



pricemerrett

C O N S U L T I N G

Hillston Solar Farm Traffic Impact Assessment Report

F8538

9478 Murray Valley Hwy
PO Box 313
KERANG VICTORIA 3579
Ph: (03) 5452 2490
Fax: (03) 5452 2566
E-mail: pmc@pricemerrett.com.au
www.pricemerrett.com.au

ABN: 62 903 527 353
ACN: 139 256 938



SURVEYING
ENGINEERING
IRRIGATION
PROJECT
MANAGEMENT

Version	Doc version	Written by	Approved by	Date issued
1	Draft	Mark Carter		03/12/2019

Project Details

Project Name	Hillston Solar Farm
Client	
Report Authors	Mark Carter
PMC Project Reference	F8538

Author: Price Merrett Consulting Pty. Ltd.

©The design is copyright and owned by Price Merrett Consulting Pty. Ltd. (the designer). Any change to the design without the permission of the designer contributes a breach of copyright.

©Price Merrett Consulting Pty. Ltd. No portion of this report may be reproduced in any form without written permission from the authors.

Disclaimer: This publication has been produced as part of a process for a specific purpose and in response to specific instructions. It should not be used for any other purposes unless agreed in writing by Price Merrett Consulting P/L. No liability is accepted by Price Merrett Consulting P/L or co-authors to any party other than our client. This document remains the property of Price Merrett Consulting P/L.

The author disclaims all liability for any error, loss or other consequence which may arise from the use of any information in this publication.

Table of Contents

1	Introduction	4
2	Existing Conditions	4
2.1	<i>Location</i>	4
2.2	<i>Existing Access Arrangement</i>	6
2.3	<i>Kidman Way</i>	7
3	Proposal	8
4	Traffic Engineering Assessment	11
4.1	<i>Traffic Impacts.....</i>	11
4.1	<i>Proposed Site Access</i>	11
5	Conclusion	13
6	References.....	13

1 Introduction

This report entails a Traffic Impact Assessment Report (TIAR) for the development of the Hillston “Daisy Hill” Solar Farm on the Kidman Way (B87). The TIAR will review, traffic volumes, traffic growth and accident statistics to evaluate the adequacy of the proposed works for safe operation of the Hillston Solar project during the construction phase and into the future.

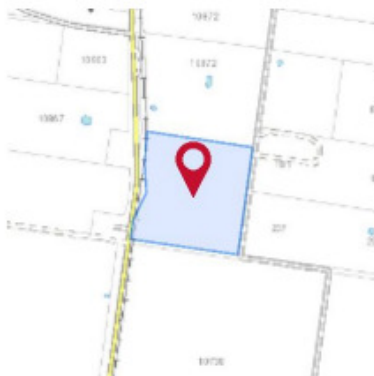
The traffic and transport implications of the proposed development are documented in this report.

The development will provide approximately 50 jobs during the construction phase which will be a great economic boost for the region.

2 Existing Conditions

2.1 Location

The subject site is within the ‘Primary Production’ land zone. The site is located on Lot 103 DP755189, Kidman Way, Hillston, and NSW 2675 (referred to as “Hillston 1A”). The development falls within the Carrathool Shire Council area. (Lat/Long: -33.5132, 145.537)



The site is located 2.8km south of the township of Hillston. There is a power substation facility on the land across the Kidman Way west of the site. A rail line (Temora-Roto) runs along the west boundary of the property which is infrequently used. The proposed solar site is currently used for primary production and has been a wheat cropping paddock.

A new site access has been proposed on the east of the property from Norward Lane.

