



Avonlie Solar Farm

Siemens Gamesa Renewable Energy Pty Ltd

Traffic Management Plan

IA222600 Avonlie Solar Farm TMP | 1

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Important note about your report

The sole purpose of this report and the associated services performed by Jacobs is to provide the development of a Traffic Management Plan for the proposed Avonlie Solar Farm in accordance with the scope of services set out in the contract between Jacobs and Siemens Gamesa. That scope of services, as described in this report, was developed with the Client.

In preparing this report, Jacobs has relied upon, and presumed accurate, any information (or confirmation of the absence thereof) provided by Siemens Gamesa and/or from other sources. Except as otherwise stated in the report, Jacobs has not attempted to verify the accuracy or completeness of any such information. If the information is subsequently determined to be false, inaccurate or incomplete then it is possible that our observations and conclusions as expressed in this report may change.

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1. Introduction

1.1 Background

Avonlie Solar Project Co Pty Ltd (ACN 636 108 597) as trustee for the Avonlie Solar Project Trust (referred to as the Project Owner) is proposing to construct, operate and potentially decommission an approximately 200MW solar farm located approximately 20km south of Narrandera, NSW (referred to as the 'project'). The Project Owner has appointed an EPC contractor to manage the engineering, procurement and construction of the project. The solar farm was approved by the NSW Government in August 2019 and will consist of approximately 667,000 solar panels on approximately 581 hectares of land.

Construction of the project would take approximately 15 months to complete. The project is expected to operate for about 30 years, after which the project would be reconditioned or decommissioned.

1.2 Location of the Project Site

The project site is located in the Narrandera Local Government Area (LGA) approximately 20km south-east of Narrandera (Figure 1-1). The subject land would occupy approximately 802 ha and includes Lots 1 and 2 DP606800, Lot 1 DP386927, Lot 13 DP795880, Lot 7 DP254595 and Lots 13, 22, 26, 28, 30, 43, 53 DP754538. Of this, approximately 550 ha makes up the development footprint (or area of disturbance).

The project site is bounded by the Sturt Highway to the east and Muntz Road to the south. Access to the site is currently maintained via a single entrance located on south eastern site boundary off Muntz Road, roughly 3.4km south west of Sturt Highway. This entrance is proposed to provide access to the site during construction and operation. The location of the site is shown in Figure 1-1 below.

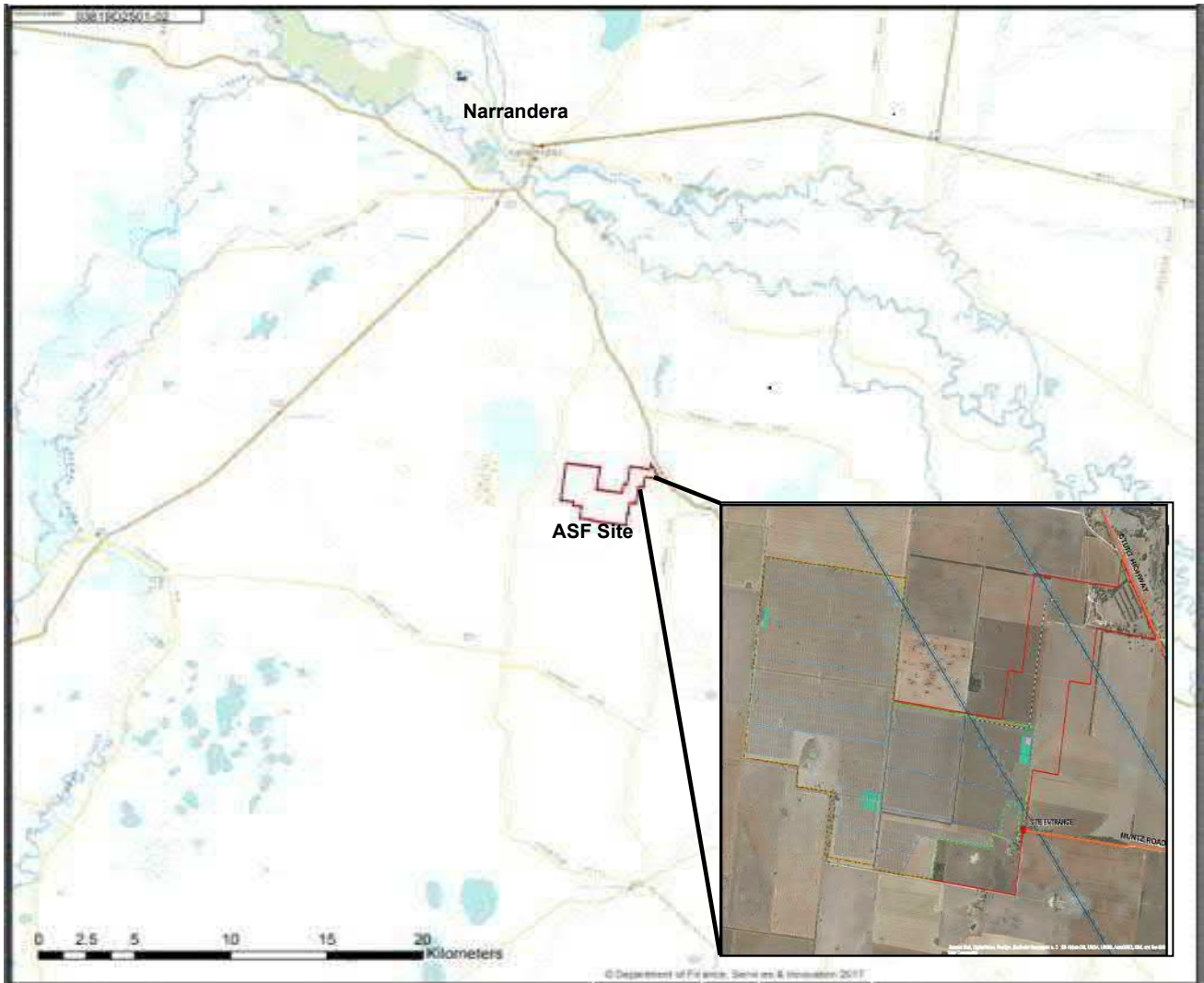


Figure 1-1: Avonlie Solar Farm site location¹

1.3 Strategic Framework

This TMP sits within a suite of management plans and strategy documents required by the conditions of Consent (CoC) which detail the environmental performance criteria and site-specific management measures and procedures to be implemented. The overarching document is the Environmental Management Strategy (EMS) required under the CoC. The TMP sits within the management plans required under the CoC and should be read in conjunction with the EMS, CEMP and other relevant management plans.

¹ RES Australia, Avonlie Solar Farm site location

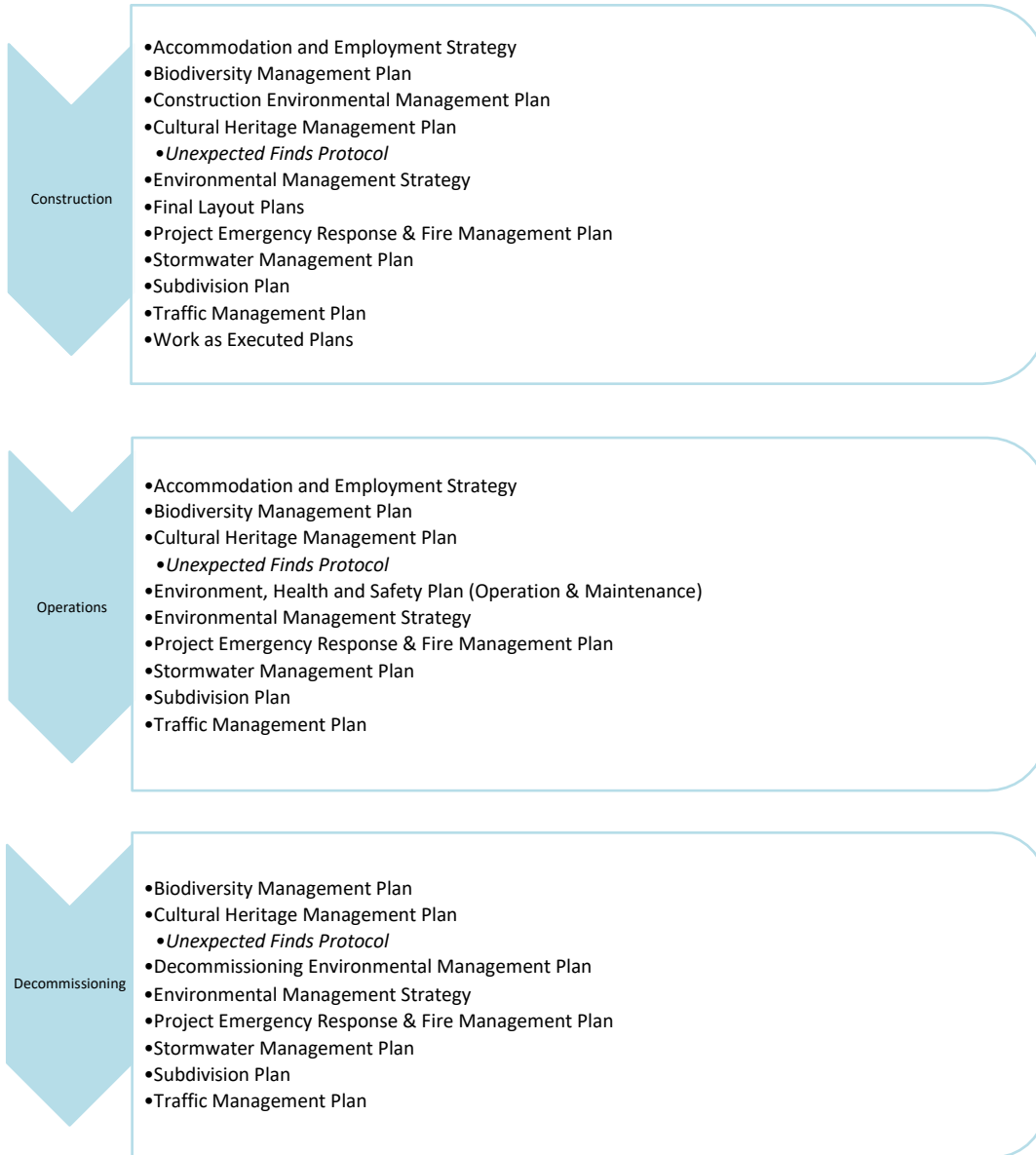


Figure 1.2: EMS Framework

1.4 Statutory Approvals

Legislation, standards, guidelines and other reference documents applicable to this Project, and specific to this TMP, are identified in this section.

1.4.1 Conditions of Consent

Table 1-1 outlines the requirements of the CoC and refers to the relevant section of this TMP where each item has been addressed.

Table 1-1: CoC requirements for TMP

Requirement	Development Phase	TMP Cross reference / How Addressed
Schedule 3 Environmental Conditions – General CoC 2		
<p>Over-Dimensional and Heavy Vehicle Restrictions</p> <p><i>The Applicant must ensure that the:</i></p> <p>(a) <i>Development does not generate more than:</i></p> <ul style="list-style-type: none"> 35 heavy vehicle movements a day during construction, upgrading and decommissioning; 3 over-dimensional vehicle movements during construction, upgrading and decommissioning; and 2 heavy vehicle movements a day during operations; on the public road network. 	All	Section 4 - Potential Impacts
<p>(b) <i>length of any vehicles (excluding over-dimensional vehicles) used for the development does not exceed 19 metres, unless the Secretary agrees otherwise</i></p>	All	Section 4 - Potential Impacts
Schedule 3 Environmental Conditions – General CoC 3		
<p><i>The Applicant must keep accurate records of the number of over-dimensional and heavy vehicles entering or leaving the site each day for the duration of the project.</i></p>	All	Section 5.1.3 - Logistics of Site Deliveries
Schedule 3 Environmental Conditions – General CoC 4		
<p>Access Route</p> <p><i>All vehicles associated with the development must travel to and from the site via the Sturt Highway, Sandigo Road, Muntz Road and the site access point on Muntz Road, as identified in the figure in Appendix 1.</i></p> <p>Note:</p> <ul style="list-style-type: none"> <i>The Applicant is required to obtain relevant permits under the Heavy Vehicle National Law (NSW) for the use of over-dimensional vehicles on the road network.</i> 	All	Section 5.2.2 - Access Routes and Internal Route
Schedule 3 Environmental Conditions – General CoC 5		

Requirement	Development Phase	TMP Cross reference / How Addressed
<p><i>Unless otherwise agreed with the Secretary, prior to commencing construction, the Applicant must:</i></p> <ul style="list-style-type: none"> a) <i>upgrade the intersection of the Sturt Highway and Sandigo Road, including BAR/AUL(s) treatments;</i> b) <i>upgrade the intersection of Sandigo Road and Muntz Road, including BAR treatment with minimum 200 mm compacted gravel (CBR of 30) and 20/14 seal;</i> c) <i>upgrade Sandigo Road from the Sturt Highway to 100 m past Muntz Road, including sealing to a width of 7 m with minimum 200 mm compacted gravel (CBR of 30), 20/14 seal and 1 m gravel shoulders;</i> d) <i>upgrade Muntz Road between Sandigo Road and the site access point, including a gravel surface to a width of 6.2 m with 0.5 m shoulders; and</i> e) <i>design the site access point off Muntz Road (shown in Appendix 1) with a Rural Property Access type treatment to cater for the largest vehicle accessing the site, as identified in the figure in Appendix 5.</i> <p><i>These upgrades must comply with the Austroads Guide to Road Design (as amended by TfNSW supplements), be generally in accordance with the figures in Appendix 5 and be carried out to the satisfaction of the relevant road's authority.</i></p>	<p>All</p>	<p>Section 4.4 - Improvement Works</p>
<p>Schedule 3 Environmental Conditions – General CoC 6</p>		
<p><i>The Applicant must ensure:</i></p> <ul style="list-style-type: none"> a) <i>the internal roads are constructed as all-weather roads;</i> b) <i>there is sufficient parking on site for all vehicles, and no parking occurs on the public road network in the vicinity of the site;</i> c) <i>the capacity of the existing roadside drainage network is not reduced;</i> d) <i>all vehicles are loaded and unloaded on site, and enter and leave the site in a forward direction; and</i> e) <i>development-related vehicles leaving the site are in a clean condition to minimise dirt being tracked onto the sealed public road network.</i> 	<p>Construction</p>	<p>Section 3 - Project Overview</p> <p>Section 5 - Safeguards and Mitigation Measures</p> <p>Section 5.2.2 - Access Routes and Internal</p>
<p>Schedule 3 Environmental Conditions – General CoC 7</p>		

Requirement	Development Phase	TMP Cross reference / How Addressed
<p>Traffic Management Plan</p> <p><i>Prior to commencing the development, the Applicant must prepare a TMP or the development in consultation with TfNSW and Council, and to the satisfaction of the Secretary. This plan must include:</i></p> <p>(a) <i>Details of the transport route to be used for all development-related traffic;</i></p> <p>(b) <i>Provide a protocol for undertaking independent dilapidation surveys to assess the:</i></p> <ul style="list-style-type: none"> • <i>existing condition of Sandigo Road and Muntz Road prior to construction, upgrading or decommissioning activities;</i> • <i>existing condition of Sandigo Road and Muntz Road following construction, upgrading or decommissioning activities;</i> <p>(c) <i>A protocol for the repair of Sandigo Road and Muntz Road if dilapidation surveys identify these roads to be damaged during construction, upgrading or decommissioning works;</i></p> <p>(d) <i>Details of the road upgrade works required by Condition 5 of Schedule 3 to this consent;</i></p> <p>(e) <i>Details of the measures that would be implemented to minimise traffic impacts during construction, upgrading or decommissioning works, including:</i></p> <ul style="list-style-type: none"> • <i>temporary traffic controls, including detours and signage;</i> • <i>notifying the local community about project-related traffic impacts;</i> • <i>procedures for receiving and addressing complaints from the community about development- related traffic;</i> • <i>minimising potential for conflict with school buses and other motorists as far as practicable;</i> • <i>implement measures to minimise dirt tracked onto the public road network from development- related traffic;</i> • <i>details of the employee shuttle bus service and measures to encourage employee use of this service;</i> • <i>scheduling of haulage vehicle movements to minimise convoy length or platoons;</i> • <i>responding to local climate conditions that may affect road safety such as fog, dust and wet weather;</i> • <i>responding to any emergency repair or maintenance requirements; and</i> • <i>a traffic management system for managing over-dimensional vehicles;</i> <p>(f) <i>A driver's code of conduct that addresses:</i></p> <ul style="list-style-type: none"> • <i>travelling speeds;</i> • <i>driver fatigue;</i> • <i>procedures to ensure that drivers adhere to the designated transport routes;</i> • <i>procedures to ensure that drivers implement safe driving practices;</i> <p>(g) <i>A program to ensure drivers working on the development receive suitable training on the code of conduct and any other relevant obligations under the Traffic Management Plan.</i></p> <p><i>Following the Secretary's approval, the Applicant must implement the Traffic Management Plan.</i></p>	<p>Constructi on</p>	<p>Section 5 - Safeguards and Mitigation Measures</p>

1.5 Legislation

In NSW, the *Road Transport Act 2013* (the Act) and the *Roads Act 1993* govern the safe management of road transport and will be complied with and referred to during construction and operation of the project.

In addition to the Act, the following Standards and Guidelines will guide traffic management for the project:

- *Austrroads Guide to Road Design*
- Transport for NSW (TfNSW) *Supplements to Austrroads Guide to Road Design*
- Australian Standard *AS1742- Manual of Uniform Traffic Control Devices*
- TfNSW's *Guide to Traffic Control at Work Sites*
- Relevant Council traffic management specifications/guidelines.

1.6 Consultation

1.6.1 Roads and Maritime Services and Narrandera Shire Council

The CoC (Schedule 3, Condition 7) requires that this TMP be developed in consultation with Roads and Maritime Services and Narrandera Shire Council.

