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TDG Ref: 14552
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Issued via email: gemma.b@nghenvironmental.com.au

Dear Gemma

Coleambally Solar Farm - Access Design

TDG has reviewed the proposed access arrangements for the Coleambally Solar Farm. The solar farm is located on the southwestern corner of the Kidman Way / Ercildoune Road intersection. Access to the site will be provided via Ercildoune Road approximately 150-300 metres west of Kidman Way. The proposed access design is shown within Appendix A. The intersection of Kidman Way and Ercildoune Road is proposed to be upgraded as part of the access design. An assessment of the design is provided below.

1. Intersection Assessment

The Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections (Austroads Guide) specifies the turning treatments required at intersections. In particular, Figure 4.9 specifies the required turn treatments on the major road at unsignalised intersections. Figure 4.9 is provided below:

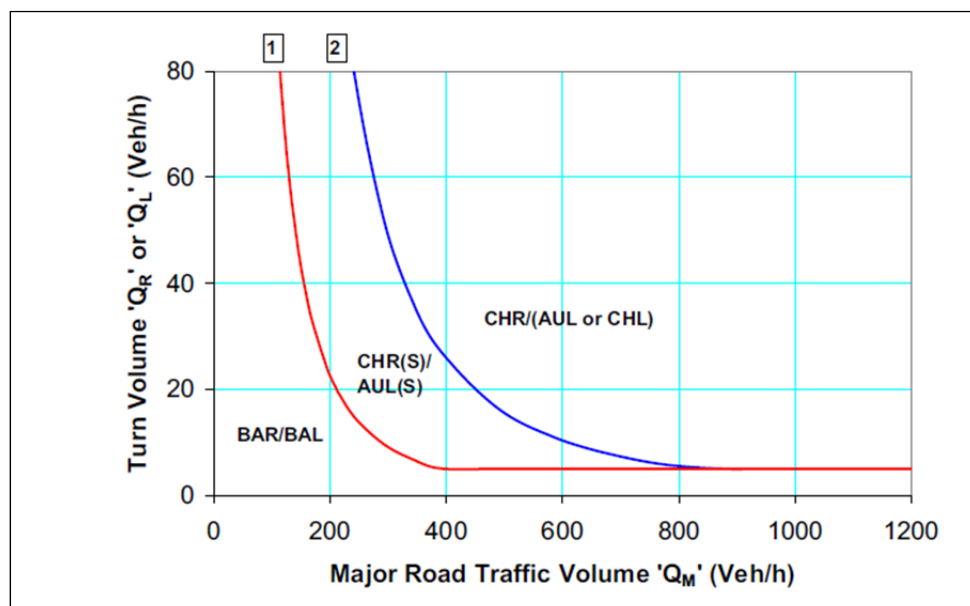


Figure 1: Figure 4.9 from the Austroads Guide



During the construction phase of the solar farm, when traffic generated will be at its peak, approximately 160-175 vehicle trips are expected to be generated per day. Assuming 10% of these trips are generated during peak periods, the site will generate approximately 16-18 vehicle movements during the peak hour. This would generate approximately four vehicle movements to/from Ercildoune Road from each direction.

No traffic volumes were available from the RMS Traffic Volume Viewer for Kidman Way. However, traffic volumes were available for Newell Highway to the south of the site. Newell Highway generates approximately 2,000 vehicle movements per day. Conservatively using this figure for Kidman Way would result in an approximate hourly volume of 200 vehicles per hour.

Based on these volumes the intersection would require Basic Right Turn (BAR) and Basic Left Turn (BAL) turning treatments. These turning treatments have been provided in accordance with the Austroads Guide and illustrated within Appendix A. It is noted that the design vehicle is a 36.5 metre long A-Double as Kidman Way is a Road Train Route.

Accordingly, it is considered that the proposed intersection turning treatments have been appropriately designed and in accordance with the Austroads dimensional requirements.

2. Access Design

It is proposed to provide access to the site from Ercildoune Road approximately 150-300 metres west of Kidman Way (shown as 200 metres in Appendix A). Ercildoune Road is proposed to remain unsealed but will be constructed to accommodate the vehicles that will access the site, to the satisfaction of the Responsible Authority. The access will be designed to accommodate the largest vehicle expected to access the site, and a culvert will be provided to provide access over Tubbo Channel. A swept path assessment for the access is provided within Appendix A, utilising the AutoTurn software, which shows that suitable access has been provided. Accordingly, it is considered that the access has been appropriately designed.

3. Sight Distance

The Safe Intersection Sight Distance (SISD) is the minimum distance which should be provided on the major road at any intersection. Table 3.2 of the Austroads Guide specifies that for a design speed of 100km/hr, and a reaction time of 2.0 seconds (considered appropriate given the location and surrounds of the site), a sight distance of 248 metres is required.

Given the flat and straight alignment of Ercildoune Road the available sight distance to the west exceeds the Austroads requirement, and the sight distance to the east extends to its intersection with Kidman Way. Accordingly, the sight distance at the access is considered acceptable.

