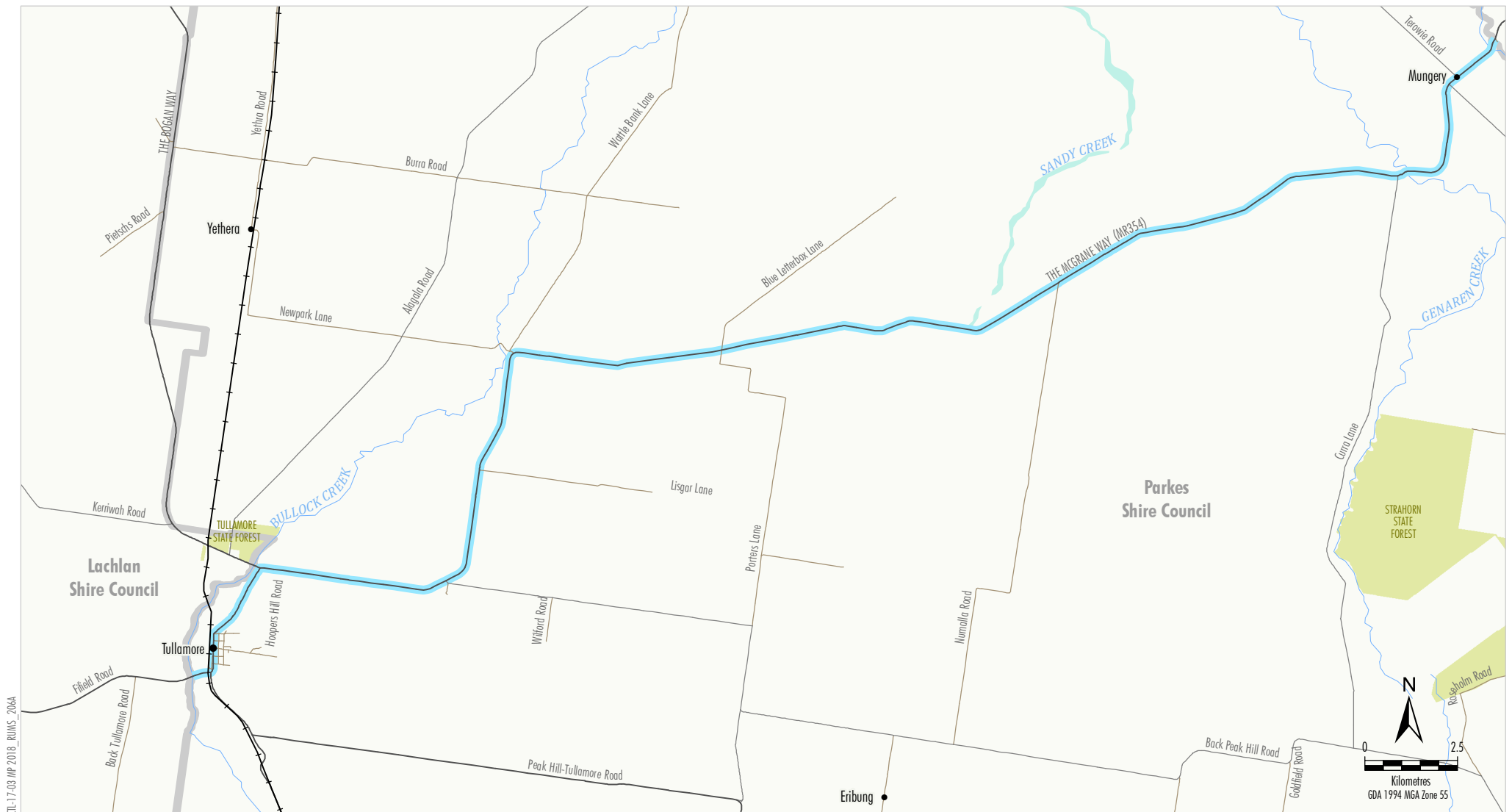
Source: Black Range Minerals (2000); Clean TeQ (2017); NSW Department of Industry (2017); NSW Land & Property Information (2017); Office of Environment and Heritage NSW (2017)

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Road Upgrades and Road Safety Audit -
Parkes Shire Council
Inset A

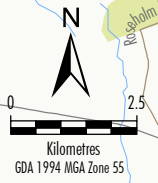
Figure 3b



CTL-17-03 MP 2018 - RUMS_2064

- LEGEND**
- State Forest
 - Local Government Boundary
 - Railway
 - Extent of Road Safety Audit/
Extent of Road Maintenance

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



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Road Upgrades and Road Safety Audit -
Parkes Shire Council
Inset B

Figure 3c

Intersection Upgrades

Prior to the commissioning of the Development (as defined in the VPA), Clean TeQ will pay for the following intersection upgrades:

- **Platina Road [SR64] /Fifield Road [MR57]** – upgrade to Austroads standards;
- **Fifield Road [MR57] /Slee Street [in Fifield Village]** – signage and line marking to Austroads standards, for heavy vehicle route upgrade;
- **Slee Street [in Fifield Village]/Wilmatha Road [SR34]/Fifield Road** – signage and line marking to Austroads standards for heavy vehicle route upgrade;
- **Henry Parkes Way [MR61] and Middle Trundle Road [SR83]** – a Channelised Right Short [CHR] turn lane, constructed in accordance with Austroads guidelines for basic rural intersection treatments;
- **Henry Parkes Way [MR61] and The Bogan Way [MR350]** – signage and line marking to Austroads standards;
- **Sunrise Lane/Wilmatha Road [SR34]** – remove the transition between the gravel and dirt surfaces while Wilmatha Road remains unsealed, then seal a minimum of 30 m of Sunrise Lane on the approach to the intersection once Wilmatha Road is sealed;
- **Fifield-Trundle Road and Limestone Quarry access** – basic rural intersection treatment; and
- **Wilmatha Road and MPF access road** – basic rural intersection treatment with priority between MPF access and Wilmatha Road south.