The EPC contractor and Jacobs project team (including Jacobs traffic specialists) met with representatives from the Narrandera Shire Council on 6 August 2019 via teleconference to consult on the draft TMP. Minutes of the meeting are as follows:

- All discussed details of the improvement works proposed as part of the project, including:
 - Upgrade of intersection at Sturt Highway and Sandigo Road
 - Upgrade Sandigo Road between its intersection with the Sturt Highway and Muntz Road
 - Upgrade Muntz Road between its intersection with Sandigo Road to the site access point
- All discussed details of traffic data provided by Council
- Council requested the TMP include an example Drivers Code of Conduct
- Council confirmed no additional expectations for TMP beyond legislative requirements as per the EIS and CoC
- Council recommended EPC contractor co-ordinate with TFNSW in regard to Sturt Highway
- Council confirmed direct communications between Jacobs Traffic specialists and Council is suitable.

Following consultation with Narrandera Shire Council a revised draft TMP was provided to Narrandera Shire Council and Roads and Maritime Services on 30 August 2019 for comment. The key stakeholders and consultation undertaken to date, as well as the comments received on the draft TMP is summarised in Table 1-1. Records of emailed correspondence with key stakeholders is provided Appendix A.

Table 1-1: Stakeholder Engagement

Stakeholder	Comments	Where addressed in Traffic Management Plan
Narrandera Shire Council	No further comments on draft TMP submitted on 30 August 2019	N/A
Roads and Maritime Services	The Drivers Code of Conduct could consider fatigue issues in more detail for both light and heavy vehicle operators. Drivers should take a break every 2 hours (not every 2 years) and stop immediately and rest if feeling drowsy or fatigued. Drivers Should be encouraged to plan their journey with rest breaks, ensure adequate length breaks are taken, avoid lengthy journeys at the end of long shifts, etc.	Section 5.8 Appendix C.
	Will it be necessary to implement any traffic control plans? If so potential impacts on other road users should be included in the TMP.	Section 5.4.
	There does not appear to be much information on procedures for receiving and addressing complaints from the community about development related traffic.	Section 5.11.
	More discussion is required on minimising potential conflict with school buses and other motorists as far as practicable.	Section 4.1 and 4.1.3.
	More discussion is required on responding to local climate conditions that may affect road safety such as fog, dust and wet weather.	Section 5.8.1 and 5.8.2.
	The original conditions of consent from Roads and Maritime Services include construction of Sandigo Road to provide for 2 travel lanes and be sealed for at least 50 metres from its intersection with the Sturt Highway, this could be included in the sedimentation and dust control measures. It may also be necessary to consider using all-weather surface treatments in other areas as part of the strategy to minimise dirt tracked onto the public road network.	TMP based on updated conditions of consent.
	The site layout has not been included with the report. This should provide the location of the access points, the internal road network, vehicle unloading points, staging areas and parking areas.	Appendix E.
Department of Planning, Industry and Environment	Post approval review table and response where additional information is required.	Appendix F

1.7 Quality Assurance and Review

The TMP will be a ‘living’ document that will be progressively revised through the life of the project and will be updated to reflect the various work packages and changing methodologies adopted by the contractor. The TMP will also be updated by the EPC Contractor in response to any incidents or traffic disruptions arising from its work. The EPC contractor will not commence any work until the TMP has been submitted and approved by TfNSW.

Construction activities for the Avonlie Solar Farm that require traffic management will be controlled by this TMP. Based on stakeholder consultation, this TMP will be reviewed and updated accordingly. All revisions to this TMP will be coordinated by the Site Manager or nominated delegate and be authorised by the Project Manager and maintained in the web-based Document Management System used for the project.

2. Existing Environment

2.1 Sturt Highway

Sturt Highway is a regional state highway (HW A20), which generally runs on a northwest – southeast alignment in the vicinity of the site. It has one traffic lane, approximately 3.8 metres wide, in each direction, and the carriageway has a sealed width of approximately 6 metres. The speed limit varies along the route, with a maximum posted speed limit of 80 or 100km/h occurring outside urban areas.

Sturt Highway is of vital importance to communities living in towns within southern NSW. The Sturt Highway would experience traffic from freight and livestock transporters, agricultural machinery, caravaners and holiday makers, emergency services and local traffic. In 2011 the average daily traffic count for the Sturt Highway was 2,472 vehicles per day (vpd) (RMS, 2018).



Figure 2-1: Intersection at Sturt Highway and Sandigo road looking north

2.2 Muntz and Sandigo Road

Sandigo Road is a local road that runs in a north – south alignment, extending from its intersection with the Sturt Highway in the north to where it continues as Orara Street approximately 22km to the south. It has a sealed road width of approximately five metres in the vicinity of the site, with wide unsealed shoulders on both sides of the road, allowing for simultaneous two-way movement.

Muntz Road is also a local road in an east-west alignment. It extends from its intersection with Sandigo Road to its termination approximately 2.8km to the west. It is an unsealed road of approximately seven metres wide toward the eastern end, and four to five metres wide further west. Figure 2-2 shows the intersection at Sandigo Road and Muntz Road looking west. This section of the road would be used by vehicles accessing the project site.



Figure 2-2: Intersection at Sandigo road (sealed) and Muntz Road (unsealed) looking west

2.3 Site Access

The project site is currently accessed from Muntz Road approximately 3.4 km south-west of the Sturt Highway. The proposed access will be designed to accommodate simultaneous entry and exit of the largest vehicles to use the site, a Restricted Access Vehicle (RAV). A single construction and operation access point would be developed off Muntz Road, which runs east to west to the eastern boundary of the site as shown in Figure 2-3.

The internal access roads would involve construction of a network of tracks accessing the solar farm infrastructure for maintenance. The main access and internal tracks would be constructed of engineered fill topped with crushed stone pavement. The crowned driving surface would be nominally 4 metres wide, plus shoulders and any required drainage. The site access road and all internal tracks would be maintained throughout the construction and operation of the solar farm.



Figure 2-3: Approximate location of proposed site entrance at Muntz Road looking west

3. Project Overview

The project involves constructing, operating and eventually decommissioning an approximate 200MW (AC) solar farm to the south of Narrandera in Central Southern NSW. The project would consist of the following components:

- Solar arrays consisting of approximately 667,000 solar panels supported by about 20,000 piles, driven or screwed into the ground to support the solar array's mounting system. The panels to be installed would be Photovoltaic solar arrays ground-mounted on a single-axis tracking system.
- Perimeter security fencing.
- Power conversion units.
- A substation including an elevated busbar, switch room, a lightning protection system, current and voltage transformers and a dual connection into two existing TransGrid overhead transmission lines.
- Two additional overhead transmission lines:
 - 132 kV overhead line (around 0.6km) to connect the substation into an existing TransGrid overhead transmission line to the west of the substation location.
 - 132 kV overhead line (around 1.2km) to connect the substation into the second existing TransGrid overhead transmission lines to the north of the substation location.
- Operations and maintenance buildings with associated car parking.
- Site entrance via access point at Muntz Road.
- Underground and overhead cabling.
- Internal access tracks.
- Emergency lighting.
- Security fencing and CCTV system including infrared (non-visible) lighting.
- Subdivision of the property for the purpose of the substation and continued agricultural purposes.
- Clearing of vegetation.
- Road upgrades.
- Temporary facilities.

The proposed solar arrays and associated components are expected to operate for about 30 years. At the end of its operational life, the project would be decommissioned. Decommissioning would remove all above ground infrastructure and rehabilitation of the site to allow it to be used for purposes such as agriculture.

3.1 Construction Overview

Construction of the project is expected to take around 15 months and would commence in late 2019. The following construction stages are envisioned:

- Site establishment and preparation including:
 - upgrades to the local road network and establishing site access establishment of internal access track network
 - establishing compound area and laydown areas
 - demarcating an easement for the existing transmission line to make workers aware of the easement
 - installing environmental controls
 - bulk earthworks

- Construction of control room, switch room and storage building.
- Construction of the substation and connections.
- Installation of cabling and inverter stations.
- Installation of PV panels, including installing the steel post and framing system.
- Removing temporary construction facilities and rehabilitation of disturbed areas.

4. Potential Impacts

4.1 Construction

Preliminary construction planning has estimated that peak vehicle movements would occur in the first half of 2020. During this period, it is estimated that a total of 55 light vehicles and 35 heavy vehicles would access the site per day. This represents 55 light vehicle movements (55 inbound and 55 outbound) and 35 heavy vehicle movements (35 inbound and 35 outbound) per day.

A breakdown of these peak daily vehicle movements is shown in Table 4.1.

Table 4.1 Vehicle movements generated during the peak construction period

Traffic generator	Peak light vehicle movements per day	Peak heavy vehicle movements per day
Personnel	55	0
Haulage, plant and equipment	0	35
Total	55	35

Clause 2(a) of Schedule 3, Environmental Conditions – General of the Project Approval requires that the development will not generate more than 35 heavy vehicle movements (35 heavy vehicles entering and leaving the site) a day during construction, upgrading or decommissioning; 3 over-dimensional vehicle movements during construction, upgrading and decommissioning and 2 heavy vehicle movements (2 heavy vehicles entering and leaving the site) a day during operations. The EPC contractor will ensure that heavy vehicle movement numbers will comply with Condition 2(a).

The vehicle movements generated by the development are unlikely to impact upon the operation of the Sturt Highway, Muntz Road or Sandigo Road. These roads currently experience low traffic volumes and have abundant spare capacity to accommodate the increase in construction traffic.

To minimise potential impacts to other road users, advanced warning signs on approach to the site along Sturt Highway will be used to inform drivers of increased traffic activities during construction.

4.1.1 Personnel

Personnel will access the site between late 2019 and mid-2021. The number of on-site workers over the construction period is shown below in



Figure 4-1: On-site workforce over construction period (Source: Avonlie Vehicle and Personnel Summary Rev C, SGRE)

The peak period for personnel activity is different to the peak period for vehicle movements. Preliminary construction planning has estimated that peak personnel activity would occur in Month 7 and Month 8. The subcontractor would use a combination of light vehicles and buses to transport personnel to reduce the number of vehicle movements to and from the site. The breakdown of personnel and associated vehicle movements during the peak personnel activity period is shown below in Table 4.2.

Table 4.2: Maximum daily personnel vehicles movement

Vehicle type	Expected capacity	No. personnel	No. vehicles	No. vehicle
Light vehicle (Utility vehicle)	2 people per vehicle	163	82	82
Heavy vehicle (50-person bus)	40 people per vehicle	120	3	3

Approximately 45 per cent of the workforce will be local personnel and approximately 55 per cent will be 'fly-in fly-out' (FIFO) personnel. The FIFO personnel are expected to be housed in Narrandera, located approximately 20km north of the site. Other short-term accommodation options within 100km of the project site include:

- Boree Creek (30km South)
- Coolamon (83km North East)
- Ganmain (68km North East)
- Gogeldire (54km North West)
- Grong Grong (43km North East)
- Leeton (50km North West)
- Lockhart – (47km South)
- Urana – (68km South West).

All workers would transit to the site from accommodation based in Narrandera and the surrounding towns identified above. Hence, personnel vehicle movements are expected to predominantly occur at the beginning and end of standard construction hours to and from the site, respectively. Refer to the Project Accommodation and Employment Strategy (AES) for further details regarding workforce personnel.

4.1.2 Haulage, Plant and Equipment

Haulage deliveries such as gravel, sand, concrete and other materials are forecast to be sourced from the Riverina region. Haulage vehicles will use the Sturt Highway, followed by Sandigo Road and Muntz Road to access the site. This route is discussed further in Section 5.2.2.

The approximate total number of vehicles during construction in relation to haulage is shown below in Table 4.3.

Table 4.3: Haulage traffic vehicles

Item	Total no. of vehicles	Vehicle type
Construction Plant	55	Low Loader
Construction Huts and Containers	42	Low Loader & Semi Trailer
Water	1,233	15KL Rigid Watercraft
Quarry Product	2,350	Truck & Dog Trailer
Concrete	16	Concrete Truck
Removal of Waste	1,523	Flat Bed
Fencing	301	Semi-Trailer

Equipment used during construction would include earth-moving equipment for civil works, diesel generators, trucks and cranes with similar noise outputs to farm machinery such as tractors. These vehicles will use the Sturt Highway, followed by Sandigo Road and Muntz Road to access the site. This route is discussed further in Section 5.2.2.

The approximate total number of traffic vehicles during construction in relation to plant and equipment is shown below in Table 4.4.

Table 4.4: Plant and equipment traffic vehicles

Item	Total number of vehicles
Primary plant delivery	10
Operation and Maintenance Building	10
Trackers	700
Modules	1,190
POSTS	206
Inverters	35
AC cables	5
DC cables	5

The distribution of heavy vehicles delivering materials, plant and equipment over the project is shown below in Figure 4.2.

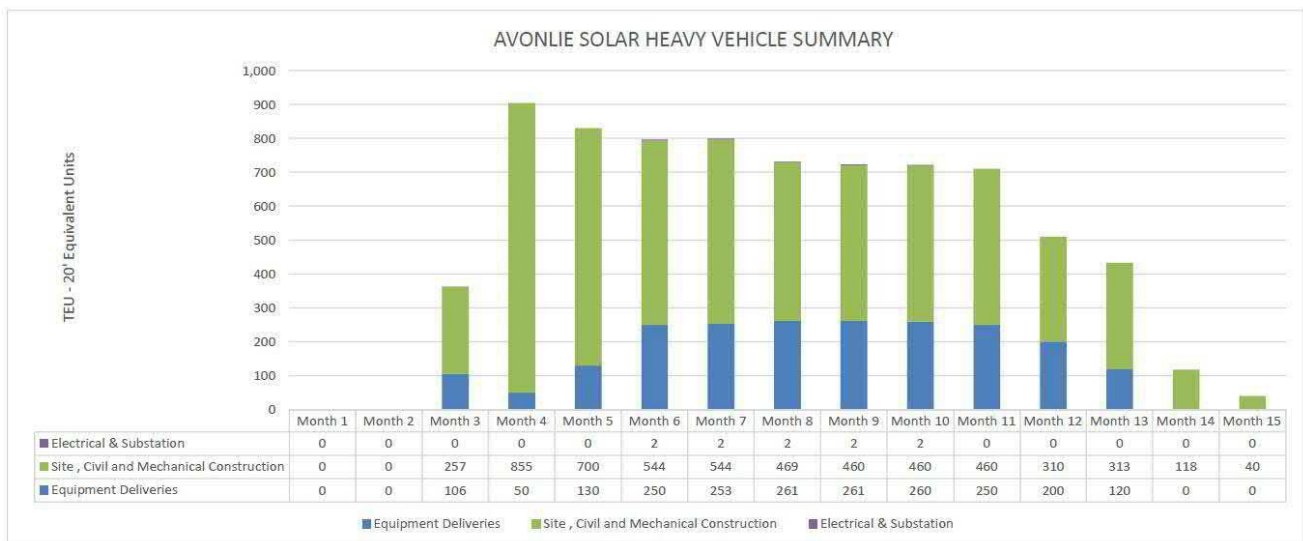


Figure 4-3: Materials, plant and equipment heavy vehicles over construction period

Based on a peak of 905 heavy vehicles in Month 4, this would equate to an average of 35 heavy vehicle movements per day for materials, plant and equipment.

4.1.3 Bus Services

Busabout Wagga operates public and school bus services in Wagga Wagga along part of the road network along the haulage routes discussed in Section 5.2.2. The bus routes, maximum hourly frequency and its interaction with construction vehicles are detailed in Table 4.5.

Table 4.5: Buses

Bus route	Max frequency per hour	Interacting roads
962 Glenfield Park-Wagga Wagga	1	Sturt Highway (Wagga Wagga), east of the site
961 Bourkelands-Wagga Wagga	2	Sturt Highway (Wagga Wagga), east of the site
963 Glenfield Park-Wagga Wagga	2	Sturt Highway (Wagga Wagga), east of the site
960 Lake Albert-Wagga Wagga	2	Sturt Highway (Wagga Wagga), east of the site
S105 To Ashmont, Glenfield & Lloyd (School Bus)	1 (PM only)	Olympic Boulevard (Wagga Wagga), east of the site
S109 Ex Cnr Brunskill Ave & Kurrajong Ave (School Bus)	1 (AM only)	Sturt Highway (Wagga Wagga), east of the site
S118 To Alfredtown & Koorinal (School Bus)	1 (PM only)	Sturt Highway (Wagga Wagga), east of the site

Bus route	Max frequency per hour	Interacting roads
S124 To The Rock - First Stop Sturt Hwy (School Bus)	1 (PM only)	Sturt Highway and Olympic Boulevard (Wagga Wagga), east of the site
S135 Ex Forest Hill Primary School (School Bus)	1 (AM only)	Sturt Highway (Wagga Wagga), east of the site
S147 Ex – Opposite Wagga Wagga High School (School Bus)	1 (AM only)	Sturt Highway (Wagga Wagga), east of the site
S151 To Koorungal & Forest Hill (School Bus)	1 (PM only)	Sturt Highway (Wagga Wagga), east of the site
S171 Ex Tarcutta Motel (School Bus)	1 (AM only)	Sturt Highway (Wagga Wagga), east of the site
S188 To Mangoplah (School Bus)	1 (PM only)	Olympic Boulevard (Wagga Wagga), east of the site
S187 To Lake Albert & Gumly (School Bus)	1 (PM only)	Sturt Highway (Wagga Wagga), east of the site
S190 Ex Cnr Pearson St & Uranquinty St (School Bus)	1 (AM only)	Sturt Highway and Olympic Boulevard (Wagga Wagga), east of the site
S191 To Uranquinty (School Bus)	1 (PM only)	Sturt Highway (Wagga Wagga), east of the site
S194 Ex Cnr Urana Rd & Olympic Hwy (School Bus)	1 (AM only)	Sturt Highway and Olympic Boulevard (Wagga Wagga), east of the site
965 Ex School (School Bus)	1 (PM only)	Sturt Highway (Wagga Wagga), east of the site

There are a number of school buses that service Wagga Wagga and the surrounding area. However, the frequency of these buses is low, with one bus per route either in the morning or evening before and after normal school hours.

Due to the low frequency of buses (both for school and the general public) and the abundant spare capacity along the Sturt Highway and Olympic Boulevard it is unlikely that the additional construction vehicles will significantly affect the operation of local buses.