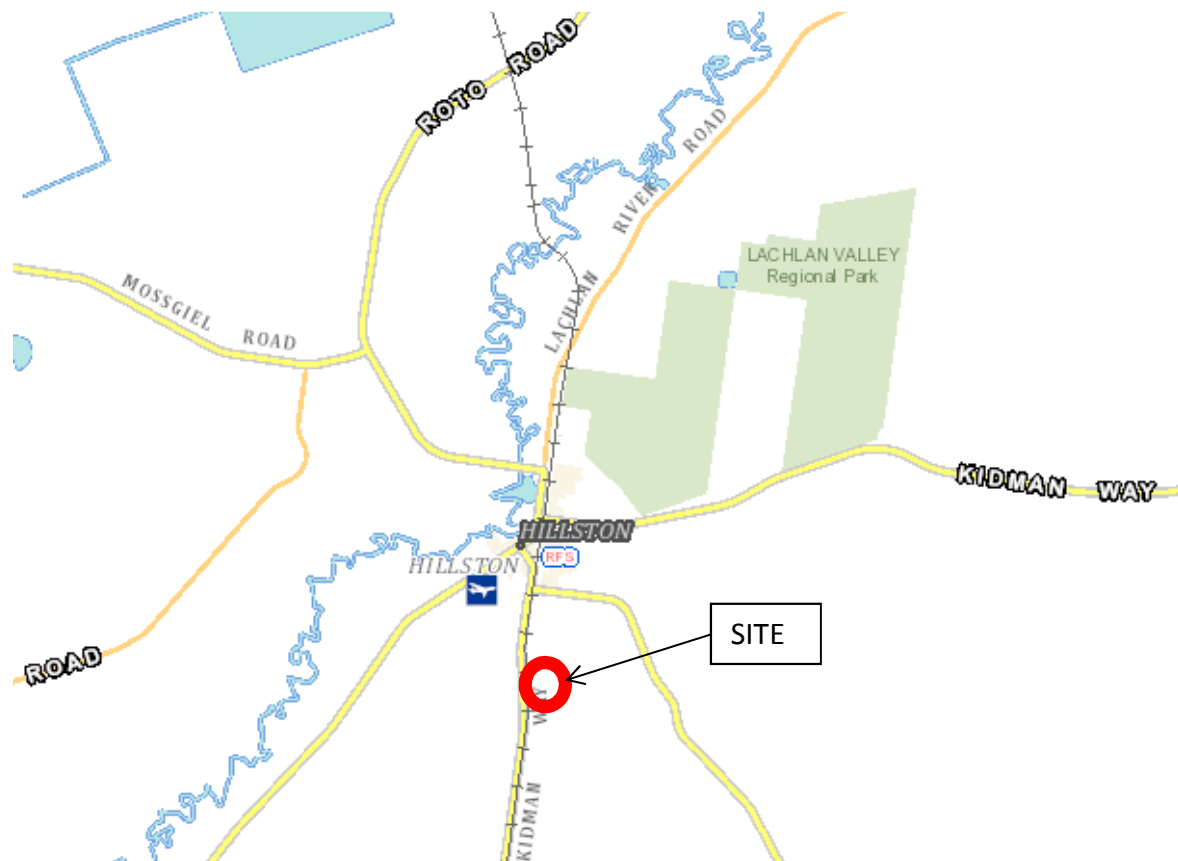


Figure 1 – Site Location (Image from NSW Six Maps)

2.2 Existing Access Arrangement

The site is currently accessed from Norwood Lane which starts at The Springs Road and runs south to access the eastern boundary of the property. Norwood Lane is a gravel track which turns to dirt just south of the neighbouring house. The western access which crosses over the rail will not be used due to safety issues.

