

E.3 Addendum traffic impact assessment

Dinawan Wind Farm

Addendum Traffic Impact Assessment

Prepared for Spark Renewables Pty Ltd

May 2026

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Spark Renewables Pty Ltd
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TABLE OF CONTENTS

1	Introduction	1
1.1	Overview	1
1.2	Agency comments	2
2	Description of amendments	9
2.1	Connection works	9
2.2	Construction work hours	9
2.3	Vehicle access route	10
3	Turn warrant assessments	12
3.1	Assessment approach	14
3.2	Kidman Way/McLennons Bore Road intersection	15
3.3	Kidman Way/Cadell Road (south) intersection	16
4	Intersection impact assessment	19
5	OSOM route	20
5.1	Dimensions	20
5.2	Routes	20
5.3	Parking areas	21
5.4	Road deficiencies	21
6	Road upgrades and mitigation measures	43
6.1	Road upgrades	43
6.2	Mitigation measures	48
7	Conclusion	50

Annexures

Annexure A	Strategic concept designs	A.1
Annexure B	OSOM route assessment (Port of Geelong)	B.1

Tables

Table 1.1	Response to comments from Transport for NSW (superseded by Appendix G of Amendment Report #2)	3
Table 3.1	Turn treatment warrants for Kidman Way/Cadell Road (south)	16
Table 5.1	OSOM route – Option 1 and Option 2 – parking areas	21
Table 5.2	Potential road deficiencies for OSOM route 1 from Geelong	23

Table 5.3	Potential road deficiencies for OSOM route 2 from Geelong	26
Table 6.1	Haulage route (OSOM) and road upgrades to be implemented by the applicant	44
Table 6.2	Summary of mitigation measures – construction	48

Figures

Figure 3.1	Option A: Baseline 2027, construction month 15 and cumulative traffic volumes (Dinawan Solar Farm, Yanco Delta Wind Farm, VNI West) during AM and PM peak hour	13
Figure 3.2	Option B: Baseline 2027, construction month 15 and cumulative traffic volumes (Dinawan Solar Farm, Yanco Delta Wind Farm, VNI West) during AM and PM peak hour	14
Figure 3.3	Austroads warrant design charts for rural intersection turning lanes	15
Figure 3.4	CHL treatment with high entry angle	16
Figure 3.5	Option A: Turn treatment warrant (left turn) at Kidman Way/Cadell Road (south) for baseline 2027, construction month 15 and cumulative traffic volumes (Dinawan Solar Farm, Yanco Delta Wind Farm, VNI West)	17
Figure 3.6	Option B: Turn treatment warrant (left turn) at Kidman Way/Cadell Road (south) for baseline 2027, construction month 15 and cumulative traffic volumes (Dinawan Solar Farm, Yanco Delta Wind Farm, VNI West)	17
Figure 3.7	Shortened auxiliary left turn treatment (AUL(s))	18
Figure 3.8	Basic right turn treatment (BAR)	18
Figure 5.1	OSOM route from Port of Geelong to project area – Option 1	31
Figure 5.2	OSOM route from Port of Geelong to project area – Option 2	37

1 Introduction

1.1 Overview

Spark Renewables Pty Limited (Spark Renewables) proposes to develop the Dinawan Wind Farm (the project). The project includes the installation, operation, maintenance and decommissioning of up to 200 wind turbine generators (WTGs), and associated infrastructure. The project is on the traditional lands of the Wiradjuri people and several smaller nations of the Murrumbidgee plains, about halfway between the towns of Coleambally and Jerilderie. The regional context of the project is within the Murrumbidgee and Edward River local government areas (LGA) in New South Wales (NSW).

The project is a State significant development (SSD) pursuant to schedule 1 of State Environmental Planning Policy (Planning Systems) 2021 (Planning Systems SEPP). Accordingly, a development application (DA) and environmental impact statement (EIS) was submitted to the NSW Department of Planning, Housing and Infrastructure (DPHI) under Part 4 of the NSW *Environmental Planning and Assessment Act 1979* (EP&A Act). The EIS for the project was publicly exhibited from 12 July 2024 to 8 August 2024.

Following the exhibition of the EIS, further review of the design was completed to refine and optimise the project layout in response to feedback from key stakeholders. Spark Renewables submitted an amendment report to DPHI in August 2025 (Amendment Report #1), primarily to reduce the extent of the development footprint. The project (as amended) is currently under assessment by DPHI.

Spark Renewables proposes a further amendment to the project as follows:

- amendments to the development footprint and development corridor including:
 - further avoidance of impacts to known threatened flora records (resulting in the reduction of the development footprint and development corridor)
 - increasing the development footprint and development corridor at the accommodation facility (east of Kidman Way) to more closely align with the area included in the development application for Dinawan Solar Farm (SSD-50725959) and to reflect the lease arrangements with the host landowner
 - inclusion of connection infrastructure at Dinawan Substation (based on consultation with Transgrid)
- vehicle access route changes including:
 - inclusion of Port of Geelong as an option for oversize overmass (OSOM) transport
 - inclusion of project-related light vehicles and shuttle buses on Cadell Road (south)
 - upgrades to additional intersections to facilitate access for project-related vehicles
- amend construction work hours – increase construction working hours to facilitate a 7-day working week.
- offset staging – amend the proposed biodiversity offset stages.

The proposed amendment is described in Chapter 3 of the Amendment Report #2. Further description of these amendments as they relate to traffic is provided in Chapter 2.

The traffic impacts of the project are assessed in:

- the traffic impact assessment (TIA), provided in Appendix E.6 of the EIS (EIS TIA)
- the addendum TIA, provided in Appendix D.5 of Amendment Report #1 (Addendum TIA #1)
- this report, provided in Appendix E.3 of Amendment Report #2 (Addendum TIA #2).

The purpose of this addendum TIA is to assess the impacts of the proposed amendment to traffic and respond to agency submissions relevant to traffic. This addendum TIA includes:

- updates to turn warrant assessments (Section 3)
- new and updated strategic concept designs for local intersections and intersections along the OSOM haulage route (Annexure A)
- consideration of the haulage route for OSOM loads for additional routes from Port of Geelong (Section 5 and Annexure B)
- removal of a haulage route (route option 1/1A) for OSOM loads from Port of Newcastle
- a revised schedule of road upgrades and mitigation measures for the project (Section 6).

Reference should be made to the EIS TIA and Addendum TIA #1 for the project description, existing and predicted traffic conditions, assessment approach, and impact assessment for aspects not addressed in this report.

1.2 Agency comments

TfNSW provided comments on Addendum TIA #1 in its letter dated 7 October 2025 (TfNSW reference: REN25/00160). TfNSW comments and EMM responses are provided in Table 1.1.

A meeting was held with TfNSW, DPHI, Spark Renewables and EMM on 22 October 2025 and included clarifications on some of the matters raised and discussed in Table 1.1. It is noted that a number of the intersections are not longer included as part of the project, as result of the removal of a haulage route (route option 1/1A) for OSOM loads from Port of Newcastle.

Subsequently, TfNSW performed a preliminary review and provided comments on this report (Addendum TIA #2) in its letter dated 12 May 2026 (ref. REN25/00160/004 | SF2025/142794). TfNSW comments and EMM responses are provided in Appendix G of Amendment Report #2.

Table 1.1 Response to comments from Transport for NSW (superseded by Appendix G of Amendment Report #2)

Item no.	TfNSW comment	EMM response
Previous point 2 from TfNSW EIS response: Design requirements for McLennons Bore Road/Kidman Way Strategic concept designs are required to be prepared for the proposed accesses to the Kidman Way, McLennons Bore Road/Kidman Way, and Cadell Road/Kidman Way intersections.	TfNSW notes that the RtS included the submission of the strategic concept designs for McLennons Bore Road/Kidman Way. TfNSW has reviewed the strategic concept designs as part of the RtS review and advises that the strategic concept designs are to be revised to address the following points: a) The design for the left turn treatment incorporates a combination of an Auxiliary Left Turn (AUL), a high-speed entry curve, and a short merge lane, which does not align with Austroads. An updated intersection design is required to conform to a standardised treatment type, either an AUL or a Channelised Left Turn (CHL), along with a justification for the selection of the CHL if this is the chosen option. b) The designs must be revised to reflect the design speed, which is defined as the posted speed limit plus 10 km/h. c) The current approach and departure design speeds exceed Austroads design speeds, resulting in potential issues with vehicles merging at different speeds. The designs need to be revised accordingly to align with the Austroads design speeds for approach and departures. d) The chevron markings and the splitter island require correction, as the mainline chevron is currently oriented in the wrong direction. e) In addition to the above, the following design revisions are required: i) Specify the radius of the curve on McLennons Bore Road, as it approaches the intersection, ii) The CHR's X value is to align with Austroads requirements, which is typically 10 to 15 meters.	A revised strategic concept design can be found in Section A.1 of Annexure A. a) A standard channelised left turn (CHL), where left turning vehicles from Kidman Way are required to give way to right turning vehicles from Kidman Way, has been chosen. This allows the right turn treatment from Kidman Way to be kept as a shortened channelised right turn (CHR(s)), thereby reducing the upgrade area required on the north approach and avoiding impacts to neighbouring intersections (i.e. Kidman Way and Graham Road). b) The designs reflect the design speed of 110 km/h, which is 10 km/h above the posted speed limit of 100 km/h. c) The new design avoids merging issues, so this comment no longer needs to be addressed. d) The chevron markings and splitter island have been modified to be correctly oriented. e) i) The radius of the curve on McLennons Bore Road approaching the intersection has been specified. ii) While Austroads states that the CHR(s) X value is typically 10–15 m, the actual X value is determined by swept paths. Swept paths show that the design vehicle can stop at the end of the BL2 line on the correct side of the road before making the right turn from Kidman Way into McLennons Bore Road. Further increasing the X value means that vehicles turning right from Kidman Way may stop further away from the intersection while waiting to turn right, which increases the risk of conflicts with vehicles turning from McLennons Bore Road. The strategic concept design has subsequently been updated to address comments from TfNSW (12 May 2026), including updating the WT value to 3.5 m, and presenting the 0.5m verge on the plan as requested.

Item no.	TfNSW comment	EMM response
Previous point 4 from TfNSW EIS response Bridge assessments The application proposes the traffic of heavy mass vehicles and vehicles with very large axle group loadings, which may be an issue for older short-span bridges. The OSOM route will require bridge assessments to be undertaken for TfNSW assets.	In response to point 4, the revised TIA advises that the bridge assessments will be completed as part of the CTMP and prior to commencing the NHVR permits process. TfNSW advises that completing the bridge assessments post-consent could potentially lead to an increased scope of road upgrades due to the requirements to change routes or lengthen the vehicle configuration to distribute the weight to axle ratio further, which could result in post consent delays and the requirement for further environmental, Roads Act approvals and completion of road upgrades before the high-risk OSOM deliveries. Provided the applicant includes reference to the awareness of the risk in the updated TIA the matter can be closed. Note: The bridge assessment requests must include the NHVR Route ID and laden dimensions (vehicle configuration and load).	Bridge assessments will be completed post-approval as part of the CTMP. Spark Renewables are aware that further assessment, approvals and upgrades may be required subject to the outcomes of these bridge assessments. As advised by TfNSW, EMM submitted enquiries on this matter to spu@transport.nsw.gov.au in August 2025 and did not receive a response. Spark Renewables welcome feedback from TfNSW on any specific bridges of concern for consideration post-approval.
Previous point 9 and 20 from TfNSW EIS response OSOM pinch points Strategic concept designs and swept paths must be provided for any road widening on the State road network required to accommodate high-risk OSOM vehicles. The hardstands and pavement are to be sealed to the standards of the adjacent road.	The proponent has not provided strategic concept designs for all areas on the state road network (refer to Table 6.1 of the TIA) that require road works or modifications based on the pinch point assessments within the Dinawan Wind Farm route study prepared by Rex J Andrews dated 27 June 2025. Table 6.1 and the RJA route study are to be reviewed, and strategic concept designs (inclusive of swept path analysis) must be prepared for any pinch points with the state road network currently not captured within the TIA prepared by EMM consulting. TfNSW advises that the strategic concept designs are to be submitted as part of the RFI submission package. Note Strategic concept designs to be prepared for all road infrastructure on the state road network (i.e medians, traffic islands, splitter islands etc) that will be traversed by the wheel paths of high risk OSOM movements.	Strategic concept designs for locations that require upgrades on the road network are provided in Annexure A. These have been updated, where relevant, to address comments from TfNSW dated 12 May 2026 (ref. REN25/00160/004 SF2025/142794). The approach adopted in Addendum TIA #1 was to provide designs for road upgrades where additional hardstand (i.e. outside of the formed road) was required to facilitate the safe passage of OSOM vehicles. Additional designs are provided in Annexure A, the majority of which are on the State road network. The focus of these designs is to: • clarify the scope of works • demonstrate a compliant design (in accordance with Austroads guides and TfNSW supplements) can be constructed within the road reserve • allow the consent authority to consider the environmental impacts of the upgrade works. The designs that are provided clarify the scope of works, shows work can be constructed within the road reserve and has allowed us to identify relevant environmental impacts. The intersections that we have adopted a simplified design for are all instances where existing road infrastructure (i.e. roundabouts, splitter islands and/or traffic islands) would need to be either made trafficable or removed. The exact upgrade requirements at each intersection will be subject to further consultation with TfNSW and/or Council during the detailed design stage for each intersection.

Item no.	TfNSW comment	EMM response
		The details provided on the additional designs are adequate for determining the environmental impacts of the upgrades. At each of these, no biodiversity or heritage impacts are predicted as these locations have been completely disturbed as part of the construction of the existing road infrastructure. Construction noise would occur during upgrade works; however, would be temporary in nature and expected to be in the order of days not weeks. Traffic could be managed through traffic control measures that would be agreed upon during detailed design and described in a traffic management plan.
Previous point 15 from TfNSW EIS response Sturt Highway roundabouts Provide within the updated route study further assessment of roundabout intersections identified on the Sturt Highway (Figures 25, 26, 27 and 29 of the RJA- Route Study- Dinawan Wind Farm), addressing the following: a) Clarification on whether a portion of the roundabouts will be removed or if it is proposed to mount existing annulus(s). b) Swept paths and road design plans are needed to confirm the impacts on the roundabout(s). c) Identify any vegetation removal or trimming required.	TfNSW requested previously the preparation of strategic concept designs for the traversing of the high-risk OSOM (blade components) over the four roundabouts on the Sturt Highway through Wagga Wagga, now referred to as Figures 12,13,14, and 17 within the revised RJA route study for Dinawan Wind Farm. Strategic concept designs have not been included within the revised TIA and must be prepared and included within the revised TIA as part of the RFI submission. The strategic concept designs must include (at a minimum) notations and identify the areas of pavement strengthening, provision of additional pavement, changes to drainage and modifications required to signs or other infrastructure. TfNSW can provide the Works as Executed drawings for the Koorinal Road/Sturt Highway roundabout and the Tasman Street/Sturt Highway to assist with the preparation of the strategic concept designs for these two roundabouts.	The removal of route option 1/1A from the Port of Newcastle has resulted in the upgrades no longer being required at the roundabouts on the Sturt Highway. These upgrades no longer form part of the project.

Item no.	TfNSW comment	EMM response
Previous point 16 from TfNSW EIS response Point 16- Gillenbah Road/Sturt Highway traffic islands The removal of traffic islands at the Gillenbah Road/Sturt Highway pinch point to facilitate the high-risk OSOM movements will conflict with the service centre conditions and infrastructure to prohibit right turns into Gillenbah Road. Designs to navigate this pinch point without impacting service centre consent conditions must be investigated and included within a revised route assessment (accompanied by swept paths and strategic designs).	The TIA includes a statement that the requirement for strengthening or modifying the pavement of the traffic islands on Gillenbah Road/Sturt Highway does not apply to this type of OSOM movement. TfNSW advise that strategic concept designs are required to be prepared for any traffic islands or medians that are proposed to be traversed by the project, and must identify the scope of works required to ensure that traffic islands can withstand the proposed high-risk OSOM wheel paths. Strategic concept designs must be prepared and provided as part of the RFI package that captures the scope of pavement strengthening, changes to drainage infrastructure and other infrastructure modifications required (i.e signage) or alterations to kerb profiles, and drainage for the traversing of the traffic islands at the Gillenbah Road/Sturt Highway intersection as part of the revised TIA.	The removal of route option 1/1A from the Port of Newcastle has resulted in the upgrades at this intersection no longer being required. This upgrade no longer forms part of the project.
19 (f) from TfNSW EIS response Workforce Accommodation Camp The TIA proposes that workforce accommodation facilities be provided. The TIA is required to be revised to reflect the changes to the construction traffic because of the inclusion of the workforce accommodation camp, specifically: f) Clarify if the co-located eastern facility with the Dinawan Solar Farm will be approved under this application and consider the timing of staff to utilise the facility, and whether there will be an overlap of the use of the Wind Farm accommodation with the construction of the Solar Farm.	TfNSW updated response to Point 19 (f)-The submitted designs for the Kidman Way east and west access points are the same designs submitted as part of the Dinawan Solar Farm project. Clarification is requested on whether the access points will be used to service both projects concurrently for the construction (including pre-construction minor works) proponent of these projects. If this is the intention, then the turn warrants assessment is to include the concurrent traffic volumes at the peak of the overlap of each project to ensure that the intersection treatments determined for the Kidman Way access points conform with Austroads and will not require higher-order intersection treatments or traffic mitigation measures to service both projects' traffic volumes. If higher-order intersection treatments are required, the strategic concept designs for the Kidman Way east and west access points must be revised to capture the necessary scope of the higher-order intersection treatments.	The turn treatment warrant assessments accounted for cumulative traffic volumes from concurrent construction of the project and Dinawan Solar Farm. The strategic concept designs do not require higher-order intersection treatments.

Item no.	TfNSW comment	EMM response
RFI-1 Strategic concept design revision requirements for the Kidman Way east and west access points	TfNSW requests the following information regarding the east and west access points to the Kidman Way, which have been included as part of the project revisions and within the RTS submission. The Kidman Way east and west access points did not form part of the EIS package for the Dinawan Wind Farm. Strategic concept design revision requirements for the Kidman Way east and west access points. The strategic concept designs for the Kidman Way east and west access points are to be revised to address the three points raised below. Provide a TB1 (150 mm wide broken line) at both the East and West Access. Chevron line marking in the painted medians appears to be backwards. The angle of the chevrons should align with the direction of the approaching vehicle. The CHR(S) T values is 31 m, the T value, is to be revised to align with Austroads requirements (refer to Table 7.1 within <i>Austroads Guide to Traffic Management Part 6</i>) which refers to the requirement of a 30 m or 35 m T value (i.e increments of 5 m). Note: If higher order intersection treatments are required then the points raised in points 2, 3 and 4 must be considered as part of any revisions to the strategic concept designs to capture the higher order intersection treatments at this location.	The strategic concept design has been updated (Section A.3 of Annexure A), including: • a TB1 line has been provided on both east and west access intersections • the chevron line markings have been revised • the CHR(s) T values in Table 7.1 of <i>Austroads Guide to Road Design Part 4A</i> are based on a turn lane width of 3 m. As the turn lane width is 3.5 m, the T value needs to be calculated using the formula $T = (0.33 \times (\text{design speed}) \times (\text{width of turning lane}))/3.6$ (as shown below Figure 7.2 of <i>Austroads Guide to Road Design Part 4A</i>). Using a design speed of 110 km/h, the value of T equals 35 m. Therefore, the taper has been updated to be 35 m long.
RFI-2 Strategic concept design requirements for the Wagga Wagga bypass route	TfNSW highlights the following pinch points that form part of the Wagga Wagga bypass route, which have been included in the revised Dinawan Route Study prepared by RJA dated 27 June 2025. TfNSW has not previously provided advice on this route, as the Wagga Wagga bypass was not proposed as an option within the EIS. Eunony Bridge Road and Sturt Highway intersection TfNSW advises that strategic concept designs are to be prepared to capture the scope of work required to ensure that the high-risk OSOM blade vehicle configuration can traverse the splitter islands, as the wheel path traffics the splitter islands at this intersection. The strategic concept designs must be prepared in accordance with TfNSW strategic concept design fact sheet and must review and capture the required pavement strengthening for the existing capping of the splitter island, as well as any changes to the kerb profile and any drainage infrastructure.	The removal of route option 1/1A from the Port of Newcastle has resulted in the upgrades no longer being required at the roundabouts on the Sturt Highway. These upgrades no longer form part of the project.

Item no.	TfNSW comment	EMM response
	Note - The swept paths impact existing power poles. A lighting design will need to be undertaken in the detailed design phase to ensure ongoing compliance to AS1158. Sturt Highway and Pearson Street Roundabout (Wagga Wagga bypass approach- Figure 43 of the RJA Route Study) Strategic concept designs are to be prepared for the Sturt Highway and Pearson Street roundabout, which will be approached from the north and track over the unsealed portion in proximity to the existing culvert headwall adjacent to the western leg of the roundabout to ensure that the high risk OSOM vehicle configuration for the blade components can be made traversable without adverse impacts to the state road network assets. The strategic concept designs for this pinch point must consider and capture at a minimum the required pavement, changes to kerb profiles, drainage and signage etc. Sturt Highway and Olympic Highway- splitter islands TfNSW advises that strategic concept designs are to be prepared to capture the scope of work required to ensure that the high-risk OSOM blade vehicle configuration can traverse the splitter islands, as the wheel path traffics the splitter islands at this intersection. The strategic concept designs must be prepared in accordance with TfNSW strategic concept design fact sheet (refer to advisory notes). The strategic concept designs for this pinch point must consider and capture at a minimum the required area of the capping that will require works to strengthen the pavement, changes to kerb profiles, drainage and signage etc.	

2 Description of amendments

A full description of the amendments is provided in Chapter 3 of the Amendment Report #2, including a comparison between the project proposed in the EIS and Amendment Report #1 and the amended project. All other elements remain consistent with the project as described in the EIS and Amendment Report #1. A consolidated description of the amended project is provided in Appendix A of Amendment Report #2.

The following sections describe the amendments, as they relate to traffic.

2.1 Connection works

The project (as amended August 2025) defined the development corridor and development footprint for the project up to the boundary of (but excluding) the Dinawan Substation. Following consultation with Transgrid, Spark Renewables is seeking to extend the project area to include land at Dinawan Substation (located on Lot 1 of DP1282091) to facilitate grid connection.

The connection works will require access to Lot 1 of DP1282091. Construction vehicles will use the existing site access intersection for Dinawan Substation constructed as part of Project EnergyConnect on Kidman Way, north of Cadell Road (south), as shown in Figure 3.2 of Amendment Report #2.

As described in the *Project EnergyConnect Traffic and Access Impact Assessment* (WSP 2021), the site access intersection has been constructed to accommodate daily peak movements of 250 light vehicles and 320 heavy vehicles during construction of Project EnergyConnect.

Project-related vehicles will utilise the existing Dinawan Substation site access intersection for the connection works (refer to Figure 3.2 of Amendment Report #2). As the vehicle volumes required for the connection works will be significantly less than what was required for Project EnergyConnect, this site access intersection is considered suitable.

As the connection works will use the existing site access intersection for Dinawan Substation, no further assessment is proposed for the connection works and no additional traffic impacts are expected.

2.2 Construction work hours

Changes to construction working hours are proposed to facilitate a 7-day working week under circumstances where sensitive receptors are not noise-affected. Changes are proposed in response to community feedback relating to security concerns and construction duration, and in recognition of the low population density surrounding the project. Extended construction hours would enable an accelerated construction schedule and reduce the overall construction duration.

Standard day time construction hours are 7:00 am to 6:00 pm Monday to Friday and 8:00 am to 1:00 pm Saturday. Spark Renewables is seeking additional exceptions to standard day time construction hours, that would facilitate construction to occur:

- 7:00 am to 6:00 pm – Monday to Friday
- 8:00 am to 6:00 pm – Saturday and Sunday.

Construction during the periods 1:00 pm-6:00 pm Saturday and 8:00 am to 6:00 pm Sunday would only take place in areas of the development footprint that do not result in noise-affected sensitive receivers, as defined in the *Interim Construction Noise Guideline* (DECC 2009).

As traffic impacts have been assessed during daily peak hours and baseline traffic volumes outside standard construction hours are expected to be lower than daily peak hours, no additional assessment is required for this amendment.