To minimise potential impacts to buses, heavy vehicle arrival and departure times will be timed to minimise interaction with buses near the site. All heavy vehicle drivers will be made aware of possible bus movements during these periods as part of their induction. Advanced warning signs on approach to the site along Sturt Highway will be used to inform bus operators of increased traffic activities during construction.

4.2 Operation

During operation, onsite personnel would be limited to a small number for maintenance activities. Typically, four vehicles would access the site at any time during the operation and maintenance period.

Maintenance would be undertaken during the following standard working hours:

- Monday to Friday: 7am to 6pm
- Saturday: 8am to 1pm.

Emergency works would be potentially required outside of standard hours; however, these would occur very rarely. During these occurrences, 20 to 30 vehicles may be present at any one time, including heavy vehicles.

4.3 Maximum Vehicle Length

Clause 2(b) of Schedule 3, Environmental Conditions – General of the Project Approval specifies that the length of any vehicles used in the development may not exceed 19 metres unless the Secretary agrees otherwise. The vast majority of heavy vehicles accessing the site will comply with Clause 2(b).

Switch room buildings (approximately 25 metres by 5 metres) will be transported using up to fifteen 35-metre low loaders (Prime Mover Towing 12 Axle Gooseneck Modular Platform). As these vehicles are oversized, an over-dimensional permit will be sought from TfNSW. This permit will undergo a separate approval process and a suitable contractor will be engaged for transportation. As part of the permit, the subcontractor would develop a TMP to manage the oversized and over-dimensional vehicles.

4.4 Improvement Works

To comply with Clause 5 of Schedule 3, Environmental Conditions – General of the Project Approval, the project would include the following upgrade works. The locations of these works and their proposed upgrades are shown below in Figure 4-3. The design and areas of impact for the road surface including the permitted extent of the road formation are provided in Appendix B. The EPC contractor will ensure that the road upgrades do not extend beyond the proposed road formation area shown in Appendix B.

Improvement works to the external road network will comply with the *Austrroads Guide to Road Design* (as amended by TfNSW supplements). Longitudinal and transverse drainage will be incorporated into the improvement works and will comply with the *Austrroads Guide to Road Design* to ensure drainage capacity of the external road network is maintained.

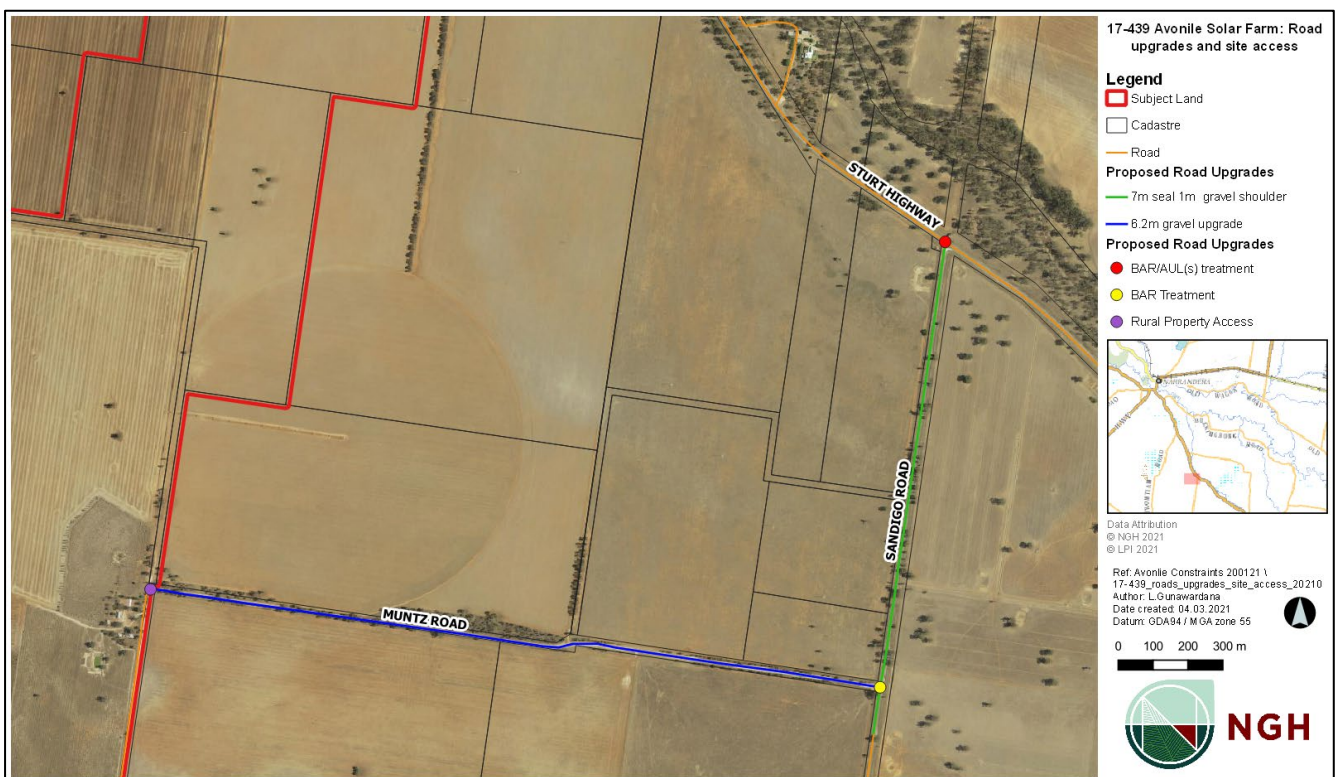


Figure 4-3: Road upgrades and site access (source: Avonlie Solar Farm Development Consent SSD 9031, NSW Government, August 2019)

4.4.1 Sturt Highway and Sandigo Road intersection

Upgrade of the Sturt Highway and Sandigo Road intersection to facilitate the increased number of heavy vehicles required to access the site during construction.

A review of the existing intersection indicates that a basic right-turn lane (BAR) and auxiliary left-turn treatment (AUL) will be required. This work will include widening of the existing shoulder to provide additional pavement to ensure that traffic is able to pass to the left of a stationary vehicle that is waiting to turn into Muntz Road. The extent of the widening would be confirmed during detailed design to accommodate the largest heavy vehicle accessing the site and would comply with *Section 7.5 of Guide to Road Design – Part 4A: Unsignalised and signalised intersections*. Necessary warning and regulatory signage would also be confirmed during detailed design.

4.4.2 Muntz Road

Upgrade of Muntz Road between Sandigo Road and the site entry to be suitable for two-way (heavy vehicle) construction traffic, including widening of the road to a width of 6.2 metres with a gravel seal, with 0.5 metres gravel shoulders.

4.4.3 Sandigo Road

Upgrade Sandigo Road from the Sturt Highway to 100 m past Muntz Road, to be suitable for two-way (heavy vehicle) construction traffic, including widening and sealing of the road to sealing to a width of 7 m with minimum 200 mm compacted gravel (CBR of 30), 20/14 seal and 1 m gravel shoulders.

4.4.4 Muntz Road and site access point intersection

Construction and design of Muntz Road and the site access point intersection with a Rural Property Access type treatment to cater for the largest vehicle expected to access the site, including BAR treatments with minimum 200 mm compacted gravel (CBR of 30) and 20/14 seal.

The EPC contractor is currently undertaking consultation with Narrandera Shire Council and TFNSW to ensure that the design of all upgrade works is in line with their requirements.

As part of the project, the upgrade of Muntz Road, Sandigo Road and the Sturt Highway/Sandigo Road intersection would provide benefits to the local community by improving conditions and safety on these sections of road.

4.4.5 Muntz Road and Sandigo Road intersection upgrades

To allow for heavy vehicles to turn safely from Sandigo Road into Muntz Road, the Muntz and Sandigo Roads intersection will be upgraded and include a BAR treatment with a minimum 200 mm compacted gravel (CBR of 30) and 20/14 seal. This upgrade will occur prior to commencing construction of the project.

5. Safeguards and Mitigation Measures

Safeguards and mitigation measures from the Environmental Impact Statement (EIS) as amended by the Response to Submissions Report (RTS) are provided in Table 5.1.

These safeguards and mitigation measures would be implemented to minimise potential traffic and access impacts. The EPC contractor will further appoint a 'Freight Forwarder' that will be responsible for the overall execution and coordination of vehicle movements, noting execution of the TMP requirements during construction will be the responsibility of all on site.

Table 5.1: Revised safeguards and mitigation measures

Safeguards and mitigation measures	Timing	Section of report where addressed
<p>A Haulage Plan would be developed in consultation with the relevant road authority (Council and TFNSW) and implemented during construction and decommissioning, including but not limited to:</p> <ul style="list-style-type: none"> • Assessment of road routes to minimise impacts on transport infrastructure. • Scheduling of deliveries of major components to minimise safety risks (on other local traffic). • Traffic controls (signage and speed restrictions etc.) 	<p>Construction Operation Decommissioning</p>	<p>Section 5.1.2 – Haulage and Plant Vehicles</p> <p>Section 5.2.2 – Access Routes and Internal Route</p> <p>Section 5.7 – Road Signage</p>
<p>A Traffic Management Plan would be developed in consultation with the relevant road authority (Council and RMS) and implemented during construction and decommissioning. The plan would include, but not be limited to:</p> <ul style="list-style-type: none"> • Prior to construction, a pre-conditioning survey of the relevant sections of the existing road network, to be undertaken by an appropriately qualified person in consultation with Council. • Assessment of road condition prior to construction on all local roads that would be utilised. • A program for monitoring road condition, to repair damage exacerbated by the construction and decommissioning traffic. • Finalised detail of any required road-specific, construction staff access and public safety mitigation measures (including but not limited to project generated traffic, driver fatigue and behaviour, adverse climatic conditions, dust, public traffic including school bus activity, glint and glare etc.). • The designated routes and adherence of construction traffic to the site. • Carpooling/shuttle bus arrangements to minimise vehicle numbers during construction. • Scheduling of deliveries and construction activities. 	<p>Construction Decommissioning</p>	<p>Section 5 – Safeguards and Mitigation Measures</p> <p>Section 5.8 – Driver Code of Conduct and Site Induction</p> <p>Appendix A – Consultation with Roads and Maritime Services and Council</p>

Safeguards and mitigation measures	Timing	Section of report where addressed
<ul style="list-style-type: none"> Community consultation regarding traffic impacts for nearby residents. Consideration of cumulative impacts. Traffic controls (speed limits, signage, etc.). Procedure to monitor traffic impacts and adapt controls (where required) to reduce the impacts. Providing a contact phone number to enable any issues or concerns to be rapidly identified and addressed through appropriate procedures. Water to be used on unsealed roads to minimise dust generation through increased traffic use. Following construction, a post condition survey of the relevant sections of the existing road network to be undertaken to ensure it is of similar condition to that prior to construction. Any damage will be repaired at cost to the proponent. A driver code of conduct to address hazards. 		
<p>The proponent would repair any damage resulting from project traffic (except that resulting from normal wear and tear) as required at the proponent's cost.</p>	<p>Construction Decommissioning</p>	<p>Section 5.5 – Road Conditions</p>
<p>A flood response plan to be prepared and implemented that will include an access contingency plan in times of flooding when the Sturt Highway could be closed.</p>	<p>Construction Operation Decommissioning</p>	<p>Section 5.2.4 – Flood Response Plan</p>

5.1 Management and Coordination of Vehicles

Standard construction working hours are expected to be as follows, or otherwise agreed with the necessary development approvals:

- Monday to Friday: 7am to 6pm.
- Saturday: 8am to 1pm.
- Sundays and NSW public holidays: no work.

Approval for activities outside the above specified hours will be as per Conditions.

The remainder of this section outlines the management and coordination of vehicles to minimise vehicle movements and reduce potential impacts.

Three over-dimensional vehicle movements are permitted for the project during construction, upgrading and decommissioning. The traffic management system includes:

- Over-dimensional vehicle movements only permitted with an Oversize / Overmass (OSOM) permit to operate on the NSW road network, sought through the National Heavy Vehicle Regulator.
- Travel permitted during daylight hours only.
- The over-dimensional movement will be scheduled at least the day prior to delivery.
- All over-dimensional vehicles will be restricted to the Hume Highway, Sturt Highway, Sandigo Road and Muntz Road in NSW or Hume Highway, Olympic Highway, Sturt Highway, Sandigo Road and Muntz Road from Victoria.
- Pilot and escort vehicles will be used during over-dimensional vehicle movements.

5.1.1 Personnel Vehicles and Parking Provision

A temporary construction compound will be established on site that would include a site office, amenities and parking for personnel vehicles.

As discussed in Section 4.1.1, 82 light vehicles are expected to access the site during the peak construction period. The proposed laydown area during construction will have sufficient parking provisions for these light vehicles only and no parking will occur on the public road network surrounding the site during construction.

Buses will be used by the EPC contractor to transport the majority of workers from the local area. To encourage use of these buses, the majority of site personnel will not be supplied with light vehicles to travel to and from the site. In addition, parking at site will be limited and will only be provided to a small portion of the workforce (as described above).

Pick-up locations and relevant consultation with Narrandera Shire Council will be undertaken when the subcontractors are confirmed.

5.1.2 Haulage and Plant Vehicles

Several designated laydown areas will be developed on site for the delivery and storage of materials. All vehicles will be loaded and unloaded on site and will enter and leave in a forward direction. The location of the laydown areas could potentially change throughout the construction period as installation of the arrays progresses.

TfNSW and Narrandera Shire Council would be consulted to determine whether measures such as warning signs on the Sturt Highway should be provided to minimise road safety risks. This is discussed further in Section 5.3.

5.1.3 Logistics of Site Deliveries

The EPC contractor would employ a full-time logistics person who will be responsible for liaising directly with the EPC contractor's Site Manager (Construction) for expeditors on a daily basis in order to closely monitor the delivery schedules. Examples of the milestones that would be monitored and level of communication include:

- Keeping records of the number of heavy vehicles accessing the site each day (as required in Clause 3 of Schedule 3, Environmental Conditions – General of the Project Approval)
- Ensuring that the maximum number of heavy vehicle movements per day is adhered to
- Schedule of next day and 2-day forecast of all deliveries, including inventory and timing
- Expected ship date
- Number of containers from each supplier
- Transit time
- Estimated time of arrival
- Online access available for up to date reporting of each shipment
- Daily reports sent to site
- Maintain accurate records of the number of over-dimensional vehicles entering or leaving the site each day for the duration of the project
- Minimum daily communication with transport company.

The EPC contractor's logistics manager will coordinate trucks to arrive at the site at a specific time of day in order to satisfy community and safety concerns, including the use of police escorts when necessary, although unlikely. Haulage of materials and equipment to the site will be scheduled to arrive and depart from the site at different times coinciding with the construction program. Vehicles will be scheduled to avoid conflict with local traffic and rail services. Furthermore, the varying origins of the haulage movements and limited number of deliveries to site each day will limit the potential for haulage vehicles to form convoys or platoons.

5.2 Operating Conditions

5.2.1 Access Arrangements

There is currently no formal site access available from Muntz Road. However, the project includes the construction of a new site access point on Muntz Road which would be the only access for vehicles during construction and operation. The location of the access point will be designed to accommodate the swept paths of the largest heavy vehicle anticipated to access the site. Muntz Road would also be allowed for two-way heavy vehicle access.

The project is unlikely to impact access to adjacent properties. During the upgrade of Muntz Road and Sandigo Road, where works are required near property accesses, potentially affected property owners would be consulted to discuss their access requirements and to determine whether additional management measures would be needed to maintain access.

During the upgrade of Sandigo Road and Sturt Highway intersection, temporary partial closures would be required to enable the road to be upgraded. Works would be staged to avoid the need to fully close the road for any extended period of time. If closures are required, consultation would be undertaken with affected landowners to notify them of the proposed closures and to organise any alternate access.

5.2.2 Access Routes and Internal Route

Clause 4 of Schedule 3, Environmental Conditions – General of the Project Approval specifies that all vehicular traffic associated with the development must travel to and from the project site via Sturt Highway, Sandigo Road, Muntz Road and the site access point on Muntz Road.

All heavy vehicles will be required to travel via heavy vehicle-approved roads. To comply with Clause 4, all vehicular traffic will enter and exit the site via Sturt Highway, Sandigo Road, Muntz Road and the site access point on Muntz Road.

Haulage routes will be finalised when the subcontractors are confirmed. Example routes from Melbourne, Sydney, Newcastle, Wollongong, as well as the proposed quarry routes from the surrounding region are shown below in Figure 5-1 to Figure 5-4.

Internal roads will be constructed as all-weather roads. All vehicles will enter and exit the site in a forward direction.