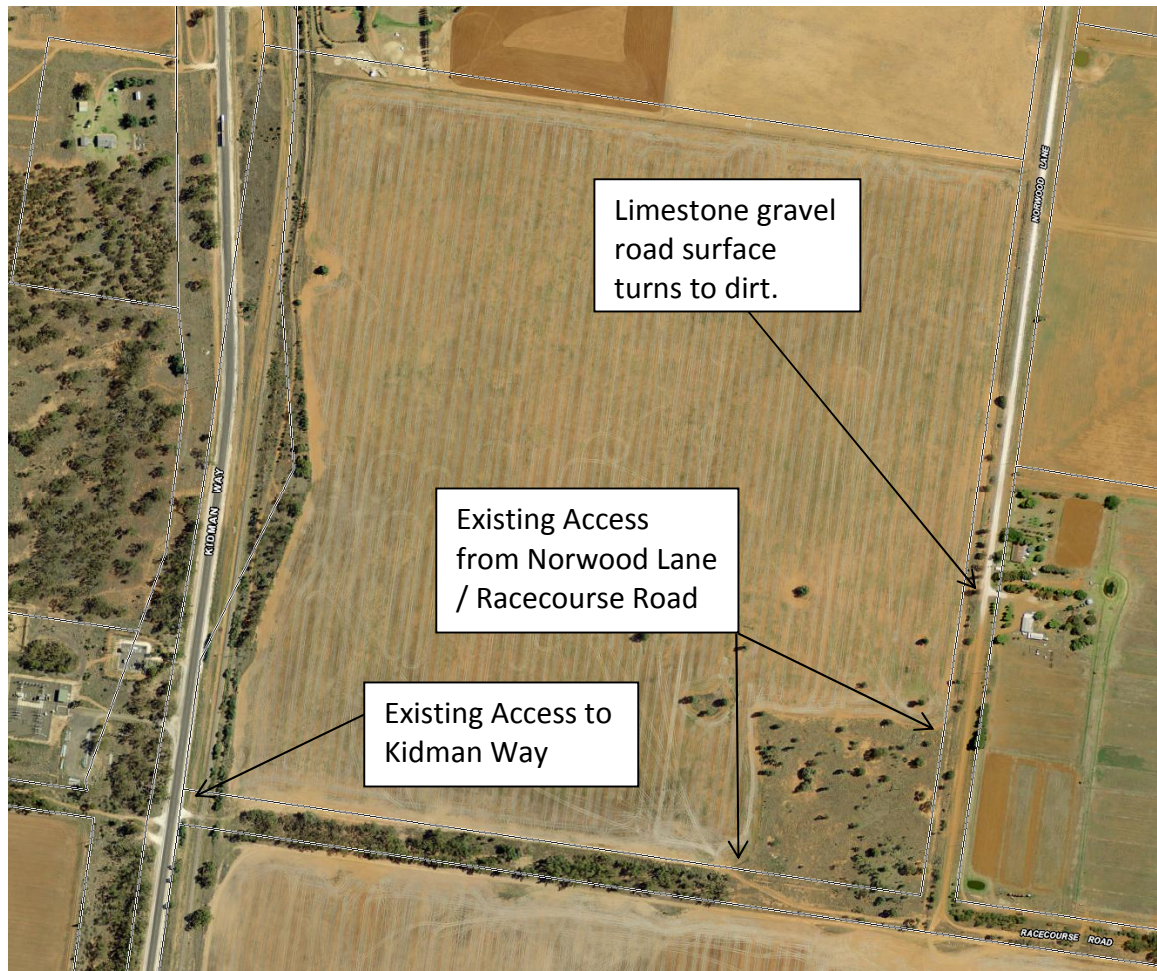


Figure 2 – Existing access points

Safe intersection site distances should be provided for access points. The existing access from Norwood Lane is within the 100 km/hr zone and therefore would have SISD of 285m for a reaction time of 2.0 sec.



Figure 3 – Proposed Solar development and access point

2.3 Kidman Way

Kidman Way (B87) is a state highway located in the western Riverina. The highway services rural communities of the Murrumbidgee Irrigation Area and links the Newell Highway with the Sturt, Mid-Western, Barrier, Mitchell and Kamilaroi highways.

