

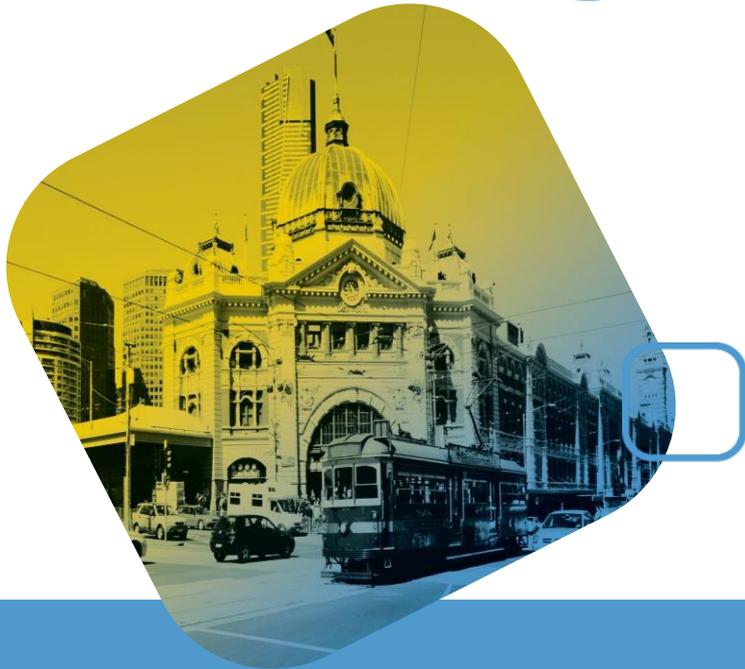
# ADVERTISED PLAN

36°16'48.5"S  
143°24'22.0"E

# Charlton Solar Farm & BESS Facility: Biddlestones Road



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## Traffic and Transport Assessment

21 January 2022  
Prepared for Tetris Energy

IMP2111041REP01F01.docx



# Impact

## Company Information

Impact Traffic Engineering Pty Ltd

Level 17, 31 Queen Street, Melbourne, Victoria, 3000  
ABN: 78 611 424 107

Email [create@impactaustralia.com.au](mailto:create@impactaustralia.com.au)

Website [www.impactaustralia.com.au](http://www.impactaustralia.com.au)

## Document Information

Client Tetris Energy

Report Title Charlton Solar Farm & BESS  
Facility: Biddlestones Road

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## Document Control

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# Contents

1	IMPACT® SNAP SHOT.....	5
2	INTRODUCTION .....	7
2.1	Engagement .....	7
2.2	Scope of Engagement .....	7
3	CHARLTON SOLAR FARM & BESS FACILITY.....	7
3.1	Location .....	7
3.2	Site Context .....	8
3.3	Planning Zone .....	8
3.3.1	Planning Framework.....	8
3.4	Road Network.....	9
3.4.1	Calder Highway .....	9
3.4.2	Biddlestones Road .....	9
3.5	VicRoads Road Network Limits .....	10
3.6	Charlton Solar Farm & Energy Storage Facility .....	11
4	TRAFFIC CONSIDERATIONS .....	12
4.1	General .....	12
4.2	Traffic Generation.....	12
4.2.1	Construction Traffic Volumes .....	12
4.2.2	Operation and Maintenance Traffic Volumes .....	12
4.3	Vehicle Access Routes .....	13
4.3.1	Course Aggregate and Fine Crushed Gravel Deliveries .....	13
4.3.2	Water Deliveries .....	13
4.3.3	Solar Modules / BESS Components.....	13
4.3.4	Construction Staff .....	13
4.4	Traffic Impact .....	14
4.4.1	Vehicle Access Corridor.....	14
4.4.2	Road Capacity .....	14
5	DESIGN CONSIDERATIONS.....	15
5.1	Site Access Design .....	15
5.2	Turning Lane Assessment .....	15
5.2.1	Site Access Arrangements .....	15
5.3	Sight Distance Assessment .....	16
5.3.1	Sight Distance Requirements .....	16
5.3.2	Available / Assessed Sight Distances.....	17
5.3.3	Sight Distance - Conclusion .....	19

6	TRAFFIC MANAGEMENT PLAN.....	20
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## Figures

Figure 1	Location of Subject Site.....	7
Figure 2	Land Use Planning Zone .....	8
Figure 3	Aerial Photography of Calder Highway (via Drone Footage) .....	9
Figure 4	Views of Biddlestones Road Facing North .....	9
Figure 5	VicRoads Pre-Approved B-Double Haulage Network Map .....	10
Figure 6	VicRoads Pre-Approved Higher Mass Limits (HML) Network Map .....	10
Figure 7	Indicative Site Layout .....	11
Figure 8	Warrants for Turn Treatments at Unsignalised Intersections .....	16
Figure 9	Guide to measuring SISD for unsignalised intersections.....	17
Figure 10	Sight Distance Assessment - Proposed Site Access (via. Biddlestones Road).....	18
Figure 11	Sight Distance Assessment - Calder Highway & Biddlestones Road .....	18

## Appendices

APPENDIX A	Site Layout Plan
APPENDIX B	Swept Path Analysis

# 1 IMPACT<sup>®</sup> Snap Shot

## Development Proposition

<b>Location</b>	<a href="#">36°16'48.5"S 143°24'22.0"E</a>	126 Biddlestones Road, Charlton VIC 3525
<b>Use</b>	Solar Farm & BESS Facility - 5 MW capacity	
<b>Access</b>	Primary access to the subject site will be undertaken from Biddlestones Road.	

## Traffic Considerations

### Traffic Generation

#### Construction Traffic

A total of up to 30 additional daily vehicle movements are expected during peak construction activities (5 heavy vehicles & 25 light vehicles).

#### Operation & Maintenance

Up to two (2) vehicle movements are expected with routine maintenance during operations. There will also be, on occasion some additional movements associated with more thorough maintenance (to be taking place on a 2 and 3 yearly basis, i.e. transformer testing).

#### Traffic Impact

The level of traffic generated from the development is not expected to have any material impact on the operation of the external road network. In addition, to reduce the impact of vehicle movements on the existing road pavement, vehicles accessing the site have been constrained towards single trailer trucks (i.e. no B-doubles).