Prior to the commissioning of the rail siding, Clean TeQ will pay for the following intersection upgrades:

- **The Bogan Way [MR350] /Fifield Trundle Road [SR171] and Scotson Lane** – right-left staggered T-intersections with signage and line marking to Austroads standards.

Pedestrian Access Treatments

Pedestrian access upgrades to be completed in Trundle (in consultation with PSC) include:

- a modified kerb extension treatment near 61/63 Forbes Street;
- a modified kerb extension treatment between Croft Street and East Street;
- threshold treatments at the northern and southern entries to Trundle; and
- speed reduction warning signs on the northern and southern approaches to Trundle.

Other Works

Prior to the commissioning of the Development (as defined in the VPA), Clean TeQ will reach an agreement with the relevant Councils on funding and the timing of works as to any additional, specific road safety matters relevant to the Project as deemed necessary by the road safety audits (See Section 3.3 for a summary of the road safety audits).

In addition, Clean TeQ will establish formal bus stops (if required) based on the outcomes of the road safety audit and in consultation with councils and bus operators.

Future Works

Prior to the development of the limestone quarry, rail siding, or transport of limestone from third party suppliers, Clean TeQ will undertake the road and intersection upgrades in Item 3, Appendix 5 of Development Consent 374-11-00 as required in consultation with the relevant Councils and RMS. These upgrades are not discussed further in this version of the RUMS.

3. STATUTORY REQUIREMENTS, DESIGN STANDARDS AND OTHER APPLICABLE REQUIREMENTS

3.1 Statutory Requirements

The following NSW Acts (and their Regulations) may be applicable to the design of the road and intersection upgrades:

- Local Government:
 - Lachlan Local Environmental Plan;
 - Parkes Local Environmental Plan;
 - Forbes Local Environment Plan;
- NSW State Law:
 - State Environmental Planning Policy (Infrastructure) 2007;
 - Environmental Planning and Assessment Act, 2017;
 - Biodiversity Conservation Act, 2016;
 - National Parkes and Wildlife Act, 1974;
 - Heritage Act, 1977;
 - Roads Act, 1993; and
 - Protection of the Environment Operations Act, 1997.

3.2 Design Standards

Design standards applicable to the upgrade of the roads and intersections include:

- New South Wales Roads and Maritime Services (RMS) Design Codes and Specifications
- Austroads Standards (generally included in RMS Standards)

3.3 Road Safety Audits

In accordance with the terms of the VPA with LSC, PSC and Forbes Shire Council (FSC), road safety audits are to be conducted prior to commissioning of the Development (as defined in the VPA) to determine appropriate road upgrade requirements for the operational phase of the Project.

The audits will identify potential safety risks to road users, including identifying deficiencies or non-conformances along a route. The non-conformances will be allocated a risk rating based on the likelihood and severity of a poor safety outcome.

The road safety audit locations are provided below and shown on Figures 2 and 3 for the LSC and PSC local government areas, respectively.

- **Henry Parkes Way [MR61]** (between Jones Lane [eastern outskirts of Condobolin] and Fifield Road [MR57]);
- **Fifield Road [MR57]** (between Henry Parkes Way [MR61] and Slee St [in Fifield Village] and between Slee St [in Fifield Village] and Red Heart Road [SR41]);
- **Platina Road [SR64]** (between the Lachlan Shire Boundary and Fifield Road [MR57]);
- **Slee St [in Fifield Village]** (between Fifield Road [MR57] and Wilmatha Road [SR34]);
- **Wilmatha Road [SR34]** (between Slee St [in Fifield Village] and Mine Access Road); and
- **Fifield Road [MR57]** (between Red Heart Road [SR41] and the Lachlan Shire Boundary).
- **Henry Parkes Way [MR61]** (between Westlime Road [western outskirts of Parkes] and The Bogan Way [MR350]);
- **Middle Trundle Road [SR83]** (between Henry Parkes Way [MR61] and The Bogan Way [MR350]);
- **The Bogan Way [MR350N]** (between Henry Parkes Way [MR61] and Fifield Trundle Road [SR171]);
- **Fifield Road [MR 57]** (between the Parkes Shire Boundary and The Bogan Way [MR350]);
- **The Bogan Way [MR350N]** (between Fifield Road [MR57] and The McGrane Way [MR354]);
- **Fifield Trundle Road [SR171]** (between The Bogan Way [MR350] and the Parkes Shire boundary); and
- **The McGrane Way [MR354]** (between The Bogan Way [MR350] and the Parkes Shire Boundary).

As referred to in Section 2 above, prior to the commissioning of the Development (as defined in the VPA), Clean TeQ will reach agreement with the relevant Councils on funding and the timing of works for any additional, specific, road safety matters relevant to the Project as deemed necessary by the road safety audits.

4. EXISTING ROAD DESCRIPTION AND BASELINE DATA

4.1 Description of Existing Roads to be Upgraded

The roads and intersections subject to upgrade are described below (Figure 2a/b & 3a/b/c).

Fifield Road (MR57N) is a Regional Road also known as Main Road 57 North, which runs northwards from Henry Parkes Way approximately 6 km east of Condobolin, through Fifield to Tullamore. In Fifield, it is known as Slee Street. It is crossed by the Parkes Narromine Railway just to the north of its intersection with Henry Parkes Way at an active level crossing, and by the Bogan Gate Tottenham Railway at a passive level crossing at Tullamore. It is a two lane sealed road with centre line marking. The speed limit on Fifield Road is typically 100 km/h and reduced to 50 km/h at Fifield. As a Regional Road, RMS provides financial assistance to the LSC for the management of this portion of MR57.