Traffic count data on the Kidman Way from 2007 data south of the site are:

- Two way, average daily volume : 500
- Heavy vehicle percentages (class 3 to 12) : 26 %

2.4 The Springs Road

The Springs Road is a Council managed road and has a channelised intersection with Kidman Road. The intersection with Norwood Lane which is gravel, is a typical rural low traffic intersection arrangement. There are excellent site lines in both directions, well over the required 285m.

3 Proposal

The solar farm is to have a DC capacity of 10 MW and will cover an area of approximately 30ha which will take up approximately half of the site.

During construction phase there will be a large number of Semi-Trailer heavy vehicles (approx. 90 x 19m) accessing the site delivering panel components.

The delivery of equipment will be spread out during the construction phase over a 20 week period to minimise the amount of storage pad required. Installation of the components will be occurring during delivery therefore completion of the site should occur within approximately 6 months. Upon completion of construction of the solar arrays, the traffic generation at the site will be very low and only comprise the infrequent service vehicles.

During the construction phase the work site will involve the following:

Week 1 – 4

Establishment phase

Earthworks and general site establishment and fencing to construct new access and site compound development. This will comprise graders, rollers and water carts.

Norwood Lane gravel would be extended to the new access point.

Likely traffic generation during this period is:

- 6 to 8 light vehicle trips per day (earthworks contractor's staff 4-5).
- 10-15 Truck and trailer loads of gravel over approximately 2-3 days

Week 4-24 (6 month period)

Construction Phase

Main construction of piers, installation of panels and underground infrastructure.

Site operation includes:

- 50 construction workers
- Operating hours 7am to 4pm Monday to Friday
- Potential shuttle bus service to and from the site.

Expected traffic generation during the construction phase will be:

- 60 Semi Trailers (19m articulated) including
 - 10 for site establishment (buildings etc)
 - 2 for delivery of inverters
 - 24 for delivery of mounting systems
 - 15 for delivery of balance of system
 - 9 for demobilisation
- 30 x 19 Semi Trailers (19m articulated) for PV Module delivery

Week 10-12

Commissioning

Specialist electrical contractors will commission the site through light or heavy rigid vehicles 12m.

- 10 construction workers
- Operating hours 7am to 4pm Monday to Friday

Transport Route

The trucks delivering the solar system will likely come from Melbourne which would take a route through Shepparton, Tocumwal, Finley, Jerilderie and up the B87 to Hillston.

Traffic Impact and Assessment Report for Hay Solar Farm

4 Traffic Engineering Assessment

4.1 Traffic Impacts

During the 24-week construction period up to 90 semi-articulated trucks will access the site with an expected daily maximum likelihood of 4 trucks. The trucks will access the site throughout the day generally between 10am and 2 pm and would therefore not contribute to morning or afternoon peak hour of existing commuters in the area.

Construction workers are likely to be in the order of 10-20 vehicles entering the site in the morning between 6:30 to 8:00am and leaving at the afternoon peak around 4:00 to 5:00pm. These will be light vehicles and or shuttle bus service. These movements are expected to be 90% between Hillston township and the site.

These additional traffic numbers from staff and heavy vehicles will not impact on the operation of the intersection of Kidman and The Springs Road.

The turning movements onto Norwood Lane are very low and impacts from short term construction works will be minimal. It is recommended that during the construction period, Trucks on Road signs (W5-22A) should be installed 250m either side of the Norwood Lane intersection on The Springs Road.

4.1 Proposed Site Access

The proposed access for the development off Norwood Lane has adequate sight lines and will be suitable for heavy vehicle access

The new access would accommodate a 19m vehicle and have minor alterations to the fence to allow a 26m vehicle to pull off Norwood Lane.