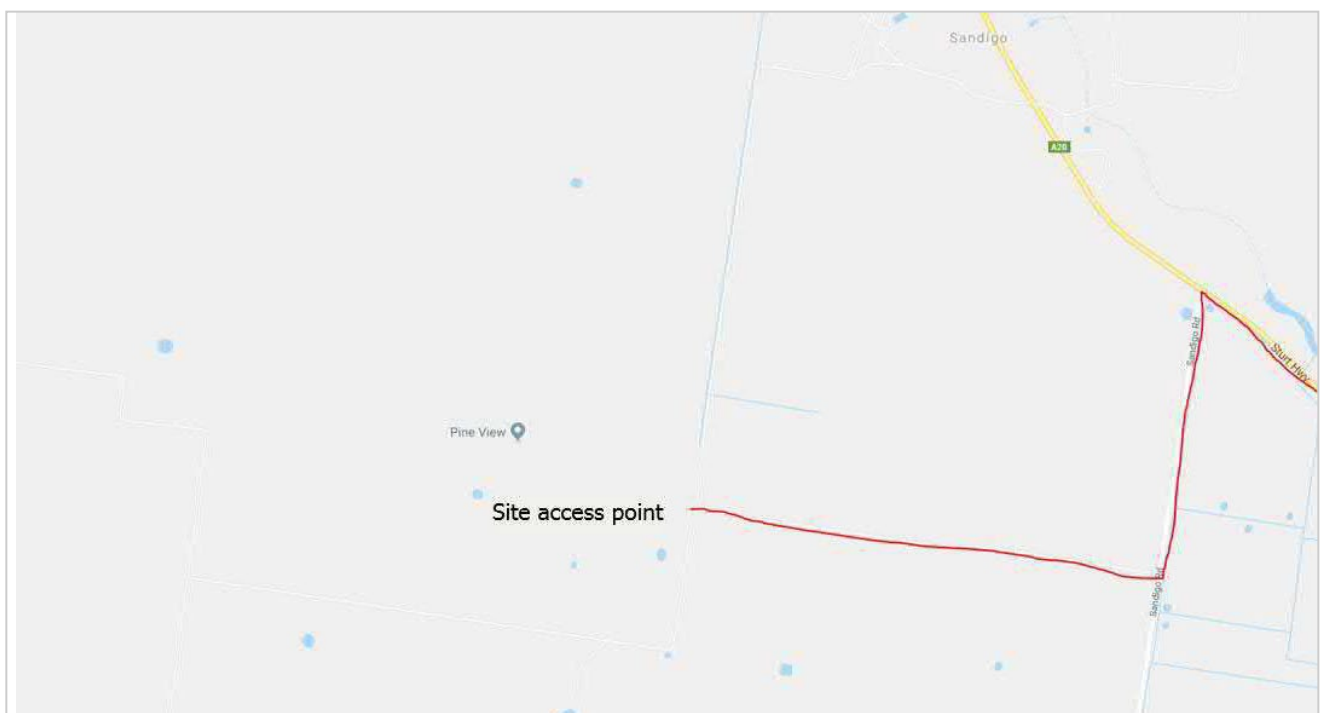


Figure 5-1: Traffic routes for all vehicles to site access point

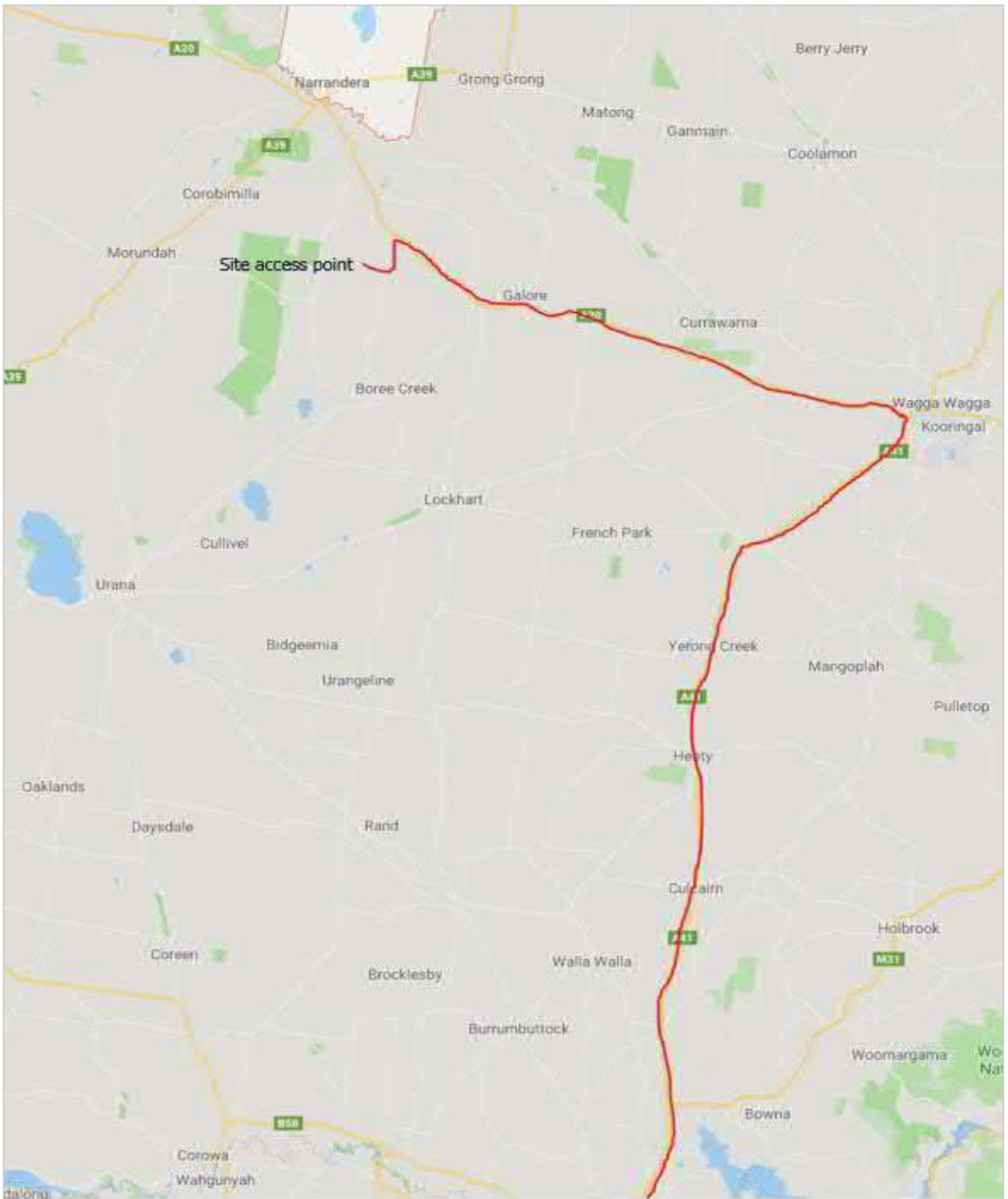


Figure 5-2: Traffic routes for all vehicles from Melbourne

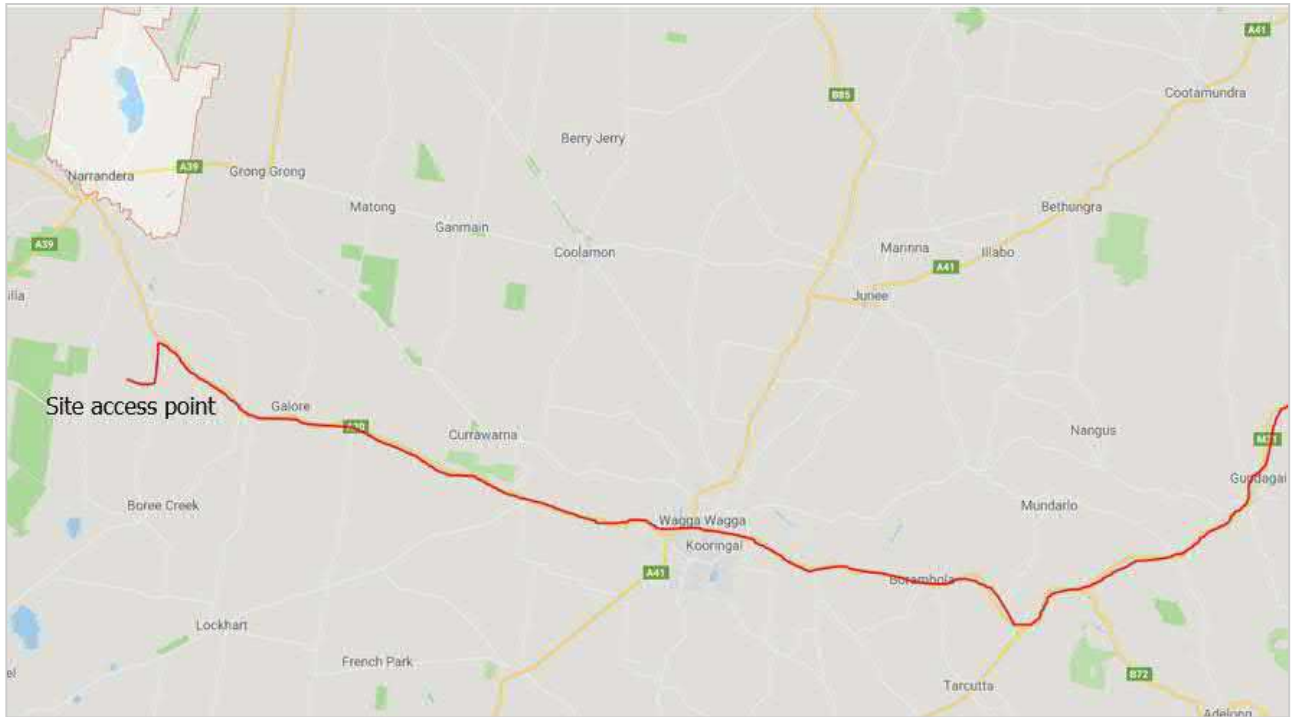


Figure 5-3: Traffic routes for all vehicles from Sydney, Wollongong and Newcastle

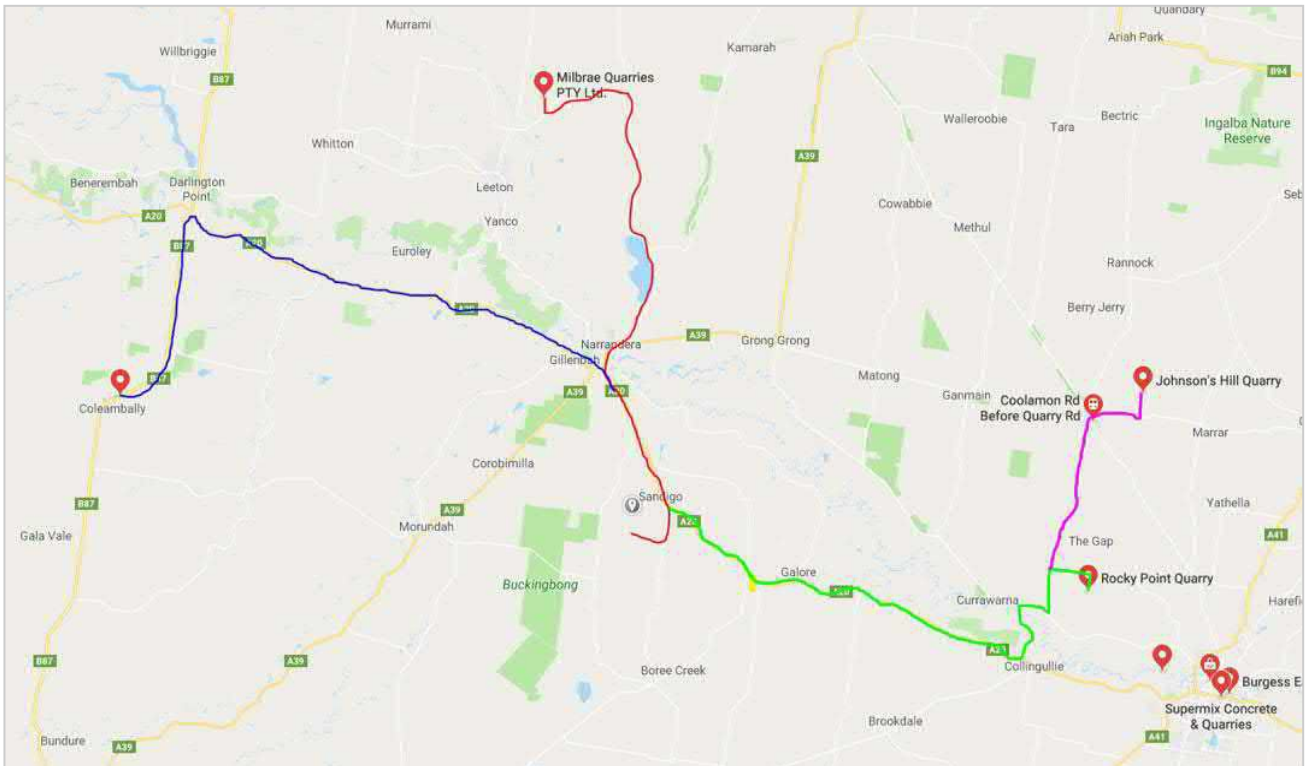


Figure 5-4: Traffic routes for all vehicles for quarry delivery

5.2.3 Soil Management

Progressive Erosion and Settlement Controls Plans will be prepared prior to the commencement of construction and will be regularly reviewed and updated during the period of the works. The EPC contractor will establish a site access that seeks to prevent the egress of dirt by vehicles as they leave the site, including monitoring of vehicles with a rumble grid to be installed at the site access point. Access to the site will be via Sandigo Road, which will be sealed as part of the improvement works outlined in Section 4.4. Any residual risk is to be managed through additional removal procedures, with the wheels, wheel arches and underbody of all plant and support vehicles carrying excess dirt and soil to be thoroughly cleaned prior to exiting the site.

5.2.4 Flood Response Plan

In times of flooding when the Sturt Highway could be closed, the alternate route for vehicles exiting the site, which will be documented in the Site Emergency Response Plan (ERP), will be to the east along Muntz Road to Sandigo Road, west along Greenvale Road via Boundary Road and Strontian Road, and Federation Way (as shown in Figure 5-5).

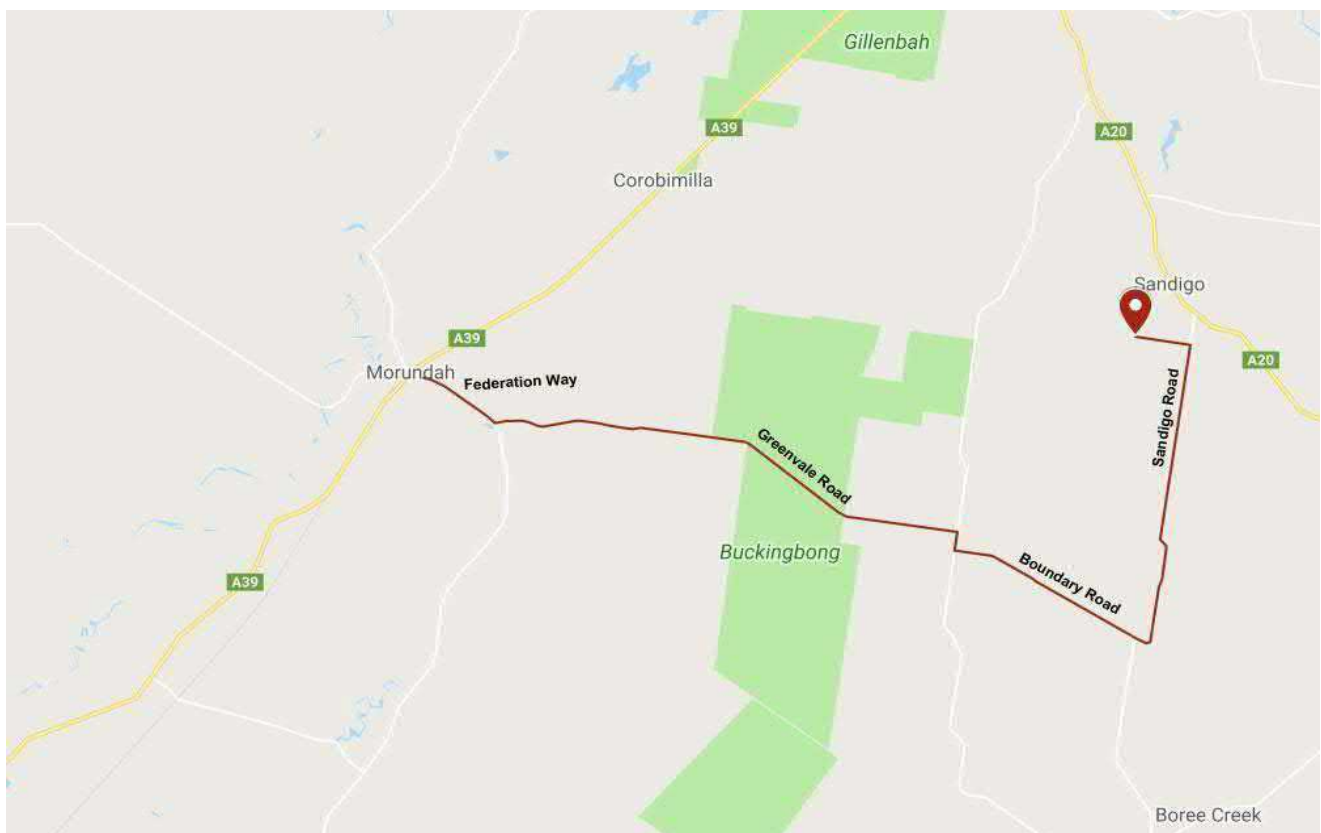


Figure 5-5: Alternate traffic routes for all vehicles during flooding

5.3 Road Safety

As outlined in Section 4.1, there would be an increase in the number of heavy vehicles on the network during construction of the project. These vehicles would access the site via the Sandigo Road and Sturt Highway intersection, which will be upgraded prior to construction of the project, which will be designed to provide safe access.

The increase in heavy vehicles exiting the site via this intersection would potentially pose a risk as there are no acceleration lanes along the highway. However, sight distances at the intersection are in excess of the minimum

requirement for approaching vehicles to slow down if a slow-moving truck turned onto the highway. 'Trucks Turning' warning signs will be installed on both approaches to the intersection of Sandigo Road and Sturt Highway to advise road users of the increased activity (refer to Section 5.7 for further details).

5.4 Improvement Works

The intersection of Sturt Highway and Sandigo Road will undergo improvement works to minimise the impact of construction vehicles entering and exiting the site on other road users via a basic right-turn and auxiliary left-turn treatment. During construction of the intersection upgrade works, traffic control will be in accordance with Council requirements, including a Traffic Control Plan (TCP). The intersection upgrade works would be constructed prior to construction on the site to minimise the interaction between construction related vehicles and other road users.

5.4.1 Traffic Controls

It is the responsibility of all personnel on site to ensure that roadworks are carried out in a safe and efficient manner. The EPC contractor will ensure that site specific TCPs for all work which involves any disruption whatsoever to the transport network will be developed by suitable qualified and accredited personnel. All TCPs for short term works will be designed in accordance with the requirements stipulated within Australian Standard 1742.3 and the TfNSW's "*Traffic Control at Worksites Manual*".

The TCP will include all signage, barriers, traffic controllers, traffic diversions and lighting required, as well as actions required to mitigate any potential impacts to other road users. Where work requirements necessitate temporary speed limits, the EPC contractor will review and seek approval before the temporary speed limit is intended to be implemented. The EPC contractor will then arrange for the supply and erection of appropriate temporary speed zoning signs. Following erection of the signs, arrangements will be made to cover the signs when the speed zones are not in use.