### Design Considerations

#### Access Design

We are advised that the proposal seeks provide one (1) new crossover of which is located approximately 60m north of Calder Highway / Biddlestones Road intersection.

We are advised that components will be delivered to the site by single trailer trucks (no B-doubles).

#### Turn Treatments

Given low turning volumes (and through traffic) with sufficient sightlines, it is considered appropriate to utilise the full width of Calder Highway for passing if required in place of a more formal BAL/BAR treatments.

By virtue of the minimal movements along Biddlestones Road itself, it is considered appropriate for the site access to operate without any turn treatments.

It is considered appropriate that temporary advanced warning signs be implemented along the site access to mitigate risks and assist with safe accessibility during the construction period.

#### Sight Distances

A desktop assessment shows that there is sufficient sight distance along Biddlestones Road and the proposed Site Access location.

Sightlines at the intersection of Calder Highway and Biddlestones Road demonstrate that sight lines along Calder Highway in the south-east direction are restricted by the road alignment (horizontal curve).

Further to this, it is recommended that a physical sight distance assessment be undertaken prior to construction, and trees be trimmed if required. In addition, it is recommended that traffic management devices (such as "trucks-crossing" or vehicular speed reduction signages) be implemented during the construction period to minimise any risk associated with vehicles accessing Biddlestones Road and Calder Highway.

### Recommendations

#### Maintenance Plan

It is recommended that the applicant liaise with Council to form an agreement on the construction standard required to implement a gravel 'all weather' road along Biddlestones Road between Calder Highway and the proposed Site Access in addition to determining an appropriate maintenance agreement during the construction period.

#### Traffic Management Plan

It is recommended that a detail Traffic Management Plan (TMP) be prepared once the project design is complete and prior to commencement of the project construction, to confirm requirements for mitigation and management works.

## Conclusion

— There are no traffic and transport grounds that should prohibit the issue of a permit.

## 2 Introduction

### 2.1 Engagement

**IMPACT**<sup>®</sup> have been engaged by Tetris Energy to undertake a Traffic and Transport Impact Assessment for the proposed Solar Farm and Battery Energy Storage System (BESS) facility.

### 2.2 Scope of Engagement

This Traffic and Transport Impact Assessment has been prepared to accompany a town planning submission for the proposed Solar Farm and BESS facility located along Biddlestones Road, Charlton.

## 3 Charlton Solar Farm & BESS Facility

### 3.1 Location

The subject site is located on the eastern side of Biddlestones Road in Charlton as illustrated in Figure 1.



Figure 1 Location of Subject Site

## 3.2 Site Context

The site is located approximately 5km south-east of the Charlton Township.

The site is currently vacant farmland which has primarily been used in the past for farming / grazing purposes; the surrounding land in the area is also typically farmland.

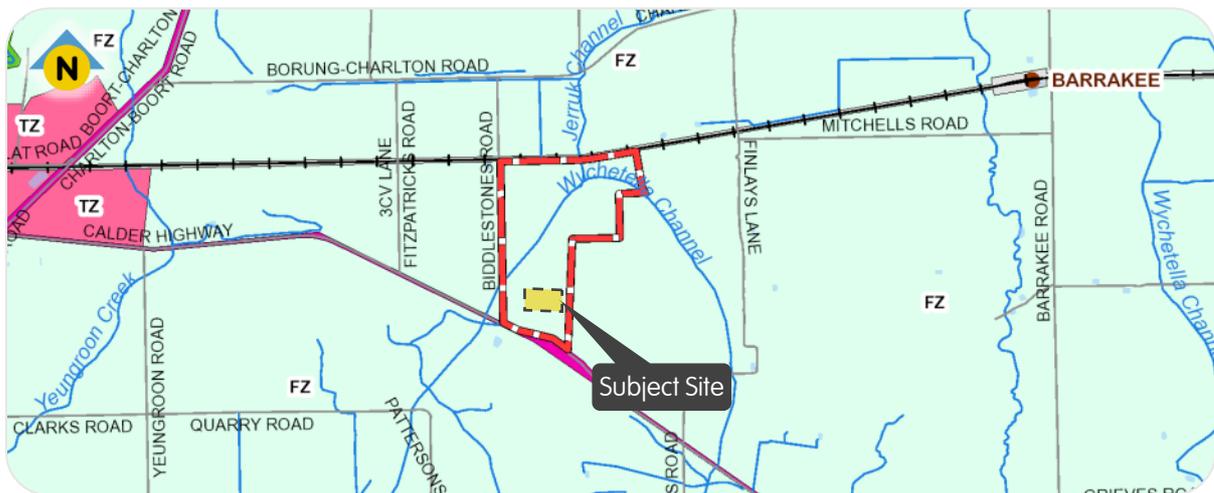
Currently, there is an existing transmission line located on the northern verge of Calder Highway which extends towards the Charlton Township to the north and extends further south parallel to the Calder Highway.

An existing quarry site (Boral Quarries) is located on the other side of Calder Highway opposite the subject site.

## 3.3 Planning Zone

The subject site is located within the Farming Zone (as outlined in the Buloke Planning Scheme) and is illustrated in Figure 2.

No specific overlays relevant to Traffic and Transport apply to the subject site.



**Figure 2** Land Use Planning Zone

### 3.3.1 Planning Framework

#### 3.3.1.1 Clause 53.13 - Renewable Energy Facility

Clause 53.13 of the Victorian Planning Provisions outlines the relevant application requirements associated with the development of renewable energy facilities such as the proposed. Relevant to traffic and access matters, considerations under Clause 53.13 include:

- A design response, including a written report and assessment which addresses:
  - The effect of traffic to be generated on roads.
- The responsible authority must also consider, as appropriate:
  - Whether the proposal will require traffic management measures.

## 3.4 Road Network

### 3.4.1 Calder Highway

Classified as an arterial road, Calder Highway in context to the subject site extends in a general north-south between the Charlton Township located to the north and the Woosang Township to the south.

A review of the aerial imagery shows that in proximity to the subject site, Calder Highway has been constructed with a sealed pavement with approximately 6.0 metres in width, allowing for one-lane in each direction. In addition, shoulder widths of approximately 3.0m is provided along both ends of the carriageway.