Fifield-Trundle Road (SR171)/Platina Road (SR64) is also known as Shire Road 171/Shire Road 64, and extends west from The Bogan Way approximately 6 km north of Trundle to Fifield Road approximately 5 km south of Fifield. Fifield-Trundle Road is located within Parkes Shire whilst Platina Road is located within Lachlan Shire. Fifield-Trundle Road typically has a 6.5 m wide formation with 6.0 m wide seal. Platina Road typically has a sealed surface approximately 4 m wide, with 1 m gravel shoulders. There is limited line marking. The intersections at the ends of Fifield-Trundle Road and Platina Road are basic rural T-intersections, without auxiliary lane treatments or channelisation.

Wilmatha Road (SR34), also known as Shire Road 34, runs northwest from Fifield past the Project site (Mining Lease (ML) 1770), and crosses Melrose Plains Road at the north-western boundary of ML 1770. Wilmatha Road has an unsealed surface approximately 8 to 12 m wide and a speed limit of 100 km/h. The MPF access road will intersect Wilmatha Road at an Austroads Type C intersection.

Sunrise Lane will be used by Project traffic travelling to and from the accommodation camp. The access road to the accommodation camp is off Sunrise Lane. Sunrise Lane is an unsealed road.

Further detail is provided in:

- *Syerston Project Modification 4 Road Transport Assessment* (GTA Consultants, 2017a)
- *Road Transport Route Post Construction (Existing Road) Road Safety Audit* (GTA Consultants, 2017b)
- *Road Transport Route Road Safety Audit* (GTA Consultants, 2018b)

4.2 Historic Traffic Volumes and Capacity

Traffic survey data in the vicinity of the Project area are summarised in Table 2, with traffic survey locations shown on Figure 4.

Review of the data indicates existing daily and peak hour traffic volumes are low and the peak periods occur in the morning and in the mid to late afternoon (GTA Consultants, 2017a).

The proportion of heavy vehicles varies significantly across the road network (9.5% to 49.4%). The total number of heavy vehicles on the road network is low, due to background traffic volumes being low (GTA Consultants, 2017a).

Austrroads (2013) defines theoretical capacities for two-way two lane rural roads. Considering the proportion of heavy vehicles, the peak hourly flows on the road network around the Project are very low in comparison to the Austrroads (2013) theoretical capacities and a detailed assessment of midblock road capacity is not warranted (GTA Consultants, 2017b).

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

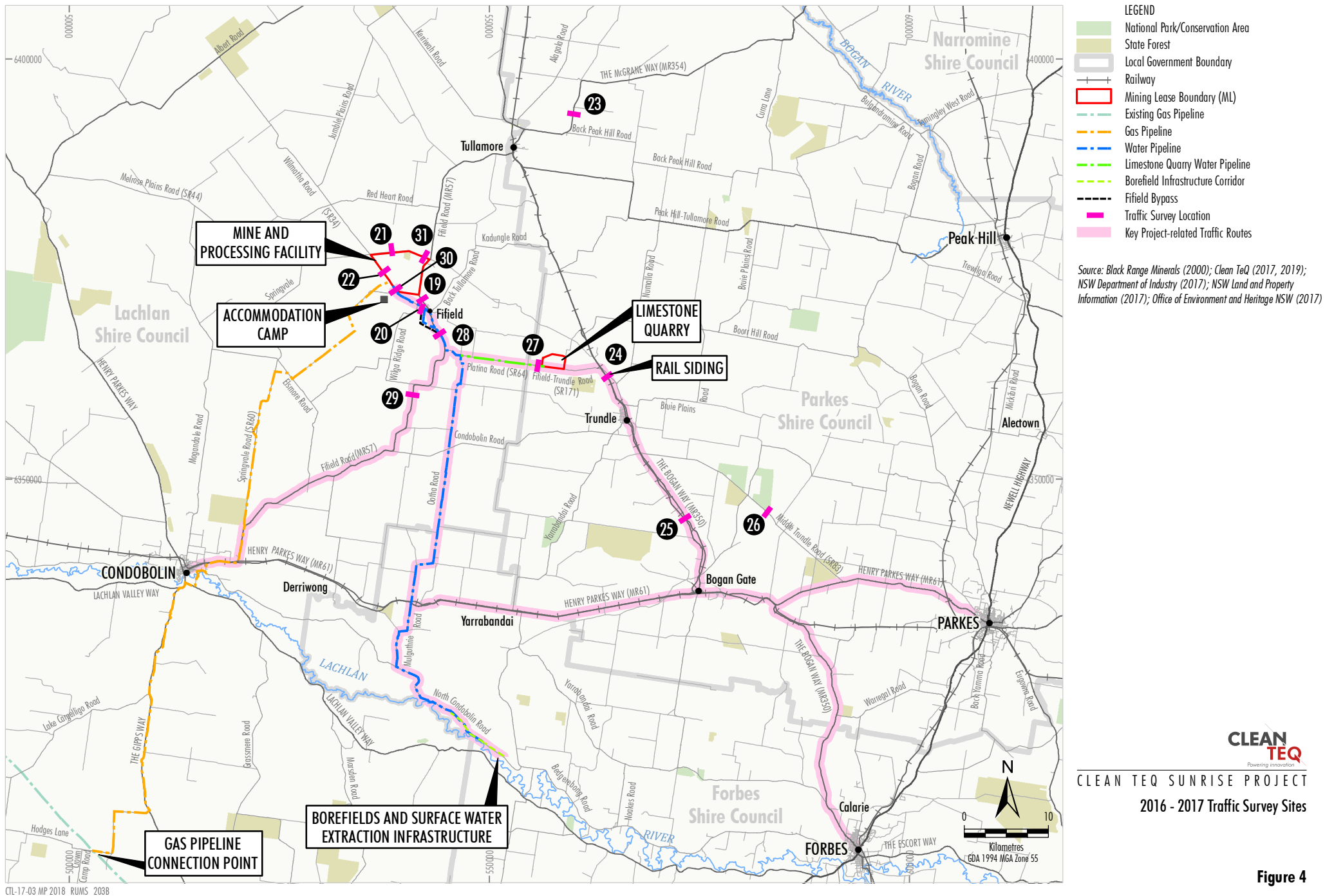
Further detail is provided in *Syerston Project Modification 4 Road Transport Assessment* (GTA Consultants, 2017).