2.3 Vehicle access route

The proposed amendment includes:

- inclusion of Port of Geelong as an option for OSOM transport
- removal of route option 1/1A from Port of Newcastle for OSOM transport of blade components
- inclusion of project-related light vehicles and shuttle buses on Cadell Road (south)
- upgrades to additional intersections to facilitate access for project-related vehicles.

2.3.1 Port of Geelong OSOM route

Spark Renewables is seeking to include an alternative haulage route to facilitate the project's OSOM deliveries from the Port of Geelong, in addition to the route from Port of Newcastle. This will provide the project with flexibility to use either port for transport of project components. This flexibility addresses concerns regarding potential future congestion at the Port of Newcastle from use by multiple other renewable energy projects. Furthermore, wind turbine blades are only proposed to be transported from Port of Geelong (see Section 2.3.2). Details of the route from Port of Geelong are provided in Chapter 5 and Annexure B.

Road upgrade requirements associated with the route from Port of Geelong have been identified in Figure 5.1 and Figure 5.2. Road upgrades within the NSW road network have been included in the schedule of road and intersection upgrades provided in Chapter 6.

2.3.2 Port of Newcastle OSOM route

Spark Renewables have considered the road infrastructure impacts from the delivery of blades from Port of Newcastle to the site. As a result, Option 1 and Option 1A from Port of Newcastle (transport route for blade components), as described in Addendum TIA#1, have been removed. Option 2 and Option 3 from Port of Newcastle are still proposed to provide flexibility to use either port for transport of other over size/over mass project components.

As a result, road upgrades within the NSW road network that were only associated with Option 1 and Option 1A from Port of Newcastle have been removed from the schedule of road and intersections upgrades provided in Chapter 6.

2.3.3 Vehicle movements on Cadell Road (south)

In the EIS, Cadell Road (south) was proposed to be used by 50% of the project's light vehicles and shuttle buses moving between the accommodation facility and the site. This equated to 115 light vehicles in the AM peak and 115 light vehicles in the PM peak (i.e. an additional 230 vehicles per day on Cadell Road).

It was identified in the EIS TIA that the Cadell Road/Kidman Way intersection would require upgrades and a strategic design would need to be prepared. Minor upgrades at Cadell Road/McLennons Bore Road intersection were also identified.

Amendment Report #1 sought to remove use of project-related vehicles from Cadell Road and, therefore, remove the proposed intersection improvements at Kidman Way/Cadell Road (south). Light vehicles and shuttle buses were instead to travel between the accommodation facility and the site via the Kidman Way/McLennons Bore Road intersection.

This change was proposed to minimise disruption to the public road network from the project by removing the need for intersection upgrades at Kidman Way/Cadell Road (south) and Cadell Road/McLennons Bore Road, and removing project-related vehicle movements on Cadell Road. The intersection design at Kidman Way/McLennons Bore Road was revised accordingly to accommodate an increased number of project-related vehicles at this intersection.

Further community engagement was undertaken following the submission of Amendment Report #1, which indicated that key local stakeholders preferred project-related vehicles to use Cadell Road (south), as was proposed in the EIS. This was due to views that prohibiting use of Cadell Road by project-related light vehicles would be difficult to enforce as Cadell Road provides a more efficient route from the accommodation facility to the site.

Additionally, TfNSW comments were received requesting multiple changes to the intersection design at Kidman Way/McLennons Bore Road.

In response to community and TfNSW feedback, Spark Renewables propose to include the use of Cadell Road (south) by project-related light vehicles and shuttle buses. A maximum of 144 daily project-related light vehicles and shuttle buses may access the project via Cadell Road (south), with all remaining vehicles travelling via McLennons Bore Road. By having a maximum of 144 daily project-related vehicles using Cadell Road, road widening upgrades are not required along the length of Cadell Road (south) between McLennons Bore Road and Kidman Way (i.e. the 150-vehicle threshold to trigger upgrades once the background traffic volume of 6 daily vehicles has been included will not be exceeded).

An assessment of these changes is provided in Chapter 3 and revised designs for the Kidman Way/Cadell Road (south) (Section A.2) and Kidman Way/McLennons Bore Road (Section A.1) intersections are provided in Annexure A.

3 Turn warrant assessments

In Addendum TIA #1, use of Cadell Road (south) by project-related light vehicles and shuttle buses was removed from the project. As part of this amendment, Cadell Road (south) is proposed to be used by up to 144 project-related light vehicles and shuttle buses per day.

Two options have been explored when diverting the 144 daily project-related light vehicles and shuttle buses onto Cadell Road (south). Due to the different ways the project-related vehicles interact with the background AM or PM peak hour traffic, either of these options could generate a worst-case scenario:

- Option A: Assumes the 144 daily project-related movements onto Cadell Road (south) are private light vehicles, with all remaining vehicles travelling via McLennons Bore Road. This is split into 72 inbound light vehicle movements in the AM peak and 72 outbound light vehicle movements in the PM peak on Cadell Road (south), assuming all daily project-related private light vehicles travel in the peak hours.
- Option B: Assumes the 144 daily project-related movements on Cadell Road (south) are shuttle buses (considered to be light vehicles as the maximum capacity of the bus is 12 passengers), with all remaining vehicles travelling via McLennons Bore Road. This is split into 36 inbound and 36 outbound shuttle bus movements in both the AM and PM peak on Cadell Road (south), assuming all daily project-related shuttle buses travel in the peak hours.

Cumulative traffic volumes have been recalculated to consider this change to Cadell Road (south) for month 15. As previously assessed, cumulative traffic volumes for month 15 will be greater than traffic volumes for month 37 and, therefore, assessments based on month 15 are more conservative than for month 37. The peak hour traffic distribution for Option A is shown in Figure 3.1 and for Option B in Figure 3.2.

As traffic volumes at the Kidman Way/McLennons Bore Road intersection have reduced, a revised turn warrant assessment is not required at this intersection. However, the turn treatments have been revised based on the higher traffic volumes, as discussed in Section 3.2. It is noted that flexibility has been maintained for all project-related vehicles to travel to site via the Kidman Way/McLennons Bore Road intersection.

Turn warrant assessments for the Kidman Way/Cadell Road (south) intersection have been updated and include consideration of baseline, project-related and cumulative traffic volumes for month 15 only.

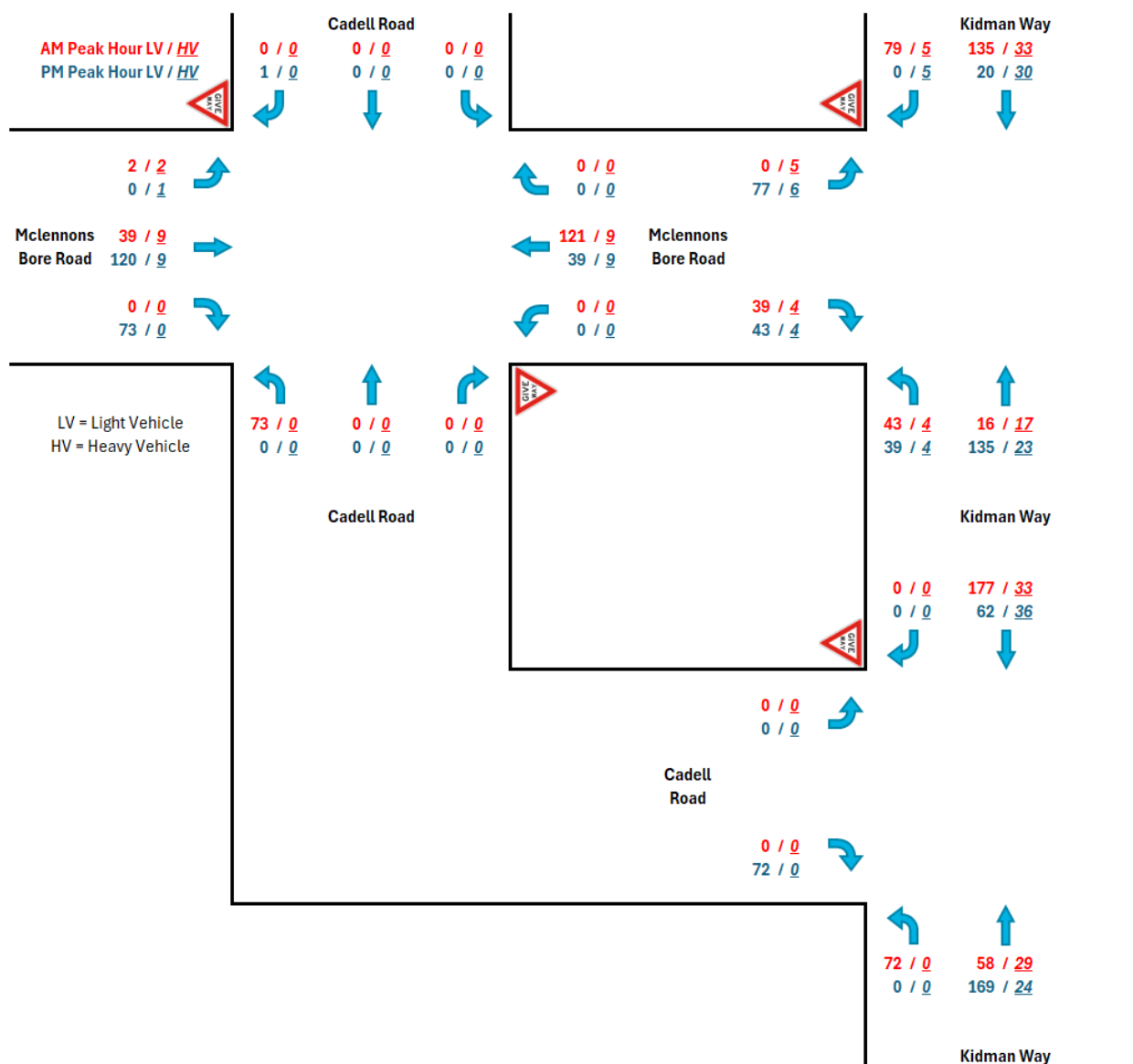


Figure 3.1 Option A: Baseline 2027, construction month 15 and cumulative traffic volumes (Dinawan Solar Farm, Yanco Delta Wind Farm, VNI West) during AM and PM peak hour

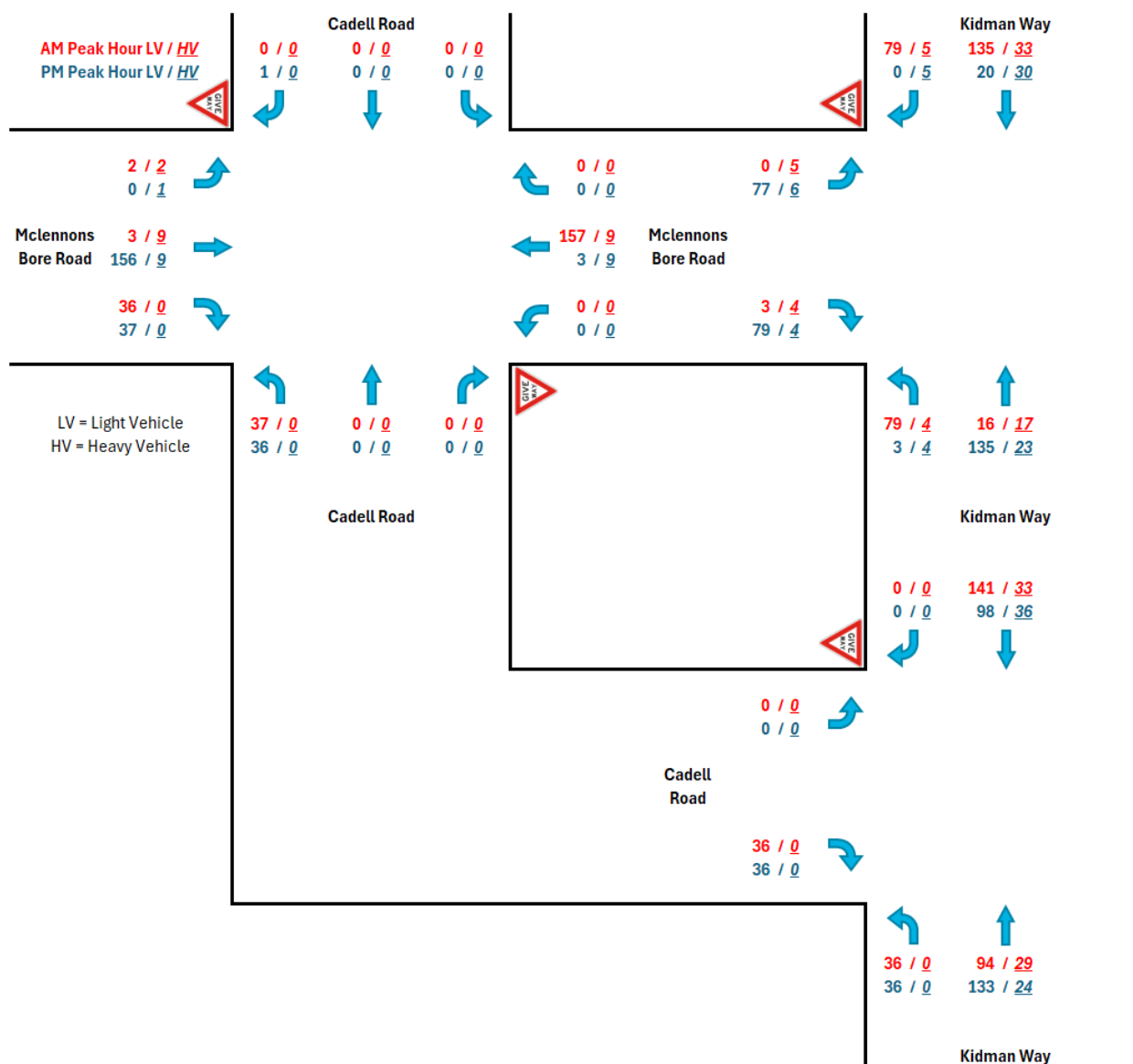


Figure 3.2 Option B: Baseline 2027, construction month 15 and cumulative traffic volumes (Dinawan Solar Farm, Yanco Delta Wind Farm, VNI West) during AM and PM peak hour

3.1 Assessment approach

Intersection operations are assessed from a combination of the peak hourly through and turning traffic movements that occur at each intersection. This determines the need for additional intersection turning lanes (e.g. basic, auxiliary lane and channelised) in accordance with the current intersection design standards *Guide to Road Design Part 4A, Unsignalised and Signalised Intersections* (Austroads 2023) (Figure 3.3), where:

- Curve 1 (red line) represents the boundary between a basic right turn (BAR) and a channelised short right turn (CHR(s)) treatment and between a basic left turn (BAL) and an auxiliary short left turn (AUL(s)) turn treatment.
- Curve 2 (blue line) represents the boundary between a CHR(s) and a full length CHR treatment and between an AUL(s) and a full length AUL or CHL treatment. The choice of CHL over an AUL will depend on factors such as the need to change the give way rule in favour of other manoeuvres at the intersection and the need to define the driving path more appropriately by reducing the area of bitumen surfacing.

Figure 3.3 contains the graph for the selection of turn treatments on roads with a design speed greater than or equal to 100 km/h.

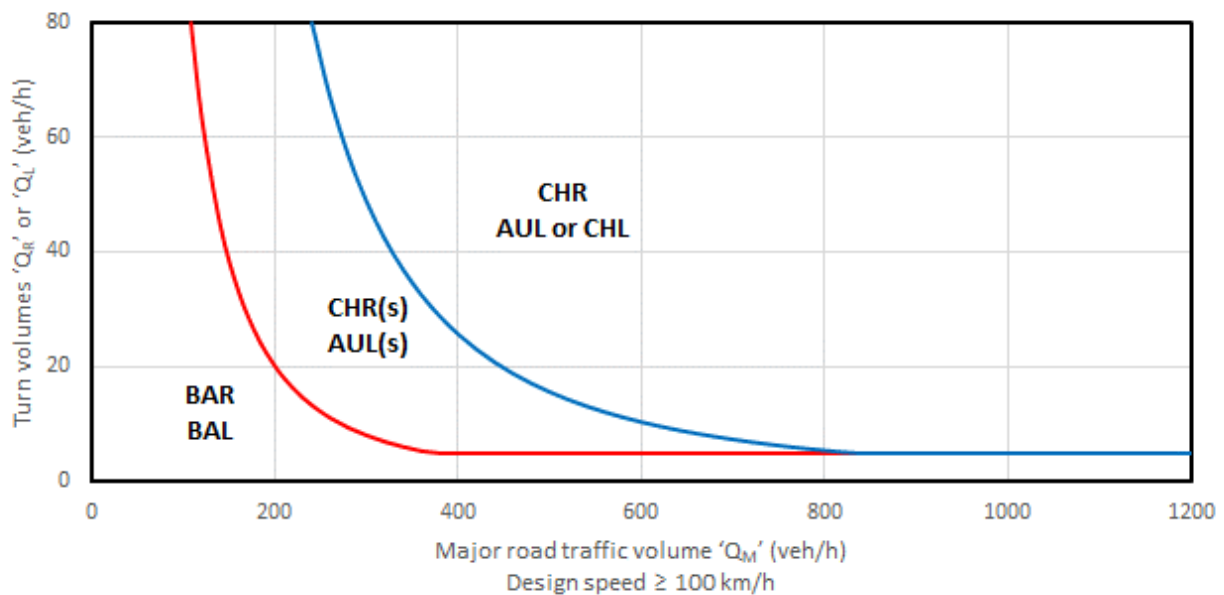


Figure 3.3 Austroads warrant design charts for rural intersection turning lanes

TfNSW recommends intersections should be designed for a travel speed 10 km/h greater than the posted speed limit. As Kidman Way has a posted speed limit of 100 km/h, intersections with Kidman Way (including any requirements for turning bays at McLennons Bore Road and Cadell Road (south)) should be designed for 110 km/h, which is 10 km/h above the posted speed limit. Hence, Figure 3.3 is appropriate for determining the turn treatment.

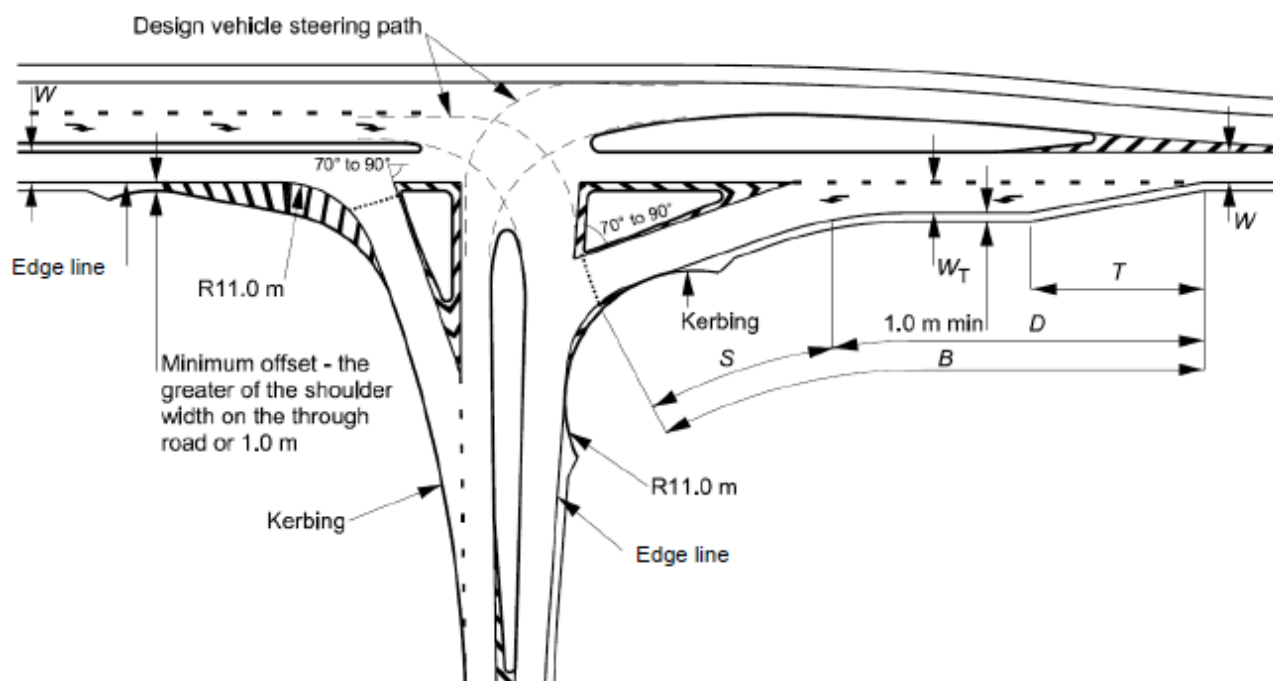
To provide conservative results, the warrant for turn treatments has been assessed based on the combination of baseline, project construction and cumulative traffic. Turn treatment warrant assessments have been performed for Stage 1 (i.e. month 15 in 2027) only.

3.2 Kidman Way/McLennons Bore Road intersection

As traffic volumes at this intersection have been reduced, a turn warrant assessment is not required. However, higher-order turn treatments are proposed to be used at this intersection to address TfNSW comments (refer to Section 1.2).

The following turn treatments are proposed at the Kidman Way/McLennons Bore Road intersection and are included in the strategic concept design in Section A.1 of Annexure A:

- It is proposed that the highest order treatment is applied for vehicles turning left onto McLennons Bore Road, which is the channelised left turn treatment (CHL). A CHL with a high entry angle (Figure 3.4) requires an extended deceleration left turn lane on Kidman Way, along with an additional length for the storage for left turning vehicles that will give way to right turning vehicles. An acceleration/merging lane on McLennons Bore Road is not proposed since left turning vehicles need to give way to right turning vehicles.
- A shortened channelised right turn treatment (CHR(s)) is applied for vehicles turning right onto McLennons Bore Road.



Source: Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections, Figure 8.5

Figure 3.4 CHL treatment with high entry angle

3.3 Kidman Way/Cadell Road (south) intersection

Turn treatment warrants have been assessed for left turning vehicles from Kidman Way at Kidman Way/Cadell Road (south) intersection for both Option A and Option B. A summary of the results is shown in Table 3.1, Figure 3.5 and Figure 3.6.