A posted speed limit of 75km/hr applies to all vehicles travelling westbound (towards the Charlton Township) whilst a posted speed limit of 85km/hr applies for vehicles travelling eastbound (outbound).

An aerial view of Calder Highway near the site is shown in Figure 3.



**Figure 3** Aerial Photography of Calder Highway (via Drone Footage)

### 3.4.2 Biddlestones Road

Classified a rural living access street, Biddlestones Road generally extends in a north-south direction and is bounded by Calder Highway to the south and Borung-Charlton Road to the north.

A review of the aerial imagery shows that in proximity to the subject site, Biddlestones Road is currently an unformed road with an approximately road width of 4.0m.

Biddlestones Road provides a direct connection to neighbouring properties and is expected to carry minimal traffic at most. For the purposes of this assessment, it is assumed that no more than five (5) vehicle movements per day will be expected along Biddlestones Road.

A view of Biddlestones Road is shown in Figure 4.



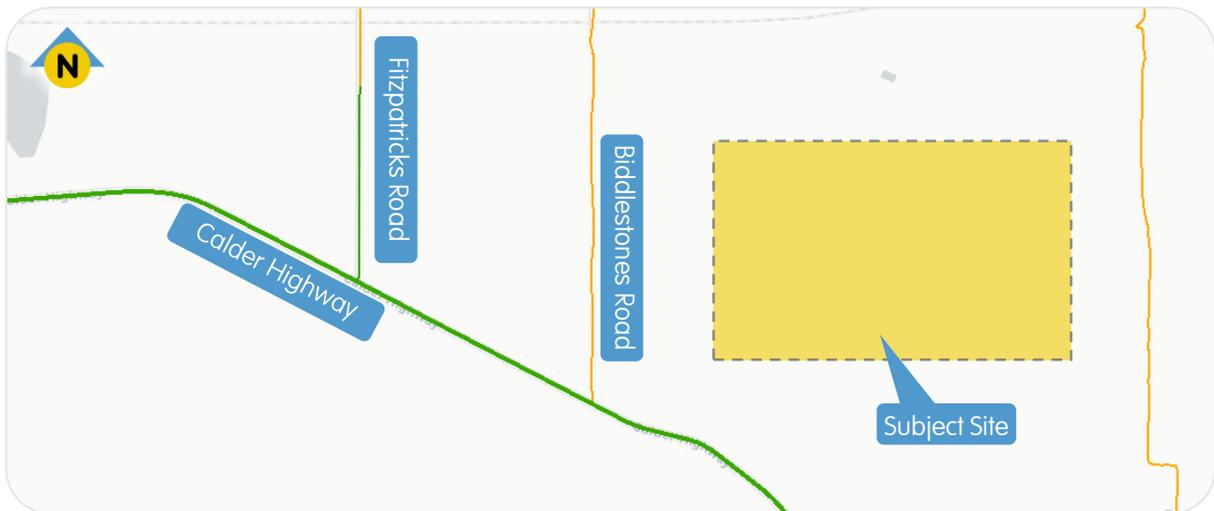
**Figure 4** Views of Biddlestones Road Facing North

### 3.5 VicRoads Road Network Limits

The VicRoads pre-approved B-Double and High Performance Freight Vehicle (HPFV) network in the locality of the development are reproduced in Figure 5 and Figure 6.

These network diagrams are typically read as follows:

- Green Roads - pre-approved for haulage and typically a permit is not required
- Orange Roads - conditionally approved, haulage along these roads are subject to conditions
- Red Roads - restrict access, an assessment and permit is required for haulage along these sections
- Unhighlighted Roads - require an assessment and approval from the responsible authority.



**Figure 5 VicRoads Pre-Approved B-Double Haulage Network Map**



**Figure 6 VicRoads Pre-Approved Higher Mass Limits (HML) Network Map**

As per above, the green lines represent roads which are pre-approved for haulage and typically a permit is not required for haulage on these roads, e.g. Calder Highway. Conversely, the subject site is located along Biddlestones Road which is conditionally approved for access / haulage however subject to conditions.

Noting that Biddlestones Road is currently an unformed road and is unlikely to be trafficable during wet weather conditions. Further to this, it is expected that Biddlestones Road will require some form of pavement update, e.g. to an all-weather pavement to cater for construction vehicles.

### 3.6 Charlton Solar Farm & Energy Storage Facility

**IMPACT**® have been advised that the project will consist of a solar energy facility comprising approximately of 7,560 solar panels (modules) and a capacity to generate up to 5 MW.

It is expected that the site will connect directly into the existing power line located along the northern end of Calder Highway.

A detailed car park / access design has not yet been determined, however **IMPACT**® are advised that:

- Access to the site will be provided via. one (1) proposed crossovers located approximately 60m north of Calder Highway. The site access point will be built to accommodate construction vehicle traffic, including vehicles of up to 19m in length (semi-trailers);
- During construction, vehicles will be stored on-site either within the designated laydown / storage locations, or where construction activities are occurring; and
- During operations, operational, and maintenance staff vehicles will be accommodated on-site within a vehicle parking area located adjacent to the site office.

The current indicative site layout is shown in Figure 7. A detailed copy of this plan attached in Appendix A.



**Figure 7** Indicative Site Layout

## 4 Traffic Considerations

### 4.1 General

The Solar Farm access road network will typically limit internal construction traffic to internal access roads, with only deliveries and staff movements to and from the site required to travel across the external road network.

External traffic generated by the subject site will generally be split into two broad categories:

- General traffic generated by staff & couriers travelling to/from the subject site; and
- Other heavy vehicle movements (HV) which are used for the delivery of solar panel components and construction materials such as aggregate and water.

### 4.2 Traffic Generation

#### 4.2.1 Construction Traffic Volumes

Construction is expected to take approximately four (4) months to complete.

**IMPACT**<sup>®</sup> have been advised by the applicant based on history and experience in constructing Solar Farms of similar size/capacity that the following movements are likely to occur:

- Light Vehicle Movements:
  - Daily peak of up to 25 vehicle movements
- Heavy Vehicle Movements:
  - Daily peak of up to 5 vehicle movements

Accordingly, a total of up to 30 daily vehicle movements are expected.