Table 2 – Surveyed Average Traffic

Site ¹	Road	Survey Location	Peak Hour (vehicles per hour)	Daily (vehicles per day)	Heavy Vehicles (%)	Survey Timing
19	Fifield Road	Between Tullamore and Fifield	21	185	9.5	November 2016
20	Slee Street	In Fifield	26	246	28.5	
21	Melrose Plains Road	East of Wilmatha Road	2	13	49.4	
22	Wilmatha Road	South of Melrose Plains Road	2	21	38.1	
23	The McGrane Way	North of Back Peak Hill Road	14	124	24.1	
24	The Bogan Way	Between Trundle and Fifield-Trundle Road	43	367	19.3	January to March 2017
25	The Bogan Way	Between Bogan Gate and Middle Trundle Road	41	388	24.0	
26	Middle Trundle Road	Between The Bogan Way and Henry Parkes Way	17	118	22.0	
27	Fifield-Trundle Road	Between The Bogan Way and Platina Road	11	78	17.9	
28	Fifield Road	Between Slee Street and Platina Road	28	253	28.9	
29	Fifield Road	Between Platina Road and Springvale Road	20	198	35.4	
30	Wilmatha Road	North of Sunrise Lane	2	19	15.8	
31	Melrose Plains Road	Between Fifield Road and Wilmatha Road	4	11	27.3	

Source: After GTA Consultants (2017a)

¹ Refer to Figure 36a/b/c for locations.



5. PROJECT TRAFFIC DETAILS

5.1 Operating Hours

The hours of operation for the Project are specified in Condition 1, Schedule 3 of Development Consent DA 374-11-00 and is reproduced below:

Table 3 – Operating Hours

<i>Activity</i>	<i>Operating Hours</i>
<ul style="list-style-type: none">• Construction of the:<ul style="list-style-type: none">– gas pipeline;– water pipeline and borefields;– rail siding;– accommodation camp; and– road upgrades• Construction materials haulage along the transport route	<ul style="list-style-type: none">• 7 am to 6 pm, Monday to Sunday
<ul style="list-style-type: none">• All quarrying operations (excluding truck loading on the limestone quarry site)	<ul style="list-style-type: none">• 7 am to 5 pm, Monday to Sunday

Note: All other operations are permitted 24 hours per day, seven days per week.

During the construction phase, deliveries to the project will arrive and depart between 7.00 am to 6.00 pm.

Once the operational phase commences, haulage of materials to and from the Project will occur 24 hours per day, seven days a week.

5.2 Construction Traffic

Construction activities for the Project will include the development of the mine (including the processing facility), accommodation camp, borefields, surface water extraction infrastructure, water pipeline and road upgrades and are anticipated to be undertaken over an approximate two year period.

Key Project-related traffic during the construction stage of the Project will consist of:

- employees and visitors travelling to and from the Project site and accommodation camp (typically light vehicles);
- delivery of construction materials to the Project site, accommodation camp, borefields, surface water extraction site and water pipeline (typically heavy vehicles and some oversize vehicles); and
- delivery of consumables to the Project site and accommodation camp (e.g. supplies, diesel) (typically heavy vehicles).

Construction deliveries to the mine site will generally use the following haulage route from Parkes or Condobolin. The route from Parkes includes Henry Parkes Way, The Bogan Way, Fifield-Trundle Road, Platina Road, Fifield Road, Slee St, Wilmatha Road and the Project site Access Road.

The route from Condobolin travels via Henry Parkes Way, Fifield Road, Slee St, Wilmatha Road and the Project site Access Road. Estimated traffic volumes for peak and average periods is provided in Masson Wilson Twiney (2000) and summarised below in Table 4.

Construction deliveries for the water pipeline will generally be via Henry Parkes Way and either Mulguthrie Road or Ringwood Road (northern sections), depending on the section of pipeline being constructed at the time.

The key Project-related traffic routes are shown on Figure 4.

Table 4 – Construction Traffic Estimates (Vehicles per day) for Peak and Average Periods

	Average Period			Peak Period		
	Heavy	Light	Total	Heavy	Light	Total
Workforce	22	106	128	34	212	246
Major Equipment & Supplies	15	-	15	24	-	24
Other Traffic	90	180	270	100	200	300
Total (rounded up)	130	290	420	160	420	580

Source: Masson Wilson Twiney (2000)

Since the above construction traffic estimates were generated, the accommodation camp has been relocated from within ML 1770 to the nearby Sunrise Property. The relocated accommodation camp is estimated to generate the following traffic on Wilmatha Rd and Sunrise Lane:

AM Peak Hour

- Average 113 and peak 202 vehicle trips from the Accommodation Camp to the Mine and Processing Facility (MPF)
- Average 49 and peak 87 vehicle trips from the MPF to the Accommodation Camp

PM Peak Hour

- Average 49 and 87 vehicle trips from the Accommodation Camp to the MPF
- Average 113 and peak 202 vehicle trips from the MPF to the Accommodation Camp.

This is a conservatively high estimate as it assumes travel between the locations by light vehicle only. Clean TeQ intends to implement a shuttle bus system between the camp and the MPF, significantly reducing this estimated number of vehicle trips.