Table 3.1 Turn treatment warrants for Kidman Way/Cadell Road (south)

Turn	Peak hour	Major road traffic volume	Turn volume	Warranted turn treatment
Option A				
Left turn	AM	87	72	BAL
	PM	193	0	BAL
Option B				
Left turn	AM	123	36	BAL
	PM	157	36	AUL(s)

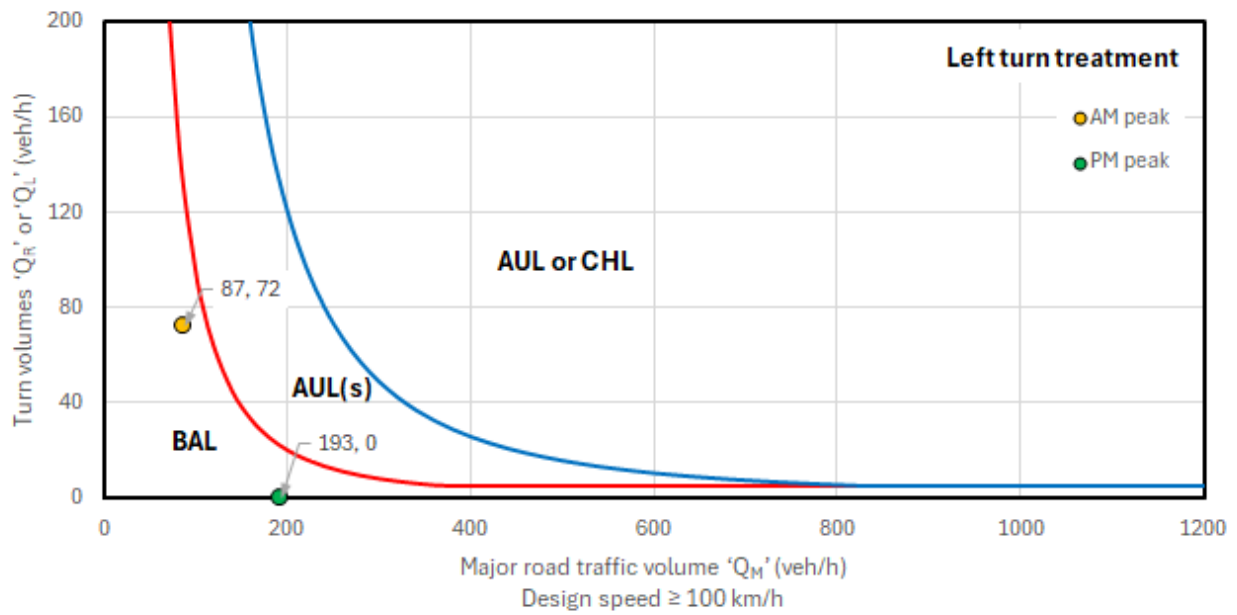


Figure 3.5 Option A: Turn treatment warrant (left turn) at Kidman Way/Cadell Road (south) for baseline 2027, construction month 15 and cumulative traffic volumes (Dinawan Solar Farm, Yanco Delta Wind Farm, VNI West)

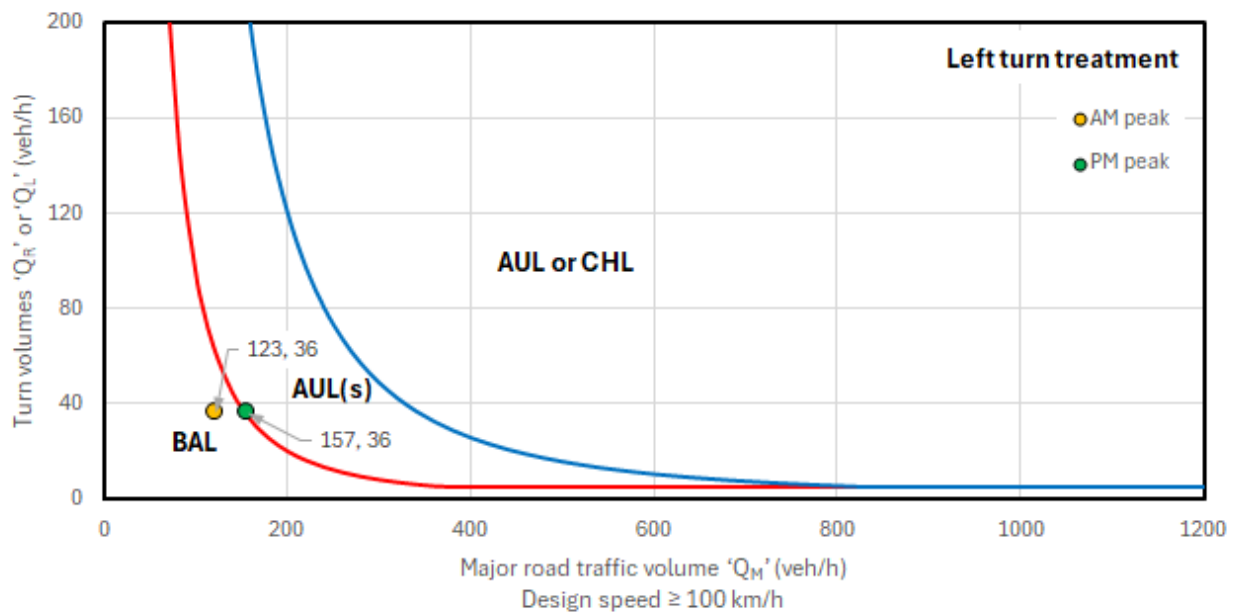
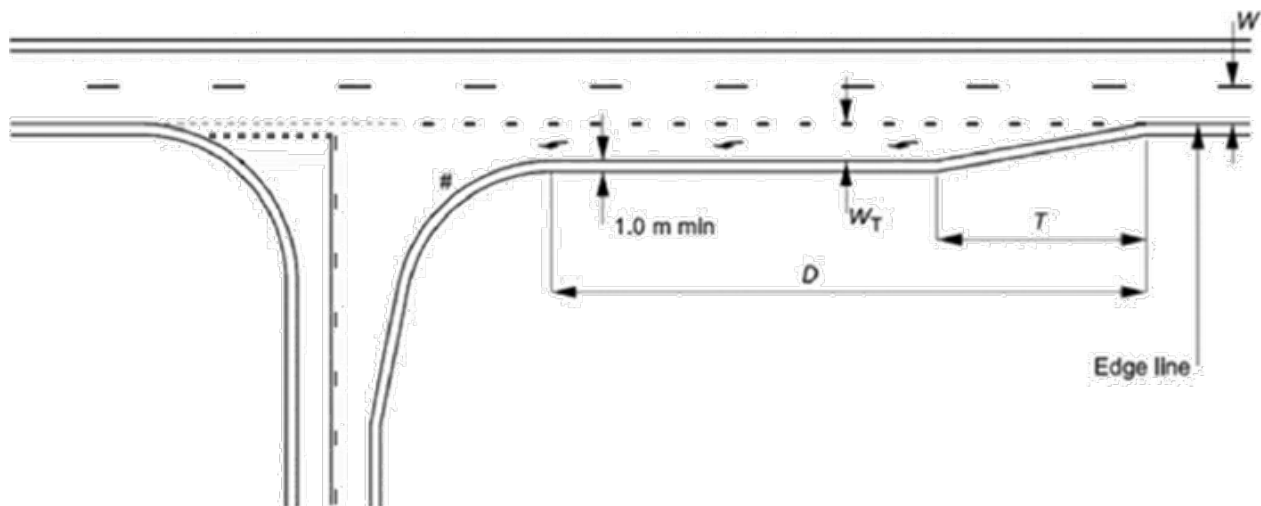


Figure 3.6 Option B: Turn treatment warrant (left turn) at Kidman Way/Cadell Road (south) for baseline 2027, construction month 15 and cumulative traffic volumes (Dinawan Solar Farm, Yanco Delta Wind Farm, VNI West)

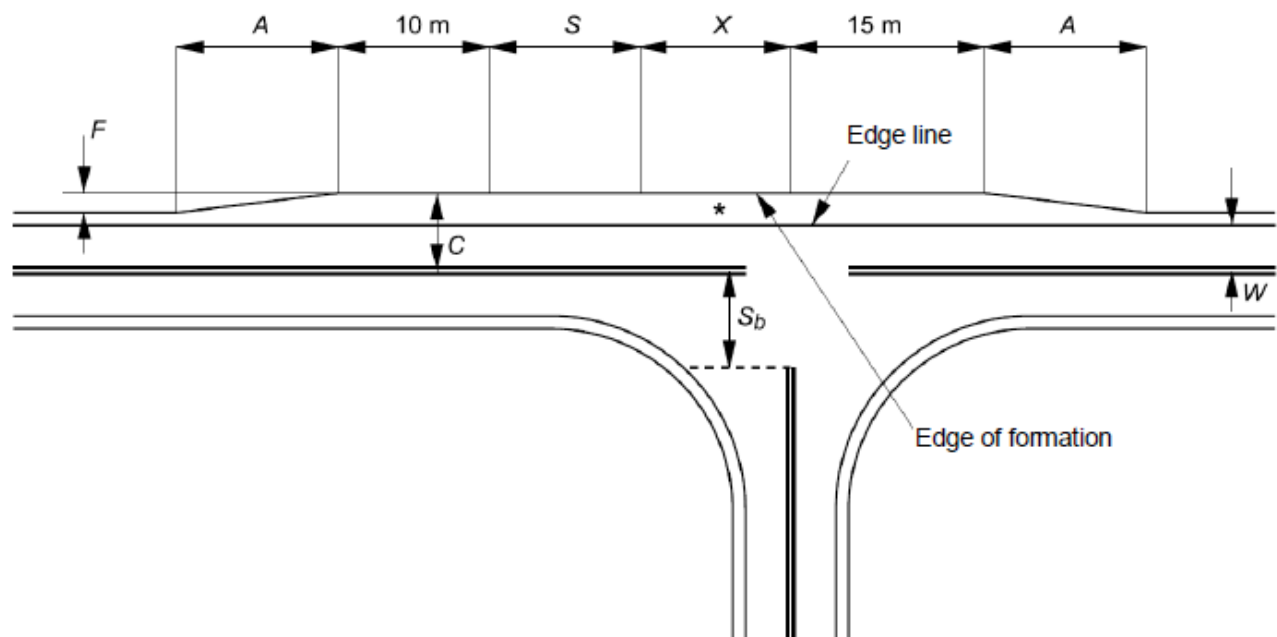
The following turn treatments are proposed at the Kidman Way/Cadell Road (south) intersection and are included in the strategic concept design in Section A.2 of Annexure A:

- A shortened auxiliary left turn (AUL(s)) treatment (Figure 3.7) for vehicles turning left from Kidman Way onto Cadell Road (south), as required under Option B, which is a higher-order treatment when compared to Option A. An AUL(s) treatment consists of a left turn lane for traffic turning from Kidman Way onto Cadell Road (south).
- A basic right turn (BAR) treatment (Figure 3.8) for vehicles turning right from Kidman Way onto Cadell Road Road. Despite the lack of project-related traffic turning right at this intersection, this is the minimum requirement for upgraded intersections. This consists of shoulder widening on Kidman Way for southbound traffic.



Source: Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections, Figure 8.4

Figure 3.7 Shortened auxiliary left turn treatment (AUL(s))



Source: Austroads Guide to Road Design Part 4A: Unsignalised and Signalised Intersections, Figure 7.1

Figure 3.8 Basic right turn treatment (BAR)

4 Intersection impact assessment

Intersection performance at the Kidman Way/Cadell Road and Kidman Way/McLennons Bore Road intersections was assessed in the EIS TIA and Addendum TIA #1.

In the EIS TIA, SIDRA modelling was used to assess the level of service (LOS) at the Kidman Way/Cadell Road intersection. Under the baseline 2027 + month 15 construction + cumulative scenario, the intersection will operate at LOS A in AM and PM peak. As movements at this intersection have decreased from the EIS TIA, it is assumed that the intersection would still operate at LOS A under the amended project.

In Addendum TIA #1, SIDRA modelling was used to assess the LOS at the Kidman Way/McLennons Bore Road intersection. Under the baseline 2027 + month 15 construction + cumulative scenario, the intersection will operate at LOS A in AM and PM peak. As movements at this intersection have decreased from Addendum TIA #1, it is assumed that the intersection would still at operate at LOS A under the amended project.

As traffic volumes for month 15 will be greater than traffic volumes for month 37, SIDRA modelling results for month 15 are more conservative than for month 37 and can be used to inform the proposed upgrade requirements at these intersections.

5 OSOM route

The amended project includes two additional haulage routes for OSOM vehicles from Port of Geelong (Annexure B of this report). This provides the project flexibility to use haulage routes from Port of Newcastle or Port of Geelong.

5.1 Dimensions

There are no changes to the assumed maximum vehicle and load dimensions. These are documented in Section 5.1 of Addendum TIA #1 (Appendix D.5 of Amendment Report #1).

The 150 m tower dimensions within the OSOM route assessment for Port of Geelong differ from those considered for Port of Newcastle in Addendum TIA #1. This is a result of ongoing engagement between Spark Renewables and WTG manufacturers since the submission of the EIS and Amendment Report #1. Vehicle dimensions along each route will not exceed those assessed in the relevant OSOM route assessment unless it can be demonstrated that no additional impacts on public road infrastructure will occur.

5.2 Routes

The origins of heavy and OSOM vehicles will be confirmed during detailed design; however, it is anticipated that major WTG components (blades and towers) and power transformers will come from the Port of Newcastle and/or Port of Geelong.

Three potential OSOM vehicle routes from Port of Newcastle to the project area have been assessed in Annexure B of Addendum TIA #1 (Appendix D.5 of Amendment Report #1).

Two potential OSOM vehicle routes from Port of Geelong to the project area have been assessed in Annexure B of this report. A summary of this assessment is provided below:

- Option 1 – suitable for OSOM vehicles with a loaded height of up to 5.2 m for vehicles transporting WTG blades. Roads used on this route are shown on Figure 5.1 and comprise:
 - Victoria: The Esplanade, Sea Breeze Parade, Aberly Road, Corio Quay Road, Princess Highway, Geelong Ring Road, Princess Freeway, Western Ring Road, Hume Motorway, Goulburn Valley Highway
 - NSW: Newell Highway, Kidman Way, McLennons Bore Road and Wilson Road.
- Option 2 – suitable for OSOM vehicles with a loaded height of up to 6.5 m for vehicles transporting WTG towers and larger items. Roads used on this route are shown on Figure 5.2 and comprise:
 - Victoria: Madden Ave, Seabeach Parade, St Georges Road, Cox Road, Anakie Road, Midland Highway, Princes Freeway, Hamilton Highway, Colac-Ballarat Road, Pitfield-Cressy Road, Rokewood-Skipton Road, Glenelg Highway, Beaufort Road, Skipton Road, Lawrence Street, Albert Street, Lexton Road, Beaufort-Lexton Road, Williamson Street, Sunraysia Highway, Wimmera Highway, Bridgewater-Dunolly Road, Arnold Road, Bridgewater-Serpentine Road, River Street, Loddon Valley Highway, Boort-Mitiamo Road, Pyramid-Yarraberb Road, Bendigo-Pyramid Road, Echuca-Mitiamo Road, Northern Highway, Ogilvie Ave, Murray Valley Highway, Goulburn Valley Highway.
 - NSW: Newell Highway, Kidman Way, McLennons Bore Road and Wilson Road.

The volume of OSOM loads remains unchanged from the EIS. It is estimated that there will be a total of 2,884 OSOM loads over the duration of the construction period. During peak construction periods, it is anticipated that there will be approximately 104 OSOM loads per month.

5.3 Parking areas

Parking areas that can accommodate OSOM vehicles have been identified along the routes from Port of Geelong and are summarised in:

- Table 5.1 and Figure 5.1 (Option 1)
- Table 5.1 and Figure 5.2 (Option 2).

The length of each route within NSW is limited to approximately 135 km. The parking area in Jerilderie on the Newell Highway has sufficient clearance to support the layover of OSOM vehicles and is on the correct side of the Newell Highway (i.e. in line with the direction of travel).

Table 5.1 OSOM route – Option 1 and Option 2 – parking areas

Label	Distance from port (km)	State	Location	Section of road	Current clearance
Port of Geelong - Option 1 (Figure 5.1)					
A	141.0	Victoria	Beveridge	Hume Freeway	160-m long x 17-m wide
B	153.0	Victoria	Wallan	Hume Freeway	80-m long x 4.5-m wide
C	219.0	Victoria	Tablik	Goulburn Valley Highway	150-m long x 12-m wide
D	312.0	Victoria	Numurkah	Goulburn Valley Highway	80-m long x 10-m wide
E	318.0	Victoria	Numurkah	Goulburn Valley Highway	150-m long x 8-m wide
F	424.0	NSW	Jerilderie	Newell Highway	150-m long x 5-m wide
Port of Geelong - Option 2 (Figure 5.2)					
A	752.7	NSW	Jerilderie	Newell Highway	150-m long x 5-m wide

5.4 Road deficiencies

The OSOM vehicle route assessment (Annexure B of this report) identified deficiencies in the existing road network to be addressed to enable use by the project's OSOM vehicles. These deficiencies are summarised in Table 5.2 (Option 1) and Table 5.3 (Option 2) and shown on Figure 5.1 (Option 1) and Figure 5.2 (Option 2).

Works required to facilitate the project's OSOM vehicles from Port of Geelong to the project area are listed in Table 5.2 (Option 1) and Table 5.3 (Option 2). Figures showing the outcomes of swept path assessments and indicative work areas for each of these deficiencies are provided in Annexure B of this report.

Upgrades required on the Victorian road network will be undertaken separately to this application and in consultation with relevant road and planning authorities in Victoria. All other works within the NSW road network listed in Table 5.2 (Option 1) and Table 5.3 (Option 2) are proposed to be completed as part of the project.

Potential impacts from the proposed haulage route road upgrades have been categorised as the following:

1. **To be assessed separately** – impacts are to the Victorian road network and will be assessed separately from this application.
2. **Minor (street furniture adjustments)** – minor adjustments to street furniture within the existing road pavement (e.g. sign/light pole removal or relocation).
3. **Minor (works within existing road pavement)** – works within existing road pavement that may modify the road layout (e.g. traffic island or roundabout to be made trafficable).
4. **Moderate** – works outside of existing road pavement where a disturbance area has been defined (e.g. development footprint, haulage route upgrade).

A decision on the project's OSOM route is subject to further consultation with relevant road authorities (including TfNSW and local councils) and EnergyCo prior to an NHVR application. The selection of a WTG model for construction will determine the exact dimensions of components requiring transport and subsequent road upgrades needed between the site access points and Port of Newcastle/Port of Geelong to facilitate deliveries.

Table 5.2 **Potential road deficiencies for OSOM route 1 from Geelong**

Label (refer to Figure 5.1)	Distance from port	Location	Section of road	Current clearance	Procedure	Potential issues	Summary of proposed works	Potential impacts
Greater Geelong LGA (VIC)								
A	0.0	Infrabuild storage yard North Shore	Infrabuild storage yard onto Madden Avenue and onto The Esplanade	Length: 79.0 m Width: 7.0 m	Turn right out of Infrabuild and onto Madden Avenue	The turn may be constrained by fencing.	Fence to be modified.	To be assessed separately.
B	0.0	Lacelles Berth #3 North Shore	Lacelles berth 3 onto The Esplanade	Length: 79.0 m Width: 7.0 m	Reverse out of the wharf onto The Esplanade	The turn may be constrained by the existing dimensions of the intersection.	Hardstand to be installed on inside and outside of corner of intersection.	To be assessed separately.
C	1.2	North Shore	The Esplanade onto Sea Breeze Parade	Length: 79.0 m Width: 7.0 m	Right hand turn	The turn may be constrained by signage, kerb and barrier.	Kerbs and barriers on entry to be removed and road made trafficable on entry. Signs to be removed.	To be assessed separately.
D	1.9	North Shore	Sea Breeze Parade onto Aberly Road	Length: 79.0 m Width: 7.0 m	Left hand turn	The turn may be constrained by the signage and traffic islands.	Islands to be made trafficable/replaced with painted lines. Signs to be relocated or made removable with flush bases.	To be assessed separately.
E	2.4	North Shore	Aberly Road onto Corio Quay Road	Length: 79.0 m Width: 7.0 m	Travel through the roundabout on the incorrect side	The turn may be constrained by the signage.	Several signs to be relocated or made removable.	To be assessed separately.

Label (refer to Figure 5.1)	Distance from port	Location	Section of road	Current clearance	Procedure	Potential issues	Summary of proposed works	Potential impacts
F	17.0	Highton	The Princes Highway onto the Geelong Ring Road	Length: 79.0 m Width: 7.0 m	Right hand turn using bypass installed on inside of roadway	The turn may be constrained by the existing dimensions of the intersection.	Hardstand to be installed, islands made trafficable, and signs relocated or made removable.	To be assessed separately.
Moira LGA (VIC)								
G	331.0	Strathmerton	Bend on Goulburn Valley Highway at Murray Valley Highway	Length: 40 m Width: 4.5 m	Right hand turn	The turn may be constrained by the signage.	Signs to be relocated or made removable.	To be assessed separately.
H	346.0	Yarroweyah	Bend on Goulburn Valley Highway at Murray Valley Highway	Length: 50 m Width: 5.5 m	Left hand turn	The turn may be constrained by the signage.	Signs to be relocated or made removable.	To be assessed separately.
Berrigan LGA (NSW)								
I	360.5	Tocumwal	Roundabout on Newell Highway Tocumwal	Length: 50 m Width: 8.0 m	Travel directly ahead	The turn may be constrained by the signage.	Sign to be relocated or made removable.	Minor (street furniture adjustments)
Murrumbidgee LGA (NSW)								
J	415.0	Jerilderie	Corner on Newell Highway at Conargo Road	Length: 50 m Width: 8.0 m	Right hand turn	The turn may be constrained by the signage and a light pole.	Light pole to be relocated out of swept path. Signs to be relocated or made removable.	Minor (street furniture adjustments)

Label (refer to Figure 5.1)	Distance from port	Location	Section of road	Current clearance	Procedure	Potential issues	Summary of proposed works	Potential impacts
K	431.0	Bundure	Newell Highway onto Kidman Way	Length: 50 m Width: 8.0 m	Left hand turn	The turn may be constrained by the existing dimensions of the intersection and signage.	Sign to be relocated out of swept path and hardstand installed on inside of corner.	Moderate – hardstand outside of existing road pavement. A disturbance area has been defined (haulage route road upgrade) and a concept design has been prepared (Section A.4 of Annexure A).
L	461.0	Gala Vale	Kidman Way at McLennons Bore Road	Length: 25 m Width: 5.5 m	Left hand turn	The turn may be constrained by the existing dimensions of the intersection.	Signs to be relocated and hardstand installed on inside of corner.	Moderate (works outside of existing road pavement). Potential impacts included in the development footprint and development corridor. A concept design has been prepared (Section A.1 of Annexure A).
M	482.0	Jerilderie	McLennons Bore Road onto Wilsons Road	Length: 50.0 m Width: 5.5 m	Right hand turn	The turn may be constrained by the existing dimensions of the intersection.	Hardstand to be installed on outside of corner.	Moderate (works outside of existing road pavement). Potential impacts included in the development footprint and development corridor. A design for upgrades at this intersection will be agreed upon with Murrumbidgee Council prior to construction of Stage 2.

Table 5.3 **Potential road deficiencies for OSOM route 2 from Geelong**

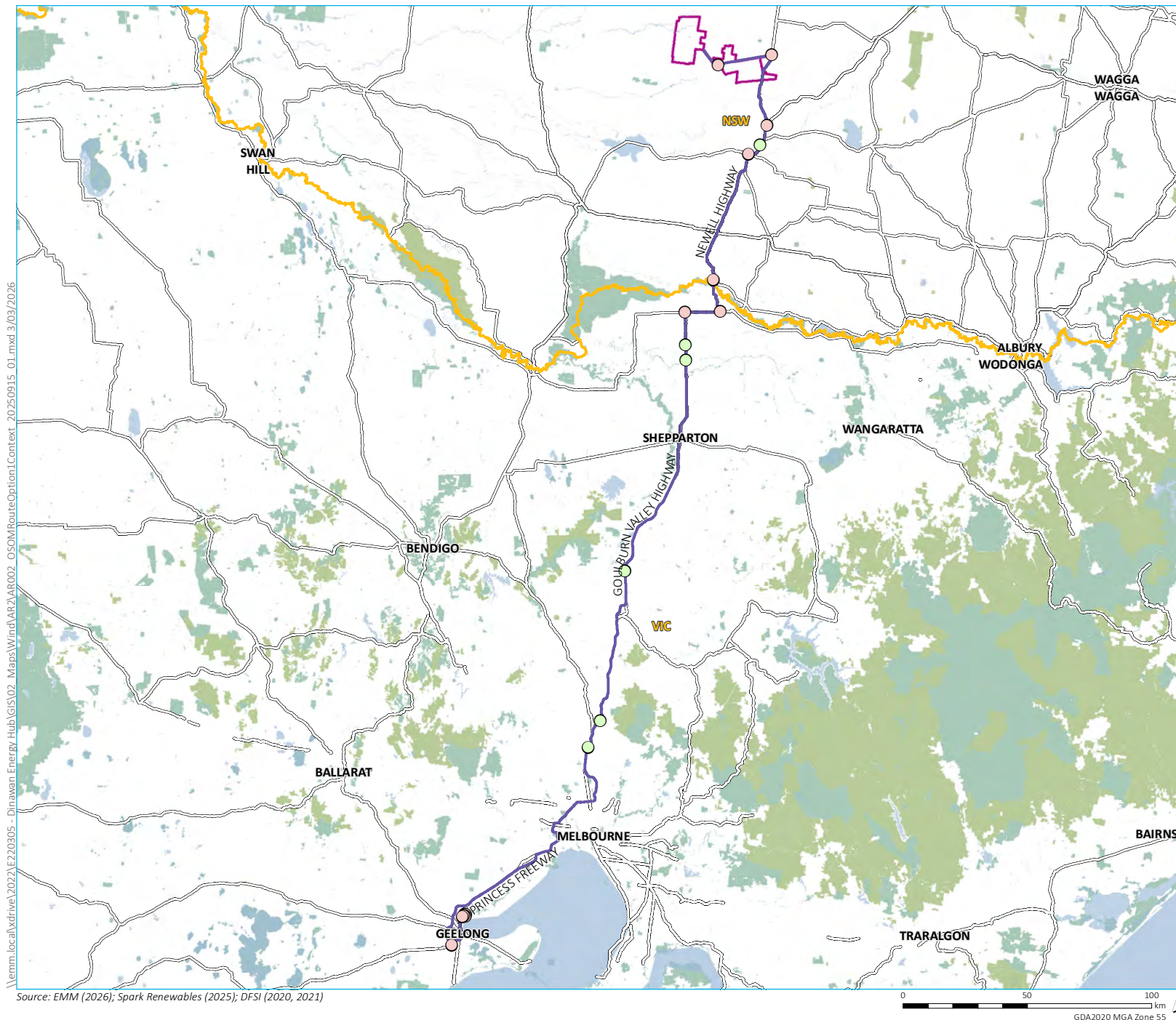
Label (refer to Figure 5.2)	Distance from port	Location	Section of road	Current clearance	Procedure	Potential issues	Summary of proposed works	Potential impacts
Greater Geelong LGA (VIC)								
A	0.65	North Shore	Madden Road onto Seabeach Parade	Length: 40 m Width: 8.5 m	Right hand turn	The turn may be constrained by the existing dimensions of the intersection, a power pole and signage.	Power pole and signs to be relocated out of swept path. Hardstand to be installed and kerbs made trafficable.	To be assessed separately.
B	1.1	North Shore	Seabeach Parade onto St Georges Road	Length: 40 m Width: 9.0 m	Left hand turn	The turn may be constrained by the existing dimensions of the intersection.	Hardstand to be installed on outside of corner and kerbs made trafficable.	To be assessed separately.
C	1.5	Corio	Roundabout on St Georges Road	Length: 40 m Width: 5.0 m	Travel directly ahead	Some modifications to the existing roundabout may be required for the vehicle to pass safely.	Island on entry to be made trafficable/replaced with painted lines. Existing roundabout made trafficable for previous project.	To be assessed separately.
D	4.4	Noriane	Cox Road onto Anakie Road	Length: 40 m Width: 7.0 m	Left hand turn	The turn may be constrained by the existing dimensions of the intersection.	Hardstand to be installed on island and roundabout and kerbs made trafficable.	To be assessed separately.
E	6.3	Bell Park	Roundabout on Anakie Road	Length: 30 m Width: 4.5 m	Travel directly ahead on incorrect side of roundabout.	Some modifications to the existing roundabout may be required for the vehicle to pass safely.	Roundabout to be made trafficable/concreted. Islands to be made trafficable/replaced with painted lines.	To be assessed separately.
F	8.4	Bell Park	Anakie Road onto Ballarat Road	Length: 35 m Width: 7.5 m	Right hand turn using slip lane on incorrect side of road.	The turn may be constrained by the existing dimensions of the intersection.	Traffic islands to be made trafficable/replaced with painted lines. Vegetation to be trimmed for clearance	To be assessed separately.