The traffic control techniques likely to be employed could include:

- Temporary lane closures or detours
- Raised pavement markers and clear line marking
- Channelisation using PSB's or lane delineators
- Directional, information and regulatory sign posting.

A program for the regular inspection of traffic infrastructure work will be implemented by the Site Manager. This will ensure the controls in place continue to provide safe traffic management for both the travelling public and the EPC contractor's employees or subcontractors. All controls will comply with current TfNSW Guidelines.

5.5 Road Condition

The increase in vehicle movements on the surrounding road network has the potential to impact the condition of these roads. Sandigo Road and Muntz Road will be upgraded prior to construction to accommodate the relatively minor increase in traffic resulting from the project.

5.5.1 Dilapidation Surveys

Prior to commencement of construction, upgrading and decommissioning works of the solar farm, an independent pre-construction dilapidation survey would be undertaken by an appropriately qualified person to document the existing condition of the following roads along the haulage routes:

- Sandigo Road between Sturt Highway and Muntz Road
- Muntz Road between Sandigo Road and the site access.

The surveys will be prepared for at least the following intervals:

- Prior to the commencement of construction
- Within 3 months following the completion of construction
- Within one month prior to the commencement of decommissioning
- Within 3 months following completion of decommissioning
- Prior to any road upgrade works

The surveys will involve a visual inspection of any existing damage on the above roads. The inspection would focus on structural and drainage aspects, such as potholes, visible rutting at wheel paths, cracking and surface deformation or depression. Recent maintenance activity, photos and location referencing of existing damage will be converted into a pre-construction dilapidation report.

Dilapidation surveys will be undertaken to determine whether construction, operation and decommissioning of the project has caused sections of these roads to deteriorate. A dilapidation report will follow each dilapidation survey and be provided to the asset owner.

5.5.2 Repair of Roads

Narrandera Shire Council will be consulted with to agree on the damage as a result of construction activity, if any, and what repairs are required to Muntz and Sandigo Roads. Relevant fees will be jointly estimated. Council would then scope and arrange for the required repairs to be paid for by the EPC contractor.

5.5.3 Emergency Road Repair

There will be on-site resources to respond to emergency road repairs during construction and decommissioning. On receipt of notification of road damage, the EPC contractor will dispatch resources to repair the road as required.

Traffic impacts during construction, operation and decommissioning will be minimised by the EPC contractor / Project Owner. Following the event of a project-related breakdown, the following procedure would be implemented:

- Temporary isolation of the broken plant/vehicle so it will not impede upon other activities occurring within the surrounding area or other road users.
- Back-up plant/vehicles to temporarily replace the broken plant/vehicle.
- Contact details of a recovery operator if a vehicle is required to be moved off the road.
- Obtain replacement parts and equipment.
- Emergency contacts for who will be conducting the repairs.
- All operators and drivers will be trained regarding their responsibilities and procedures for handling emergency repairs.

5.6 Speed Limits

All personnel driving construction vehicles to and from the site would undergo a project induction which would include information on the management of traffic related issues while travelling to and from the site. The induction would include the following points:

- Consideration and courtesy when driving on public roads
- Speed limits must be strictly adhered to.

The internal speed limit within the site during construction will be 40 km/h for all vehicles. Where vehicles are required to pass work crews or drive through active work areas, the speed limit will be reduced to 25 km/h. Signage and other controls would be implemented to ensure that any driver operating a vehicle within the site would do so in a safe manner.

Speed limits on Sturt Highway, Sandigo Road and Muntz Road will be reduced during construction. However, low traffic volumes are currently experienced on these roads, as evident in the 2014 Average Annual Daily Traffic

(AADT) data received from Narrandera Shire Council. In addition, adequate sight distances are provided for inbound and outbound vehicles at the Sturt Highway and Sandigo Road intersection.

5.7 Road Signage

As outlined in AS1742.3 *Manual of uniform traffic control devices*, appropriate road signage will be used to warn traffic of potential heavy vehicle turning movements into and out of the site at Sandigo Road and Muntz Road. As specified in Table 7.3.3 of the Avonlie Solar Farm – EIS, signage will also be used on Sturt Highway to alert drivers of trucks entering and exiting Sandigo Road.

W5-22, W8-207(L) and W8-207(R) posted signs will be displayed at a distance of 150 to 350 metres from the site access point and intersections to provide approaching traffic with sufficient warning. Signs will be removed once construction works are complete.

TfNSW will be consulted, and the necessary approvals sought prior to the inception of road signage. The installation of signs will be conducted in accordance with Australian standards.

Table 5.2 shows the proposed warning signs to be located on these roads.

Table 5.2: Proposed warning signs

Sign	Display
W5-22	
W8-207(L)	
W8-207(R)	

5.8 Driver Code of Conduct and Site Induction

5.8.1 Heavy Vehicle Driver Code of Conduct

The heavy vehicle driver code of conduct is regulated by the NSW Code of Practice for Long Haul Drivers. The EPC contractor would schedule the acceptance of freight. This may necessitate the reliance on freight companies to manage their drivers within legislative requirements, log book entries, verification of licenses etc.

A Heavy Vehicle Driver Code of Conduct will be in place to address the following:

- Travelling speeds
- Driver fatigue
- Adherence to designated transport routes
- Safe driving practices
- Driving to conditions during fog, dust and wet weather conditions
- Other items e.g. mobile phone usage, driving under influence.

All heavy vehicle drivers to the site will be given specific guidance on how to manage fatigue and the need to drive in accordance with the prevailing conditions as part of the site induction process. Other risk factors

associated with travelling to and from site which are specific to the local environment will also form part of the induction. Risk factors such as flooding and the alternate routes to be used in the event of flooding will also be covered, as per Section 5.2.4.

Examples of fatigue management schemes recommended for heavy vehicle operators includes:

- Taking a break every two hours and to stopping immediately to rest if feeling drowsy or fatigued
- Planning their journey with rest breaks to ensure adequate breaks from driving are taken.
- Avoiding lengthy journeys at the end of a long shift.

An example Heavy Vehicle Driver Code of Conduct is attached in Appendix C. Additional driver behavioural expectations and a site delivery process will include:

- Engagement of local drivers to ensure familiarity with the roads
- Planned layover areas defined in advance by Project Management
- Directions of approach to site that are documented and specified in advance to the freight companies
- Arrival at pre-determined and approved time with logistics
- A driver site induction, including security gate process
- Logistics to escort all delivery vehicles to laydown areas
- Consideration and courtesy when driving on public roads
- Speed limits to be strictly adhered to
- Drivers to adhere to any directions given by site personnel
- Drivers to adhere to maximum continuous driving times and rest breaks.

5.8.2 Light Vehicle Driver Code of Conduct

As discussed in Section 4.1, light vehicles will access the site during the construction period. A light vehicle driver code of conduct will be in place, outlining arrangements for light vehicles and will include:

- Safe driving practices
- Fit to drive procedures and driving under the influence
- Fatigue management
- Driving to conditions during fog, dust and wet weather conditions

All workers and delivery drivers to the site will be given specific guidance on how to manage fatigue and the need to drive in accordance with the prevailing conditions as part of the site induction process. Other risk factors associated with travelling to and from site which are specific to the local environment will also form part of the induction. Risk factors such as flooding and the alternate routes to be used in the event of flooding will also be covered, as per Section 5.2.4.

Examples of fatigue management schemes recommended for light vehicle operators includes:

- Taking a break every two hours and to stopping immediately to rest if feeling drowsy or fatigued
- Planning their journey with rest breaks to ensure adequate breaks from driving are taken
- Avoiding lengthy journeys at the end of a long shift.

An example Light Vehicle Driver Code of Conduct is attached in Appendix D for usage of vehicles supplied by the EPC contractor.

5.8.3 Site Induction

For subcontractors, inductions will take place prior to arrival. For independent operators and one-off personnel, induction will take place on arrival at the site. Alternatively, independent personnel may be escorted by an inducted employee.

An example of a typical site induction for delivery drivers is summarised below.

Requirements Prior to Accessing Site:

Prior to accessing site, the non-inducted delivery driver's site contact will complete the following with the driver:

- Site Visitor's induction
- Pre-task hazard assessment (e.g. JHA) and implementation of controls
- Communication of the intended travel route on site, speed limits and road rules, site contact/escort name and contact number, and any work area specific hazards.

General Requirements

A non-inducted delivery driver will be escorted at all times when travelling to and from the site access point to any pickup or drop off point.

The completed visitor induction and attached pre-task hazard assessment and access/escort details will be recorded and retained on the project site.

A load/unload plan and pre-task hazard assessment (e.g. JHA) will be completed for loading and unloading tasks on site and relevant controls implemented prior to the commencement of these tasks.

All vehicles will enter and leave the site in a forward direction. All vehicles will be loaded and unloaded on site. On arrival at the pick-up/drop off point, non-inducted delivery drivers will exit the vehicle and remain in a pre-defined safe area whilst loading and unloading of freight is occurring, unless they are performing one of the tasks as outlined below.

Non-inducted Transport Drivers will not perform any tasks other than:

- Driving to the designated drop-off or pick-up location
- Indicating the load distribution to the project personnel
- Operating vehicle and vehicle mounted loads for which they are competent, including discharge of material if required.
- Performing release of load restraints on incoming loads
- Performing restraint of outgoing loads
- Completing any required paperwork.

Note: This process does not apply to: Persons delivering or collecting cash, mail or packages and/or conducting similar brief transactions

5.9 Restricted Access Vehicles

Restricted Access Vehicles (RAV) may need to deliver construction equipment to site. Delivery of equipment to site using an RAV would need to consider the following:

- Appropriate permits being issued by TfNSW and the NSW Police.
- Use of escort vehicles as required.
- Provision of traffic controllers as required.
- Restriction of RAV deliveries to daylight hours (outside of school bus hours)

The delivery of large equipment would be coordinated with any known vehicular activity on Sturt Highway or in the townships of Wagga Wagga and Narrandera.

5.10 Safety of Livestock

The site access road and site would be fenced, as necessary, with livestock proof fencing prior to construction commencing. No interaction between construction traffic and livestock is expected.

5.11 Community and Stakeholder Consultation

Proactive measures to liaise, consult and communicate with the community, TfNSW, Narrandera Shire Council and any other relevant stakeholders will be implemented during the construction phase. This is to ensure timely, accurate and comprehensive traffic information to all existing and potential roads users is conveyed, and to accommodate any community and key stakeholder feedback regarding road safety and traffic management issues. Community and stakeholders will also be consulted prior to the improvement works along Muntz Road, Sandigo Road and the intersection of Sandigo Road and Sturt Highway.

The strategies for community consultation include:

- Pre-construction: Community engagement day where relevant contact details will be shared, and the community will be informed of impacts of construction activities, including:
 - Planned start and end date of investigation or construction activities.
 - Timing of construction activities.
 - Planned routes for construction vehicles.
 - Planned duration and timing of any road or lane closure, if required.
- During construction: A 24-hour phone number will be displayed on the site entrance sign. The phone number will facilitate a line of communication between the community and any project-related matters

5.11.1 Complaints Response

Complaints relevant to this TMP will be facilitated, managed and responded to by the Project Owner in accordance with the EMS. A summary of the Project Owner's approach to any complaints is set out below.

The Project Owner is committed to dealing with complaints in a reasonable timeframe and commits to ensuring that people who make complaints will be:

- Provided with information about the complaint handling process;
- Provided with acceptable ways to make complaints;
- Listened to, treated with respect and actively involved in the complaint process; and
- Provided with reasons for and decisions and any options for redress or review.

The Project Owner will take all reasonable steps to ensure people making complaints are not adversely affected because a complaint has been made by them or on their behalf. The Project Owner will ensure that information about how and where complaints may be made is well publicised.

The Project Owner will acknowledge the receipt of any complaint within 3 days from receiving the complaint and will ensure that the person handling the complaint is different from any project person whose conduct or service is being complained about. The Project Owner will resolve complaints promptly and with as little formality as possible. All outcomes will be properly implemented, monitored and reported to the complaint handling manager and/or senior management.

5.12 Refer to Section 5.2 of the EMS for further details regarding complaint response procedures and statutory Responsibilities

The EIS prepared in relation to the consent application for the proposed solar facility identified the relevant statutory framework within which the application was considered. Of relevance to the preparation of this TMP are the following statutory documents.

5.12.1 Roads Act 1993

In accordance with *Roads Act 1993* and Revised safeguards and mitigation Measure TT3, the final detailed design of the upgrade of Muntz Road and Sandigo Road will be developed in consultation with Narrandera Shire Council and TfNSW as required. State Environmental Planning Policy (Infrastructure) 2007.

Clause 104 of the *State Environmental Planning Policy (Infrastructure) 2007* (ISEPP) relates to traffic generating developments, which require further referral to TfNSW. The EIS concludes, on the basis that the development does not result in 200 or more motor vehicles per day, that Clause 104 did not apply.

Section 4 of this TMP provides an updated summary of the predicted traffic volumes relating to the development. As the maximum number of vehicles accessing the site is less than 200 it follows that the triggers identified in Clause 104 and Schedule 3 to the ISEPP for traffic generating developments do not apply to the project.

There is therefore no obligation to refer the matter to TfNSW in the context of traffic generating developments.

5.12.2 NSW Road Noise Policy

The EIS contains an assessment of the proposed development by reference to the NSW Road Noise Policy (RNP). This assessment concluded that noise impacts during construction, operation and decommissioning would be within the accepted noise criterion. Noise exceedances would not occur. The preparation of this TMP has not revealed any matters that require the review of this conclusion.

5.12.3 Environmental Planning and Assessment Act 1979

The development has been declared State Significant Development under Part 4 of the *Environmental Planning and Assessment Act 1979*, with development consent approved, subject to the conditions in Schedules 2 to 4 of the CoC. This TMP sits within a suite of management plans and strategy documents required by the CoC which detail the requirements and site-specific management measures to be implemented to ensure compliance with these conditions.

6. Plan Operation

6.1 Roles and Responsibilities

The roles and responsibilities for the implementation of this TMP are indicated in Table 6.1.

Table 6.1: TMP implementation

Entity Role	Responsibility
EPC contractor	Implementation of the TMP during construction
All personnel	Follow all guidelines and Project Rules with respect to traffic management
Freight forwarder	Implementation of the TMP during construction.
Project Owner	Implementation of the TMP during construction, operation, and decommissioning

6.2 Traffic Management Plan Audit

The TMP will be audited in accordance with the EPC contractor's management systems and the CoC (Schedule 3, Condition 7).

6.3 Traffic Management Plan Review

The TMP will be reviewed in accordance with the EPC contractor's management systems.

6.4 Competence Training and Awareness

All personnel working on the project would undergo a project induction which would include information on the management of traffic related issues while travelling to and from the site. The induction would include the following points:

- Consideration and courtesy are essential when driving on public roads and the worksite
- All employees would be required to comply with the onsite Vehicle Movement Plan being prepared by the EPC contractor
- Speed limits must be strictly adhered to.

After completing the induction, workers would sign a statement of attendance and records of this would be kept in the site office.

Appendix A. Consultation with Roads and Maritime Services and Council (emailed communication)

Young, Helen

From: Chris Bamberry <Chris.BAMBERRY@rms.nsw.gov.au>
Sent: Wednesday, 16 October 2019 12:37 PM
To: Young, Helen
Subject: [EXTERNAL] RE: Avonlie Solar Farm TMP - SWT18/00007
Attachments: Avonlie Solar Farm TMP_RevD

Hi Helen,

Thanks for letting me know of the changes.

I endorse the updated document on behalf of Transport for NSW.

Regards
Chris

From: Young, Helen [mailto:Helen.Young@jacobs.com]
Sent: Friday, 11 October 2019 5:16 PM
To: Chris Bamberry
Subject: RE: Avonlie Solar Farm TMP - SWT18/00007

Hi Chris,

Please see attached link to download the updated TMP for your records, which now includes:

- New Section 1.7 'Quality Assurance and Review' outlining how TMP will be implemented/revised/updated
- Additional text provided in the light and heavy vehicle code of conduct (Section 5.8.1 and 5.8.2)

Thanks,
Helen

From: Chris Bamberry <Chris.BAMBERRY@rms.nsw.gov.au>
Sent: Tuesday, 8 October 2019 12:50 PM
To: Young, Helen <Helen.Young@jacobs.com>
Cc: Development South West <development.south.west@rms.nsw.gov.au>; Lowe, David <David.J.Lowe@jacobs.com>
Subject: [EXTERNAL] RE: Avonlie Solar Farm TMP - SWT18/00007

Hi Helen,

Thanks for making the changes. I have one further comment for your consideration relating to the Light Vehicle Driver Code of Conduct (Appendix C). The document outlines the SGRE in vehicle monitoring system but does not appear to give much guidance on the company expectations in terms of driver behaviour. A good driver code of conduct provides guidance on and encourage fatigue management and driving to prevailing conditions, etc. Risk factors which may not necessarily be addressed by following the road rules need to be considered.

Consideration also should be given to how the TMP will be implemented, and revised and updated if required.

Notwithstanding, I endorse the TMP on behalf of Transport for NSW.

Regards

Chris Bamberry

Development Assessment Officer
South West Region | Regional & Freight
T 02 6923 6588

Every journey matters

193-195 Morgan Street Wagga Wagga NSW 2650

From: Young, Helen [<mailto:Helen.Young@jacobs.com>]
Sent: Friday, 13 September 2019 11:27 AM
To: Chris Bamberry
Cc: Development South West; Lowe, David
Subject: RE: Avonlie Solar Farm TMP - SWT18/00007

Hi Chris,

Thank you for your comments. We've provided our response below in red have updated the TMP accordingly, please see attached for your review.

If you have any further comments please let me know.