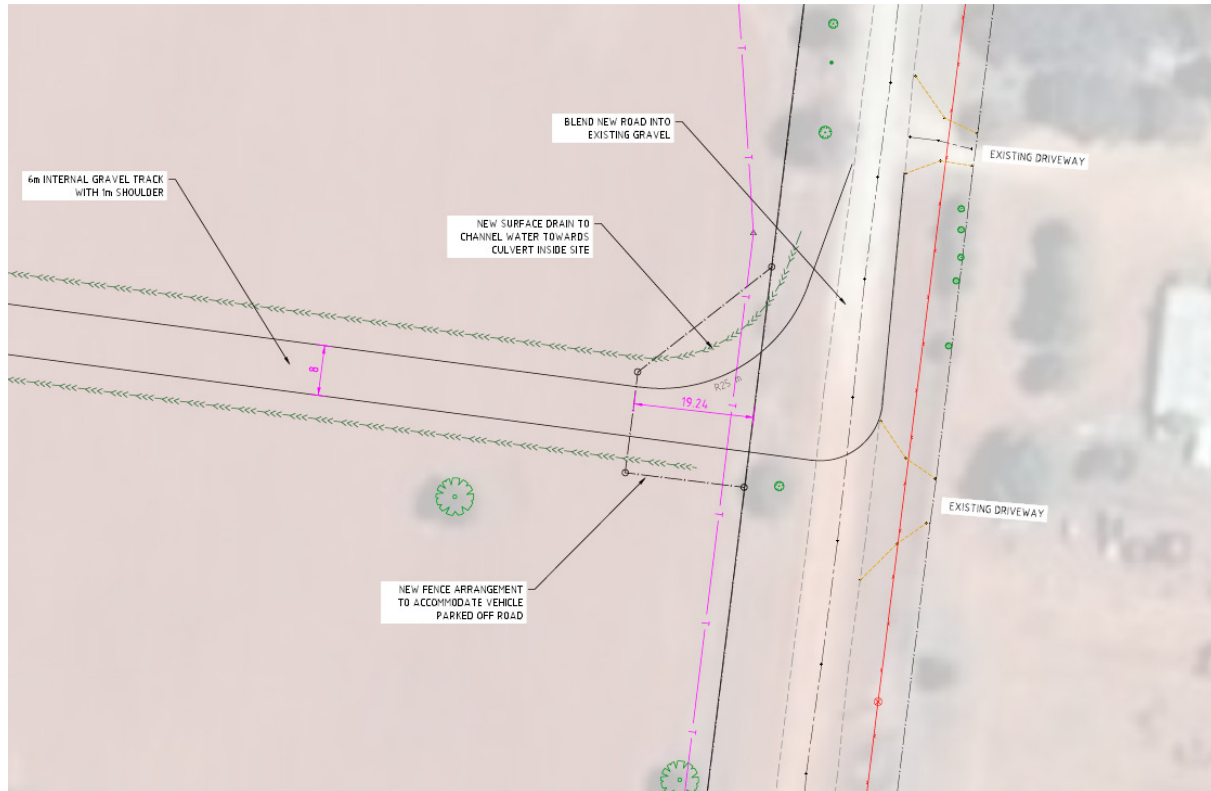


Figure 5 – Proposed western access arrangement

5 Conclusion

The relevant documents, plans and traffic counts have been perused for access requirements to the proposed solar farm development off Norwood Lane.

The main findings and proposed upgrades are outlined below:

Recommendations

- i. A new access point to Lot 103 DP 755189 should be constructed.
- ii. Proposed Right Turn In only and Left turn out only is suitable from Norwood Lane and there are no major geometry issues.

Findings

- iii. Sight lines for the proposed access are adequate from Norwood Lane and The Spring Road.

Proposed Works

- iv. New access to be designed to accommodate the largest vehicles expected (19m Semi) and constructed to a standard to accommodate initial construction phase.
- v. Construction vehicle signs to be erected on The Spring Road during construction phase to notify motorist.

6 References

- Austroads Guide to Road Design Part4A: Unsignalised and Signalised Intersections (2017)
- Austroads Guide to Road Design : Part 3 (2016)
- Austroads Guide to Traffic Management Part 3: Traffic Studies and Analysis (2017)
- RTA traffic NSW Guide to Traffic Generating Developments (2002)