Label (refer to Figure 5.2)	Distance from port	Location	Section of road	Current clearance	Procedure	Potential issues	Summary of proposed works	Potential impacts
G	9.7	Hamlyn Heights	Ballarat Road onto Geelong Ring Road	Length: 45 m Width: 9.0 m	Left hand turn	The turn may be constrained by the existing dimensions of the intersection.	Hardstand to be installed on outside of corner.	To be assessed separately.
H	14.7	Fyansford	Geelong Ring Road onto Hamilton Highway	Length: 30 m Width: 5.0 m	Right hand turn	The turn may be constrained by the existing dimensions of the intersection.	Hardstand to be installed on outside of corner on entry. Loads to use bypass installed for previous project.	To be assessed separately.
I	14.8	Fyansford	Hamilton Highway under Princes Highway	Height: 6.5 m	Travel directly ahead via bypass roadway	The turn requires use of a bypass installed for a different project.	Discussions with asset owners/regulators required to secure use of bypass installed for current project.	To be assessed separately.
Golden Plains LGA (VIC)								
J	75.1	Cressy	Hamilton Highway onto Colac-Ballarat Road	Length: 40 m Width: 6.0 m	Right hand turn	The turn may be constrained by the existing dimensions of the intersection and a traffic island.	Hardstand to be installed on inside and outside of corner. Island to be made trafficable/replaced with painted lines	To be assessed separately.
K	79.6	Werneth	Colac-Ballarat Road onto Pitfield-Cressy Road	Length: 40 m Width: 5.0 m	Left hand turn	The turn may be constrained by the existing dimensions of the intersection.	Hardstand to be installed on inside and outside of corner.	To be assessed separately.
Corangamite LGA (VIC)								
L	127	Skipton	Rokewood-Skipton Road onto Glenelg Highway	Length: 40 m Width: 10.0 m	Left hand turn	The turn may be constrained by the existing dimensions of the intersection and traffic islands.	Hardstand to be installed on outside of corner. Island to be made trafficable/replaced with painted lines.	To be assessed separately.

Label (refer to Figure 5.2)	Distance from port	Location	Section of road	Current clearance	Procedure	Potential issues	Summary of proposed works	Potential impacts
M	128	Skipton	Glenelg Highway onto Beaufort Road	Length: 40 m Width: 8.0 m	Right hand turn	The turn may be constrained by the existing dimensions of the intersection.	Hardstand to be installed on outside of corner.	To be assessed separately.
Pyrenees LGA (VIC)								
N	183.0	Lexton	Williamson Street onto Sunraysia Highway	Length: 45 m Width: 10 M	Left hand turn	The turn may be constrained by traffic islands.	Traffic islands to be made trafficable/replaced with painted lines.	To be assessed separately.
Northern Grampians LGA (VIC)								
O	267.0	St Arnaud	Sunraysia Highway onto Wimmera Highway	Length: 30 m Width: 6.0 m	Right hand turn	The turn may be constrained by traffic islands and signage.	Islands to be made trafficable/replaced with painted lines. Signs relocated out of swept path.	To be assessed separately.
Loddon LGA (VIC)								
P	327.0	Tamagulla	Turn on Wimmera Highway at Tarnagulla	Length: 40 m Width: 6.0 m	Left hand turn	The turn may be constrained by the existing dimensions of the intersection and traffic islands.	Island to be made trafficable/replaced with painted lines. Hardstand to be installed on outside of corner.	To be assessed separately.
Q	331.0	Llanelly	Wimmera Highway onto Bridgewater-Dunolly Road	Length: 60 m Width: 10.0 m	Left hand turn	The turn may be constrained by signage.	Signs to be relocated or made removable.	To be assessed separately.
R	370.0	Serpentine	River Road onto Loddon Valley Highway	Length: 40 m Width: 7.5 m	Left hand turn	The turn may be constrained by traffic islands.	Island to be made trafficable/replaced with painted lines.	To be assessed separately.

Label (refer to Figure 5.2)	Distance from port	Location	Section of road	Current clearance	Procedure	Potential issues	Summary of proposed works	Potential impacts
S	393.0	Jarklin	Loddon Valley Highway onto Boort-Mitiamo Road	Length: 35 m Width: 6.0 m	Right hand turn	The turn may be constrained by the existing dimensions of the intersection and signage.	Hardstand to be installed on inside and outside of corner and signs relocated or made removable.	To be assessed separately.
T	408	Calivil	Boort-Mitiamo Road onto Pyramid-Yarraberb Road	Length: 35 m Width: 3.5 m	Left hand turn	The turn may be constrained by traffic islands.	Islands to be made trafficable/replaced with painted lines.	To be assessed separately.
U	408.1	Calivil	Pyramid-Yarraberb Road onto Bendigo-Pyramid Road	Length: 35 m Width: 3.5 m	Right hand turn	The turn may be constrained by traffic islands.	Islands to be made trafficable/replaced with painted lines.	To be assessed separately.
Campaspe LGA (VIC)								
V	465.0	Echuca	Echuca-Mitiamo Road onto Northern Highway	Length: 50 m Width: 6.0 m	Left hand turn	The turn may be constrained by signage.	Sign to be relocated or made removable.	To be assessed separately.
W	469.0	Echuca	Northern Highway onto Murray Valley Highway	Length: 45 m Width: 4.5 m	Right hand turn using incorrect side of roundabout	The turn may be constrained by traffic islands and signage.	Island to be made trafficable/replaced with painted lines and signs relocated.	To be assessed separately.
Moira LGA (VIC)								
X	527.0	Nathalla	Roundabout on Murray Valley Highway	Length: 40 m Width: 4.0 m	Travel directly ahead	Some modifications to the existing roundabout may be required for the vehicle to pass safely.	Hardstand to be installed and kerbs made trafficable on entry. Roundabout to be made trafficable and signs relocated. Island on exit made trafficable/replaced with painted lines	To be assessed separately.

Label (refer to Figure 5.2)	Distance from port	Location	Section of road	Current clearance	Procedure	Potential issues	Summary of proposed works	Potential impacts
Y	575.0	Yarroweyah	Murray Valley Highway onto Goulburn Valley Highway	Length: 45 m Width: 7.5 m	Left hand turn	The turn may be constrained by the existing dimensions of the intersection.	Sign to relocated or made removable and hardstand installed on inside of corner.	To be assessed separately.
Murrumbidgee LGA (NSW)								
Z	745.4	Jerilderie	Corner on Newell Highway at Conargo Road	Length: 50 m Width: 8.0 m	Right hand turn	The turn may be constrained by traffic islands.	Islands to be made trafficable/replaced with painted lines.	Minor (works within existing road pavement) A concept design has been prepared (Section A.6 of Annexure A).
AA	690.0	Gala Vale	Kidman Way at McLennons Bore Road	Length: 25 m Width: 5.5 m	Left hand turn	The turn may be constrained by the intersection dimensions.	Modifications made for blades are adequate for tower loads.	Moderate (works outside of existing road pavement). Potential impacts included in the development footprint and development corridor. A concept design has been prepared (Section A.1 of Annexure A).
BB	711.0	Jerilderie	McLennons Bore Road onto Wilsons Road	Length: 50.0 m Width: 5.5 m	Right hand turn	The turn may be constrained by the intersection dimensions.	Modifications made for blades are adequate for tower loads. Unsealed roads to be upgraded.	Moderate (works outside of existing road pavement). Potential impacts included in the development footprint and development corridor. A design for upgrades at this intersection will be agreed upon with Murrumbidgee Council prior to construction of Stage 2.



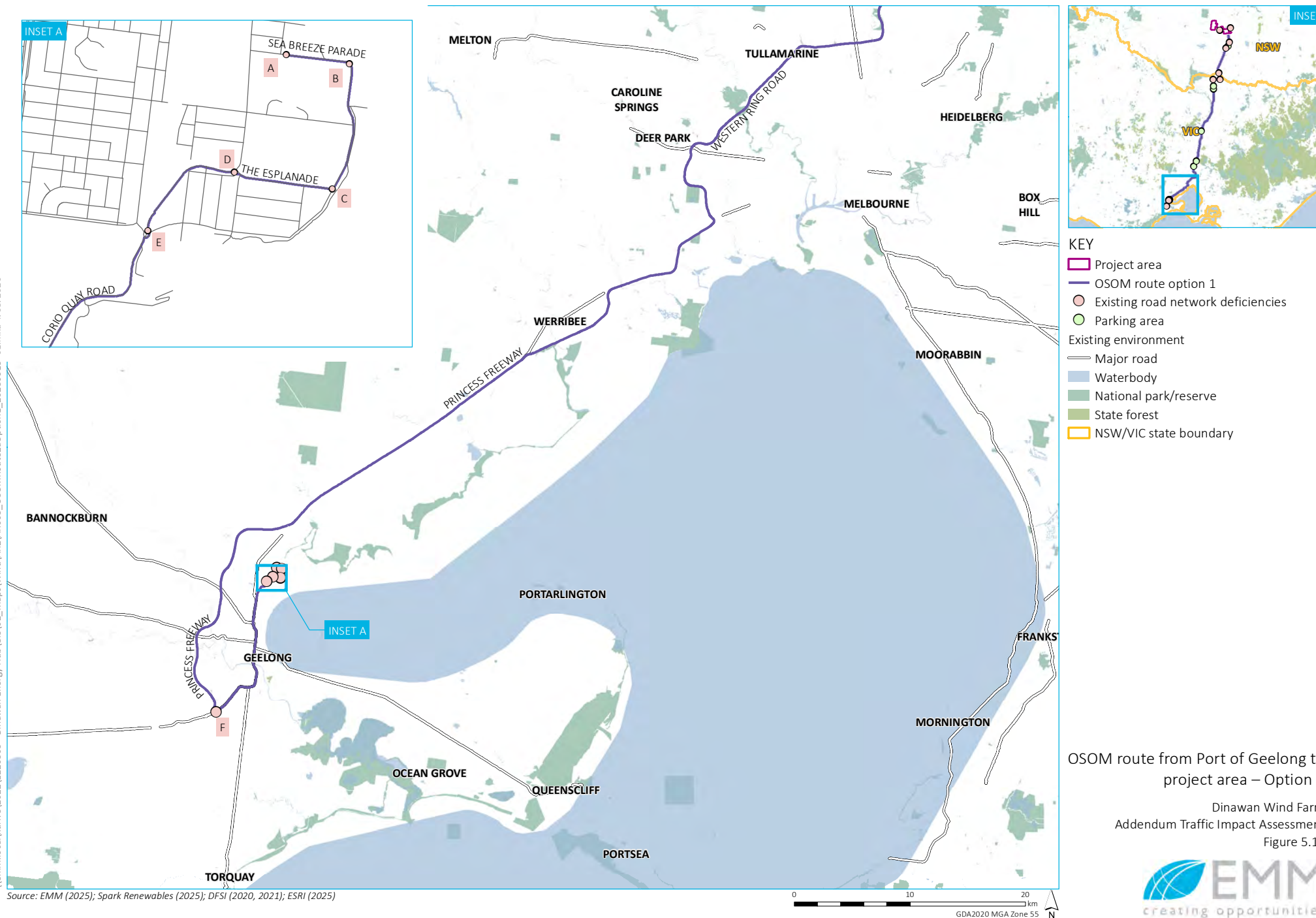
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 - OSOM route option 1
 - Existing road network deficiencies
 - Parking area
- Existing environment**
- Major road
 - Waterbody
 - National park/reserve
 - State forest
 - NSW/VIC state boundary

OSOM route from Port of Geelong to project area – Option 1

Dinawan Wind Farm
Addendum Traffic Impact Assessment
Figure 5.1



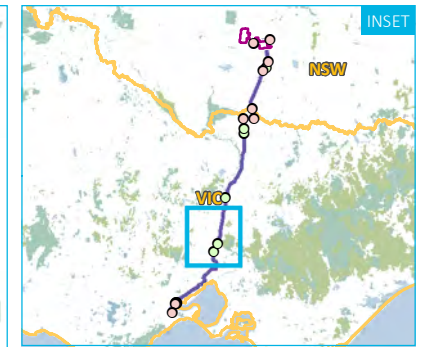
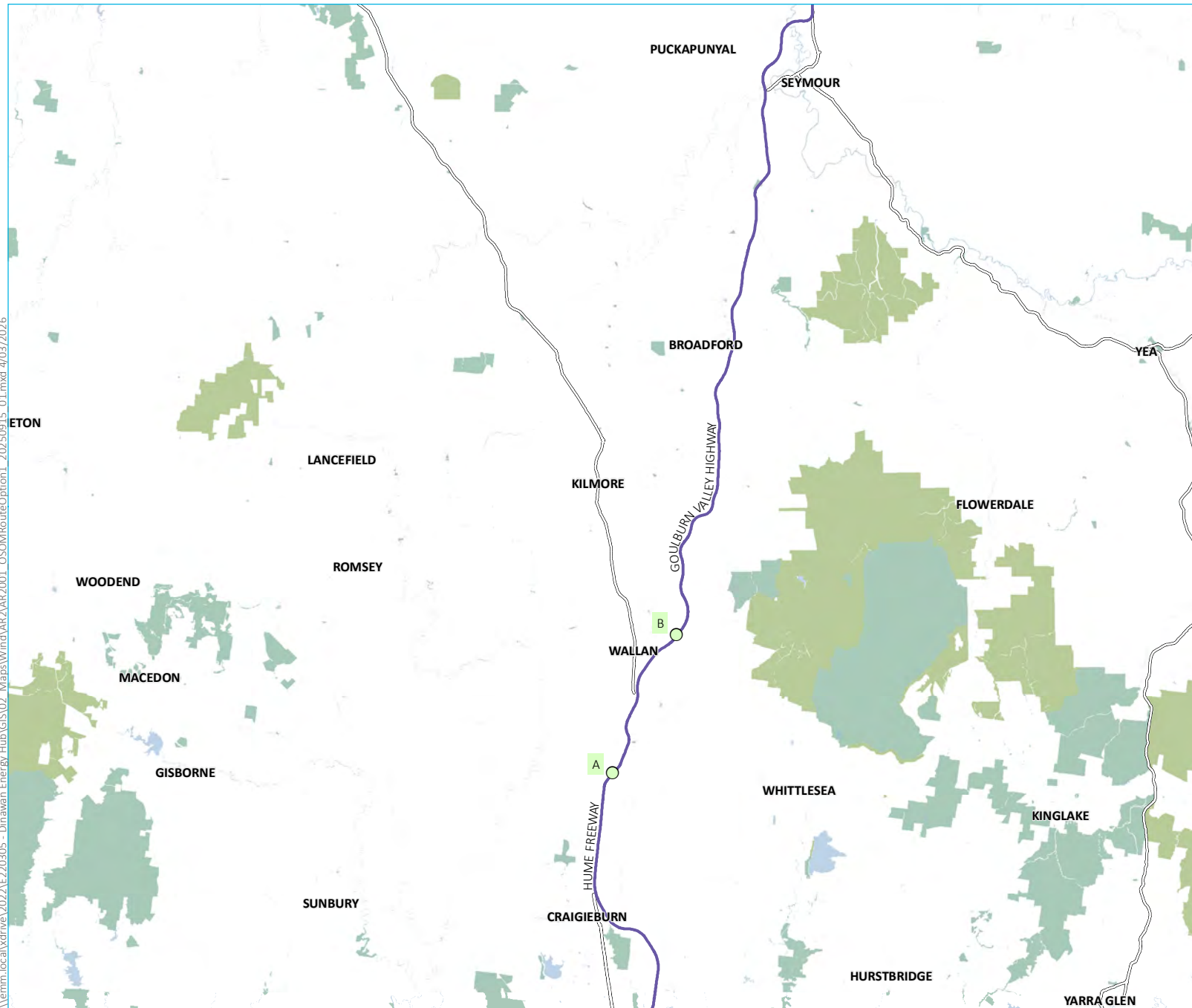
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OSOM route from Port of Geelong to project area – Option 1

Dinawan Wind Farm
Addendum Traffic Impact Assessment
Figure 5.1a

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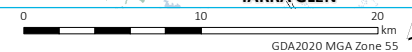
- KEY**
- █ Project area
 - OSOM route option 1
 - Existing road network deficiencies
 - Parking area
 - Existing environment
 - Major road
 - █ Waterbody
 - █ National park/reserve
 - █ State forest
 - █ NSW/VIC state boundary

OSOM route from Port of Geelong to project area – Option 1

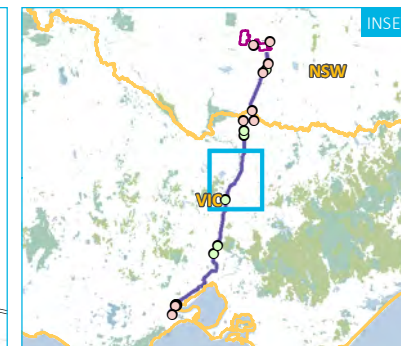
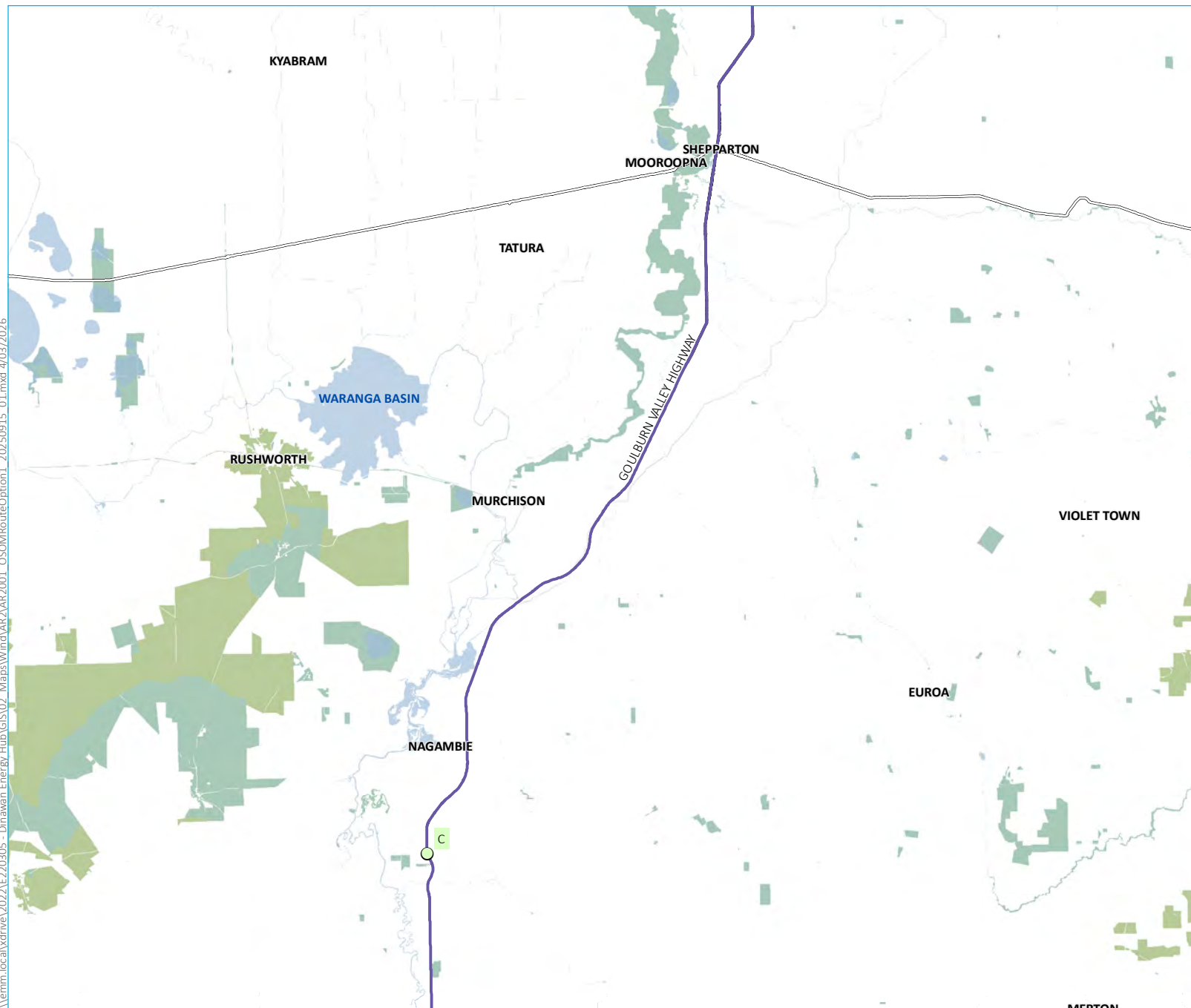
Dinawan Wind Farm
Addendum Traffic Impact Assessment
Figure 5.1b



Source: EMM (2025); Spark Renewables (2025); DFSI (2020, 2021); ESRI (2025)



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- KEY
- Project area
 - OSOM route option 1
 - Existing road network deficiencies
 - Parking area
 - Existing environment
 - Major road
 - Waterbody
 - National park/reserve
 - State forest
 - NSW/VIC state boundary