Kind Regards,
Helen

From: Chris Bamberry <Chris.BAMBERRY@rms.nsw.gov.au>
Sent: Monday, 9 September 2019 12:39 PM
To: Lowe, David <David.J.Lowe@jacobs.com>
Cc: Young, Helen <Helen.Young@jacobs.com>; Development South West <development.south.west@rms.nsw.gov.au>
Subject: [EXTERNAL] Avonlie Solar Farm TMP - SWT18/00007

Hi David,

Transport for NSW has reviewed the Transport Management Plan provided for the Avonlie Solar Farm. Please refer to the comments provided below:

- The Drivers Code of Conduct could consider fatigue issues in more detail for both light and heavy vehicle operators. Drivers should take a break every 2 hours (not every 2 years) and stop immediately and rest if feeling drowsy or fatigued. Drivers should be encouraged to plan their journey with rest breaks, ensure adequate length breaks are taken, avoid lengthy journeys at the end of long shifts, etc.

Updated Section 5.8 to include light vehicle code of conduct and more detail on the recommended strategies for fatigue management. Also added in new Appendix C for example Light Vehicle Drivers Code of Conduct

- Will it be necessary to implement any traffic control plans? If so potential impacts on other road users should be included in the TMP.

Updated Section 5.4. TCP would be required during construction of upgrade works at intersection of Sturt Highway and Sandigo Road.

- There does not appear to be much information on procedures for receiving and addressing complaints from the community about development related traffic.

Updated Section 5.11

- More discussion is required on minimising potential conflict with school buses and other motorists as far as practicable.

Updated Section 4.1 and 4.1.3 to provide more information on what would be used to minimise potential impact

- More discussion is required on responding to local climate conditions that may affect road safety such as fog, dust and wet weather.

Updated Section 5.8.1 and 5.8.2. Drivers would be required to drive to conditions during local climate conditions.

- The original conditions of consent from Roads and Maritime Services include construction of Sandigo Road to provide for 2 travel lanes and be sealed for at least 50 metres from its intersection with the Sturt Highway, this could be included in the sedimentation and dust control measures. It may also be necessary to consider using all-weather surface treatments in other areas as part of the strategy to minimise dirt tracked onto the public road network.

The finalised consent conditions required that Sandigo road be 7m wide and sealed from the Sturt Hwy to 100m past the Muntz Rd intersection. The contractor will have a rumble grid at the site entrance and do not plan to have further measures.

- Appendix B – The site layout has not been included with the report. This should provide the location of the access points, the internal road network, vehicle unloading points, staging areas and parking areas.

Actioned – site layout now included in Appendix D

If you would like to further discuss any of these comments or if you require any further information in regard to this matter please contact either myself on 6923 6588 or Maurice Morgan on 6923 6611.

Regards

Chris Bamberry

Development Assessment Officer
South West Region | Regional & Freight
T 02 6923 6588

www.rms.nsw.gov.au

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Roads and Maritime Services

193-195 Morgan Street Wagga Wagga NSW 2650

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Young, Helen

From: McBean, Bruce <Bruce.McBean@Narrandera.nsw.gov.au>
Sent: Monday, 2 September 2019 1:08 PM
To: De Smeth, Matthew (EXT) (SGRE ON APAC PR PD6)
Subject: RE: Avonlie Solar Farm - Traffic Management Plan RevA

Hi matt,

I have gone over the draft document with my boss Barry Heinz (Works Manager). We are happy with how it looks and we are OK for you to proceed to the next stage.

Kind regards,
Bruce

Bruce McBean
Works Coordinator



MOB: 0432 231 706
Email: bruce.mcbean@narrandera.nsw.gov.au
Website: www.narrandera.nsw.gov.au

The opinions expressed in this message are the personal views of the sender and do not necessarily represent the corporate opinions or policies of Narrandera Shire Council.

From: De Smeth, Matthew (EXT) (SGRE ON APAC PR PD6) [mailto:Matthew.DeSmeth.ext@siemensgamesa.com]
Sent: Tuesday, 20 August 2019 10:53 AM
To: McBean, Bruce
Cc: Graham, Alexander (SGRE ON APAC PR PD6); Geddes, Julian
Subject: Avonlie Solar Farm - Traffic Management Plan RevA

Hi Bruce,

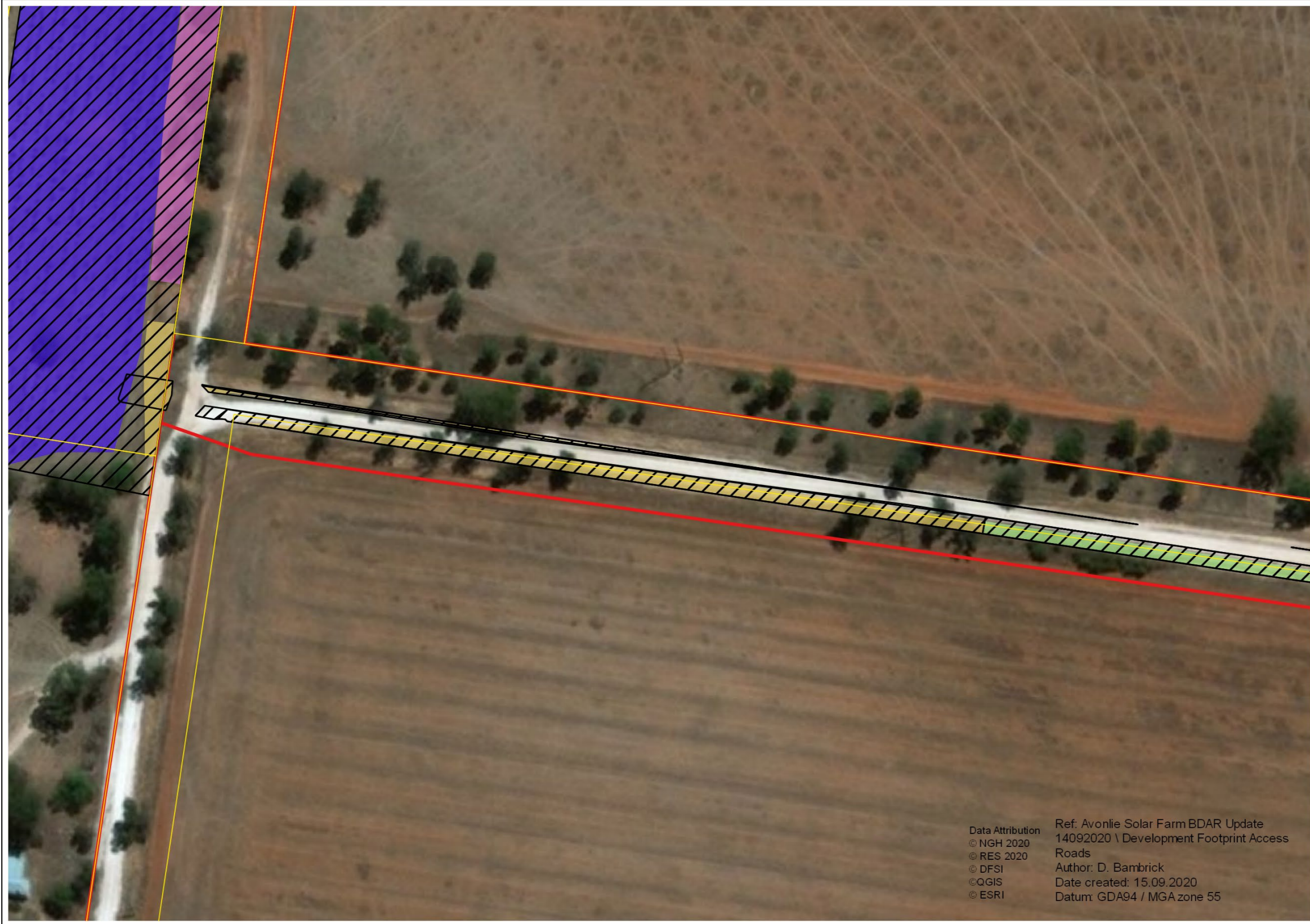
You should shortly receive a link to the first revision of the Traffic Management Plan for the Avonlie Solar Farm project. The file is too big to send via email so our document control will arrange a link. Could you please take a look and advise any comments you have on the plan so that we can incorporate them as we proceed towards finalising the document? Thanks.

Regards,

Matt de Smeth
Project Engineer – Solar

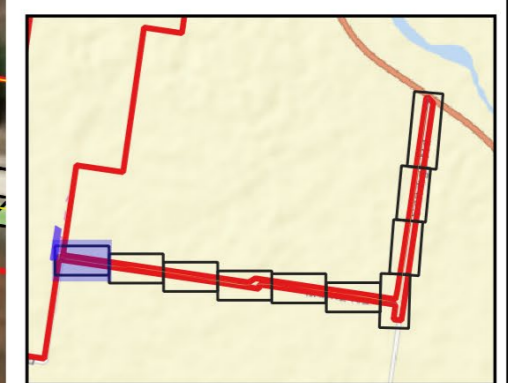
Siemens Gamesa Renewable Energy Pty Ltd
160 Herring Road
Macquarie Park NSW 2113, Australia
Mobile: +61 436 415 311
<http://www.siemensgamesa.com>

Appendix B. Improvement Works - Road Map and Areas of Impact



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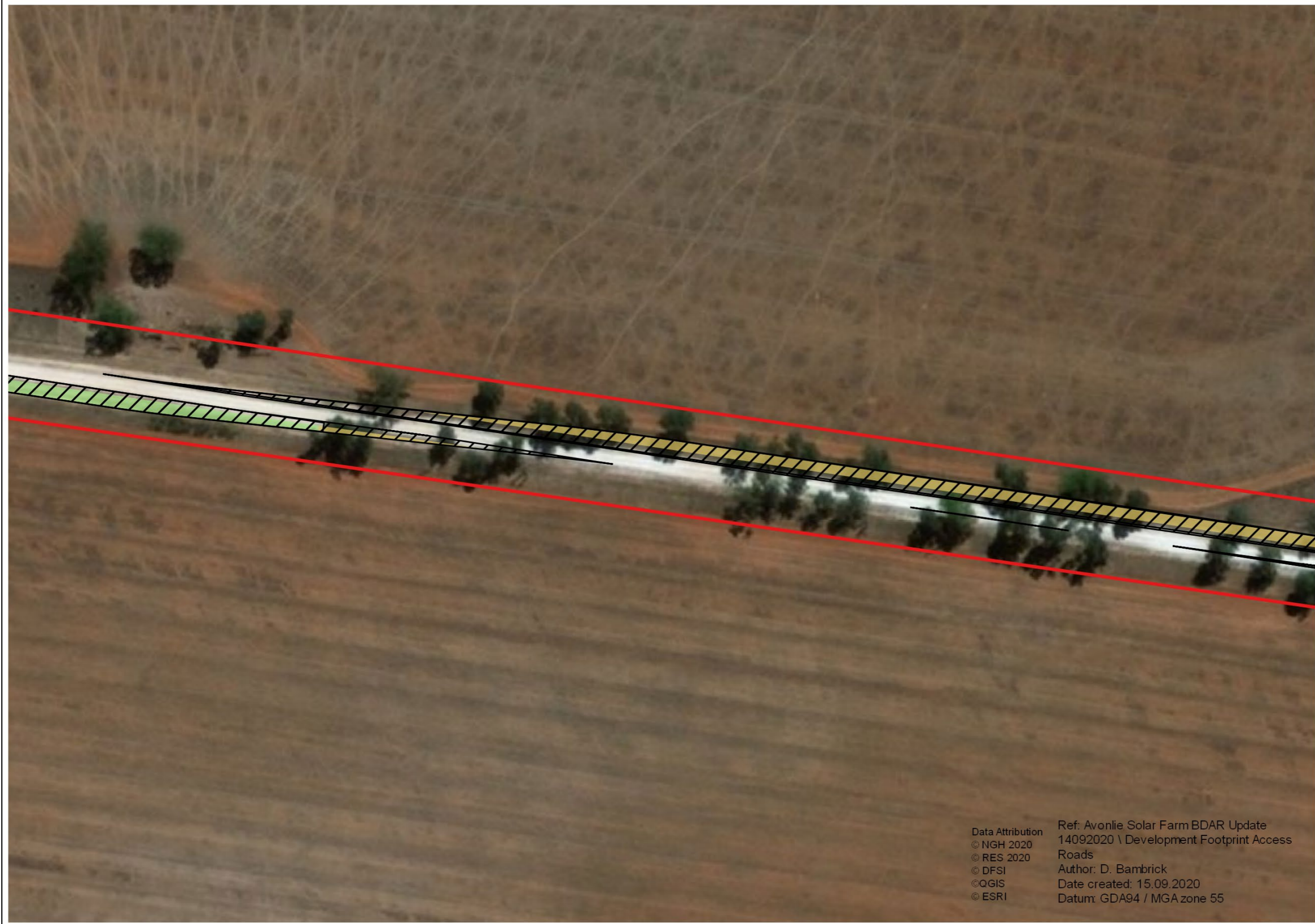
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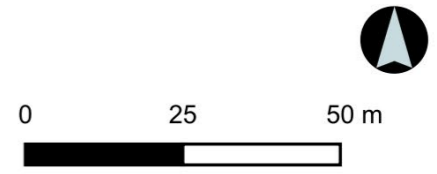
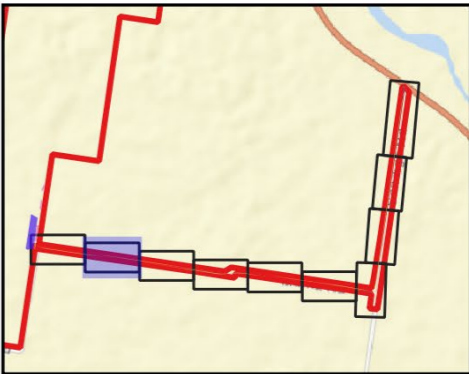




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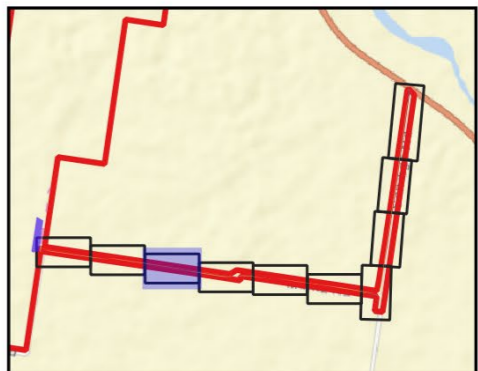
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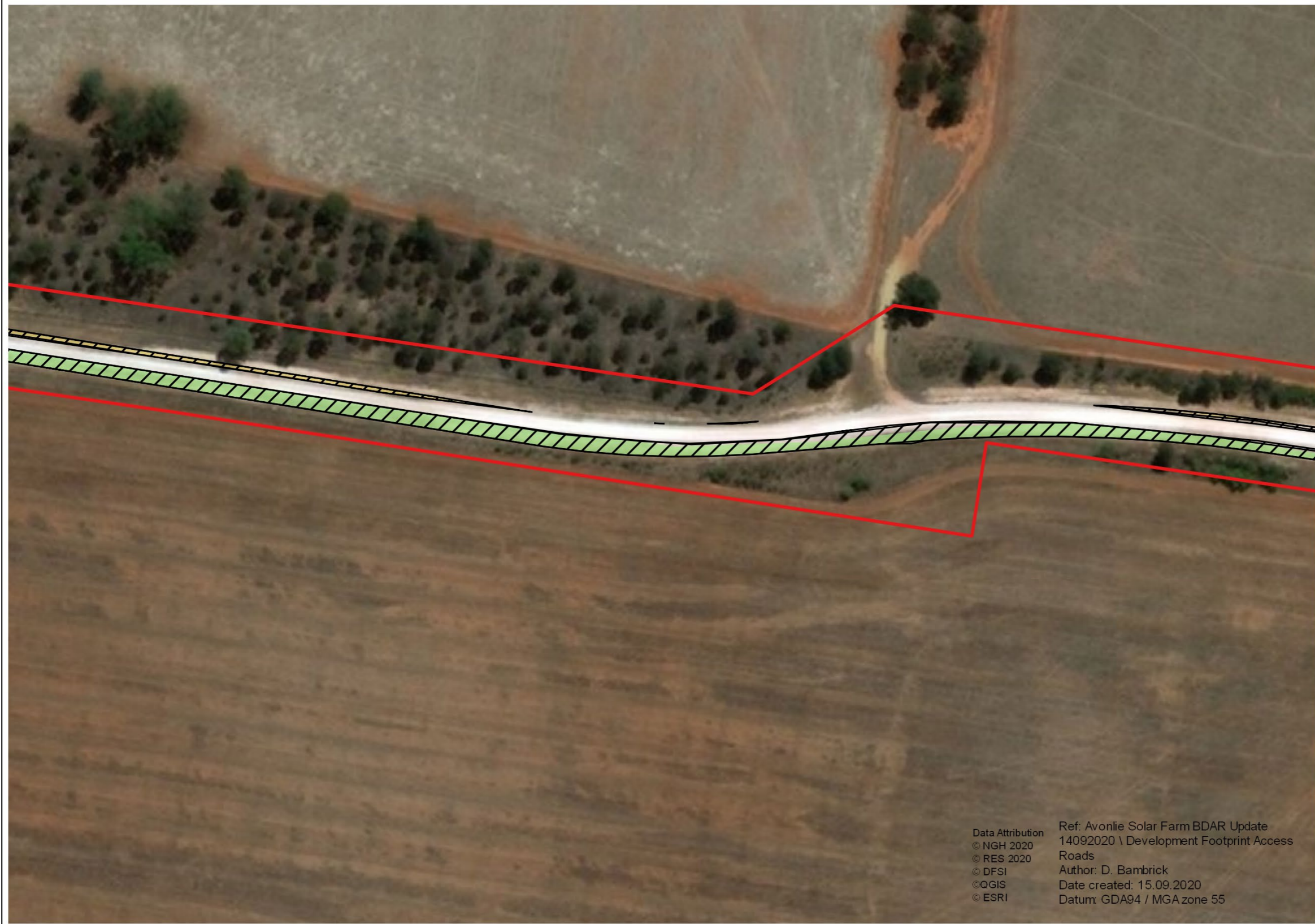
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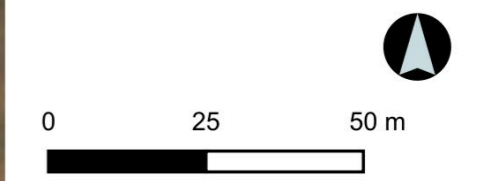
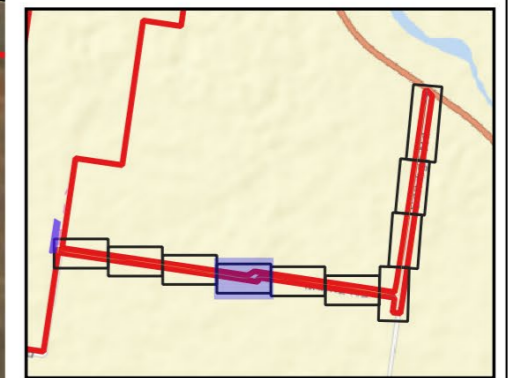