It is expected that a maximum of 45 workers will be on-site during all stages of construction activity.

It is noted that vehicles larger than a single trailer vehicle (e.g., 26m B-doubles) will not be required during the construction phase and thus all activity will be managed to avoid using these vehicles.

#### 4.2.2 Operation and Maintenance Traffic Volumes

For majority of the time, solar farms operate with limited staff and generate minimal traffic movements.

Accordingly, apart from the initial construction phase, the proposal is anticipated to have a negligible impact upon traffic on the load road network. It is understood that operation and maintenance vehicles will likely occur on a quarterly basis with advanced maintenance operations to be undertaken on a 2 and 3 year basis (i.e. transformer testing). The quarterly site attendance will involve a single commercial vehicle equivalent to a UTE.

To provide a basis for traffic volume estimations, the following traffic generation numbers have been provided by the applicant based on past experiences with Solar Farms of similar capacity:

- Light Vehicle Movements:
  - Daily peak of up to 2 vehicle movements
- Heavy Vehicle Movements:
  - Daily peak of up to 0 vehicle movements

It is expected that a total of four (4) workers will be on site at any given time.

No heavy vehicles are expected over the duration of this phase.

It is anticipated that two (2) parking spaces will be provided (within the designated hardstand zone within the construction area).

In the context of construction traffic and also the existing traffic along Biddlestones Road, operating traffic will be minimal.

## 4.3 Vehicle Access Routes

Vehicle deliveries will be split between various categories. The following sections outlines the anticipated vehicle routes for various types of delivery / construction vehicles.

### 4.3.1 Course Aggregate and Fine Crushed Gravel Deliveries

We understand that both coarse and fine gravel for the construction of hardstand areas and access tracks will be sourced locally.

It is expected that aggregates will be sourced from Boral Quarries located directly opposite to Biddlestones Road and thus will leverage **Calder Highway - Biddlestones Road - Subject Site** to access the site.

### 4.3.2 Water Deliveries

We understand that water deliveries required during construction and for dust suppression will be sourced locally, either from Charlton or the land-owner. The following route will be leveraged for water deliveries from Charlton:

**High Street - Calder Highway - Biddlestones Road - Subject Site**

### 4.3.3 Solar Modules / BESS Components

**IMPACT**<sup>®</sup> are advised that due to the specialised nature of these components, these materials will be sourced from Geelong Port.

It is advised that materials will be transported to the site by road. The anticipated route is as follows:

**Geelong Port - Seabeach Parade - St Georges Road - Cox Road - Anakie Road - Geelong-Ballan Road - Western Freeway - Sunraysia Highway - Dundas Street - Charlton-St Arnaud Road - Back St Arnaud Road - Calder Highway - Biddlestones Road - Subject Site**

### 4.3.4 Construction Staff

During the delivery of the project, it is expected that staff will typically reside in Charlton Township. Accordingly, the majority of staff vehicle movements (bus and light vehicles) will arrive at the site via:

**High Street - Calder Highway - Biddlestones Road - Subject Site**

## 4.4 Traffic Impact

### 4.4.1 Vehicle Access Corridor

#### 4.4.1.1 Access Route

**IMPACT**<sup>®</sup> are advised that the main access points for construction vehicles will be along Biddlestones Road.

As highlighted in Section 3.5, Biddlestones Road is conditionally approved for access of haulage vehicles however will be subject to conditions determined by Council / NHVR.

#### 4.4.1.2 Pavement Conditions

As mentioned previously, Biddlestones Road pavement is currently an unformed road.

To ensure that construction vehicles are able to access the site during construction, we suggest / recommend that the road pavement of Biddlestones Road be upgraded to an 'all weather' pavement standard between Calder Highway and the proposed site access location.

It is suggested that the applicant liaise with Council and agree on the construction standard required for a gravel all weather road, in addition to determining an appropriate maintenance agreement during the construction period.

### 4.4.2 Road Capacity

The proposed development is projected to generate up to 30 additional per day during peak construction activities.

This volume of traffic is not expected to have any material impact on the operation of these roads.

#### Calder Highway

Calder Highway is classified as an arterial road. These roads are typically expected to carry more than 7,000 vehicles per day.

As discussed in Section 3.4.1, Calder Highway currently carries up to 1,800 vehicles per day (or 180 vehicles during the peak hour).

During the peak construction stages of the project, this road can be expected to carry up to 1,830 daily vehicle movements. This level of traffic sits comfortably within the acceptable range for this classification of road.

#### Biddlestones Road

Biddlestones Road is classified as a rural access road. These roads are typically expected to carry up to 50 vehicles each day.

As discussed in Section 3.4.2, Biddlestones Road would likely carry no more than (5) daily vehicle movements under the existing conditions.

Accordingly, during the peak construction stages of the project, this road can be expected to carry up to 35 daily vehicle movements. This level of traffic sits comfortably within the acceptable range for this classification of road.

Accordingly, during the construction stages of the project, the relevant section of Biddlestones Road can be expected to carry in the order of 35 additional daily vehicles and 18 peak period movements (assuming 50% of movements occur during a 'peak' period).

This level of traffic, particularly during the peak period, e.g. 18 peak hour movements (approximately ~1 vehicle movement every 3 minutes) can be comfortably accommodated by Biddlestones Road without any material impact on the operational or safety of this road.

## 5 Design Considerations

### 5.1 Site Access Design

No detailed design for each of the site access points is available at this stage.

We are advised that vehicles accessing the site will be limited to single trailer truck vehicles (no B-doubles).

Swept paths (provided in Appendix B) have been assessed to show access via 19m semi-trailers.

Based on the aforementioned, the access point will be designed to accommodate vehicles up to 19 metres in length.

### 5.2 Turning Lane Assessment

Reference has been made to Austroads Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings<sup>1</sup> (AGTM Part 6). This document provides guidance on the warrants for various turn treatments at unsignalised intersections.

These warrants provide guidance on where a full-length deceleration lane must be used and where a shorter lane, designated Auxiliary Left Turn Lane (AUL) and Channelised Right Turn (CHR), may be acceptable based on traffic volumes.