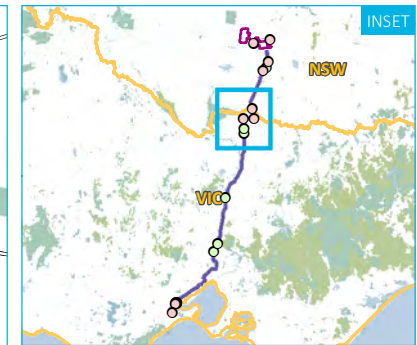
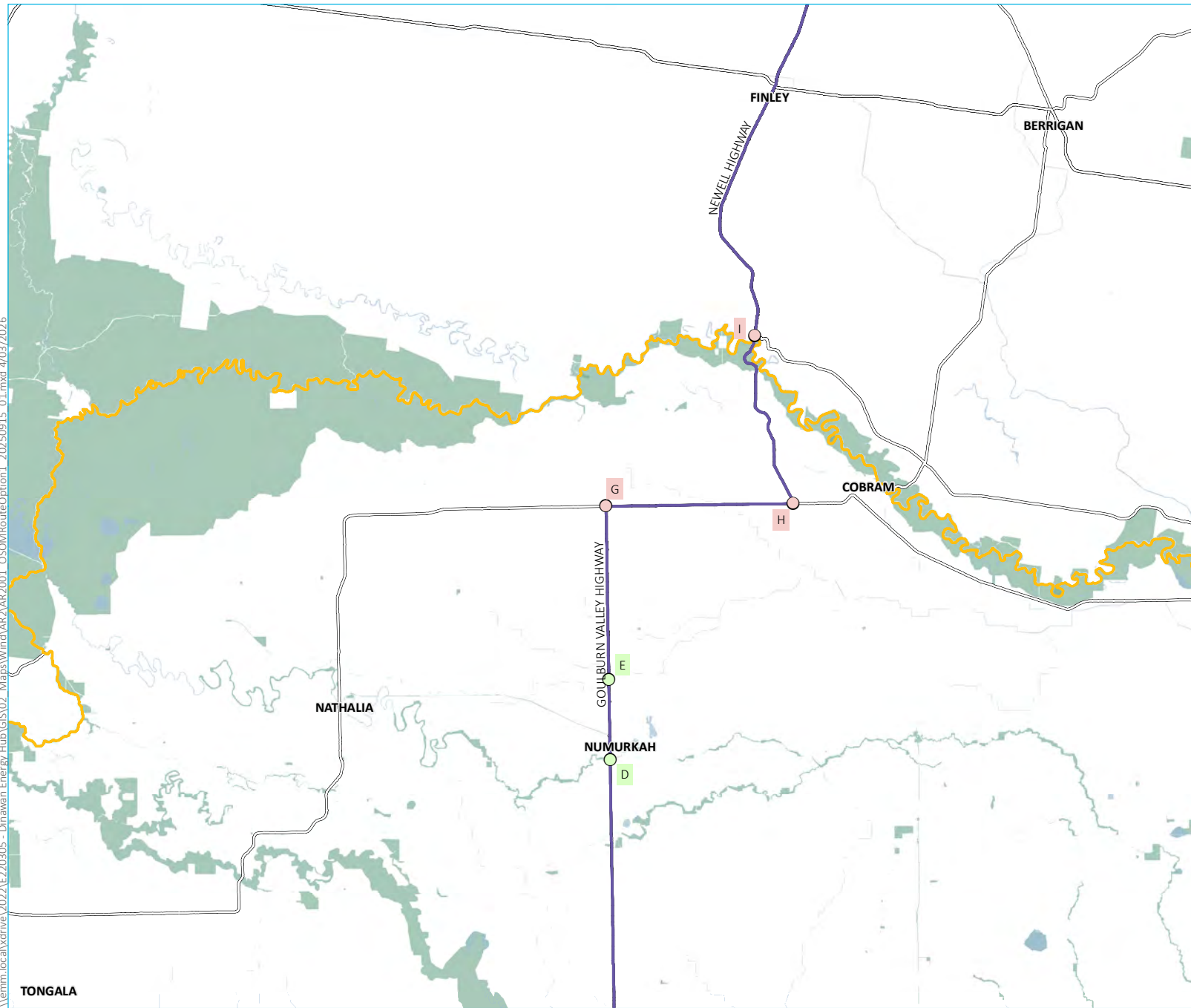
OSOM route from Port of Geelong to project area – Option 1

Dinawan Wind Farm
Addendum Traffic Impact Assessment
Figure 5.1c

Source: EMM (2025); Spark Renewables (2025); DFSI (2020, 2021); ESRI (2025)



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- KEY
- Project area
 - OSOM route option 1
 - Existing road network deficiencies
 - Parking area
- Existing environment
- Major road
 - Waterbody
 - National park/reserve
 - State forest
 - NSW/VIC state boundary

OSOM route from Port of Geelong to project area – Option 1

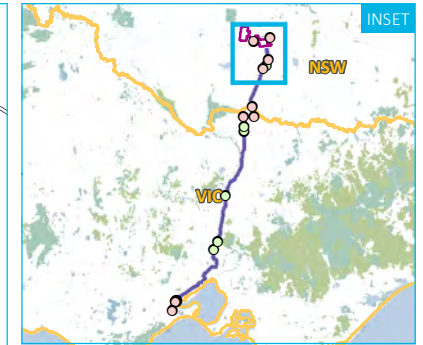
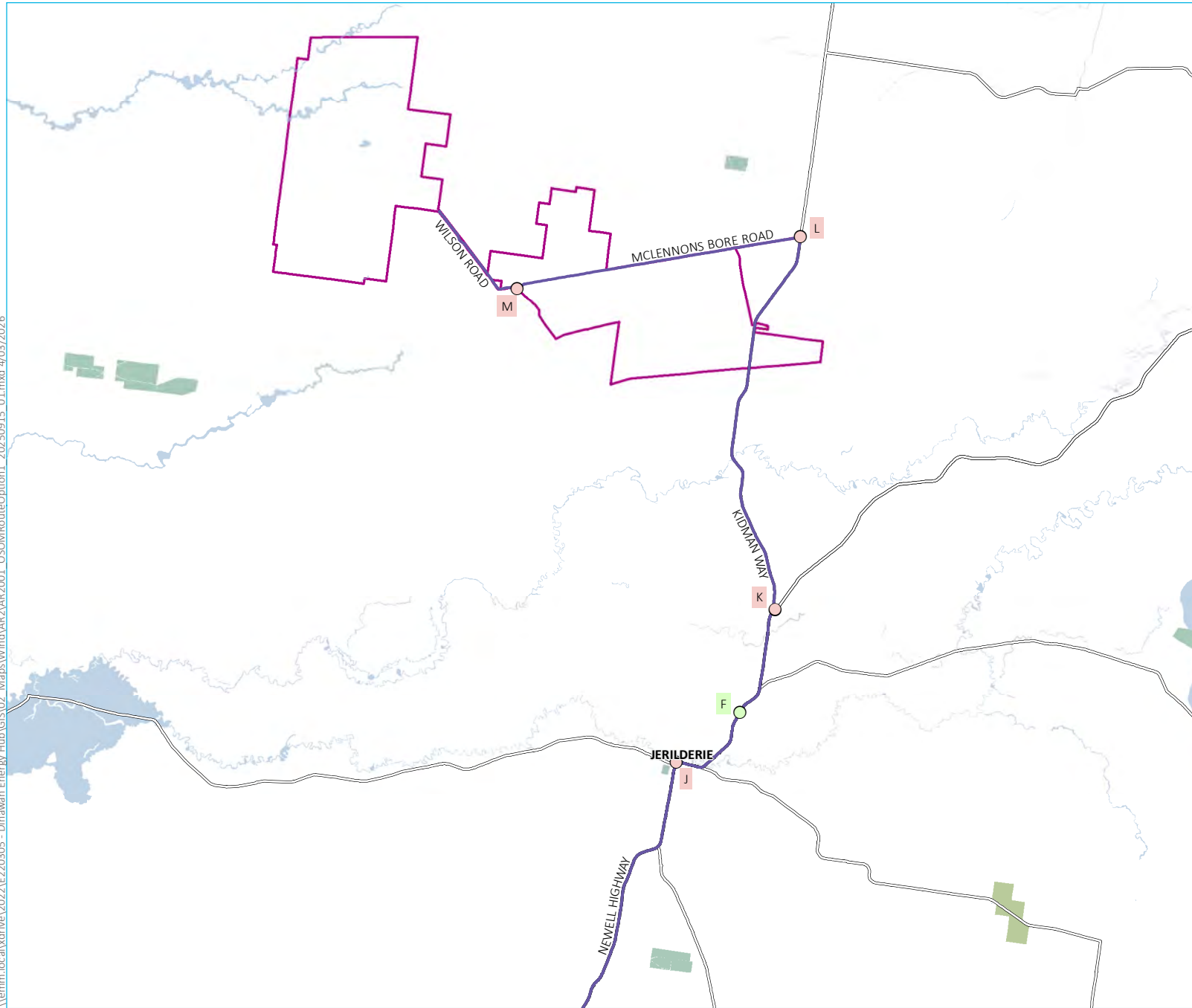
Dinawan Wind Farm
Addendum Traffic Impact Assessment
Figure 5.1d



Source: EMM (2025); Spark Renewables (2025); DFSI (2020, 2021); ESRI (2025)



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- KEY
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 - OSOM route option 1
 - Existing road network deficiencies
 - Parking area
 - Existing environment
 - Major road
 - Waterbody
 - National park/reserve
 - State forest
 - NSW/VIC state boundary

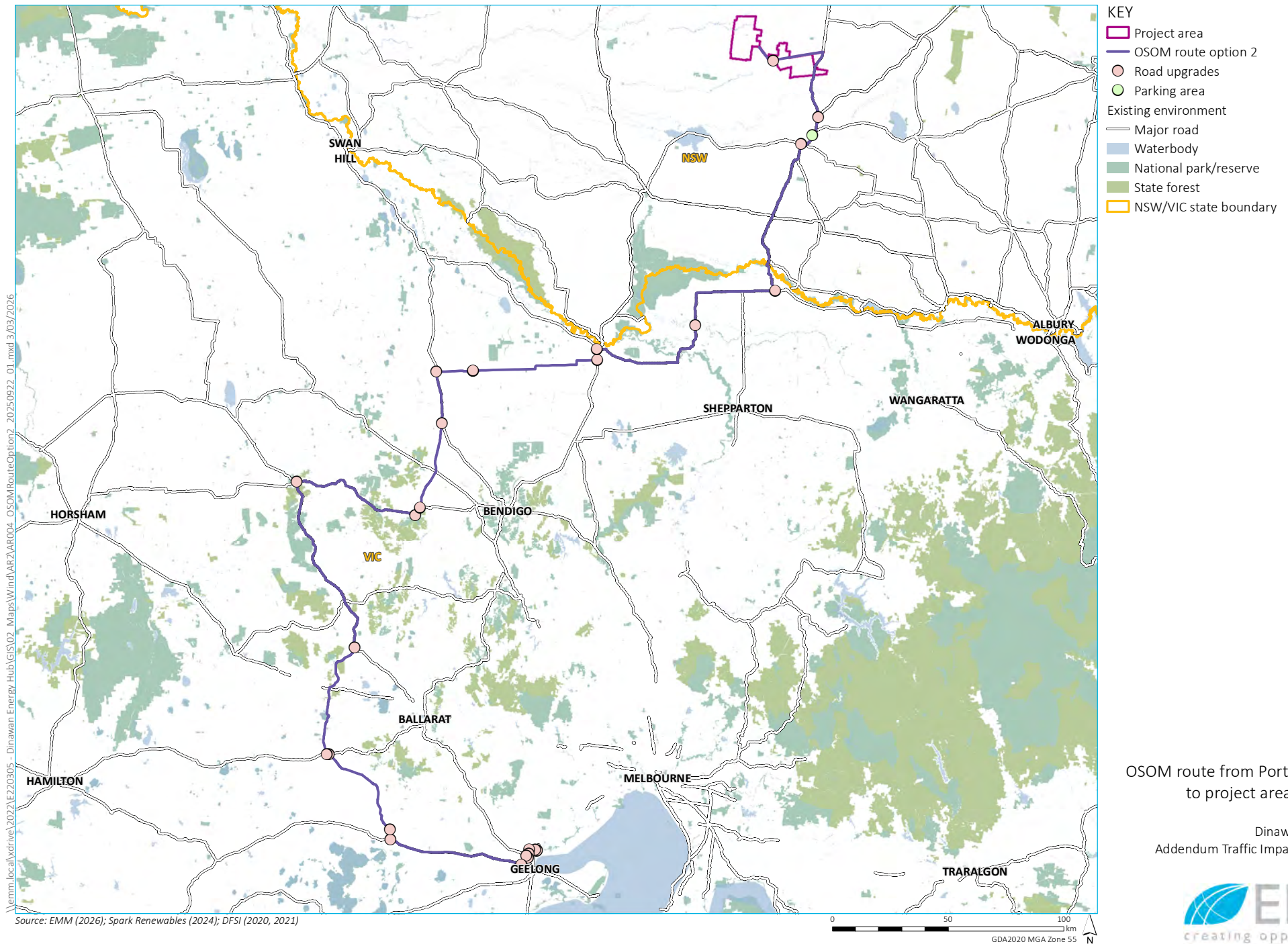
OSOM route from Port of Geelong to project area – Option 1

Dinawan Wind Farm
Addendum Traffic Impact Assessment
Figure 5.1e



Source: EMM (2025); Spark Renewables (2025); DFSI (2020, 2021); ESRI (2025)

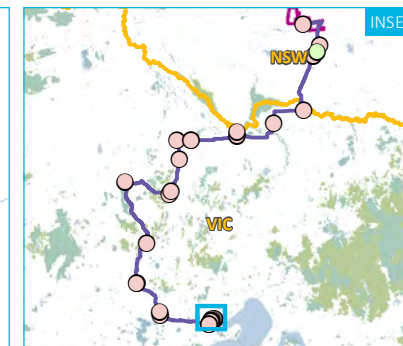
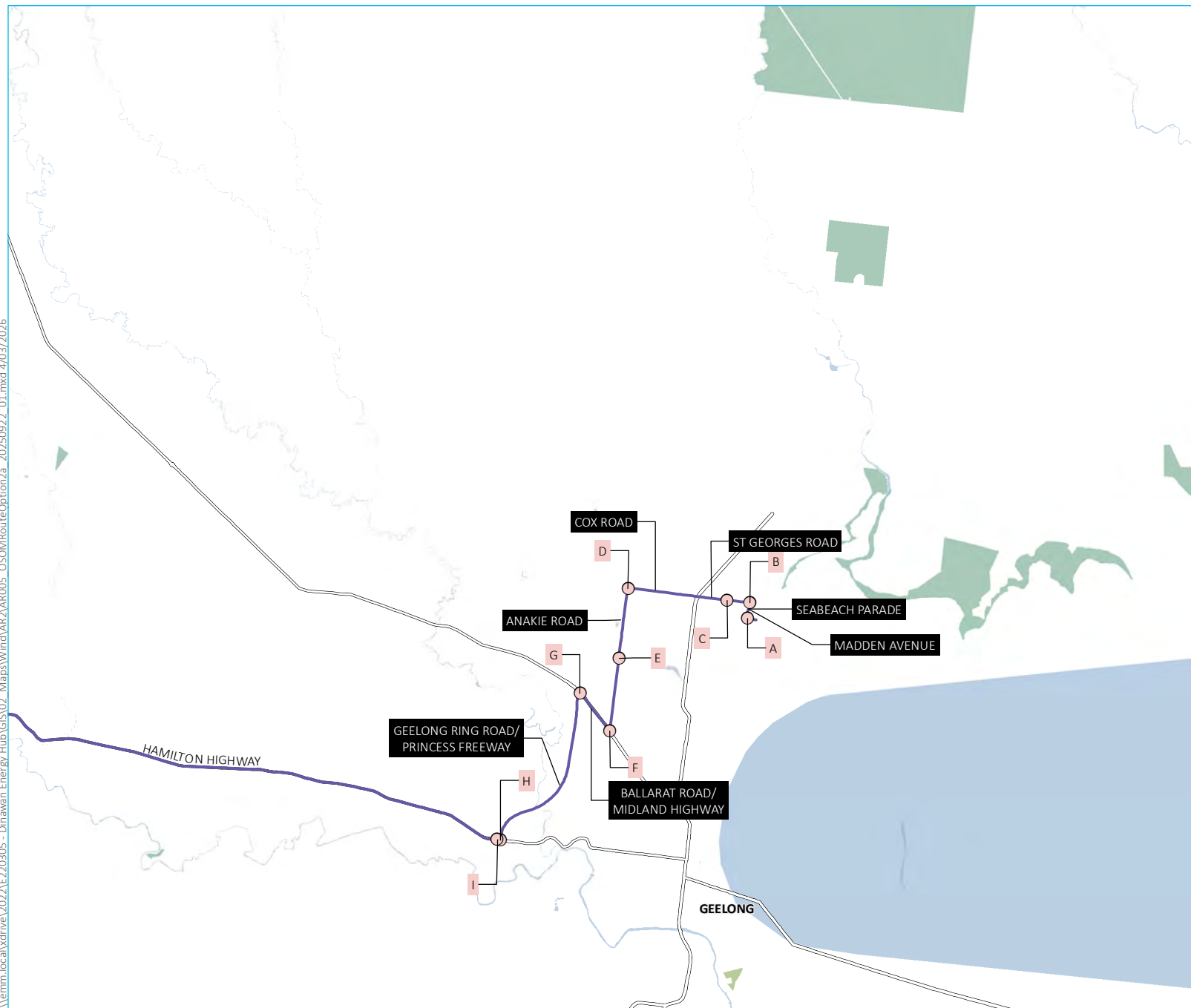




OSOM route from Port of Geelong
to project area – Option 2

Dinawan Wind Farm
Addendum Traffic Impact Assessment
Figure 5.2

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KEY

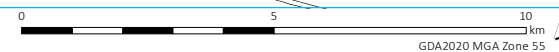
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- OSOM route option 2
- Road upgrades
- Parking area
- Existing environment
 - Major road
 - Waterbody
 - National park/reserve
 - State forest
 - NSW/VIC state boundary

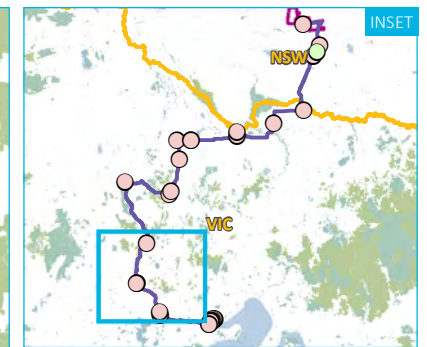
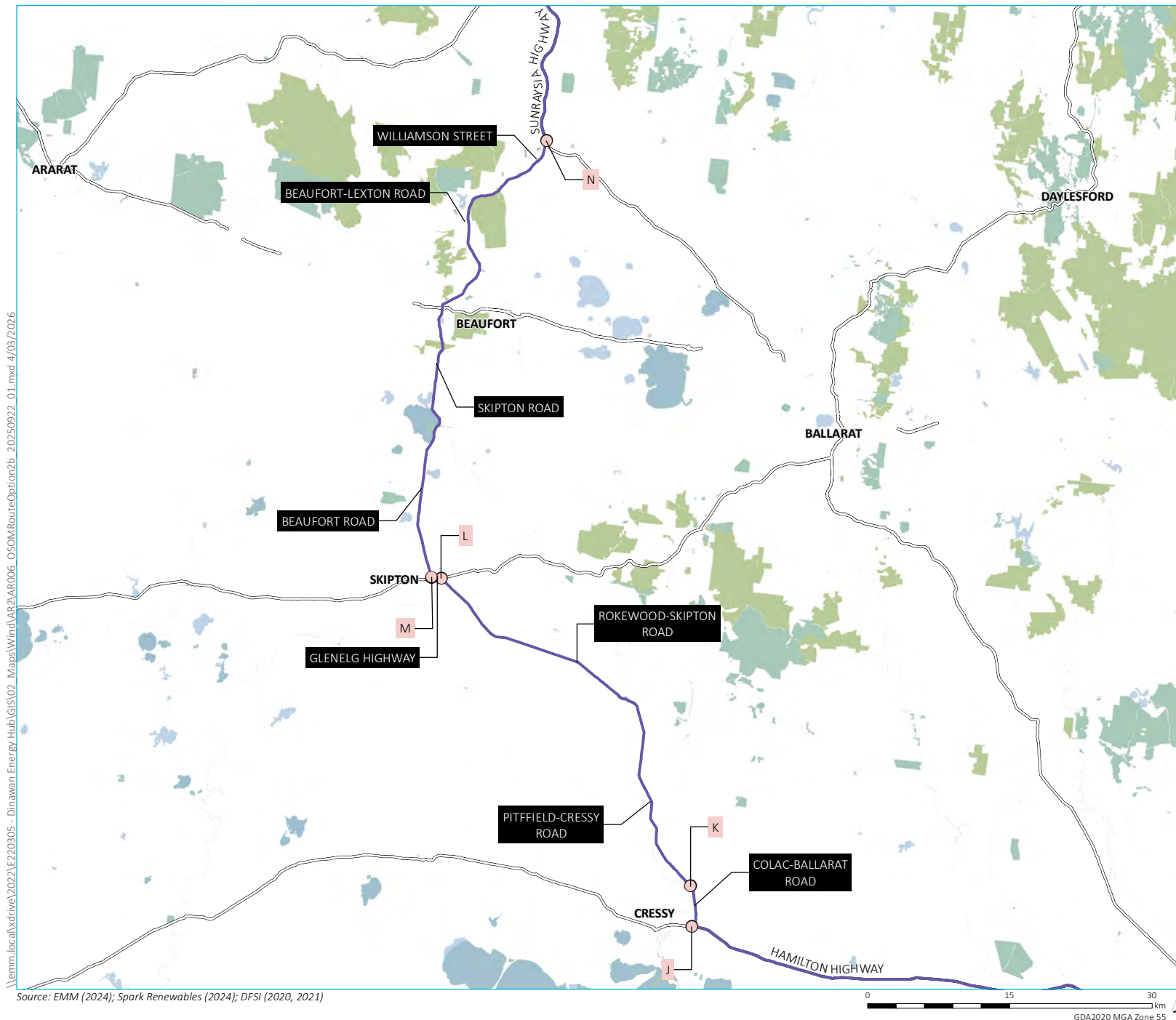
OSOM route from Port of Geelong
to project area – Option 2

Dinawan Wind Farm
Addendum Traffic Impact Assessment
Figure 5.2a



Source: EMM (2024); Spark Renewables (2024); DFSI (2020, 2021)





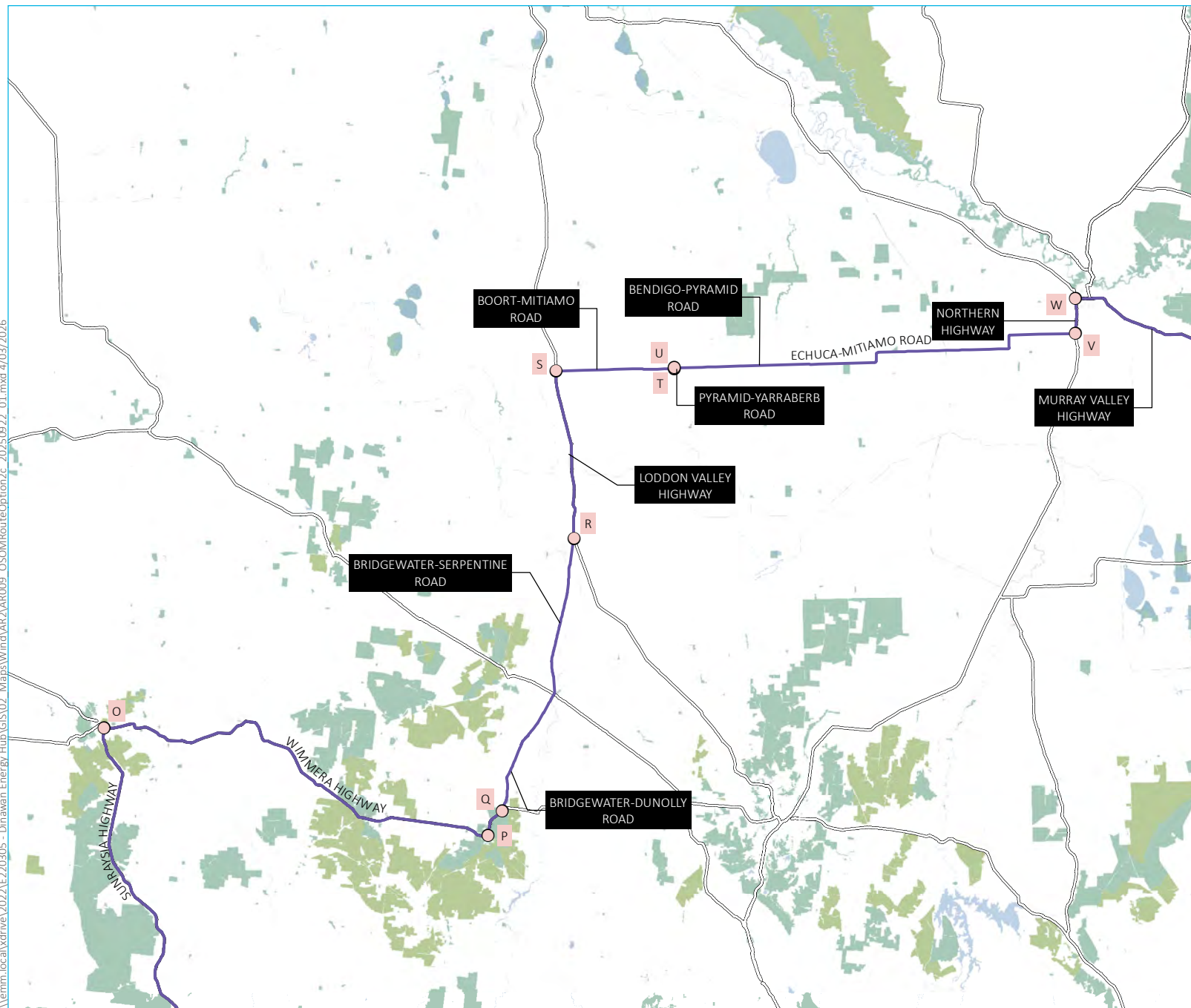
- KEY**
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 - OSOM route option 2
 - Road upgrades
 - Parking area
 - Existing environment
 - Major road
 - Waterbody
 - National park/reserve
 - State forest
 - NSW/VIC state boundary