5.3 Operational Traffic

5.3.1 Traffic Travel Routes

The routes used by vehicles travelling to and from the Project would vary according to the origin/destination. The more significant routes will include:

- rail siding – Scotson Lane, Fifield-Trundle Road, Platina Road, Fifield Road, Slee Street, Wilmatha Road, and the MPF Access Road;
- limestone quarry – Quarry Access Road, Fifield-Trundle Road, Platina Road, Fifield Road, Slee Street, Wilmatha Road, and MPF Access Road;
- Sydney/Parkes – Henry Parkes Way, The Bogan Way, Fifield-Trundle Road, Platina Road, Fifield Road, Slee Street, Wilmatha Road, and MPF Access Road (external limestone supply and lime deliveries would adopt this route);
- Sydney/Parkes – Henry Parkes Way, Middle Trundle Road, The Bogan Way, Fifield-Trundle Road, Platina Road, Fifield Road, Slee Street, Wilmatha Road, and MPF Access Road (all of the heavy vehicle movements associated with the key deliveries e.g. limestone would not use Middle Trundle Road);
- Newcastle – Mitchell Highway, The McGrane Way, The Bogan Way, Fifield Road, Wilmatha Road, and MPF Access Road;
- Condobolin, Ootha and local sources – Henry Parkes Way, Fifield Road, Slee Street, Wilmatha Road, and MPF Access Road;
- Trundle and Bogan Gate – The Bogan Way, Fifield-Trundle Road, Platina Road, Fifield Road, Slee Street, Wilmatha Road, and MPF Access Road; and
- Tullamore – Fifield Road, Wilmatha Road, and MPF Access Road.

5.3.2 Total Traffic

Table 5 and Table 6 summarises the average daily traffic volumes on the road network anticipated to be generated by the Project.

Table 5 – Project Average Daily Traffic – All Vehicles (Vehicles per day)

Light Vehicles (per day)	Heavy Vehicles (per day)	Total Vehicles (per day)
124	186	310

Table 6 – Project Average Daily Traffic – Heavy Vehicles (Vehicles per day)

Source/Destination	Modified Project
Parkes/Sydney	76
Condobolin	12
Newcastle	4
Rail Siding	65
Quarry	40
Total	186

The Project is expected to generate an average of 310 vehicle trips per day, of which 124 vehicle trips would be light vehicles and 186 vehicle trips would be heavy vehicles. Light vehicle trips have been reduced by the operation of shuttle buses.

6. ROAD AND INTERSECTION UPGRADE EXECUTION STRATEGY

6.1 Overview

Prior to the commissioning of the accommodation camp, the upgrade of Sunrise Lane and the intersection between Sunrise Lane and Wilmatha Road will be completed. The design and execution of this upgrade will be completed by the Clean TeQ appointed Accommodation Camp Installation Contractor.

The upgrade of the remainder of roads and intersections will commence promptly following the Final Investment Decision (FID) (as defined in the VPA) and be completed prior to the commissioning of the Development (as defined in the VPA).

Upgrade works will be prioritised and delivered in the following sequence:

- **Wilmatha Road [SR34]** - between Slee St [in Fifield Village] and the MPF access road;
- **Fifield Trundle Road [SR171]** - between The Bogan Way [MR350] and the Parkes Shire boundary;
- **Platina Road [SR64]** - between the Lachlan Shire boundary and Fifield Road [MR57]), the narrower sections of Platina Road will be upgraded first; and
- **Fifield Road [MR57]** (between Platina Road [SR64] and Slee St [in Fifield Village]).

During the road upgrade works the condition of the above roads will be periodically visually assessed by Clean TeQ. If required, the sequence of work will be adjusted to address any road condition issues caused by construction traffic.

Intersection upgrades will be prioritised in accordance with above sequence.

6.2 Design

The design of the road and intersection upgrades will be completed by the LSC. LSC will subcontract the various design disciplines to a panel of known professional companies. Subcontracted components are expected to include:

- Survey;
- Geotechnical Investigation; and
- Geometric and structural Road Design.

All design works will be completed in accordance with the requirements listed in Section 3.

During the execution of the design work, input (including the Safety in Design process) and approval will be sought from key stakeholders, including:

- RMS in the case of State Roads;
- LSC / PSC (if available) in the cases of local and regional roads, or alternatively; and
- Consultant Project Management firms.

6.3 Execution

Clean TeQ, via the Accommodation Camp Installation Contractor will upgrade Sunrise Lane prior to the commissioning of the accommodation camp.

All other construction activities will be completed in accordance with the listed priorities. During the design phase an execution plan will be developed that will detail the packaging of the scope and the timing for the upgrades.

It is proposed that the road and intersection upgrade works will be executed by:

- The Lachlan Shire Council and Parkes Shire Council, if resources available, or alternatively; and
- Tender/Contract from a list of known and suitably skilled road construction contractors.

It is proposed to complete the upgrades via a single work front, or alternatively (if required by the schedule) multiple work fronts.