4. Conclusion

Based on the above assessment it is considered that the proposed access arrangements for the solar farm are suitable to accommodate the vehicle type and traffic volumes generated during the construction phase. During regular operation the traffic generated by the site will be significantly less. It is also considered that the upgrade to the Kidman Way / Ercildoune Road intersection is in accordance with the Austroads Guidelines. Further, the sight distance at the access exceeds the requirements of the Austroads Guidelines. Therefore, the access arrangements are considered suitably designed and acceptable.

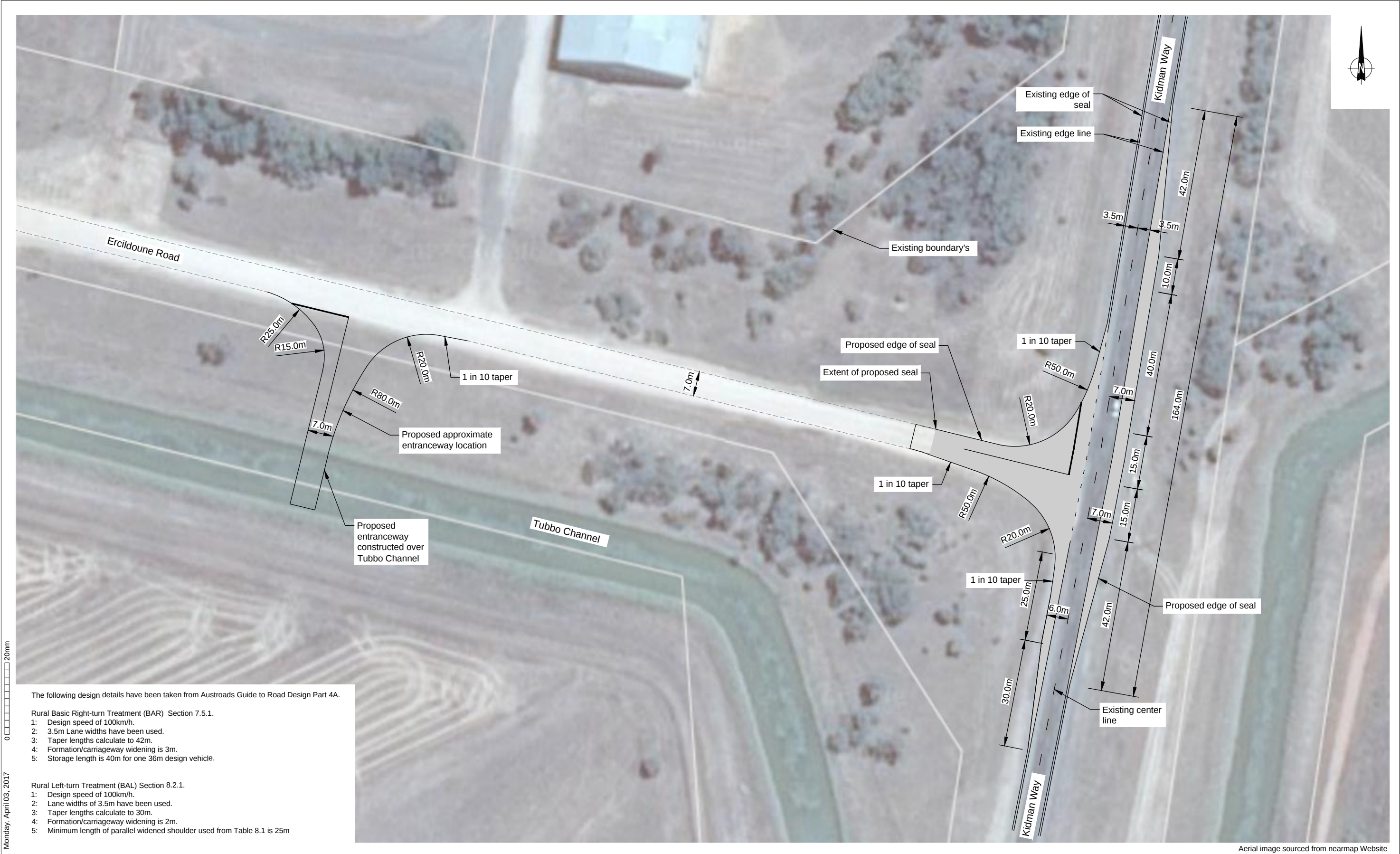


Yours sincerely
Traffic Design Group Ltd

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enc:
Appendix A – Access Design



Monday, April 03, 2017

The following design details have been taken from Austroads Guide to Road Design Part 4A.