OSOM route from Port of Geelong
to project area – Option 2

Dinawan Wind Farm
Addendum Traffic Impact Assessment
Figure 5.2b



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- KEY**
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 - OSOM route option 2
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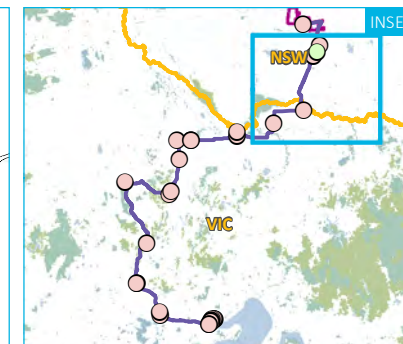
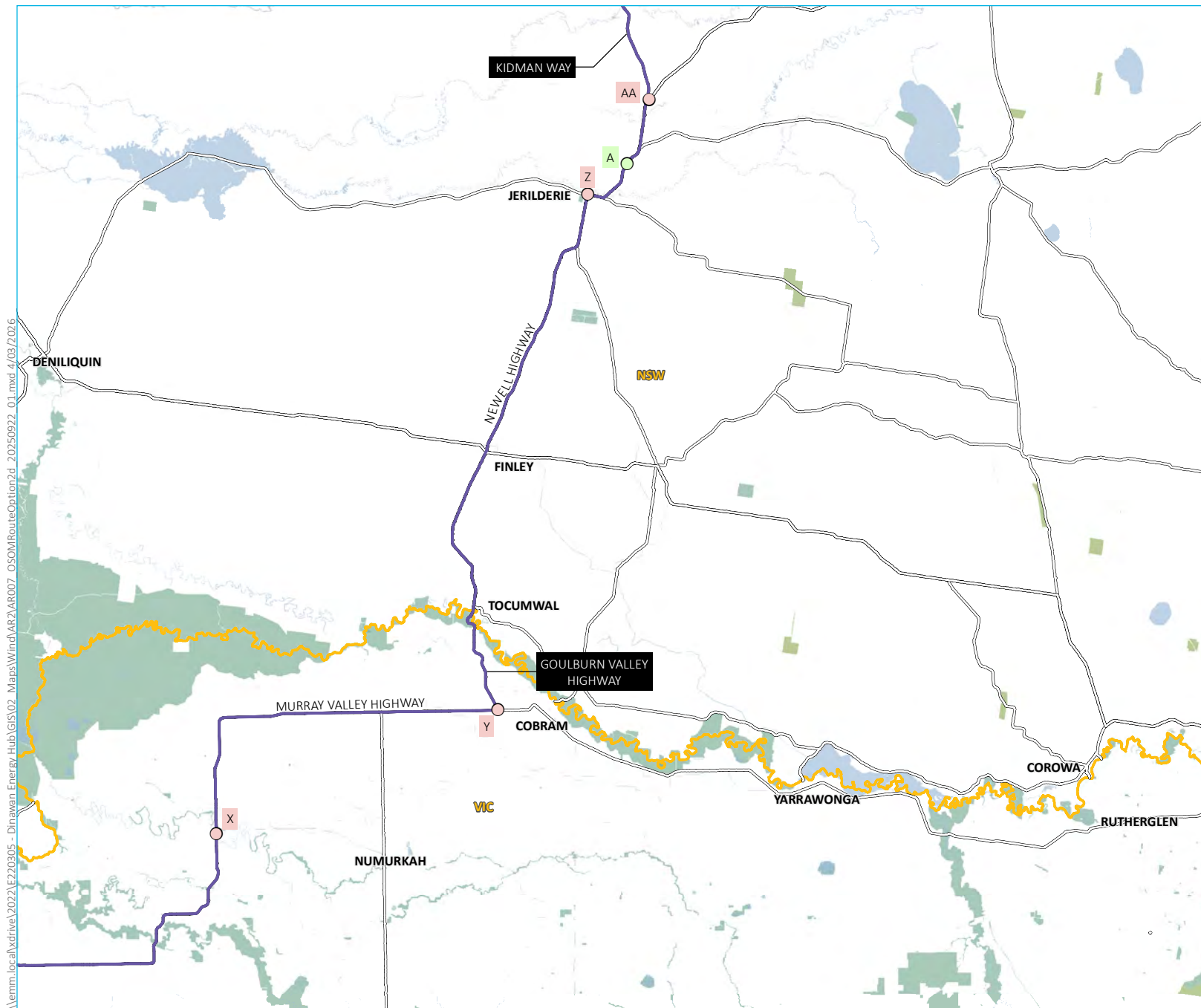
OSOM route from Port of Geelong
to project area – Option 2

Dinawan Wind Farm
Addendum Traffic Impact Assessment
Figure 5.2c



Source: EMM (2024); Spark Renewables (2024); DFSI (2020, 2021)





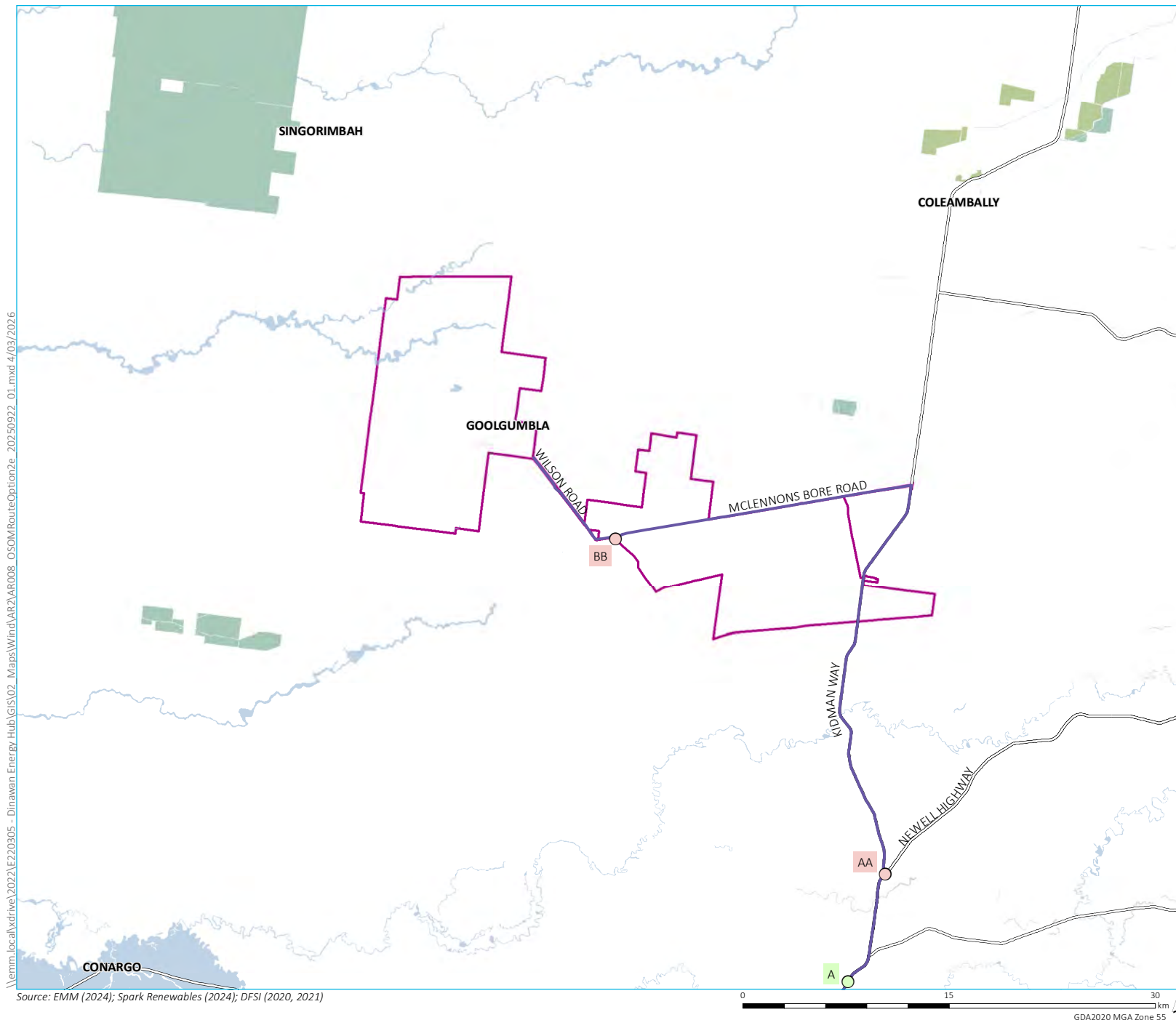
KEY

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- OSOM route option 2
- Road upgrades
- Parking area
- Existing environment
- Major road
- Waterbody
- National park/reserve
- State forest
- NSW/VIC state boundary

OSOM route from Port of Geelong
to project area – Option 2

Dinawan Wind Farm
Addendum Traffic Impact Assessment
Figure 5.2d





KEY

- Project area
- OSOM route option 2
- Road upgrades
- Parking area
- Existing environment
 - Major road
 - Waterbody
 - National park/reserve
 - State forest
 - NSW/VIC state boundary

OSOM route from Port of Geelong
to project area – Option 2

Dinawan Wind Farm
Addendum Traffic Impact Assessment
Figure 5.2e



6 Road upgrades and mitigation measures

6.1 Road upgrades

The proposed schedule of road upgrades for the project is provided in Table 6.1.

The amended project has added the use of Cadell Road (south) to the project and, therefore, intersection upgrades at Kidman Way/Cadell Road (south) are now required. A strategic concept design has been prepared and is provided in Section A.2 of Annexure A.

In response to TfNSW comments received 9 October 2025, strategic concept designs for intersection upgrades at Kidman Way/McLennons Bore Road have been updated and are provided in Section A.1 of Annexure A.

In response to TfNSW comments received 12 May 2026, strategic concept designs for the intersection upgrades at the following intersections have been updated and provided in Annexure A:

- Kidman Way/McLennons Bore Road (Section A.1 of Annexure A)
- Kidman Way/Cadell Road (south) (Section A.2 of Annexure A)
- Newell Highway/Kidman Way (Section A.4 of Annexure A).

The WTG model selected will determine the exact dimensions of components requiring transport and inform the detailed design of the road upgrades needed between the Port of Newcastle and/or Port of Geelong and the site access points. Consultation regarding the project's OSOM route will be ongoing with relevant road authorities (including TfNSW and local councils) and with EnergyCo. Applications for OSOM transport will also need be made to the National Heavy Vehicle Regulator (NHVR) based on the final routes.

Table 6.1 Haulage route (OSOM) and road upgrades to be implemented by the applicant

Road/intersection	Chainage (distance from port)	Treatment	Timing	Relevant concept design
Forbes LGA				
Port of Newcastle OSOM route option 2 – Newell Highway/Dowling Street intersection	Newcastle option 2 – 573 km	Amendments to existing road infrastructure within existing road pavement to facilitate OSOM vehicles.	Prior to use by OSOM vehicles.	Section A.5 of Annexure A.
Narrandera LGA				
Port of Newcastle OSOM route option 2 – Newell Highway/Sturt Highway intersection	Newcastle option 2 – 817 km	Minor adjustments to street furniture to facilitate OSOM vehicles.	Prior to use by OSOM vehicles	To be prepared in consultation with relevant road authority prior to construction.
Berrigan LGA				
Port of Geelong OSOM route option 1 – roundabout on Newell Highway at Deniliquin Road	Geelong option 1 – 360.5 km	Minor adjustments to street furniture to facilitate OSOM vehicles.	Prior to use by OSOM vehicles	To be prepared in consultation with relevant road authority prior to construction.
Murrumbidgee LGA				
Port of Geelong OSOM route option 1 and option 2 – corner on Newell Hwy at Conargo Rd	Geelong option 1 – 415 km / option 2 – 645.4 km	Amendments to existing road infrastructure within existing road pavement to facilitate OSOM vehicles (tower movement). Minor adjustments to street furniture to facilitate OSOM vehicles (blade movement).	Prior to use by OSOM vehicles	Section A.6 of Annexure A.
Port of Geelong OSOM route option 1 – Kidman Way/Newell Highway intersection	Geelong option 1 – 431 km	Provision of hardstand area at the north-east corner of the intersection to facilitate OSOM vehicles from Port of Newcastle and from Port of Geelong (blade movement).	Prior to use by OSOM vehicles	Section A.4 of Annexure A.

Road/intersection	Chainage (distance from port)	Treatment	Timing	Relevant concept design
Kidman Way – new intersection to access development corridor east of Kidman Way	n/a	New intersection: - Intersection upgrades to accommodate a 26 m long truck and to allow the passage of the largest inbound OSOM vehicle. - Upgrade sealed road lanes and shoulders in the vicinity of the Kidman Way/Kidman Way Eastern Site Access intersection to Austroads standards. - Left turn bays and right turn bays on both approaches on Kidman Way.	Prior to construction of accommodation facility in the eastern area.	Section A.3 of Annexure A.
Kidman Way/Cadell Road (south)	n/a	Upgrade of existing intersection: - Upgrade sealed road lanes and shoulders in vicinity of the Kidman Way/Cadell Road (south) intersection to Austroads standards. - Addition of a dedicated turning bay for left turning vehicles from Kidman Way south approach to Cadell Road (south). The shortened auxiliary left turn bay will be 50 m long plus an additional length for tapering. - Addition of a widened shoulder in accordance with the BAR turn treatment on the eastern side of Kidman Way.	Prior to commencement of construction of Stage 1.	Section A.2 of Annexure A.
Kidman Way/McLennons Bore Road	Newcastle option 2 – 943 km / option 3 – 839 km Geelong option 1 – 461 km / option 2 – 690 km	Upgrade of existing intersection: - Intersection upgrades to accommodate a 36.5 m long truck and to allow the passage of the largest OSOM vehicle. - Upgrade sealed road lanes and shoulders in vicinity of the Kidman Way/McLennons Bore Road intersection to Austroads standards. - Left turn bays and right turn bays on both approaches on Kidman Way.	Prior to commencement of construction of Stage 1.	Section A.1 of Annexure A.
McLennons Bore Road/Cadell Road	n/a	Upgrade of existing intersection: - The major road priority at this intersection will change from Cadell Road to McLennons Bore Road. - Give-way signage will be installed on Cadell Road on both the north and south approaches. Additional truck warning signage will be provided on Cadell Road on both approaches to McLennons Bore Road.	Prior to commencement of construction of Stage 1.	To be prepared in consultation with relevant road authority prior to construction.

Road/intersection	Chainage (distance from port)	Treatment	Timing	Relevant concept design
McLennons Bore Road	n/a	Road upgrade and widening: • Upgrade of dry weather road from Cadell Road to Kidman Way to an all-weather road and removal of existing signage relating to the use of this road during dry weather only. • Widening of unsealed gravel road (where necessary) to cater for construction traffic (8 m trafficable width and 1 m unsealed shoulder on both sides, totalling 10 m wide unsealed carriageway).	Prior to commencement of construction of Stage 1.	To be prepared in consultation with relevant road authority prior to construction.
McLennons Bore Road/site access intersections	n/a	New site access intersections: • Construct intersection to suit 36.5 m long truck and to allow the passage of the largest OSOM vehicle.	Prior to commencement of construction of Stage 1.	To be prepared in consultation with relevant road authority prior to construction.
McLennons Bore Road/Fernbank Road	Newcastle option 2 – 960 km / option 3 – 856 km Geelong option 1 477 km / option 2 – 706 km	Upgrade of existing intersection: • Intersection upgrades to accommodate a 36.5 m long truck and to allow the passage of the largest OSOM vehicle.	Prior to commencement of construction of Stage 2.	To be prepared in consultation with relevant road authority prior to construction.
Fernbank Road	Newcastle option 2 – 960 km / option 3 – 856 km Geelong option 1 477 km / option 2 – 706 km	Road widening: • Widening of the unsealed gravel road between McLennons Bore Road and the site access points to cater for construction traffic (8 m trafficable width and 1 m unsealed shoulder on both sides, totalling 10 m wide unsealed carriageway).	Prior to commencement of construction of Stage 2.	To be prepared in consultation with relevant road authority prior to construction.
Fernbank Road/site access intersection	n/a	New site access intersection: • Construct intersection to suit 36.5 m long truck and to allow the passage of the largest OSOM vehicle.	Prior to commencement of construction of Stage 2.	To be prepared in consultation with relevant road authority prior to construction.

Road/intersection	Chainage (distance from port)	Treatment	Timing	Relevant concept design
McLennons Bore Road/Wilson Road	Newcastle option 2 – 965 km / option 3 – 861 km Geelong option 1 – 482 km / option 2 – 711 km	Upgrade of existing intersection Intersection upgrades to accommodate a 36.5 m long truck and to allow the passage of the largest OSOM vehicle.	Prior to commencement of construction of Stage 2	To be prepared in consultation with relevant road authority prior to construction.
Wilson Road	Newcastle option 2 – 965 km / option 3 – 861 km Geelong option 1 – 482 km / option 2 – 711 km	Road widening: Widening of the unsealed gravel road between McLennons Bore Road and Goolgumbra Road to cater for construction traffic (8 m trafficable width and 1 m unsealed shoulder on both sides, totalling 10 m wide unsealed carriageway).	Prior to commencement of construction of Stage 2	To be prepared in consultation with relevant road authority prior to construction.
Edward River LGA				
Goolgumbra Road	Newcastle option 2 – 968 km / option 3 – 864 km Geelong option 1 – 491 km / option 2 – 714 km	Road widening Widening of the unsealed gravel road between Wilson Road and the site access points to cater for construction traffic (8 m trafficable width and 1 m unsealed shoulder on both sides, totalling 10 m wide unsealed carriageway).	Prior to commencement of Stage 2	To be prepared in consultation with relevant road authority prior to construction.
Wilson Road Stock Grids	Newcastle option 2 – 967 km, 972.9 km / option 3 – 865.8 km Geelong option 1 483 km (approx.) / option 2 – 713 km (approx.)	All stock grids to be upgraded to accommodate all proposed loads.	Prior to commencement of Stage 2	To be prepared in consultation with relevant road authority prior to construction.
Goolgumbra Road/site access intersections	Newcastle option 2 – 974 km / option 3 – 870 km Geelong option 1 – 491 km / option 2 – 720 km	New site access intersections: Construct intersection to suit 36.5 m long truck and to allow the passage of the largest OSOM vehicle.	Prior to commencement of Stage 2	To be prepared in consultation with relevant road authority prior to construction.

6.2 Mitigation measures

A summary of traffic management and mitigation measures for construction are outlined in Table 6.2. These will be included in the Construction Traffic Management Plan (CTMP). The timing of the implementation of these measures will be agreed with the relevant approval authorities. New measures for the amended project have been shown in **bold** and measures that have been removed for the amended project have been shown with ~~strikethrough~~.

Table 6.2 Summary of mitigation measures – construction

ID	Mitigation measure
T1	A detailed Construction Traffic Management Plan (CTMP) will be developed in consultation with TfNSW, Edward River Council and Murrumbidgee Council prior to the commencement of works.
T2	The Kidman Way/Kidman Way Eastern Site Access intersection will include: - dedicated turning bays for left-turning and right-turning vehicles from Kidman Way - upgrades on both the north and south approaches - upgrades designed for a 26 m long B-double truck and to allow the passage of the largest OSOM vehicle.
T3	The Kidman Way/Cadell Road (south) intersection will be upgraded to include: a dedicated turning bay for left turning vehicles from Kidman Way a widened shoulder on the eastern side of Kidman Way at the intersection upgrades on both the north and south approaches upgrades designed for general vehicle access (up to 19 m long semi-trailer).
T4	The Kidman Way/McLennons Bore Road intersection will be upgraded to include: - a dedicated turning bay for left turning vehicles and a dedicated turning bay for right turning vehicles from Kidman Way - upgrades on both the north and south approaches - upgrades designed for a 36.5 m long truck and to allow the passage of the largest OSOM vehicle.
T5	Obtain a permit (from NHVR) to allow up to 36.5 m long trucks as well as OSOM vehicles to use the road network as part of construction. Conditional approval will be requested from NHVR for 36.5 m long trucks to access McLennons Bore Road, Fernbank Road, Wilson Road and Goolgumbra Road, as it is currently only approved for 19 m long heavy vehicles. Relevant councils will be consulted as part of the approval process.
T6	The following gravel roads will be widened to comply with the relevant Australian Road Research Board (ARRB) rural roads design guidelines (unless agreed otherwise with the relevant local council): - McLennons Bore Road - Fernbank Road from McLennons Bore Road to the site access point - Wilson Road between McLennons Bore Road and Goolgumbra Road - Goolgumbra Road between Wilson Road and the northern site access point.
T7	McLennons Bore Road between Cadell Road and Kidman Way will be upgraded from a dry weather road to an all-weather unsealed road and existing signage relating to the use of this road during dry weather only will be removed.
T8	All site access points will be constructed as per council's Rural Property Access standard to the satisfaction of the relevant road authority.
T9	Subject to outcomes of engagement with Murrumbidgee Council, the major road priority at the intersection of McLennons Bore Road and Cadell Road will change from Cadell Road to McLennons Bore Road. Give way signage will be installed on Cadell Road on both the north and south approaches. Alternatively, if the major road priority cannot be changed, truck warning signage will be installed on Cadell Road on both approaches to the intersection.
T10	At Wilson Road/McLennons Bore Road intersection, truck warning signage will be placed on Wilson Road to warn drivers of trucks turning at Wilson Road/McLennons Bore Road intersection.

ID	Mitigation measure
T11	The McLennons Bore Road/Fernbank Road and McLennons Bore Road/Wilson Road intersections will be widened based on the recommendations of the swept path assessment to facilitate access by the longest vehicles requiring access via these intersections.
T12	A dilapidation survey will be commissioned prior to the start of construction to assess the existing condition of the sections of McLennons Bore Road, Cadell Road (south), Fernbank Road, Wilson Road and Goolgumbula Road that will be used by vehicles associated with the project.
T13	A road maintenance strategy will be developed in consultation with Murrumbidgee Council and Edward River Council.
T14	To prohibit light and heavy vehicle usage on Cadell Road, a 'Drivers Code of Conduct' will be prepared, which will clearly outline that this road is not to be used by project-related heavy vehicles. The proponent is willing to work with Murrumbidgee Council on effective measures to prohibit heavy vehicle development traffic from using Cadell Road.
T15	Haulage route (OSOM) and road upgrades and relevant timing is listed in Table 6.1 of Addendum TIA #2 and will be implemented for the project.

7 Conclusion

The development footprint will be accessed from Kidman Way, Cadell Road, McLennons Bore Road, Fernbank Road and Goolgumbra Road. The amended project includes the use of Cadell Road by project-related light vehicles (including shuttle buses).

Construction vehicles will include light vehicles and shuttle buses transporting workers, and heavy and OSOM vehicles delivering materials, project components and equipment. At the peak of construction, an estimated 638 daily and 249 peak hour vehicle movements are anticipated. Approximately 2,884 OSOM loads are estimated to be required over the duration of the construction period, predominantly to deliver WTG components from the Port of Newcastle and/or Port of Geelong. The amended project has included OSOM routes from Port of Geelong, in addition to routes proposed from Port of Newcastle, to increase flexibility for receipt and delivery of infrastructure. Wind turbine blade components are proposed to be transported from Port of Geelong only.