#### 5.2.1 Site Access Arrangements

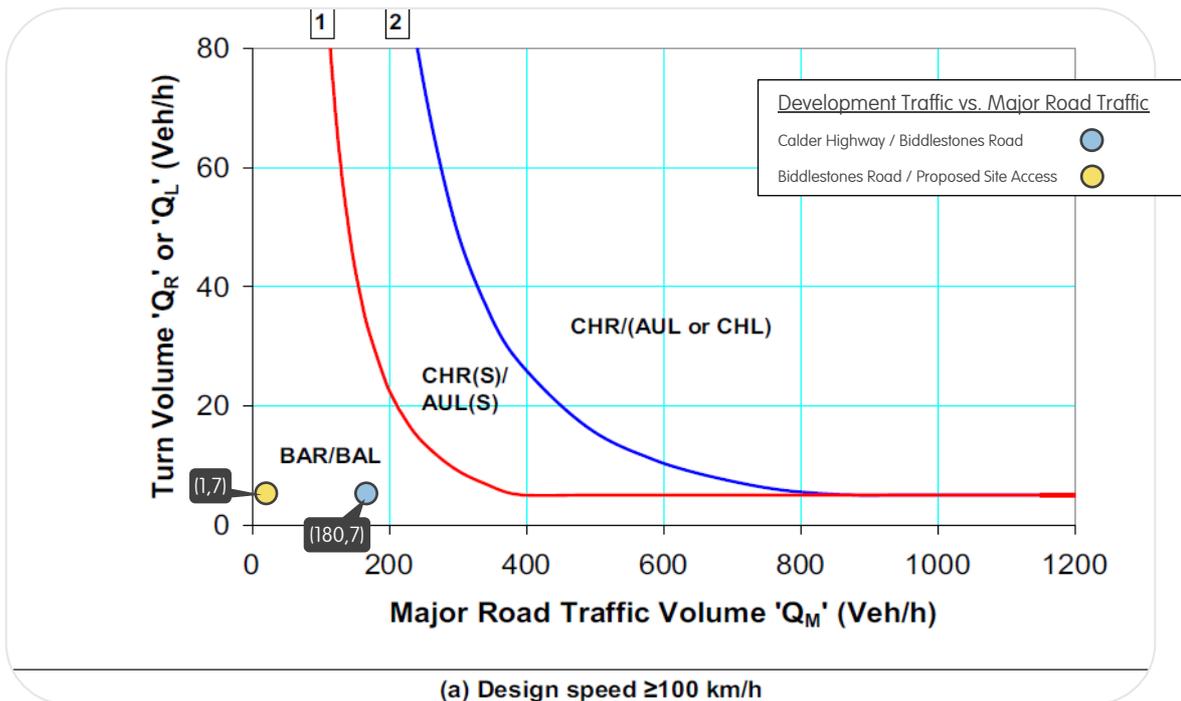
As discussed previously, Calder Highway currently carries up to 1,800 vehicles per day (or 180 vehicles during the peak hour) whilst Biddlestones Roads is expected to carry up to five (5) vehicles per day (or ~1 vehicle during the peak hour).

This proposal is projected to generate in the order of 30 daily vehicle movements during the peak construction period, of which 15 are expected to be inbound vehicle movements. Conservatively, it is assumed that 50% of these inbound movements will occur during the external road peak period, equating to approximately 7 vehicles going to site.

Figure 8 overleaf illustrates the turning lane treatments for unsignalised intersections for the intersections of Calder Highway / Biddlestones Road and Biddlestones Road / Site Access.

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<sup>1</sup> Austroads Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings, Austroads 2017 Edition)



**Figure 8 Warrants for Turn Treatments at Unsignalised Intersections**

Based on the foregoing, the intersections of Calder Highway / Biddlestones Road and Biddlestones Road / Site Access triggers a warrant to provide a Basic Left-Turn (BAL) and Basic Right-Turn (BAR) treatment.

Due to the short-term nature of the construction period (4-month construction period) and the low construction volumes, it is recommended to leverage the shoulders (3.0m wide sealed pavement) for passing if required to facilitate / act as turning lanes in place of a more formal BAL and BAR treatment at the intersection of Calder Highway / Biddlestones Road.

By virtue of the minimal movements along Biddlestones Road itself, it is considered appropriate for the site access to operate without any turn treatments.

It is also recommended to implement traffic management principles / advanced warning signages at the proposed site access during the construction period to assist with vehicle access.

## 5.3 Sight Distance Assessment

A desktop assessment of the sight distance available from the site access points has been undertaken using aerial imagery, Google Street View (where available) and based on site inspections. We note that an on-site assessment should be undertaken to validate the following assessment prior to construction.

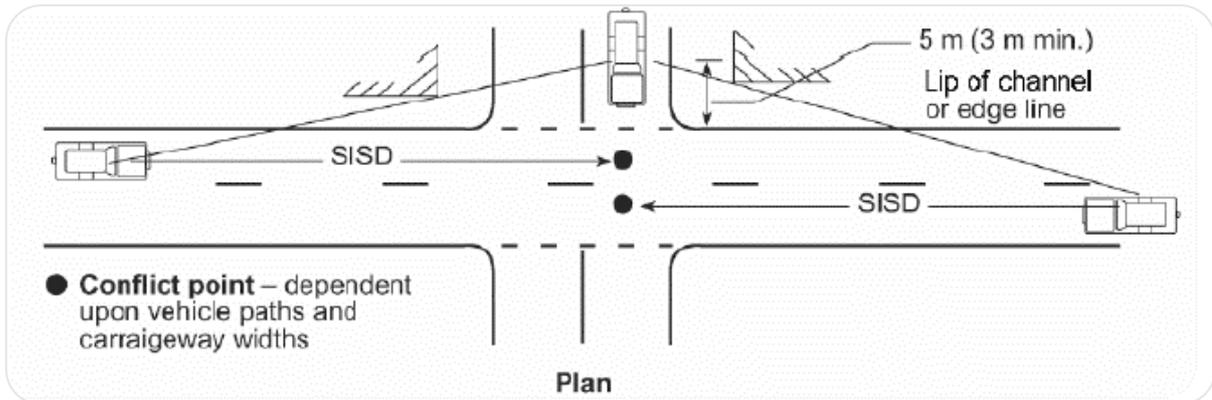
### 5.3.1 Sight Distance Requirements

Austrads Guide to Road Design - Part 4A: Unsignalised Intersections set out the sight distance requirements for unsignalised intersections, including:

- Approach Sight Distance
- Safe Intersections Sight Distance (SISD); and
- Minimum Gap Sight Distance

The guide recommends that Safe Intersection Sight Distances (SISD) is the minimum distance that should be provided on the Major Road at any intersection.