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



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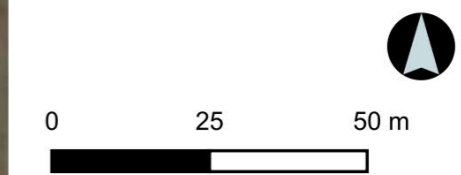
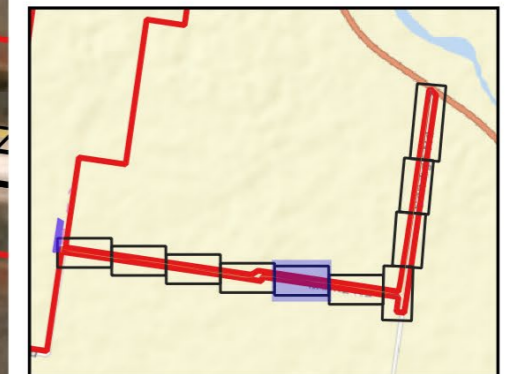
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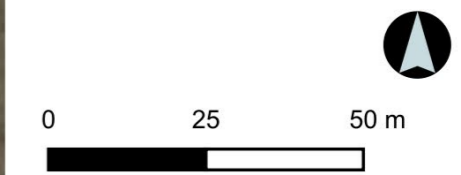
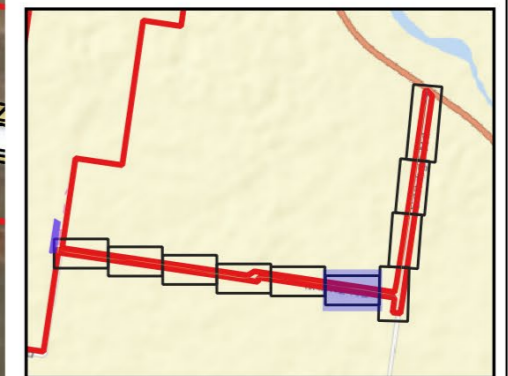
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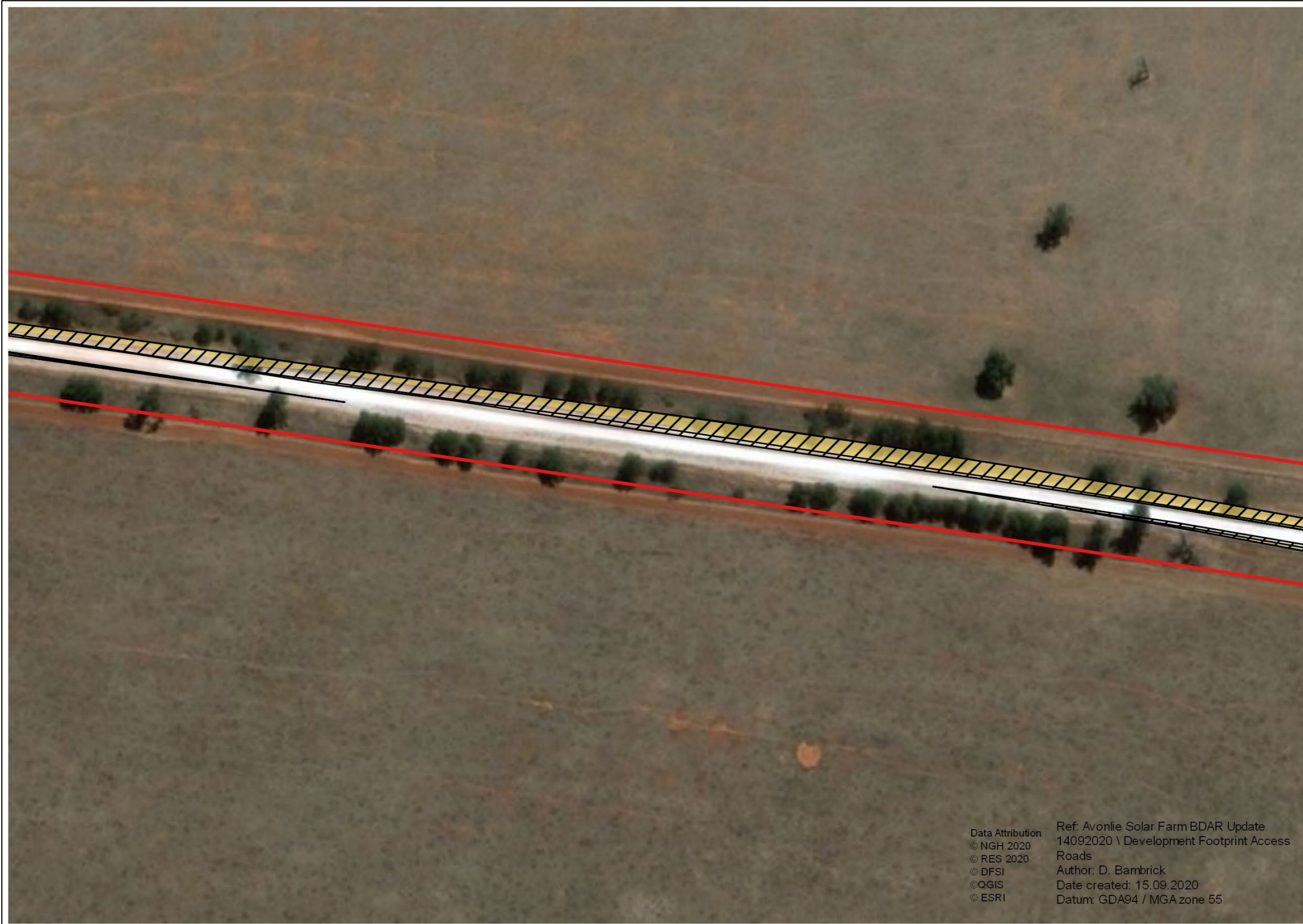
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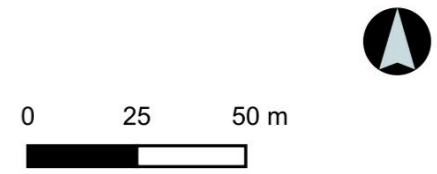
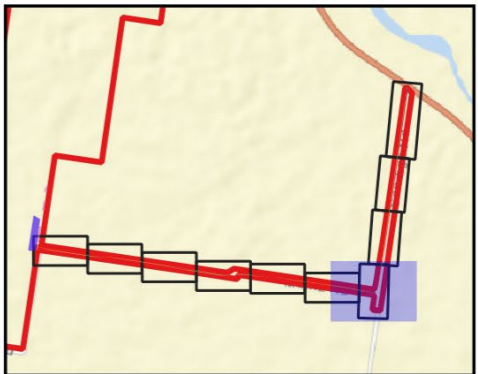




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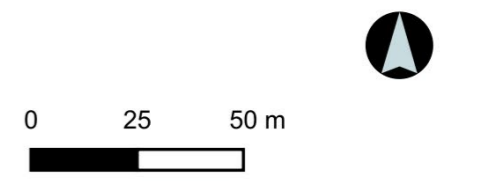
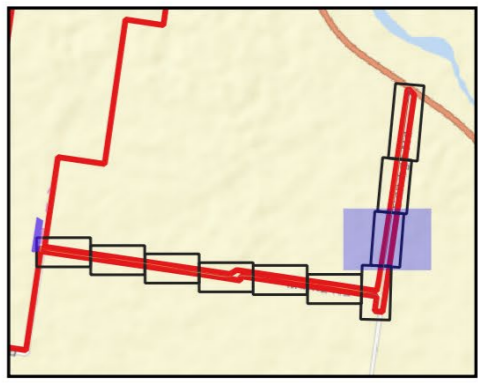
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



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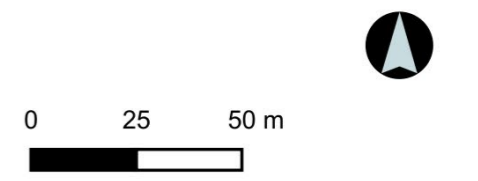
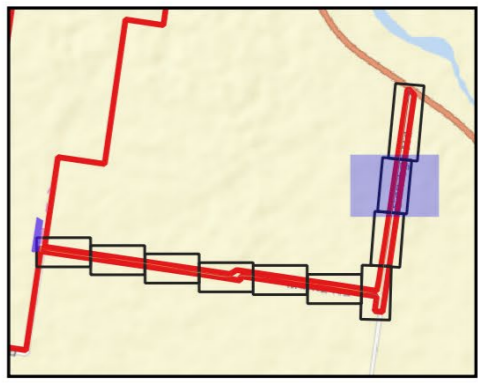
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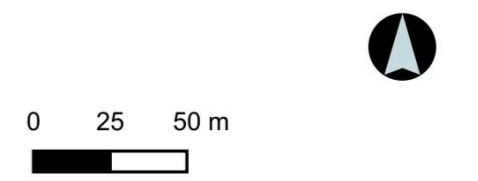
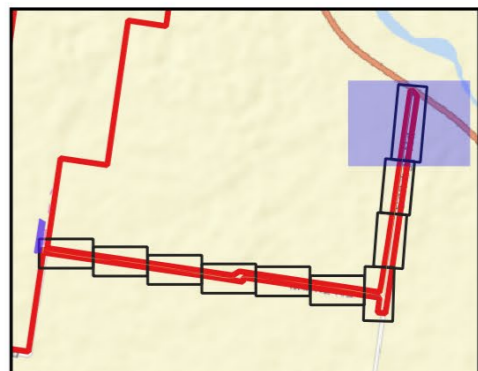
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Appendix C. Example Heavy Vehicle Driver Code of Conduct

Driver Code of Conduct

The Driver's Code of Conduct is to ensure that drivers adhere to safe driving practices, particularly when using local roads through Wagga Wagga and Narrandera. All employees and contractors are to abide by responsible driving and adhering to the Code of Conduct.

All heavy vehicle drivers to the site will be given specific guidance on how to manage fatigue and the need to drive to prevailing conditions as part of the site induction process. Other risk factors associated with travelling to and from site which are specific to the local environment will also form part of the induction. Risk factors such as flooding and the alternate routes to be used in the event of flooding will also be covered.

1. General Requirements

Heavy vehicle drivers hauling to and from Avonlie Solar Farm must:

- Have undertaken a site induction carried out by a suitably qualified employee
- Hold a valid driver's licence for the class of vehicle that they are operating
- Operate the vehicle in a safe manner to, from and within the site
- Comply with the direction of authorised site personnel when within the site.

2. Heavy Vehicle Speed

Heavy vehicle drivers are to be made aware of two types of speeding:

- Where a heavy vehicle driver travels faster than the posted speed limit
- Where a heavy vehicle driver travels within the posted speed limit but at a speed which is inappropriate for road conditions e.g. rain, fog, unsealed roads.

All heavy vehicle drivers are to observe the posted speed limits to comply with Australian Road Rules. Drivers must adjust speed appropriately to suit the road environment and weather conditions.

The internal speed limit within the site during construction is 40 km/h for all vehicles. Where vehicles are required to pass work crews or drive through active work areas, the speed limit is 25 km/h.

3. Heavy Vehicle Driver Fatigue

Under the Heavy Vehicle Driver Fatigue Reform (2008), all drivers of trucks and truck combinations over 12 tonne GMV (except for Ministerial Exemption Notices that may apply) are required to operate under one of three fatigue management schemes:

- Standard Hours of Operation
- Basic Fatigue Management
- Advanced Fatigue Management

All heavy vehicle operators are to be aware of their adopted fatigue management scheme and operate within its requirements. This includes recommendations for drivers to:

- Take a break every two hours and stop immediately to rest if feeling drowsy or fatigued
- Plan their journey with rest breaks to ensure adequate length breaks are taken
- Avoid lengthy journeys at the end of a long shift.

4. Adherence to Designated Transport Routes

Heavy vehicle drivers must follow the designated transport routes agreed upon with site personnel at Avonlie Solar Farm. Heavy vehicles must travel only on heavy vehicle-approved roads and must access the site via Sturt Highway, Sandigo Road, Muntz Road and the site access off Muntz Road.

Appendix D. Light Vehicle Driver Code of Conduct

DRIVERS CODE OF CONDUCT

1. INTRODUCTION

All Project personnel must strictly comply with this Driver's Code of Conduct during days of work and also days of departure/return to your place of origin.

This Driver's Code of Conduct addresses:

- travelling speeds;
- driver fatigue;
- procedures to ensure that drivers adhere to the designated transport route/s; and
- procedures to ensure that drivers implement safe driving practices.

2. TRAVELLING SPEEDS

Drivers must:

- be aware of the legal speed limit on public roads and designated speed limits for internal access roads within the site;
- not exceed the legal speed limit on public roads; and
- not exceed the speed limit designated for internal access roads within the site.

3. SAFE DRIVING PRACTICE

Drivers must:

- be competent and hold the appropriate licence class for the vehicle used;
- be aware of and comply with all road laws and regulations;
- exercise extra care in adverse weather conditions that may affect road safety such as fog, dust, wet weather and flooding;
- maintain awareness of other drivers and report any observations of driver fatigue or misconduct to the HSE Advisor;
- respect the rights of all road users to share the road;
- cover loose materials when transporting materials; and
- report any incidents in accordance with the Incident Management Procedure.

4. FATIGUE MANAGEMENT

Drivers must:

- rest at least every 2 hours or when required to avoid fatigue;
- stop immediately and rest if feeling drowsy or fatigued;
- ensure adequate length breaks are taken during a shift.

Commuting to and from a project site is a potential contributing factor to fatigue. Where possible this shall be managed by:

- Avoiding long journeys at the end of long shifts
- Incorporating rest breaks into journeys
- Carpooling and rotation of drivers
- Use of shuttle buses and rotation of drivers

To reduce fatigue, workers who are also driving a shuttle bus for more than 30 minutes to or from a site must finish their shift at least 30 minutes before normal finish time and rest in an air-conditioned crib room prior to driving their colleagues back to the nominated drop-off location. In addition, the role of driver shall be rotated within the work group (e.g. one driving leg completed by worker per day).

Driving to and from project sites:

Ideally driving should be performed as per the following:

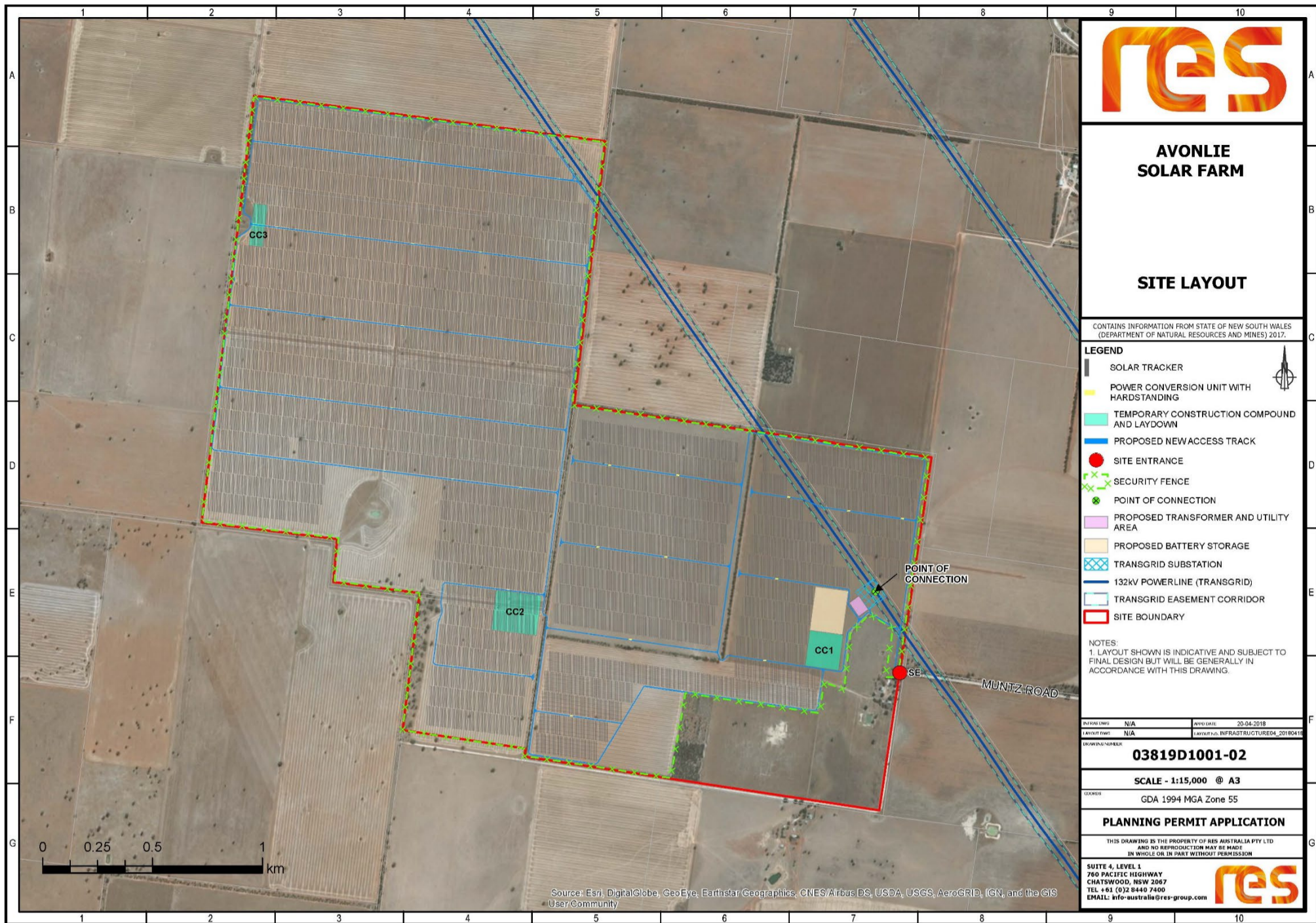
- During daylight hours (not always possible with early starts on project sites or driving to/from an airport to catch a flight)
- Shared with another employee where possible
- Mandatory rest break (e.g. 10 mins) after 2 hours of driving
- Mandatory zero alcohol tolerance
- Mandatory zero illicit drugs tolerance or impairment by prescription medication
- Maximum of 8 hours of driving per day (cumulative)

5. DESIGNATED TRANSPORT ROUTES

Drivers must:

- adhere to the approved site access route, unless an approved alternative haulage route is in place due to an emergency;
- use only the approved established site access point/s
- enter and exist the site in a forward direction;
- ensure vehicles leaving the site are in a clean condition; and
- notify the HSE Advisor immediately if there is any damage to the site access route which may present a safety hazard.