- Rural Basic Right-turn Treatment (BAR) Section 7.5.1.
- 1: Design speed of 100km/h.
 - 2: 3.5m Lane widths have been used.
 - 3: Taper lengths calculate to 42m.
 - 4: Formation/carriageway widening is 3m.
 - 5: Storage length is 40m for one 36m design vehicle.
- Rural Left-turn Treatment (BAL) Section 8.2.1.
- 1: Design speed of 100km/h.
 - 2: Lane widths of 3.5m have been used.
 - 3: Taper lengths calculate to 30m.
 - 4: Formation/carriageway widening is 2m.
 - 5: Minimum length of parallel widened shoulder used from Table 8.1 is 25m

Aerial image sourced from nearmap Website

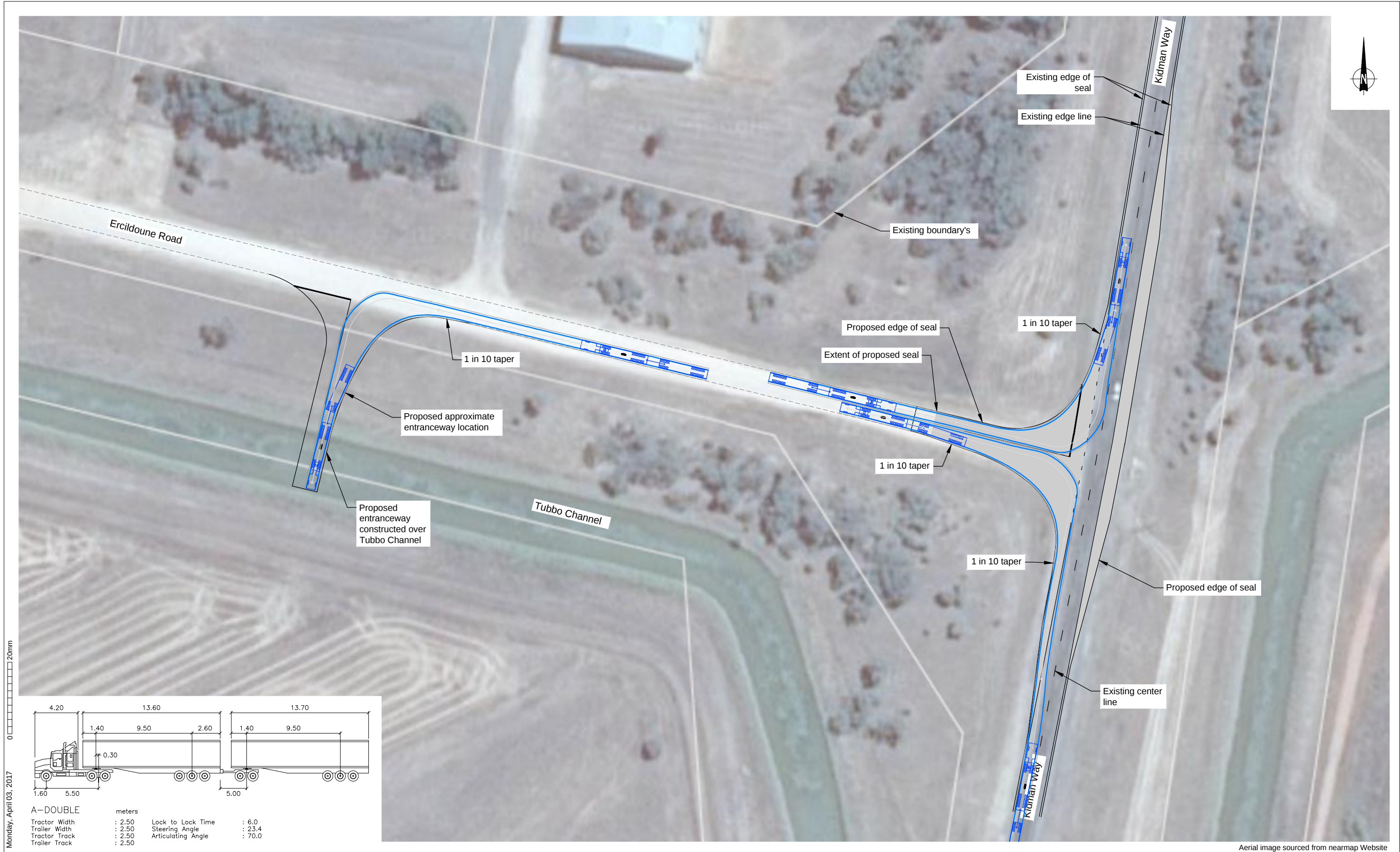
REVISION	DATE	DESCRIPTION
A	15 March 17	Concept Design
B	23 March 17	Reduce seal area and amend notes
C	3 April 17	A-Double tracking
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COLEAMBALLY SOLAR FARM - ACCESS DESIGN

Proposed Intersection Layout Plan

DRAWN: AMC
DATE: 04/03/17
SCALE: 1:1000 @ A3
DWG NO:14552 N1C





Aerial image sourced from nearmap Website

REVISION	DATE	DESCRIPTION
A	15 March 17	Concept Design
B	23 March 17	Reduce seal area and amend notes
C	3 April 17	A-Double tracking
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COLEAMBALLY SOLAR FARM - ACCESS DESIGN

Vehicle Tracking Plan

DRAWN: AMC
DATE: 04/03/17
SCALE: 1:1000 @ A3
DWG NO:14552 N1C