The level of service of key intersections and mid-block capacity on Kidman Way and McLennons Bore Road will not be adversely impacted during construction. With the implementation of the proposed mitigation measures, no significant impacts to traffic flow or road safety are expected.

Road and intersection upgrades are proposed to accommodate construction traffic using the local road network. The new intersections at the site access points will be designed for the largest heavy vehicles and OSOM vehicles that will be accessing the development footprint.

During operation, it is expected that there will be 102 inbound and 102 outbound vehicles movements per day. These will result in negligible transport impacts.

With the implementation of the proposed road upgrades and traffic management measures, no significant transport impacts are predicted during construction, operation or decommissioning.

Annexure A

Strategic concept designs

A.1 Kidman Way and McLennons Bore Road intersection

DINAWAN WIND FARM

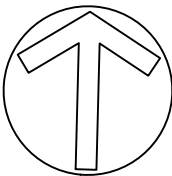
STRATEGIC CONCEPT DESIGN - INTERSECTION KIDMAN WAY & MCLENNONS BORE ROAD ID101



OVERALL SITE PLAN
NTS.

SHEET INDEX		
SHEET No	DESCRIPTION	REV
EMM - C00	COVER SHEET AND SHEET INDEX	B
EMM - C01	NOTES	B
EMM - C02	SURVEY AND SERVICES PLAN	B
EMM - C03	SURVEY AND SERVICES PLAN - SOUTH	B
EMM - C04	SURVEY AND SERVICES PLAN - NORTH	B
EMM - C05	SIGNS AND LINEMARKING PLAN 1.	B
EMM - C06	SIGNS AND LINEMARKING PLAN 2.	B
EMM - C07	OVERALL CONSTRUCTION PLAN	B
EMM - C08	CONSTRUCTION PLAN - SOUTH	B
EMM - C09	CONSTRUCTION PLAN - NORTH	B
EMM - C10	SAFE INTERSECTION SIGHT DISTANCE	B
EMM - C11	SWEPT PATH PLAN - A-DOUBLE	B
EMM - C12	SWEPT PATH PLAN - OSOM VEHICLE	B
EMM - C13	ROAD UPGRADE AREA	B

REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
B	19/5/26	TNSW COMMENTS	C.J.	A.U.					
A	05/12/25	TNSW COMMENTS	C.J.	A.U.					
-	10/4/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
INTERSECTION
KIDMAN WAY & MCLENNONS BORE
ROAD ID101

DRAWING TITLE:
STRATEGIC CONCEPT DESIGN
COVER SHEET AND SHEET INDEX

CLIENT: SPARK RENEWABLES
DRG. #: EMM - C00
PROJECT #: E240775
SCALE: AS SHOWN

REV: B

GENERAL

- THE DRAWINGS ARE A DIAGRAMMATIC REPRESENTATION ONLY OF THE WORK TO BE CARRIED OUT AND DIMENSIONS SHALL NOT BE OBTAINED BY SCALING.
- ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT MURRUMBIDGEE COUNCIL (MC) GUIDELINES AND SPECIFICATIONS. TNSW THEN AUSTRALIAN STANDARDS TO BE USED IN OTHER INSTANCES.
- PROVISION FOR TRAFFIC DURING CONSTRUCTION TO BE IN ACCORDANCE WITH MC CONSTRUCTION SPECIFICATION (201 - CONTROL OF TRAFFIC.
- ALL LOCATION, ORIENTATION AND LEVELS SHALL BE VERIFIED ON SITE BEFORE COMMENCING ANY WORK. ANY DISCREPANCIES IN THE DRAWINGS AND/OR SPECIFICATIONS SHALL BE REFERRED TO THE PRINCIPAL FOR CLARIFICATION BEFORE PROCEEDING. NATURAL SURFACE LEVELS ARE INDICATIVE ONLY.
- ALL INVESTIGATION & WORK TO BE UNDERTAKEN IN ACCORDANCE WITH MC CONSTRUCTION SPECIFICATION - DEVELOPMENT CONSTRUCTION - GENERAL.
- PRIOR TO COMMENCEMENT OF WORKS THE CONTRACTOR SHALL SATISFY HIMSELF OF THE CORRECT LOCATION OF EXISTING SERVICES WHETHER INDICATED OR NOT ON THE DRAWINGS.
- ADJUST ALL UTILITY SERVICE COVERS TO SUIT NEW GRADES & LEVELS, FLUSH WITH SURROUNDING AREA.
- EXISTING STATE SURVEY MARKS AFFECTED BY THE WORKS ARE TO BE RECOVERED IN ACCORDANCE WITH SURVEYOR GENERAL'S DIRECTION No. 11 - "PRESERVATION OF SURVEY INFRASTRUCTURE".

SITE MANAGEMENT:

- PROVIDE BARRIERS AROUND ALL CONSTRUCTION WORKS WITHIN THE FOOTPATH AREA TO PROVIDE SAFE ACCESS FOR PEDESTRIANS.
- CONCRETE PUMPS AND CRANES ARE TO OPERATE FROM WITHIN THE DESIGNATED WORK AREA AND ARE NOT TO OPERATE FROM THE PUBLIC ROADWAY UNLESS SPECIFIC COUNCIL PERMISSION IS OBTAINED.
- DELIVERY VEHICLES MUST NOT STAND WITHIN THE PUBLIC ROADWAY FOR MORE THAN 20 MINUTES AT A TIME.
- TOILET FACILITIES MUST BE EITHER FLUSHING TYPE OR APPROVED PORTABLE CHEMICAL CLOSET. CHEMICAL CLOSETS ARE TO BE MAINTAINED AND SERVICES ON A REGULAR BASIS SO THAT OFFENSIVE ODOUR IS NOT EMITTED.
- TRAFFIC MANAGEMENT MEASURES ARE REQUIRED TO BE IMPLEMENTED AND MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE RMS TRAFFIC CONTROL AT WORKSITES MANUAL AND AS1742, MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- PEDESTRIAN CONTROL MEASURES ARE REQUIRED TO BE IMPLEMENTED AND MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH AS1742, MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL WORK CARRIED OUT AT THE SITE IS IN ACCORDANCE WITH COUNCIL'S WORK HEALTH & SAFETY POLICY.
- DO NOT STORE OR PLACE MATERIALS INSIDE THE DRIP LINE OF ANY TREE. CONSTRUCTION ACTIVITIES, VEHICLE PARKING OR MAINTENANCE, MATERIALS STORAGE OR LOCATING OF CONTAINERS AND SITE SHEDS MUST NOT OCCUR WITHIN THE DRIP LINE OF ANY TREES OR WITHIN 5M OF TREES WHERE THE DRIP LINE RADIUS IS LESS THAN 5M.
- THE CONTRACTOR SHALL EFFECT TEMPORARY DRAINAGE MEASURES TO AVOID LOCALISED PONDING.

EARTHWORKS:

- EARTHWORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE DRAWINGS AND GEOTECHNICAL ENGINEERS RECOMMENDATIONS. THE DESIGN AS DETAILED ON THESE DRAWINGS ASSUMES A PROPERLY PREPARED UNIFORM AND STABLE SUBGRADE.
- THE DRAWINGS SHOULD BE READ IN CONJUNCTION WITH ANY GEOTECHNICAL REPORT PREPARED FOR THE WORKS.
- STRIP OFF ALL VEGETATION, RUBBISH AND TOPSOIL CONTAINING ORGANIC OR ROOT MATTER FROM THE AREA OF THE WORKS AND REMOVE FROM SITE/STOCKPILE FOR RE-USE.
- PRIOR TO ANY FILLING, THE EXPOSED SUBGRADE SHALL BE PROOF ROLLED WITH A MINIMUM OF 10 PASSES OF A 5 TONNE (MIN) DEAD WEIGHT VIBRATING ROLLER IN THE PRESENCE OF THE SUPERINTENDENT OR GEOTECHNICAL ENGINEER AND ANY SOFT OR YIELDING MATERIALS REMOVED AND REPLACED WITH APPROVED FILLING COMPACTED AS HEREAFTER SPECIFIED.
- FILL SHALL BE SOUND WELL GRADED MATERIAL WITH A HIGH GRANULAR CONTENT AND SHALL BE THE BEST OF EXCAVATED MATERIALS FROM THE SITE, OR APPROVED SOUND IMPORTED MATERIAL FREE OF RUBBISH, PLASTIC CLAY OR LARGE PIECES THAT WOULD PRECLUDE COMPACTION.
- FILL SHALL BE SPREAD IN LAYERS NOT EXCEEDING 200MM AND COMPACTED USING SUITABLE MECHANICAL EQUIPMENT AT OPTIMUM MOISTURE CONTENT ±2 % TO NOT LESS THAN 98% MAXIMUM STANDARD DRY DENSITY (MSDD) IN ACCORDANCE WITH AS1289 - E11 UNLESS OTHERWISE NOTED.
- FINISH FILLING LEVELS TO SUIT CONSTRUCTION OVER, ALLOWING FOR MIN 75MM OF BASE COURSE (DGB20) COMPACTED TO 98% MAXIMUM MODIFIED DRY DENSITY (MMD0) WHERE NOTED ON DRAWINGS.
- TESTING OF FILLING (AND BASE COURSE WHERE APPLICABLE) SHALL BE CARRIED OUT AT THE RATE OF 1 TEST PER 200 SQUARE METRES EACH LAYER (MINIMUM 2 TESTS). TESTING SHALL BE BY A NATA REGISTERED LABORATORY AND SHALL BE ALLOWED FOR BY THE CONTRACTOR.
- THE CONTRACTOR SHALL PROGRAM AND UNDERTAKE THE EARTHWORKS OPERATIONS SUCH THAT WORKING AREAS ARE ADEQUATELY DRAINED DURING CONSTRUCTION. THE SURFACE SHALL BE GRADED AND SEALED OFF TO REMOVE DEPRESSIONS WHICH WOULD ALLOW WATER TO POND AND PENETRATE THE UNDERLYING MATERIAL. ANY DAMAGE RESULTING FROM FAILURE TO COMPLY WITH THESE REQUIREMENTS SHALL BE RECTIFIED AT THE CONTRACTORS EXPENSE.

DEMOLITION:

- CARRY OUT ALL DEMOLITION WORK IN ACCORDANCE WITH AS 2601.
- UNTIL PERMANENT SUPPORT IS PROVIDED, PROVIDE TEMPORARY SUPPORT FOR SECTIONS OF EXISTING STRUCTURES WHICH ARE TO BE ALTERED AND WHICH NORMALLY RELY FOR SUPPORT ON WORK TO BE DEMOLISHED.
- SUPPORT EXCAVATIONS FOR DEMOLITION OF UNDERGROUND SERVICES.
- PROVIDE SUPPORT TO ADJACENT STRUCTURES WHERE NECESSARY, SUFFICIENT TO PREVENT DAMAGE RESULTING FROM THE WORKS.
 - LATERAL SUPPORTS: PROVIDE LATERAL SUPPORT AT LEAST EQUAL TO THAT GIVEN BY THE STRUCTURE TO BE DEMOLISHED, USING SHORING.
 - VERTICAL SUPPORTS: PROVIDE SUPPORT WHERE NECESSARY USING PILING OR UNDERPINNING, OR BOTH.
- PROVIDE DUST PROOF, SCREENS, BULKHEADS AND COVERS TO PROTECT EXISTING FINISHES AND THE IMMEDIATE ENVIRONMENT FROM DUST AND DEBRIS.
- DO NOT USE EXPLOSIVES.
- HAZARDOUS MATERIALS. GIVE NOTICE IMMEDIATELY IF HAZARDOUS MATERIALS OR CONDITIONS ARE FOUND, INCLUDING THE FOLLOWING:
 - ASBESTOS OR MATERIAL CONTAINING ASBESTOS.
 - FLAMMABLE OR EXPLOSIVE LIQUIDS OR GASES.
 - TOXIC, INFECTIVE AND CONTAMINATED MATERIALS.
 - RADIATION OR RADIOACTIVE MATERIALS.
 - NOXIOUS OR EXPLOSIVE CHEMICALS.
 - TANK OR OTHER CONTAINERS WHICH HAVE BEEN USED FOR STORAGE OF EXPLOSIVE, TOXIC, INFECTIVE OR CONTAMINATED SUBSTANCES.

ROAD WORKS

GENERAL

- EXISTING VEGETATION TO BE REMOVED WITHIN EXTENTS OF WORKS UNLESS NOTED OTHERWISE
- ALL PIT GRATES TO SUIT KMC STANDARDS KERB INLET ARRANGEMENTS SHOWING KMC STANDARDS DRAWINGS
- KERB TYPES AND KERB RAMPS REFER TO KMC STANDARDS.

SET OUT PLANS AND COORDINATES TABLES

- DESIGN HAS BEEN BASED ON LAND SURVEY COMPLETED BY EMM.
- SURVEY DATUM IS AHD.
- SURVEY AZIMUTH IS BASED ON MGA ZONE 56.
- SURVEY MARKS ARE NOT TO BE DISTURBED BEFORE ASSESSMENT BY SURVEYOR
- ALL LOCATIONS, ORIENTATION AND LEVELS SHALL BE VERIFIED ON SITE BEFORE COMMENCING ANY WORK. ANY DISCREPANCIES IN THE DRAWINGS AND/OR SPECIFICATIONS SHALL BE REFERRED TO THE PRINCIPAL FOR CLARIFICATION BEFORE PROCEEDING. NATURAL SURFACE LEVELS ARE INDICATIVE ONLY.
- ANY SURVEY PMS OR SMS THAT ARE DESTROYED ARE TO BE REPLACED WITH ANOTHER PM OR SM TO LANDS DEPARTMENT STANDARDS. IT ALSO SHOULD BE DOCUMENTED AND COORDINATED TO EQUIVALENT LANDS DEPARTMENT STANDARDS.

PAVEMENT

- PAVEMENT INTERFACES TO BE EITHER MID LANE OR AT LANE LINE UNLESS NOTED OTHERWISE ON THESE DRAWINGS OR INSTRUCTED BY THE PRINCIPAL.
- LOCATION AND AREA OF MILL AND RE-SHEET PAVEMENT ARE INDICATIVE ONLY. FINAL LOCATIONS AND VOLUMES ARE TO BE DETERMINED ON SITE DURING CONSTRUCTION BY THE CONTRACTOR WITH AGREEMENT FROM THE PRINCIPAL.

STORMWATER DRAINAGE

- STORMWATER DRAINAGE SHALL BE GENERALLY IN ACCORDANCE WITH CURRENT AUSTRALIAN STANDARDS AND COUNCIL'S SPECIFICATION.
- PIPES OF 225mm DIA. AND UNDER SHALL BE UPVC. PIPES OF 300mm DIA. AND LARGER SHALL BE FRC OR CONCRETE CLASS 2 RUBBER RING JOINTED UNO.
- ALL FRC OR RCP STORMWATER PIPES WITHIN ROAD RESERVE AREAS TO BE CLASS 3 UNO.
- PIPES SHALL GENERALLY BE LAID AT THE GRADES INDICATED ON THE DRAWINGS.
- MINIMUM COVER TO PIPES 300mm DIA. AND OVER GENERALLY SHALL BE 600mm IN CARPARK & ROADWAY AREAS UNO.
- PIPES UP TO 150mm DIA SHALL BE LAID AT 1.0% MIN. GRADE UNO. PIPES 225mm DIA AND OVER SHALL BE LAID AT 0.5% MIN. GRADE UNO.
- BACKFILL TRENCHES WITH APPROVED FILL COMPACTED IN 200MM LAYERS TO 98% OF STANDARD DENSITY
- ANY PIPES OVER 16% GRADE SHALL HAVE CONCRETE BULKHEADS AT ALL JOINTS
- PITS SHALL BE AS DETAILED WITH METAL GRATES AT LEVELS INDICATED. ALL PITS DEEPER THAN 1000mm TO HAVE CLIMB IRONS.
- INSTALL TEMPORARY SEDIMENT BARRIERS TO INLET PITS, TO COUNCIL'S STANDARDS UNTIL SURROUNDING AREAS ARE PAVED OR GRASSED.
- PIT LOCATIONS AND LEVELS MAY BE VARIED TO SUIT SITE CONDITIONS AFTER CONSULTING COUNCIL'S REPRESENTATIVE.
- HAND-EXCAVATE STORMWATER PIPES IN VICINITY OF TREE ROOTS.
- TRENCHING AND BEDDING DETAILS TO BE IN ACCORDANCE WITH AS3500 TO HS2 DETAIL UNLESS OTHERWISE NOTED.

SUBSURFACE DRAINAGE

- LOCATION OF SUBSURFACE DRAINAGE SHOWN ON PLANS IS INDICATIVE ONLY. DRAWINGS TO BE READ IN CONJUNCTION WITH PAVEMENT DETAILS SECTIONS AND PLANS AND KMC CONSTRUCTION SPECIFICATION.
- CONSTRUCTION OF TRENCH DRAINS TO BE IN ACCORDANCE WITH KMC CONSTRUCTION SPECIFICATION
- DEPTH OF TRENCH AND PAVEMENT INTERFACE DRAINS TO BE CONFIRMED ONSITE BY THE CONTRACTOR WITH AGREEMENT FROM THE PRINCIPAL AND TO BE MEASURED FROM LOWEST POINT OF THE EXISTING OF NEW PAVEMENT SMZ.
- GEOTEXTILE FOR TRENCH AND PAVEMENT INTERFACE DRAINS TO BE LAPPED ON THE TOP FACE.
- MINIMUM GRADE OF SUBSURFACE DRAINAGE TO BE 0.5%.

REINFORCEMENT:

- REINFORCEMENT SYMBOLS:
 - R DENOTES GRADE 250 R HOT ROLLED PLAIN BARS TO AS1302
 - F DENOTES GRADE 450 F HARD-DRAWN WIRE REINFORCING FABRIC TO AS1304
 - W DENOTES GRADE 450 W HARD-DRAWN PLAIN WIRE TO AS1303
 - N DENOTES DEFORMED BAR NORMAL DUCTILITY TO AS/NZS 4671 GRADE D500N
 - L DENOTES DEFORMED BAR LOW DUCTILITY TO AS/NZS 4671 GRADE D500L
 - RN DENOTES RECTANGULAR WIRE MESH NORMAL DUCTILITY TO AS/NZS 4671
 - RL DENOTES RECTANGULAR WIRE MESH LOW DUCTILITY
 - SN DENOTES SQUARE WIRE MESH NORMAL DUCTILITY
 - SL DENOTES SQUARE WIRE MESH LOW DUCTILITY TO AS/NZS 4671
- REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION.
- THE SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITIONS SHOWN OR OTHERWISE APPROVED IN WRITING BY THE ENGINEER.
- R4, LAPS SHALL BE IN ACCORDANCE WITH AS 3600 AND NOT LESS THAN THE DEVELOPMENT LENGTH FOR EACH BAR.
- WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE DRAWINGS OR APPROVED BY THE SUPERINTENDENT.
- MINIMUM FABRIC LAP SHALL BE TWO TRANSVERSE WIRES PLUS 50MM, WHERE FABRIC LAPS, SHEETS TO HAVE MAXIMUM 2 LAYERS AT ANY POINT, CUT BACK FABRIC AT CORNERS AS REQUIRED.
- WHERE TRANSVERSE TIE BARS ARE NOT SHOWN PROVIDE N12-400 SPLICED WHERE NECESSARY AND LAP WITH MAIN BARS 400MM UNLESS NOTED.
- ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON PLASTIC CHAIRS OR CONCRETE CHAIRS, AT NOT GREATER THAN 1 METRE CENTRES BOTH WAYS, AND 800 EACH WAY FOR FABRIC. WHEN POURED ON GROUND AS FORMWORK PROVIDE PLATES UNDER ALL BAR CHAIRS. PLASTIC TIPPED STEEL CHAIRS SHALL NOT BE USED ON EXPOSED FACES IN EXPOSURE CLASSIFICATION B2 AND C.

CONCRETE:

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 AND AS 3610 CURRENT EDITIONS WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- ALL CEMENT TO BE TYPE GP. GENERAL PURPOSE CEMENT IN ACCORDANCE WITH AS3972
- PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 3600
- DETAILS OF THE PROPOSED MIX ARE TO BE SUBMITTED & APPROVAL OBTAINED PRIOR TO POURING ANY CONCRETE.
- NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING.
- MINIMUM CLEAR COVER TO ALL REINFORCEMENT SHALL BE AS FOLLOWS UNLESS SHOWN OTHERWISE:

ELEMENT	STRENGTH GRADE (MPa)	SLUP (mm)	MAX. AGGREG. SIZE (mm)	CAST AGAINST GROUND (mm)	CAST IN FORMS AND NOT EXPOSED (mm)	CAST IN FORMS AND EXPOSED (mm)
PATH	25	80	20	40	40	40

- CONCRETE SIZES/DIMENSIONS SHOWN DO NOT INCLUDE THE THICKNESS OF ANY APPLIED FINISHES. NO FINISH THAT DECREASES COVER IS PERMITTED WITHOUT THE WRITTEN APPROVAL OF THE SUPERINTENDENT/ENGINEER.
- MAINTAIN COVER TO REINFORCEMENT AT CHAMFERS, DRIP GROOVED, REGLETs ETC.
- NO HOLES, CHASES, BLOCKOUT, DUCTS OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE SUPERINTENDENT/ENGINEER.
- CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO THE APPROVAL OF THE SUPERINTENDENT/ENGINEER.
- ALL CONCRETE MEMBERS SHALL BE MECHANICALLY VIBRATED TO ACHIEVE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK AND THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS.
- CURING OF ALL CONCRETE IS TO BE ACHIEVED BY KEEPING SURFACES CONTINUOUSLY WET FOR A PERIOD OF THREE DAYS, AND THE PREVENTION OF LOSS OF MOISTURE FOR A TOTAL OF 7 DAYS FOLLOWED BY A GRADUAL DRYING OUT.
- CONSTRUCTION SUPPORT PROPPING IS TO BE LEFT IN PLACE WHERE NEEDED TO AVOID OVERTRESSING THE STRUCTURE DUE TO CONSTRUCTION LOADING.
- ALL CONCRETE SHALL BE PLACED IN SUCH A MANNER SO AS TO AVOID SEGREGATION OR LOSS OF MATERIALS.
- UNDER NO CIRCUMSTANCES SHALL EXCESS CONCRETE BE DISPOSED OF ON-SITE. ALL EXCESS CONCRETE MUST BE CARTED FROM SITE AND DISPOSED OF IN AN APPROPRIATE MANNER.
- WATER USED FOR FLUSHING CHUTES AND FOR CLEANING OF CONCRETE TRUCKS AND EQUIPMENT MUST BE DISCHARGED IN AN AREA DESIGNATED FOR THAT PURPOSE AND WHICH HAS EROSION AND SEDIMENT CONTROL MEASURES IN PLACE.

FORMWORK:

- RESPONSIBILITY FOR DESIGN, CERTIFICATION, CONSTRUCTION AND PERFORMANCE OF FORMWORK AND FALSEWORK LIES WITH CONTRACTOR.
- DO NOT SUPPORT OR RESTRAIN FORMWORK ON PERMANENT WORKS WITHOUT SUPERINTENDENTS WRITTEN APPROVAL.
- CONSTRUCT FORMWORK TO COMPLY WITH AS3610 AND CLAUSE 19.6.2 OF AS3600 WHERE THIS IS MORE STRINGENT SO CONCRETE WILL HAVE DIMENSIONS, SHAPE, LOCATION AND FINISH SPECIFIED. PROVIDE OPENINGS OR REMOVABLE PANELS FOR INSPECTION AND CLEANING. APPLY RELEASE AGENT COMPATIBLE WITH CONTACT SURFACES TO INTERIOR OR FORMWORK (EXCEPT WHERE CONCRETE IS TO RECEIVE AND APPLIED FINISH FOR WHICH THERE IS NO COMPATIBLE RELEASE AGENT). WHERE NECESSARY CLEAN REINFORCEMENT TO REMOVE TRACES OF RELEASE AGENT. SEAL JOINT BETWEEN FORMWORK PANELS, AND TO HARDENED CONCRETE WITH FLEXIBLE RUBBER STRIP. SET OUT FORMWORK TO GIVE A REGULAR ARRANGEMENT OF PANELS, JOINT, BOLT HOLES ETC.
- DO NOT USE FORMWORK HARDWARE THAT FORMS A COMPLETE HOLE THROUGH CONCRETE ELEMENTS. DO NOT USE REINFORCEMENT TO SUPPORT FORMWORK.
- PROVIDE HOLES IN REBATE FORMERS ETC AS REQUIRED TO PREVENT AIR ENTRAPMENT.
- CONSTRUCTION TOLERANCES TO BE TO AS3610.
- STRIP FORMWORK TO AS3600 CLAUSE 19.6. REMOVE FROM TIE BOLTS WITHOUT DAMAGING CONCRETE. PARTS OF BOLTS LEFT IN CONCRETE MUST NOT INTRUDE INTO COVER CONCRETE. FLUSH FILL HOLES USING PRE-MIXED NON-SHRINK CEMENTITIOUS REPAIR MORTAR MATCHING CONCRETE SURFACE COLOUR, STRENGTH AND DURABILITY AND ADEQUATE BOND.