SISD is measured as shown in Figure 9 overleaf.



**Figure 9 Guide to measuring SISD for unsignalised intersections**

The Austroads Guide provides SISD values for commuter vehicles at varying design speeds. For heavy vehicles the SISD values are calculated using the following formulae:

$$SISD = \frac{D_T \times V}{3.6} + \frac{V^2}{254 \times (d + 0.01 \times a)}$$

where

- SISD = safe intersection sight distance (m)
- $D_T$  = decision time (sec) = observation time (3 sec) + reaction time (sec) – refer to *AGRD Part 3* (Austroads 2016b) for a guide to values
- $V$  = operating (85<sup>th</sup> percentile) speed (km/h)
- $d$  = coefficient of deceleration – refer to Table 3.3 and *AGRD Part 3* for a guide to values
- $a$  = longitudinal grade in % (in direction of travel: positive for uphill grade, negative for downhill grade)

Based on the formula above, the minimum SISD requirements can be determined for the following operating speeds:

- 100 km/hr design speed
  - Minimum SISD of 317 metres for heavy vehicles

## 5.3.2 Available / Assessed Sight Distances

### 5.3.2.1 Biddlestones Road & Site Access

The site access located along Biddlestones Road is relatively straight and flat. In addition, the trees at the proposed access are set back from the road carriageway as to not impede on sight distances.

By virtue of these conditions, sightlines to and from the proposed access point are relatively unrestricted.

It is noted that the site access is located approximately 60m north of Calder Highway and as such is recognised that vehicles travelling to and from the intersection of Calder Highway and Biddlestones Road will do so under a slow speed environment. This is not expected to impede on the operation or safety of the proposed site access location.

Further to this, a desktop assessment reveals that vehicles can achieve sight distances in the order of 350 metres (in the north direction). However, it is unlikely that vehicles will be travelling from this direction as the majority of movements will occur to the south at the intersection of Calder Highway and Biddlestones Road.

Sight distances at this intersection to the north and south are expected to exceed the minimum requirement as illustrated in Figure 10.



**Figure 10** Sight Distance Assessment - Proposed Site Access (via. Biddlestones Road)

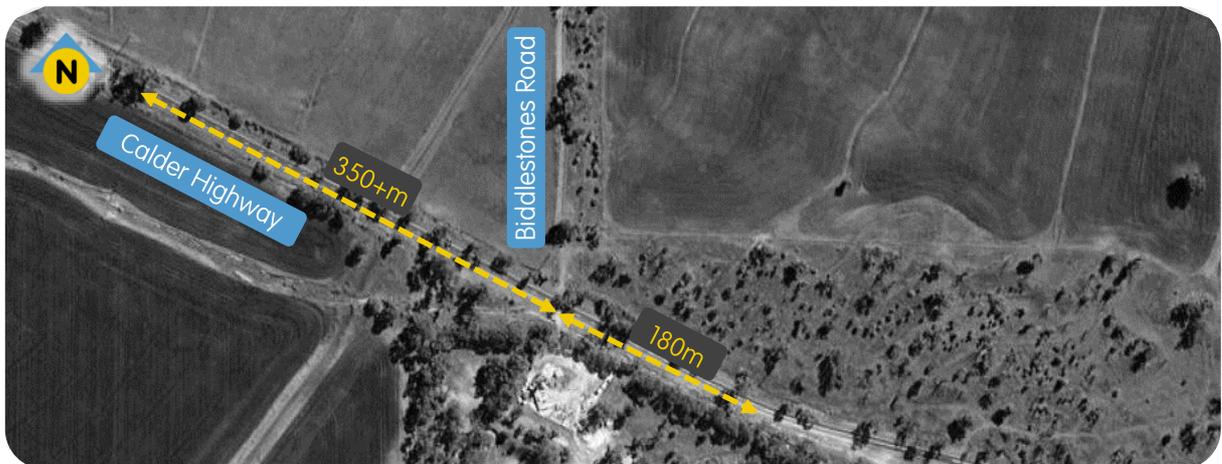
### 5.3.2.2 Calder Highway & Biddlestones Road

The intersection of Calder Highway / Biddlestones Road currently has unrestricted sightlines when facing the north-west (e.g. along Calder Highway inbound to Charlton Township) where this section of road is relatively straight, flat and clear of vegetation.

In the south-east direction (e.g. along Calder Highway), sightlines are restricted by trees in addition to the horizontal curve / geometry of the road.

Further to this, a desktop assessment reveals that vehicles can achieve sight distances in the order of 350 metres (in the north-west direction). However, a maximum sight distance on 180 metres (in the south-east direction) can be achieved.

Figure 11 depicts the available sight distances at the intersection of Calder Highway and Biddlestones Road.



**Figure 11** Sight Distance Assessment - Calder Highway & Biddlestones Road

### 5.3.3 Sight Distance - Conclusion

Based on the foregoing, it can be concluded that adequate sight lines are available for vehicles travelling to / from the proposed site access location.

At the intersection of Calder Highway and Biddlestones Road, sight lines are sufficient for the north-west direction however are limited in the south-east direction.

We recommend, that prior to construction, an on-site assessment be undertaken to confirm that there is no vegetation impeding on the integrity of the available SISD's (minor trimming could be undertaken if required).

In addition, we recommend adopting traffic management devices, such as 'trucks crossing' and temporary speed reductions which could be used to supplement the lack of sight lines if deemed necessary.

Further to this, smaller construction vehicles, e.g. 19m semi-trailers are proposed and used in place of larger 26m b-doubles to minimise the risk associated with trucks turning out onto the Calder Highway.