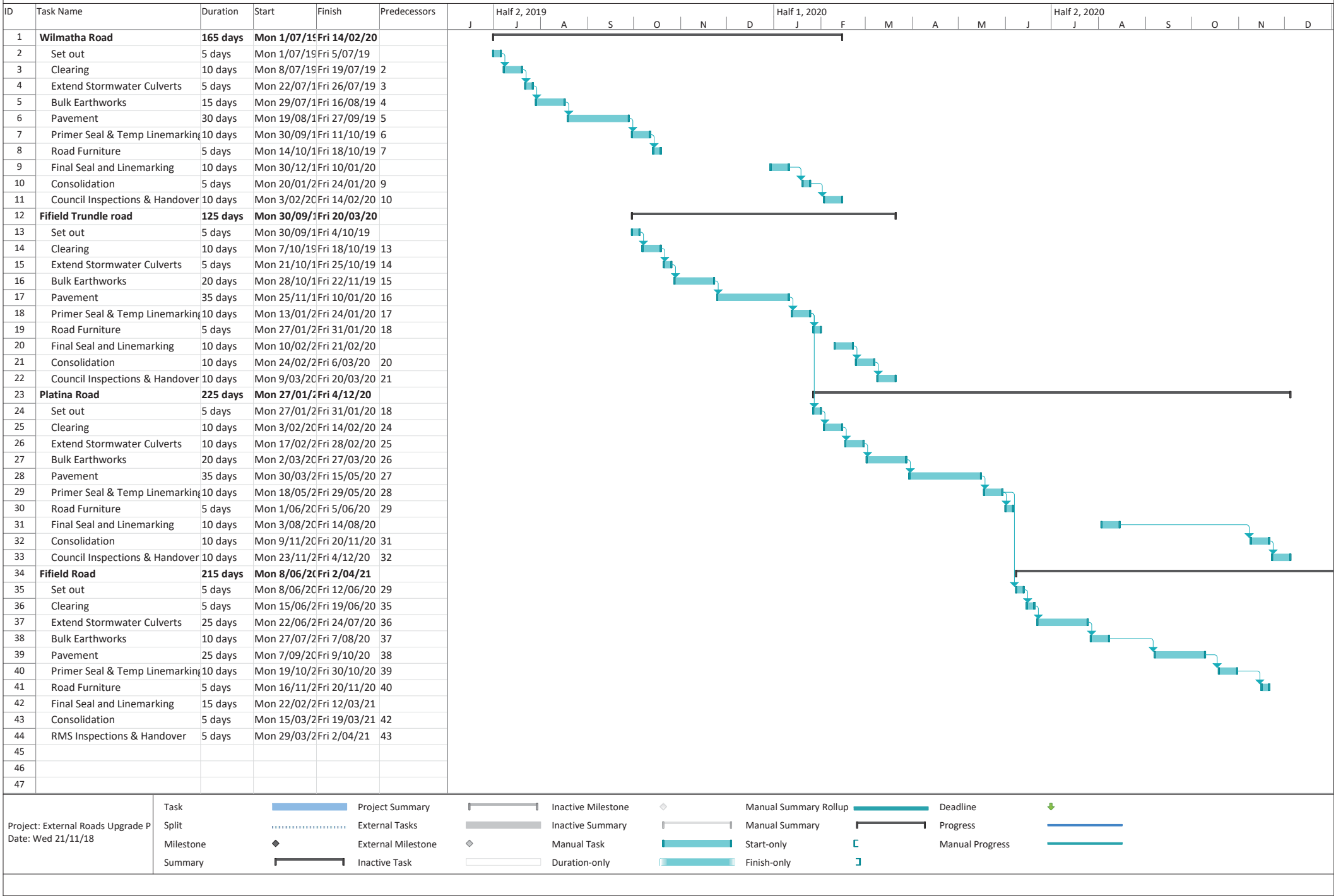
Supervision of the road and intersection upgrades will be provided by the organisation completing the upgrades. In addition, Clean TeQ will provide overall oversight on safety, quality, scope and progress.

Prior to execution of the road and intersection upgrades, Clean TeQ will develop a Traffic Management Plan and Stakeholder Communication Plan to ensure the local community are made aware of the proposed upgrades including timing and progress of the works. This will include contact details for Clean TeQ to allow community members to request further information or provide feedback to the Company. In addition, the works will be undertaken to minimise traffic delays for the local community.

It is noted that heavy rainfall may result in roads being closed and access to work fronts will be suspended when required.

A Gantt Chart providing a high-level schedule of the proposed upgrade works is provided in Figure 5.

Figure 5 - Road Upgrade Schedule



7. ROAD MAINTENANCE STRATEGY

Maintenance of Project related roads will be completed by the relevant Council in accordance with the terms of the VPA. In accordance with the VPA, Clean TeQ will also provide Road Maintenance Contributions to the relevant Councils to ensure timely and efficient maintenance works are undertaken. The Road Maintenance Contributions are to be utilised on the Project related roads as follows.

Parkes Shire Council

- **Middle Trundle Road [SR83]** (between Henry Parkes Way [MR61] and The Bogan Way [MR350]);
- **The Bogan Way [MR350]** (between Henry Parkes Way [MR61] and Fifield Trundle Road [SR171]);
- **Fifield Trundle Road [SR171]** (between The Bogan Way [MR350] and the Parkes Shire boundary);
- **Fifield Road [MR 57]** (between the Parkes Shire Boundary and The Bogan Way [MR350]);
- **The Bogan Way [MR350]** (between Fifield Road [MR57] and The McGrane Way [MR354]);
- **The McGrane Way [MR354]** (between The Bogan Way [MR350] and the Parkes Shire boundary); and
- **Scotson Lane** (between the rail siding access road and The Bogan Way [MR350]).

Lachlan Shire Council

- **Fifield Road [MR57]** (between Henry Parkes Way [MR61] and Slee St [in Fifield Village], between Slee St [in Fifield Village] and Red Heart Road [SR41] and between Red Heart Road [SR41] and the Lachlan Shire boundary);
- **Platina Road [SR64]** (between the Lachlan Shire boundary and Fifield Road [MR57]);
- **Slee St [in Fifield Village]** (between Fifield Road [MR57] and Wilmatha Road [SR34]);
- **Wilmatha Road [SR34]** (between Slee St [in Fifield Village] and Mine Access Road); and

Forbes Shire Council

- **North Condobolin Road** (between the borefields and Ootha-Mulguthrie Road);
- **Ootha-Mulguthrie Road** (between North Condobolin Road and Henry Parkes Way [MR61]);
- **Ootha-Ringwood Road** (between Henry Parkes Way [MR61] and Burkes Road);
- **Burkes Road** (between Ootha- Ringwood Road and Ootha North Road); and
- **Ootha North Road** (between Burkes Road and the Forbes Shire boundary).