Appendix E. Site Layout



Appendix F. DPIE Consultation

Avonlie Solar Farm
Post-Approval Review



Document: Traffic Management Plan

Revision: Version 1, Dated 4 March 2021

Reviewed: by Callum Firth on 15 March 2021

TMP, Condition 2, Schedule 3	Sufficient (Yes/No/Partial)	Document reference and comments	Action Required	Company Response
The Applicant must ensure that the: (a) development does not generate more than: 35 heavy vehicle movements a day during construction, upgrading and decommissioning;	Yes	Section 4.1 states that it is estimated that a total of 25 heavy vehicles would access the site per day during the construction period. Section 4.2 states that during operation 20 to 30 vehicles may be present at any one time, including heavy vehicles for emergency works. Ordinarily, this number would be four. Section 4.1 states that the EPC contractor will ensure that heavy vehicle movement numbers will comply with Condition 2(a).		
3 over-dimensional vehicle movements during construction, upgrading and decommissioning; and	Yes	Section 4.1 states that the EPC contractor will ensure that heavy vehicle movement numbers will comply with Condition 2(a).		
2 heavy vehicle movements a day during operations: on the public road network;	Yes	Section 4.1 states that the EPC contractor will ensure that heavy vehicle movement numbers will comply with Condition 2(a).		
(b) length of any vehicles (excluding over-dimensional vehicles) used for the development does not exceed 19 metres, unless the Secretary agrees otherwise.	Yes	Section 4.3 states that the vast majority of heavy vehicles accessing the site will comply with Clause 2(b). Switch room buildings will be transported on up to 15, 35m low loaders. As these vehicles are oversized, an over-dimensional permit will be sought from TfNSW.		

Avonlie Solar Farm
Post-Approval Review



Document: Traffic Management Plan

Revision: Version 1, Dated 4 March 2021

Reviewed: by Callum Firth on 15 March 2021

TMP, Condition 3, Schedule 3	Sufficient (Yes/No/Partial)	Document reference and comments	Action Required	Company Response
The Applicant must keep accurate records of the number of over-dimensional and heavy vehicles entering or leaving the site each day for the duration of the project.	Partial	Section 5.1.3 states: "Examples of the milestones that would be monitored and level of communication include: 3 Keeping records of the number of heavy vehicles accessing the site each day (as required in Clause 3 of Schedule 3, Environmental Conditions - General of the Project Approval)" This does not also include keeping records of over-dimensional vehicles entering or leaving the site each day.	Include a commitment to also keep accurate records of the number of over-dimensional vehicles entering or leaving the site each day for the duration of the project.	A commitment has been included under section 5.1.3.
TMP, Condition 4, Schedule 3	Sufficient (Yes/No/Partial)	Document reference and comments	Action Required	Company Response
All vehicles associated with the development must travel to and from the site via the Sturt Highway, Sandigo Road, Muntz Road and the site access point on Muntz Road, as identified in the figure in Appendix 1.	Yes	Section 5.2.2 states that: "To comply with Clause 4, all vehicular traffic will enter and exit the site via Sturt Highway, Sandigo Road, Muntz Road and the site access point on Muntz Road." Note: The Applicant is required to obtain relevant permits under the Heavy Vehicle National Law (NSW) for the use of over-dimensional vehicles on the road network.		
Note: The Applicant is required to obtain relevant permits under the Heavy Vehicle National Law (NSW) for the use of over-dimensional vehicles on the road network.	Yes	Section 4.3 states that an over-dimensional permit will be sought from TfNSW for use of over-size vehicles. Section 5.9 states that appropriate permits being issued by TfNSW and the NSW Police for the use of restricted access vehicles.		

TMP, Condition 5, Schedule 3	Sufficient (Yes/No/Partial)	Document reference and comment	Action Required	Company Response
Unless otherwise agreed with the Secretary, prior to commencing construction, the Applicant must: (a) upgrade the intersection of the Sturt Highway and Sandigo Road, including BAR/AUL(s) treatments;	Yes	Section 4.4.1 states that: "A review of the existing intersection indicates that a basic right-turn lane (BAR) and auxiliary left-turn treatment (AUL) will be required. This work will include widening of the existing shoulder to provide additional pavement to ensure that traffic is able to pass to the left of a stationary vehicle that is waiting to turn into Muntz Road."		
(b) upgrade the intersection of Sandigo Road and Muntz Road, including BAR treatment with minimum 200 mm compacted gravel (CBR of 30) and 20/14 seal;	Partial	No mention of upgrade of intersection of Sandigo Road and Muntz Road apart from section 4.4 which states: "To comply with Clause 5 of Schedule 3, Environmental Conditions – General of the Project Approval, the project would include the following upgrade works. The locations of these works and their proposed upgrades are shown below in Figure 4-3" (CoA Appendix 5). The location of BAR treatment at the intersection of Muntz and Sandigo Road has been committed to, but not the specifications outlined in this condition (with minimum 200 mm compacted gravel (CBR of 30) and 20/14 seal).	Commit to upgrading the intersection of Sandigo Road and Muntz Road, including BAR treatment with minimum 200 mm compacted gravel (CBR of 30) and 20/14 seal prior to commencing construction. Consider adding a new section (4.4.5) to achieve this.	A new section, 4.4.5, has been added to detail the specifications of the Muntz Road and Sandigo Road intersection upgrade.
(c) upgrade Sandigo Road from the Sturt Highway to 100 m past Muntz Road, including sealing to a width of 7	Yes	Section 4.4.3 states that: Upgrade Sandigo Road from the Sturt Highway to 100 m past Muntz Road, to be suitable for two-way (heavy vehicle) construction.		

m with minimum 200 mm compacted gravel (CBR of 30), 20/14 seal and 1 m gravel shoulders;		traffic, including widening and sealing of the road to sealing to a width of 7 m with minimum 200 mm compacted gravel (CBR of 30), 20/14 seal and 1 m gravel shoulders.		
(d) upgrade Muntz Road between Sandigo Road and the site access point, including a gravel surface to a width of 6.2 m with 0.5 m shoulders; and	Yes	Section 4.4.2 states that: Upgrade of Muntz Road between Sandigo Road and the site entry to be suitable for two-way (heavy vehicle) construction traffic, including widening of the road to a width of 6.2 metres with a gravel seal, with 0.5 metres gravel shoulders.		
(e) design the site access point off Muntz Road (shown in Appendix 1) with a Rural Property Access type treatment to cater for the largest vehicle accessing the site, as identified in the figure in Appendix 5.	Yes	Section 4.4.4 states that: Construction and design of Muntz Road and the site access point intersection with a Rural Property Access type treatment to cater for the largest vehicle expected to access the site, including BAR treatments with minimum 200 mm compacted gravel (CBR of 30) and 20/14 seal.		
These upgrades must comply with the Austroads Guide to Road Design (as amended by TfNSW supplements), be generally in accordance with the figures in Appendix 5 and be carried out to the satisfaction of the relevant roads authority.	Yes	Section 1.5 states that: In NSW, the Road Transport Act 2013 (the Act) and the Roads Act 1993 govern the safe management of road transport and will be complied with and referred to during construction and operation of the project. In addition to the Act, the following Standards and Guidelines will guide traffic management for the project: • Austroads Guide to Road Design • Transport for NSW (TfNSW) Supplements to Austroads Guide to Road Design • Australian Standard AS1742- Manual of Uniform Traffic Control Devices • TfNSW's Guide to Traffic Control at Work Sites • Relevant Council traffic management specifications/guidelines.		

		Section 4.4 states that To comply with Clause 5 of Schedule 3, Environmental Conditions – General of the Project Approval, the project would include the following upgrade works. The locations of these works and their proposed upgrades are shown below in Figure 4-3 (Appendix 5).		
TMP, Condition 6, Schedule 3	Sufficient (Yes/No/Partial)	Document reference and comments	Action Required	Company Response
The Applicant must ensure: (a) the internal roads are constructed as all-weather roads;	Yes	Section 5.2.2 states that internal roads will be constructed as all-weather roads.		
(b) there is sufficient parking on site for all vehicles, and no parking occurs on the public road network in the vicinity of the site;	Yes	Section 5.1.1 states that the proposed laydown area during construction will have sufficient parking provisions for these light vehicles only and no parking will occur on the public road network surrounding the site during construction.		
(c) the capacity of the existing roadside drainage network is not reduced;	Partial	The crowned driving surface would be nominally 4 metres wide, plus shoulders and any required drainage.	Make a commitment to ensuring that the capacity of the existing roadside drainage network is not reduced.	A commitment added to section 4.4 to ensure that improvement works to external road network will include drainage and comply with the Austroads Guide to Road Design to maintain roadside drainage capacity.

(d) all vehicles are loaded and unloaded on site, and enter and leave the site in a forward direction; and	Yes	Section 5.1.2 states that all vehicles will be loaded and unloaded on site and will enter and leave in a forward direction.		
(e) development-related vehicles leaving the site are in a clean condition to minimise dirt being tracked onto the sealed public road network.	Yes	Section 5.2.3 states that Any residual risk is to be managed through additional removal procedures, with the wheels, wheel arches and underbody of all plant and support vehicles carrying excess dirt and soil to be thoroughly cleaned prior to exiting the site.		
TMP, Condition 7, Schedule 3	Sufficient (Yes/No/Partial)	Document reference and comments	Action Required	Company Response
Prior to commencing the development, the Applicant must prepare a Traffic Management Plan for the development in consultation with TfNSW and Council, and to the satisfaction of the Secretary.	Yes	Table 1-1 shows the comments from Council and RMS and where each comment was addressed in the TMP.		
This plan must include: (a) details of the transport route to be used for all development-related traffic;	Yes	Section 5.2.2 details access routes for development-related traffic.		
(b) a protocol for undertaking independent dilapidation surveys to assess the: <ul style="list-style-type: none"> existing condition of Sandigo Road and Muntz Road prior to construction, upgrading or decommissioning activities; and condition of Sandigo Road and Muntz Road following construction, upgrading or decommissioning activities; 	Yes	Section 5.5.1		
	Partial	Section 5.5.1 commits to a dilapidation survey post-construction but does not include the same following upgrading or decommissioning activities.	Commit to a protocol for undertaking independent dilapidation	A commitment for the intervals a dilapidation survey and report will be

			surveys to assess the condition of Sandigo Road and Muntz Road following construction, upgrading or decommissioning activities	undertaken is included section 5.5.1
(c) a protocol for the repair of Sandigo Road and Muntz Road if dilapidation surveys identify these roads to be damaged during construction, upgrading or decommissioning works;	Yes	Section 5.5.2 states that: "Narrandera Shire Council will be consulted with to agree on the damage as a result of construction activity, if any, and what repairs are required to Muntz and Sandigo Roads. Relevant fees will be jointly estimated. Council would then scope and arrange for the required repairs to be paid for by the EPC contractor."		
(d) details of the road upgrade works required by condition 5 of Schedule 3 to this consent;	Partial	No mention of upgrade of for intersection of Sandigo Road and Muntz Road apart from section 4.4 which states: To comply with Clause 5 of Schedule 3, Environmental Conditions – General of the Project Approval, the project would include the following upgrade works. The locations of these works and their proposed upgrades are shown below in Figure 4-3 (CoA Appendix 5). The location of BAR treatment at the intersection of Muntz and Sandigo Road has been committed to, but not the specifications outlined in this condition (with minimum 200 mm compacted gravel (CBR of 30) and 20/14 seal).	Commit to upgrading the intersection of Sandigo Road and Muntz Road, including BAR treatment with minimum 200 mm compacted gravel (CBR of 30) and 20/14 seal prior to commencing construction.	Section 4.4.5 has been added to incorporate the specifications of the BAL treatment at the Muntz and Sandigo Roads intersection.

			Consider adding a new section (4.4.5) to achieve this.	
(e) details of the measures that would be implemented to minimise traffic impacts during construction, upgrading or decommissioning works	Yes	Section 5		
including: temporary traffic controls, including detours and signage;	Yes	Section 5.4.1 details traffic controls and states that the TCP will include all signage, barriers, traffic controllers, traffic diversions and lighting required, as well as actions required to mitigate any potential impacts to other road users.		
notifying the local community about project-related traffic impacts;	Yes	Section 5.2.1 states that if closures are required, consultation would be undertaken with affected landowners to notify them of the proposed closures and to organise any alternate access.		
procedures for receiving and addressing complaints from the community about development-related traffic;	Yes	Section 5.11 states that a 24-hour phone number will be available during construction. Section 5.11.1 states that Complaints relevant to this TMP will be facilitated, managed and responded to by the Project Owner in accordance with the EMS. This section outlines how complaints will be addressed.		
minimising potential for conflict with school buses and other motorists as far as practicable;	Yes	Section 4.1.2 states: "To minimise potential impacts to buses, heavy vehicle arrival and departure times will be timed to minimise interaction with buses near the site. All heavy vehicle drivers will be made aware of possible bus movements during these periods as part of their induction. Advanced warning signs on approach to the site along Sturt Highway will be used.		

		to inform bus operators of increased traffic activities during construction."		
• implement measures to minimise dirt tracked onto the public road network from development related traffic;	Yes	Section 5.2.3 states that: "Any residual risk is to be managed through additional removal procedures, with the wheels, wheel arches and underbody of all plant and support vehicles carrying excess dirt and soil to be thoroughly cleaned prior to exiting the site."		
• details of the employee shuttle bus service and measures to encourage employee use of this service;	Yes	Table 5.1 states there will be Carpooling/shuttle bus arrangements to minimise vehicle numbers during construction.		
• scheduling of haulage vehicle movements to minimise convoy length or platoons;	Yes	Section 5.1.3 states that vehicles will be scheduled to avoid conflict with local traffic and rail services. Furthermore, the varying origins of the haulage movements and limited number of deliveries to site each day will limit the potential for haulage vehicles to form convoys or platoons.		
• responding to local climate conditions that may affect road safety such as fog, dust and wet weather;	Yes	Sections 5.8.1 and 5.8.2 state that the heavy and light vehicle codes of conduct state that they will outline arrangements for driving conditions during fog, dust and wet weather conditions. It also states that All workers and delivery drivers to the site will be given specific guidance on how to manage fatigue and the need to drive in accordance with the prevailing conditions as part of the site induction process.		
• responding to any emergency repair or maintenance requirements; and	Partial	Section 5.5.3 states that: There will be on-site resources to respond to emergency road repairs during construction and decommissioning. On receipt of notification of road damage, the EPC contractor will dispatch resources to repair the road as required.	Include a commitment to minimising traffic impacts during construction, operation and decommissioning.	A commitment/procedure included in the event of a project-related vehicle breakdown.

		There is no mention of a plan of response for any emergency vehicle repairs on public or private roads or site access issues caused by vehicle breakdowns and how traffic impacts would be minimised.	in the scenario of a project-related vehicle breakdown.	during construction, operation and decommissioning has been added to section 5.5.3
• a traffic management system for managing over-dimensional vehicles;	No	A traffic management system for managing over-dimensional vehicles is required.	Include a specific traffic management system for managing over-dimensional vehicles.	A specific traffic management system has been provided for over-dimensional vehicles in section 5.1.
(f) a driver's code of conduct that addresses: • travelling speeds;	Yes	Appendix C		
• driver fatigue;	Yes	Appendix C, part 3 states that all heavy vehicle drivers are to be made to operate under one of three fatigue management systems. All heavy vehicle operators are to be aware of their adopted fatigue management scheme and operate within its requirements.		
• procedures to ensure that drivers adhere to the designated transport routes; and	Yes	Appendix C, part 4 states that heavy vehicle drivers must follow the designated transport routes agreed upon with site personnel at Avonlie Solar Farm. Heavy vehicles must travel only on heavy vehicle approved roads and must access the site via Sturt Highway, Sandigo Road, Muntz Road and the site access off Muntz Road.		
• procedures to ensure that drivers implement safe driving practices; and	Yes	Appendix C states that the Driver's Code of Conduct is to ensure that drivers adhere to safe driving practices, particularly when using local roads through		

		Wagga Wagga and Narrandera. All employees and contractors are to abide by responsible driving and adhering to the Code of Conduct.			
(g) a program to ensure drivers working on the development receive suitable training on the code of conduct and any other relevant obligations under the Traffic Management Plan.	Yes	Section 6.4 states that: All personnel working on the project would undergo a project induction which would include information on the management of traffic related issues while travelling to and from the site. The induction would include the following points: <ul style="list-style-type: none"> • Consideration and courtesy are essential when driving on public roads and the worksite. • All employees would be required to comply with the onsite Vehicle Movement Plan being prepared by the EPC contractor. • Speed limits must be strictly adhered to. After completing the induction, workers would sign a statement of attendance and records of this would be kept in the site office. Appendix C states that guidance will be provided for drivers with regard to the Driver's code of conduct.			
Following the Secretary's approval, the Applicant must implement the Traffic Management Plan.	Partial	Table 6.1 states that the EPC contractor and Freight forwarder are responsible for the implementation of the TMP during construction. The implementation of this TMP was not committed to for all stages of this development.	Commit to implementing this TMP.	A new line has been added to Table 6.1 – the project owner commits to implementing the TMP for all stages of the development.	