## 6 Traffic Management Plan

Subject to the appointment of a supplier / construction contractor and other considerations, aspects of the Charlton Solar Farm and BESS Facility (the project) may be subject to review.

In addition, construction / work programs for the project will not be fully resolved until closer to the project commencement. As such, subject to commencement timeframes, there is potential for changes to the existing road conditions and Solar Farm haulage assumptions as considered within this report.

Based on the foregoing, and our experience with similar projects, we expect that a detailed Traffic Management Plan (TMP) will need to be prepared prior to the commencement of the construction of the project to confirm any mitigation measures and management works required at that time.

The TMP would be implemented as a condition of any Development Consent issued for the Solar Farm and would be developed in consultation with Council, VicRoads, and any other relevant stakeholders to provide a more accurate indication of traffic impacts and generally identify responsibilities for road maintenance and upgrades throughout the construction period.

In general, the TMP should include:

- Confirmation of the Solar Farm construction timeframe and work stages.
- Confirmation of expected traffic volumes generated by the solar farm for all work stages.
- Identification of all HV and OD vehicle haulage routes for all work stages.
- A mechanism to review identified haulage route road conditions prior to the commencement of works.
- Mechanisms/agreements (if deemed necessary) to maintain haulage route roads and road infrastructure, including local public roads used by site traffic, during construction works and to reinstate roads to at least pre-construction conditions.
- Qualify any requirement for specific work stage construction traffic management plans.
- Qualify and identify any relevant mechanisms for OD vehicle permits and traffic management requirements.
- Confirm on-site the adequacy of available sight distances along Biddlestones Road from the site access.

Note that this is not an exhaustive list, and that the final TMP requirements will be as per those outlined in the Development Consent.

# APPENDIX A

## Site Layout Plan



**GENERAL NOTES:**

1. PARCEL BOUNDARY IS BASED ON VICPLAN.
2. THIS LAYOUT IS A PRELIMINARY DESIGN.
3. TRACKER DIMENSION IS APPROXIMATE ONLY. ACTUAL DIMENSION SHALL BE CONFIRMED WITH TRACKING SUPPLIER.
4. STRING CONFIGURATION IS ASSUMED TO BE 30 MODULES PER STRING. THIS IS SUBJECT TO ELECTRICAL SPECIFICATION OF THE SELECTED PV MODULE AND SHALL BE CONFIRMED DURING DETAILED DESIGN

**PROJECT SPECIFICATIONS**

AC CAPACITY AT POINT OF CONNECTION	3.675	MW ac
INSTALLED AC CAPACITY	3.675	MW ac
DC CAPACITY AT STC	4.91	MW dc
DC:AC RATIO	1.34	
BATTERY STORAGE	1.3/2.6	MW/M Wh
TRACKER CONFIGURATION	1P	
2-STRING TRACKER DIMENSIONS (60-MODULE)	83.2 x 2.385	m
1-STRING TRACKER DIMENSIONS (30-MODULE)	42 x 2.385	m
TRACKER PITCH	6	m
TRACKER AZIMUTH	0	-
INVERTER CAPACITY	3.675	MVA
MODULE TYPE	Mono PERC Bi-Facial	
MODULE POWER	650	W
MODULES PER STRING	30	
MODULES PER TRACKER	30 / 60	
STEP UP TRANSFORMER	1	
TOTAL INVERTERS	21	
TOTAL TRACKERS (60 MODULE)	126	
TOTAL TRACKERS (30 MODULE)	-	
TOTAL MODULES	7,560	
SITE AREA	11.1	Ha
SITE PERIMETER	1.144	m

**LEGEND:**

	GATE
	ACCESS ROAD
	SWITCH ROOM
	TRANSFORMER
	1.3MW BESS (TESLA MEGAPACK)
	POINT OF CONNECTION
	PROPOSED FENCE
	OH POWERLINE
	PARCEL BOUNDARY
	2-STRING TRACKERS

C	PRELIMINARY DESIGN	PC	07/12/21
B	PRELIMINARY DESIGN	PC	16/11/21
A	PRELIMINARY DESIGN	PC	15/11/21
REV:	DESCRIPTION:	BY:	DATE:

STATUS: **CONCEPT DESIGN**  
NOT FOR CONSTRUCTION

CLIENT: **TETRIS ENERGY**

DESIGNER:

SITE: **CHARLTON SOLAR FARM**

TITLE: **OVERALL SITE LAYOUT**

SCALE AT A1: 1:2000(m)	DATE: 07/12/21	DRAWN: PC	AUTHORISED: PC
PROJECT NO: P21-0012	DRAWING NO: P20-0012-01	REVISION: C	



POINT OF CONNECTION

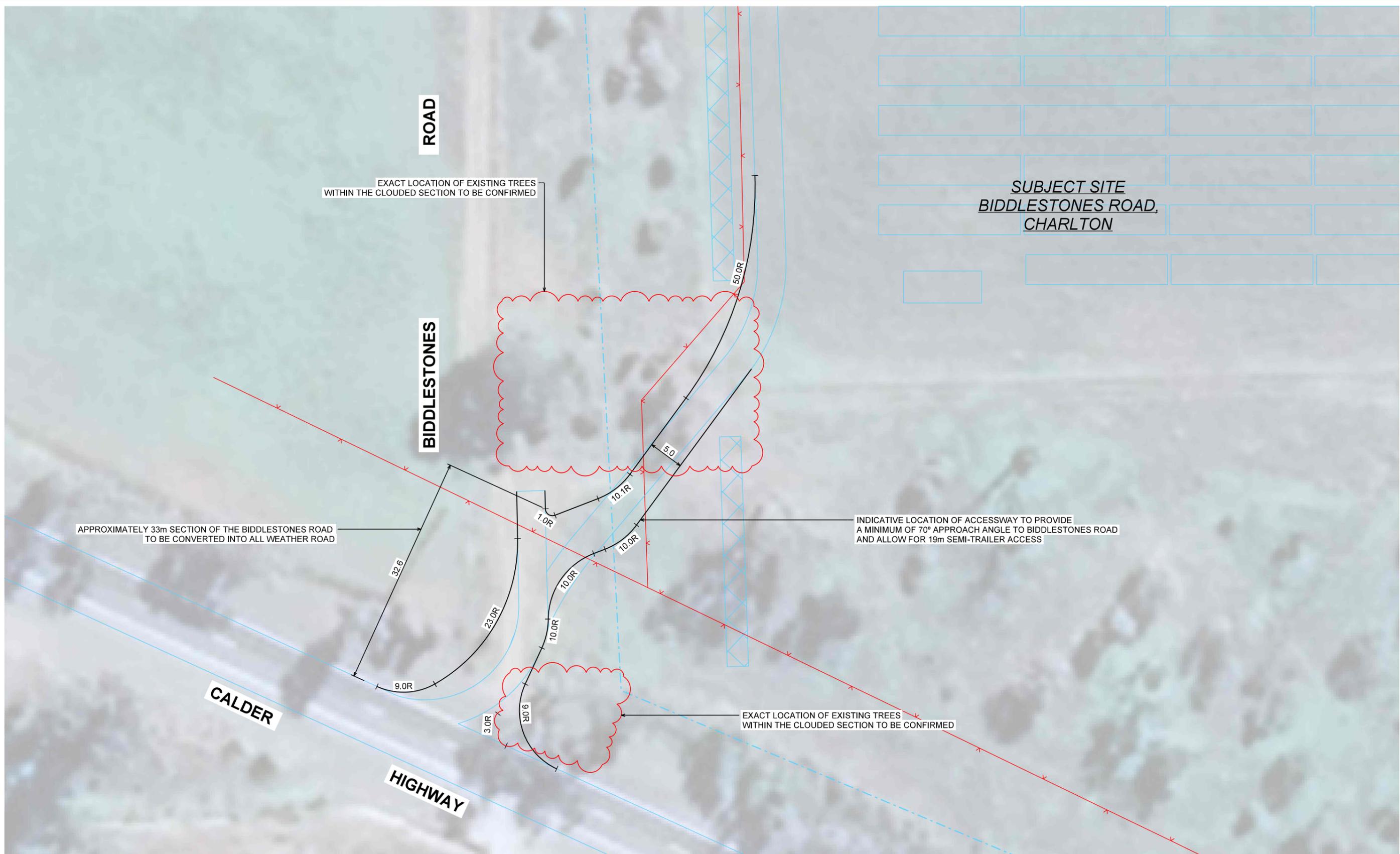
PARCEL BOUNDARY

CALDER HIGHWAY

# APPENDIX B

## Swept Path Analysis

Design Vehicle  
— 19m Semi-Trailers



APPROXIMATELY 33m SECTION OF THE BIDDLESTONES ROAD TO BE CONVERTED INTO ALL WEATHER ROAD

INDICATIVE LOCATION OF ACCESSWAY TO PROVIDE A MINIMUM OF 70° APPROACH ANGLE TO BIDDLESTONES ROAD AND ALLOW FOR 19m SEMI-TRAILER ACCESS

EXACT LOCATION OF EXISTING TREES WITHIN THE CLOUDED SECTION TO BE CONFIRMED

EXACT LOCATION OF EXISTING TREES WITHIN THE CLOUDED SECTION TO BE CONFIRMED

- GENERAL NOTES:
1. ALL DIMENSIONS ARE TO FACE OF KERB AND CHANNEL UNLESS NOTED OTHERWISE.
  2. LOCAL ROADS - BIDDLESTONES ROAD (SPEED ZONE 100KM/H).  
DECLARED ROADS - CALDER HIGHWAY (SPEED ZONE 100KM/H).
  3. BASE INFORMATION FROM GOOGLMAP AERIAL PHOTOGRAPHY AND TETRIS ENERGY P21-0021-01 v3.dwg DATED 17.01.2022

21/01/2022 12:28:43 PM

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ABN 78 611 424 107  
LEVEL 17, 31 QUEEN STREET, MELBOURNE VIC 3000  
create@impactaustralia.com.au  
ImpactAustralia.com.au

MELWAY ONLINE REF: MAP X920 H6  
SCALE  
1:500 @ A3

Client  
**TETRIS ENERGY**

Project  
CHARLTON SOLAR FARM & STORAGE FACILITY  
BIDDLESTONES ROAD, CHARLTON  
SHIRE OF BULOKE

Title  
**PROPOSED SITE ACCESS PLAN**

Date 2022-01-21 Drawn / Approved SGM / HM	Status <b>PRELIMINARY</b>
Drawing Number <b>IMP2111041 - DG-01-01</b>	Revision Description ISSUED FOR INFORMATION
Revision <b>B</b>	

ROAD

BIDDLESTONES

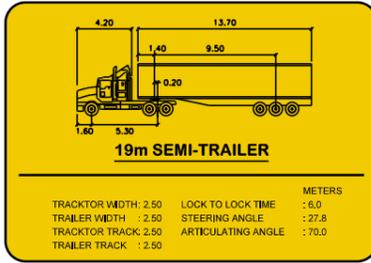
SUBJECT SITE  
BIDDLESTONES ROAD,  
CHARLTON

19m SEMI-TRAILER INGRESS SWEEP PATH  
0.5m CLEARANCE SHOWN

19m SEMI-TRAILER EGRESS SWEEP PATH  
0.5m CLEARANCE SHOWN

CALDER

HIGHWAY



**TETRIS ENERGY**

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IMPACT TRAFFIC ENGINEERING PTY LTD  
ABN 78 611 424 107  
LEVEL 17, 31 QUEEN STREET, MELBOURNE VIC 3000  
create@impactaustralia.com.au  
ImpactAustralia.com.au

MELWAY ONLINE REF: MAP X920 H6

SCALE  
**1:500 @ A3**

Client  
**TETRIS ENERGY**

Project  
CHARLTON SOLAR FARM & STORAGE FACILITY  
BIDDLESTONES ROAD, CHARLTON  
SHIRE OF BULOKE

Title  
**PROPOSED SITE ACCESS PLAN  
SWEEP PATH ANALYSIS - 19m SEMI-TRAILER**

Date  
2022-01-21  
Drawn / Approved  
SGM / HM

Drawing Number  
**IMP2111041 - DG-01-02**

Status  
**PRELIMINARY**

Revision Description  
ISSUED FOR INFORMATION

Revision  
**B**

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● *Simplexity*