Clean TeQ will maintain Sunrise Lane (between the accommodation camp site access road and Wilmatha Road [SR34]), to the satisfaction of LSC, during the construction and operation phase of the Project.

In addition, the VPA allows for the payment of Major Repair Contributions on the Project transport routes on an as-needs basis during the life of the Project but limited to a maximum of five kilometres of construction in any year, unless mutually agreed between Clean TeQ and the Councils. These contributions are to address exceptional failure of or damage to roads where NSW and Commonwealth Government grants do not cover the full cost of repairs. The Major Repair Contributions do not substitute for the Road Maintenance Contributions.

8. REFERENCES

Masson Wilson Twiney (2000) *Transport Assessment for the Proposed Syerston Nickel-Cobalt Project*, August 2000

Black Range Minerals (2000) *Syerston Project Environmental Impact Statement*, October 2000

GTA Consultants (2017a) *Syerston Project Modification 4 Road Transport Assessment*, November 2017

GTA Consultants (2017b) *Road Transport Route Post Construction (Existing Road) Road Safety Audit*, November 2017

GTA Consultants (2018a) *Pedestrian Access Review, Forbes Street, Trundle*, February 2018

GTA Consultants (2018b) *Road Transport Route Road Safety Audit*, August 2018

Planning Agreement - *Clean TeQ Sunrise Mine Project* (executed 13 December 2018)

APPENDICES

Appendix A: Key Terms of the Voluntary Planning Agreements

APPENDIX 3

TERMS OF VOLUNTARY PLANNING AGREEMENTS

Community Enhancement Contribution

- Clean TeQ shall pay an annual total payment of \$400,000 plus CPI to Forbes Shire Council (FSC), Parkes Shire Council (PSC) and Lachlan Shire Council (LSC).
- The total payment shall be allocated 50% to Lachlan Shire Council, with 25% each to Parkes Shire Council and Forbes Shire Council, unless otherwise determined jointly by FSC, LSC and PSC.
- The first payment of \$400,000 shall be payable within 21 days of signing of this Agreement and then paid on the same date each year until Mining Operations cease.

If the Final Investment Decision is not reached within 12 months of the initial payment, no further annual Community Enhancement Contributions will be made until the Final Investment Decision is reached. Once the Final Investment Decision is reached payments will resume within 21 days of the Final Investment Decision and continue annually.

Road Maintenance Contribution

- Clean TeQ shall pay an annual **Road Maintenance Contribution** totalling \$340,000 plus CPI as follows:
 - (i) Lachlan Shire Council: \$168,000
 - (ii) Parkes Shire Council: \$152,000
 - (iii) Forbes Shire Council: \$20,000
- The first annual contribution shall be paid within 21 days of the Final Investment Decision and then paid on the same date each year until Mining Operations cease.
- If the Final Investment Decision is not reached within 12 months of the initial payment, no further Road Maintenance Contributions shall be made until the Final Investment Decision is reached. Once the Final Investment Decision is reached, payments shall resume within 21 days of the Final Investment Decision payable annually on the same date.
- The Road Maintenance Contributions are to be used to maintain the following roads:

Parkes Shire Council

- Middle Trundle Road [SR83] (between Henry Parkes Way [MR61] and The Bogan Way [MR350]);
- The Bogan Way [MR350] (between Henry Parkes Way [MR61] and Fifield Trundle Road [SR171]);
- Fifield Trundle Road [SR171] (between The Bogan Way [MR350] and the Parkes Shire boundary);
- Fifield Road [MR 57] (between the Parkes Shire Boundary and The Bogan Way [MR350]);
- The Bogan Way [MR350] (between Fifield Road [MR57] and The McGrane Way [MR354]); and
- The McGrane Way [MR354] (between The Bogan Way [MR350] and the Parkes Shire Boundary).
- Scotson Lane between the rail siding access road and The Bogan Way [MR350].

Lachlan Shire Council

- Fifield Road [MR57] (between Henry Parkes Way [MR61] and Slee St [in Fifield Village] and between Slee St [in Fifield Village] and Red Heart Road [SR41]);
- Platina Road [SR64] (between the Lachlan Shire Boundary and Fifield Road [MR57]);
- Slee St [in Fifield Village] (between Fifield Road [MR57] and Wilmatha Road [SR34]);
- Wilmatha Road [SR34] (between Slee St [in Fifield Village] and Mine Access Road); and
- Fifield Road [MR57] (between Red Heart Road [SR41] and the Lachlan Shire Boundary).

Forbes Shire Council

- North Condobolin Road (between the bore fields and Ootha-Mulguthrie Road);
 - Ootha-Mulguthrie Road (between North Condobolin Road and Henry Parkes Way [MR61]);
 - Ootha- Ringwood Road (between Henry Parkes Way [MR61] and Burkes Road);
 - Burkes Road (between Ootha- Ringwood Road and Ootha North Road); and
 - Ootha North Road (between Burkes Road and the Forbes Shire Boundary).
- Clean TeQ shall maintain Sunrise Lane (between the accommodation camp site access road and Wilmatha Road [SR34]), to the satisfaction of LSC, during the construction and operation phase of the mine and processing facility.

Project Facilitation Contribution

Clean TeQ shall pay LSC, PSC and FSC each an annual Project Facilitation Contribution of \$30,000 within 21 days of the Final Investment Decision and then on the same date each year thereafter. The payments are to be made during the period between Final Investment Decision and two years to the day after the commencement of construction.

Consumer Price Index

- The Community Enhancement Contribution, the Road Maintenance Contribution and the Project Facilitation Contribution are all subject to CPI. The three different contributions shall be indexed according to the CPI at the time of payments after the initial payment.

Major Repair Contributions

- Clean TeQ shall pay Major Repair Contributions on the Transport Route to address exceptional failure of or damage to roads where government grants do not cover the full cost of repairs.
- The Major Repair Contribution shall be undertaken on an as needs basis during the life of the mine, but limited to a maximum 5 km of construction in any year, unless mutually agreed between Clean TeQ and the relevant council(s).
- Clean TeQ shall pay the Major Repair Contribution to the Council(s) within 30 Business Days of the date of the letter notifying the relevant Council of acceptance of the Cost Report. These contributions are to be mutually agreed by the Parties and do not substitute for the nominated Road Maintenance Contributions.

Road and Intersection Upgrades

Clean TeQ shall pay for and be responsible for the following Road and Intersection Upgrades. Such upgrades shall commence promptly following the Final Investment Decision, or earlier at the sole discretion of Clean TeQ:

Road Upgrades

Prior to the commissioning of the Accommodation Camp, Clean TeQ shall pay for and require the completion of the upgrade of Sunrise Lane (between the Accommodation Camp access road and Wilmatha Road [SR34]) to the following:

- all weather unsealed surface for an operating speed standard of 80 km/h; and
- carriageway width of 9 m (equivalent to two 3.5 m lanes and two 1.0 m wide shoulders).

Construction of the Road and Intersection Upgrades are to commence promptly following the Final Investment Decision and be completed prior to the Commissioning of the Development.

Prior to the Commissioning of the Development (meaning the date on which the testing of the Mine Processing Facility to verify that it functions according to its design objectives and specifications is completed), Clean TeQ shall pay for and be responsible for the delivery of the following upgrades:

- road pavement (8.0 m sealed pavement and 1.0 m gravel shoulders); and
- all private access roads (3.5 m sealed private access road approach and 3.0 m gravel shoulders along road 30 m either side of all private access roads).

to the following roads:

- Platina Road [SR64] (between the Lachlan Shire boundary and Fifield Road [MR57]);
- Fifield Road [MR57] (between Platina Road [SR64] and Slee St [in Fifield Village]);
- Wilmatha Road [SR34] (between Slee St [in Fifield Village] and the mine and processing facility access road); and
- Fifield Trundle Road [SR171] (between The Bogan Way [MR350] and the Parkes Shire boundary).

Clean TeQ shall prepare a road construction programme detailing the work specifications, timing and scheduling of road upgrades required. The programme shall be prepared by the Clean TeQ in consultation with the relevant Councils. The road upgrades shall be undertaken in accordance with the road construction programme unless otherwise agreed the relevant Councils.

Intersection Upgrades

Prior to the Commissioning of the Development (as defined in the VPA), Clean TeQ shall pay for the following intersection upgrades:

- Platina Road [SR64] /Fifield Road [MR57];
- Fifield Road [MR57] /Slee Street [in Fifield Village];
- Slee Street [in Fifield Village]/Wilmatha Road [SR34]/Fifield Road;
- The Bogan Way [MR350] /Fifield Trundle Road [SR171] and Scotson Lane;
- Henry Parkes Way [MR61] and Middle Trundle Road [SR83];
- Henry Parkes Way [MR61] and The Bogan Way [MR350]; and
- Sunrise Lane/Wilmatha Road [SR34] - remove the transition between the gravel and dirt surfaces while Wilmatha Road remains unsealed, and then seal a minimum of 30 m of Sunrise Lane on the approach to the intersection once Wilmatha Road is sealed.

Clean TeQ shall prepare a road construction programme detailing the work specifications, timing and scheduling of intersection upgrades required. The programme shall be prepared by the Clean TeQ in consultation with the relevant Councils. The road upgrades shall be undertaken in accordance with the road construction programme unless otherwise agreed the relevant Councils.

Road Safety Audits

Prior to Commissioning of the Development, Clean TeQ shall pay for and deliver a road safety audit to determine road upgrade requirements on the following roads (including intersections and rail crossings):

- Henry Parkes Way [MR61] (between Jones Lane [eastern outskirts of Condobolin] and Fifield Road [MR57]);
- Fifield Road [MR57] (between Henry Parkes Way [MR61] and Slee St [in Fifield Village] and between Slee St [in Fifield Village] and Red Heart Road [SR41]);
- Platina Road [SR64] (between the Lachlan Shire Boundary and Fifield Road [MR57]);
- Slee St [in Fifield Village] (between Fifield Road [MR57] and Wilmatha Road [SR34]);
- Wilmatha Road [SR34] (between Slee St [in Fifield Village] and Mine Access Road); and
- Fifield Road [MR57] (between Red Heart Road [SR41] and the Lachlan Shire Boundary);
- Henry Parkes Way [MR61] (between Westlime Road [western outskirts of Parkes] and The Bogan Way [MR350]);
- Middle Trundle Road [SR83] (between Henry Parkes Way [MR61] and The Bogan Way [MR350]);
- The Bogan Way [MR350] (between Henry Parkes Way [MR61] and Fifield Trundle Road [SR171]);
- Fifield Road [MR 57] (between the Parkes Shire Boundary and The Bogan Way [MR350]);
- The Bogan Way [MR350] (between Fifield Road [MR57] and The McGrane Way [MR354]);
- Fifield Trundle Road [SR171] (between The Bogan Way [MR350] and the Parkes Shire boundary); and
- The McGrane Way [MR354] (between The Bogan Way [MR350] and the Parkes Shire Boundary).

Prior to the Commissioning of the Development, Clean TeQ shall reach an agreement with the relevant Councils on funding and the timing of works as to any additional, specific road safety matters relevant to the Project as deemed necessary by the road safety audit.