WORK NEAR EXISTING TREES AND TREE PROTECTION

GENERAL:

- TREES MUST NOT BE REMOVED OR LOPPED OR OTHERWISE DAMAGED, UNLESS SPECIFIED AND APPROVAL TO DO SO IS GIVEN BY THE SUPERINTENDENT. ALL CARE MUST BE TAKEN NOT TO DAMAGE OR INJURE ANY EXISTING TREES THAT ARE TO BE RETAINED. A QUALIFIED ARBORIST OR TREE PRESERVATION OFFICER IS TO BE CONSULTED PRIOR TO ANY EARTHWORKS BEING CONDUCTED NEAR EXISTING TREES WITHIN THE CONSTRUCTION ZONE. ANY DAMAGE INCURRED TO TREES THAT ARE TO BE RETAINED IS TO BE MADE GOOD AS SOON AS POSSIBLE FOLLOWING ADVICE BY AN APPROVED ARBORIST.

PROTECTION:

- IT IS THE SITE SUPERVISOR'S RESPONSIBILITY TO PROTECT ALL TREES IDENTIFIED FOR RETENTION.
- TREES TO BE RETAINED ARE TO BE PROTECTED WITH FENCING AND/OR TREE ARMOUR AS INDICATED ON THE DRAWINGS.
- COMPACTION OF SOIL IS TO BE AVOIDED WITHIN THE TREE PROTECTION ZONES SHOWN ON THE DRAWINGS.
- WHERE WORK IS REQUIRED TO BE UNDERTAKEN WITHIN THE TREE PROTECTION ZONES, TREE ARMOUR IS TO BE ERECTED AROUND THE TRUNK OF THE TREES AS INDICATED ON PLAN.

TREE PROTECTION FENCING:

- TREES ARE TO BE PROTECTED BY TEMPORARY CHAIN-WIRE CONSTRUCTION FENCING INSTALLED AT THE DRIPLINE IF POSSIBLE. TEMPORARY SIGNAGE LABELLED "TREE PROTECTION AREA. NO STORAGE OF MATERIALS OR MACHINERY" IS TO BE INSTALLED ON ALL TREE PROTECTION FENCING.

TREE ARMOUR:

- PROVIDE TREE ARMOUR AROUND TRUNKS OF TREES AS INDICATED ON PLAN BEFORE COMMENCEMENT OF ANY WORKS. ARMOUR IS TO CONSIST OF JUTE MATTING AND TIMBER BATTENS WRAPPED AROUND TREE TRUNKS AS INDICATED IN DRAWINGS.
- INSTALL A PROTECTIVE LAYER OF JUTE MAT AROUND TREE TRUNKS PRIOR TO INSTALLING TIMBER BATTENS AROUND TREE TRUNKS.
- TIMBER BATTENS ARE TO BE 1800 X 90 X 20mm. SECURE BATTENS INTO POSITION WITH THREE STRANDS OF WIRE OR NYLON WEBBING STAPLED OR NAILED TO CREATE A CONTINUOUS STRING, LONG ENOUGH TO SURROUND EACH TREE.
- ENSURE ARMOUR IS ATTACHED SECURELY AROUND THE TREE. AMOUR SHOULD BE ATTACHED TO ITSELF. NAILS OR FASTENERS ARE NOT TO BE ATTACHED DIRECTLY TO THE TREE TRUNK. ARMOUR IS TO REMAIN IN PLACE AS LONG AS MACHINERY IS REQUIRED ON SITE.

STORAGE OF MATERIALS:

- DO NOT STORE OR OTHERWISE PLACE BULK MATERIALS AND HARMFUL MATERIALS UNDER OR NEAR TREES WITHIN THE TREE PROTECTION ZONE. STORAGE OF MATERIALS, MIXING OF MATERIALS, VEHICLE PARKING, DISPOSAL OF LIQUIDS, MACHINERY REPAIRS AND REFUELLING, SITE OFFICE AND SHEDS MUST NOT OCCUR WITHIN THE DRIP LINE OF ANY EXISTING TREES, OR WITHIN 5M OF ANY EXISTING TREES WHERE THE DRIP LINE RADIUS IS LESS THAN 5m.
- DO NOT PLACE SPOIL FROM EXCAVATIONS AGAINST TREE TRUNKS, EVEN FOR SHORT PERIODS. PREVENT WIND-BLOWN MATERIALS SUCH AS CEMENT FROM HARMING TREES AND PLANTS.

WORK UNDER TREES:

- MINIMISE EXCAVATION OR FILLING AROUND TREES. IF CONSTRUCTION WORKS ARE NECESSARY AROUND TREES THEN MINIMISE THE USE OF MACHINERY. LEAVE TRENCHES OR EXCAVATED AREAS EXPOSED FOR AS SHORT A PERIOD AS POSSIBLE.

ROOTS:

- TREE ROOTS EXCEEDING 100mm DIAMETER ARE NOT TO BE CUT UNLESS ADVICE IS FIRST SOUGHT FROM AN ARBORIST.
- USE HAND TOOLS OR A CHAINSAW TO MAKE CLEAN CUTS TO ROOTS THAT REQUIRE CUTTING.

BACKFILLING:

- MINIMISE CHANGES TO SOIL SURFACE LEVELS AROUND TREES.
- RETURN NATURAL SOILS TO EXCAVATED AREAS OR USE OTHER VIRGIN EXCAVATED NATURAL MATERIAL (VENM) TO BACKFILL.
- ROAD MILLINGS, WASTE CONCRETE, ASPHALT OR OTHER FOREIGN MATERIALS ARE NOT TO BE USED FOR BACKFILLING WITHIN TREE ROOT ZONES.
- DO NOT BACKFILL AROUND TREE TRUNKS TO A HEIGHT GREATER THAN 300MM ABOVE THE ORIGINAL GROUND SURFACE UNAUTHORISED.
- THOROUGHLY WATER THE SOIL FOLLOWING EXCAVATION WITHIN TREE ROOT ZONES.

REMOVAL OF TREES:

- WHEN REMOVING TREES, TAKE CARE NOT TO DAMAGE ANY ADJACENT EXISTING STRUCTURES, SERVICES OR TREES TO BE RETAINED.
- WHERE TREES BEING REMOVED ARE LOCATED IN FUTURE PLANTING AREAS AS SHOWN ON THE PLANTING PLAN, FULLY REMOVE THE TREES AND ALL THEIR PARTS INCLUDING THE ROOT SYSTEM.
- WHERE THIS IS NOT PRACTICAL CUT TRUNKS CLOSE TO THE EXISTING SOIL SURFACE LEVEL AND IMMEDIATELY APPLY UNDILUTED GLYPHOSATE HERBICIDE TO THE CUT SURFACES.

UTILITIES

- THE LOCATION OF EXISTING UTILITIES SHOWN ON THE PLANS ARE INDICATIVE ONLY. THE CONTRACTOR IS TO REFER TO UTILITY RELOCATION PLANS APPROVED BY APPROPRIATE AUTHORITY FOR DETAILS ON PROPOSED UTILITY WORKS.
- THE CONTRACTOR IS TO CONFIRM THE PRESENCE OF ALL UTILITIES ON SITE PRIOR TO THE COMMENCEMENT OF ROAD WORKS, REFERENCE MUST BE MADE TO THESE DRAWINGS PRIOR TO THE COMMENCEMENT OF ROAD WORKS, AND THE RELEVANT UTILITY PLANS OBTAINED BY CONTACTING DIAL BEFORE YOU DIG. CAUTION SHALL BE EXERCISED WHEN WORKING IN THE VICINITY OF ALL UTILITY SERVICES.
- LOCATION AND LEVEL OF ALL SERVICES CROSSING THE PROPOSED WORKS MUST BE OBTAINED PRIOR TO CONSTRUCTION. ALL LEVELS MUST BE CHECKED FOR CONFLICT WITH ANY SERVICES, AND ANY CONFLICTS TO BE RAISED WITH PRINCIPAL.
- PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF FURTHER UNDERGROUND SERVICES AND DETAILED LOCATIONS OF ALL SERVICES.
- UNDERGROUND SERVICES HAVE BEEN PLOTTED FROM RECORDS SUPPLIED BY THE PUBLIC AUTHORITIES TO SHIRE CIVIL DESIGN IN DECEMBER 2019 LOCATIONS HAVE BEEN INTERPRETED FROM THESE RECORDS AND ARE APPROXIMATE ONLY. EXTREME CAUTION SHOULD BE TAKEN BY PERSONS EXCAVATING.

EROSION AND SEDIMENT CONTROL

1. GENERAL MEASURES

- SOIL EROSION AND SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION SHALL CONFORM WITH GUIDELINES IN ACCORDANCE WITH "MANAGING URBAN STORMWATER: SOILS AND CONSTRUCTION - VOLUME 1, LANDCOM 2004" AND COUNCIL'S POLICY.
- PERIMETER CONTROL MEASURES SHALL BE PLACED PRIOR TO OR IN CONJUNCTION WITH THE FIRST PHASE OF THE EARTHWORKS. THESE MEASURES SHALL BE APPLIED TO PROTECT ADJOINING PROPERTIES FROM EROSION AND SILT DAMAGE.
- EARTH STOCKPILES SHALL BE CONFINED TO ONE CENTRAL AREA WHERE POSSIBLE. ALL STOCKPILES OF EXCAVATED OR CONSTRUCTION SOILS MUST HAVE A SILT FENCE ERECTED IMMEDIATELY DOWNHILL FOR THE FULL EXTENT OF THE STOCKPILE. WHERE SITE REGRADING OR FILLING IS BEING UNDERTAKEN PROVISION SHALL BE MADE TO ENSURE THAT NO WATER IS PONDED IN ANY LOT.
- ALL AREAS NOT SUBJECT TO CONSTRUCTION WORKS SHALL BE RETAINED FREE FROM DISTURBANCE OR DAMAGE DURING THE CURRENCY OF THE WORK. SHOULD THESE AREAS BECOME DISTURBED OR DAMAGED THEY SHALL BE REINSTATEMENT AS DIRECTED BY THE SUPERINTENDENT.

2. SEDIMENT CONTROL DEVICES (S.C.D.)

- THESE DEVICES SHALL BE CONSTRUCTED AT INLETS TO STORMWATER SYSTEMS TO TRAP THE SEDIMENT IN RUN-OFF.

3. STABILISATION OF DISTURBED AREAS

- STABILISATION OF DISTURBED AREAS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS INDICATED IN GENERAL NOTES ABOVE.
- THE FOLLOWING SHALL BE APPLIED FOR THE CONTROL OF EROSION AND SEDIMENTATION:-
 - STABILISATION OF DENUDED AREAS SHALL COMMENCE AS SOON AS POSSIBLE AFTER THE AREAS HAVE BEEN DISTURBED.
 - STABILISATION OF ALL CUT AND FILL SLOPES SHALL BE COMMENCED AS SOON AS PRACTICABLE AFTER COMPLETION OF FORMATION.
 - ALL STABILISATION MEASURES SHALL BE TAKEN PRIOR TO THE END OF THE MAINTENANCE PERIOD.

4. MAINTENANCE

- ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE MAINTAINED IN A SATISFACTORY WORKING ORDER THROUGHOUT THE CONTRACT, MAINTENANCE AND DEFECTS LIABILITY PERIODS OR UNTIL SUCH EARLIER TIME AS THE AREA HAS BEEN STABILISED AND COUNCIL'S ENGINEER DIRECTS THAT THE DEVICE BE REMOVED.
- ALL DEVICES SHALL BE INSPECTED AFTER EACH STORM FOR STRUCTURAL DAMAGE OR LOGGING BY SILT AND OTHER DEBRIS AND MAKE PROMPT REPAIRS OR REPLACEMENT.

SIGNAGE AND LINEMARKING

- INSTALLATION OF PAVEMENT MARKING RRPMS AND SIGNAGE TO BE IN ACCORDANCE WITH TNSW CONSTRUCTION SPECIFICATION, GUIDELINES AND STANDARDS.
- CONTRACTOR TO OBTAIN WRITTEN APPROVAL FROM TNSW PRIOR TO INSTALLATION OF ANY SIGNAGE OR LINEMARKING.
- LOCATION OF ALL SIGNAGE TO BE CONFIRMED ON SITE IN COORDINATION WITH THE PRINCIPAL PRIOR TO MANUFACTURE.
- ALL SIGNS TO BE SIZE 'B' UNLESS NOTED OTHERWISE.
- EXISTING SIGNS DESIGNATED REMOVAL TO BE STORED IN CONTRACTOR'S COMPOUND FOR WCC RECOVERY.
- SIGNAGE TO BE LOCATED IN ACCORDANCE WITH AS1742 APPENDIX B
- SIGNS TO BE MOUNTED A MINIMUM 2.5M ABOVE FSL.
- CONTRACTOR TO CONFIRM LOCATION OF ALL SERVICES, DRAINAGE WORKS AND UNDERGROUND INFRASTRUCTURE PRIOR TO COMMENCING WORK. CONTRACTOR TO ENSURE ADOPTED METHOD OF CONSTRUCTION AND PROPOSED WORK WILL AVOID DAMAGE TO ALL SERVICES AND DRAINAGE WORKS, INCLUDING CLEARANCE TO OVERHEAD POWERLINES.
- INSTALL PAINTED DIAGONAL AND CHEVRON MARKINGS IN ACCORDANCE WITH TNSW DELINEATION GUIDELINES.
- ALL PERMANENT ROAD LINEMARKING AND PAVEMENT MESSAGES INCLUDING ARROWS TO BE NON-PROFILE REFLECTIVE THERMO-PLASTIC MATERIAL IN ACCORDANCE WITH WCC CONSTRUCTION SPECIFICATIONS.
- ALL TEMPORARY LINEMARKING TO BE WATERBORNE PAINT.

 SYDNEY THE FORUM LEVEL 10 201 Pacific HWY, St Leonards NSW 2065 Phone # 02 9493 9500 www.emmconsulting.com.au	REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED	PROJECT: DINAWAN WIND FARM STRATEGIC CONCEPT DESIGN - INTERSECTION KIDMAN WAY & MCLENNONS BORE ROAD ID101 DRAWING TITLE: STRATEGIC CONCEPT DESIGN NOTES CLIENT: SPARK RENEWABLES DRG. #: EMM - C01 PROJECT #: E240775 SCALE: AS SHOWN REV: B
	B	19/5/26	TNSW COMMENTS	C.J.	A.U.						
	A	05/12/25	TNSW COMMENTS	C.J.	A.U.						
	-	10/4/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.						

THIS PLAN IS PREPARED FROM A COMBINATION OF FIELD SURVEY AND EXISTING RECORDS.

THE POSITION OF STRUCTURES , SERVICES TREES ETC. ARE DIAGRAMMATIC ONLY AND MAY REQUIRE ADDITIONAL SURVEY WHERE CRITICAL.

PRIOR TO ANY CONSTRUCTION ON OR NEAR A PROPERTY BOUNDARY, THE LOCATION OF THE PROPERTY BOUNDARY SHOULD BE DETERMINED BY A REGISTERED SURVEYOR.

VISIBLE SERVICES ONLY HAVE BEEN LOCATED AS PART OF THIS SURVEY. ALL CARE HAS BEEN TAKEN IN THE FIELD SURVEY TO IDENTIFY VISIBLE SERVICES AND STRUCTURES. IN SOME CASES THE VISIBLE SERVICES HAVE NOT BEEN IDENTIFIED. IT IS RECOMMENDED THAT A FIELD INSPECTION WITH THE RELEVANT SERVICE AUTHORITY REPRESENTATIVE BE UNDERTAKEN TO CONFIRM THE IDENTITY OF SERVICES SHOWN ON THIS PLAN.

PRIOR TO EXCAVATION THE CONTRACTOR MUST:

CONTACT "BEFORE YOU DIG AUSTRALIA"

PH: 1100

WEB: <https://smarterwx.1100.com.au>

WARNING

UNDERGROUND SERVICES HAVE BEEN PLOTTED FROM RECORDS SUPPLIED BY THE PUBLIC AUTHORITIES TO EMM CONSULTING APRIL 24

LOCATIONS HAVE BEEN INTERPRETED FROM THESE RECORDS AND ARE APPROXIMATE ONLY.

EXTREME CAUTION SHOULD BE TAKEN BY PERSONS EXCAVATING.



WARNING U/G TELSTRA



CABLES

— T — T —

PLEASE CONTACT THE N.I.A.C. GROUP AT TELSTRA ON 9204-0880 OR 9204-0923. BEFORE STARTING ANY CONSTRUCTION WORK IN THE AREA.

WARNING U/G TELSTRA



CABLES

— OF — OF —

PLEASE CONTACT THE N.I.A.C. GROUP AT TELSTRA ON 9204-0880 OR 9204-0923. BEFORE STARTING ANY CONSTRUCTION WORK IN THE AREA.



BEWARE OPTIC FIBRE

SURVEY STATION MARKS				
STATION No.	EASTING	NORTHING	R.L.	DESCRIPTION
1000	393252.234	6126407.905	115.556	STN
1001	393267.760	6126512.798	115.728	STN
1324	393282.851	6126618.952	115.765	STN
1518	393295.650	6126715.458	115.753	STN
1734	393314.963	6126842.123	115.800	STN
1735	393199.501	6126708.397	115.420	STN
1736	393266.304	6126713.843	115.265	STN
1908	393349.558	6126948.078	115.539	STN
2161	393343.257	6127036.713	115.733	STN

UTILITIES

WATER MAIN — W —

U/G TELSTRA — T —

O/H TELSTRA — OT —

OPTICAL FIBRE — OF —

GAS MAIN — G —

HP GAS MAIN U/G — HG —

ELECTRICITY — E —

O/H ELECTRICITY — OH —

SEWER — S —

TELSTRA PILLAR — ① —

TELSTRA PIT — ② —

HYDRANT — ③ —

STOP VALVE — ④ —

POWER POLE — ⑤ —

ELECTRICAL PILLAR — ⑥ —

POWER LIGHT POLE — ⑦ —

LIGHT POLE — ⑧ —

GAS STOP VALVE — ⑨ —

SEWER MANHOLE — ⑩ —

PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF FURTHER UNDERGROUND SERVICES AND DETAILED LOCATIONS OF ALL SERVICES.

DP237203 LOT 2

DP756459 LOT 103

KIDMAN WAY

MCLENNONS BORE ROAD

GRAHAM RD.

SHEET C03

SHEET C04

PLAN

SCALE 1:800

0.2m CONTOUR INTERVAL

NOTES:

EXISTING STATE SURVEY MARKS AFFECTED BY THE WORKS ARE TO BE RECOVERED IN ACCORDANCE WITH SURVEYOR GENERAL'S DIRECTION No. 11 - "PRESERVATION OF SURVEY INFRASTRUCTURE".

INVESTIGATIONS WERE UNDERTAKEN AND ALL SURVEY MARKS WERE INVESTIGATED AND IDENTIFIED ON SITE.

AT THIS STAGE THE LOCATION OF THE MARKS ARE WELL CLEAR OF THE WORKS AND SURVEY AREA AND SHOULD NOT BE IMPACTED BY THE WORKS.

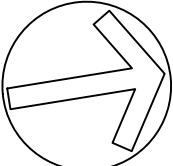


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REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
B	19/5/26	TNSW COMMENTS	C.J.	A.U.					
A	05/12/25	TNSW COMMENTS	C.J.	A.U.					
-	10/4/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:

DINAWAN WIND FARM

STRATEGIC CONCEPT DESIGN -

INTERSECTION

KIDMAN WAY & MCLENNONS BORE

ROAD ID101

DRAWING TITLE:

STRATEGIC CONCEPT DESIGN

OVERALL SURVEY AND SERVICES PLAN

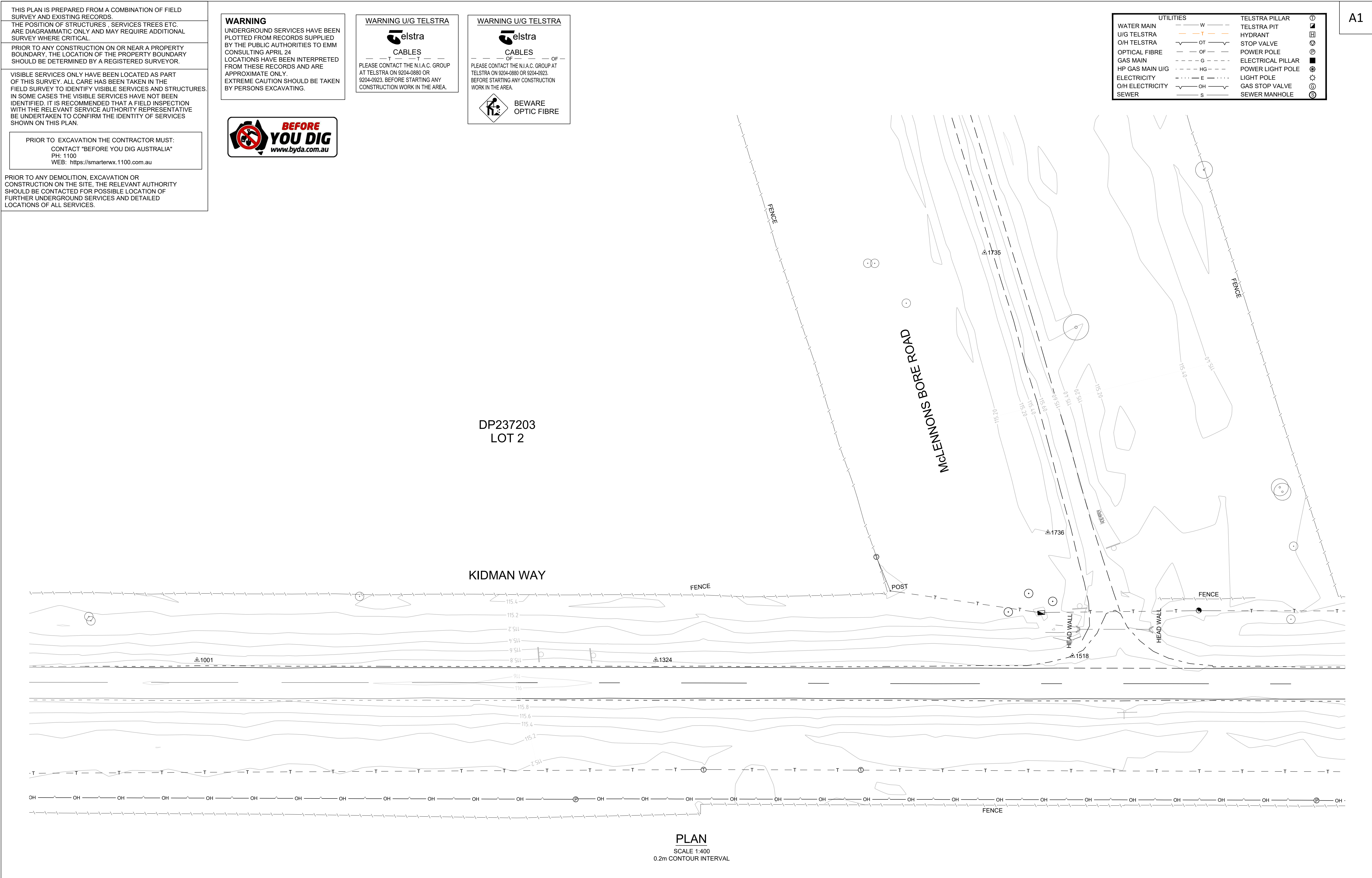
CLIENT: SPARK RENEWABLES

DRG. #: EMM - C02

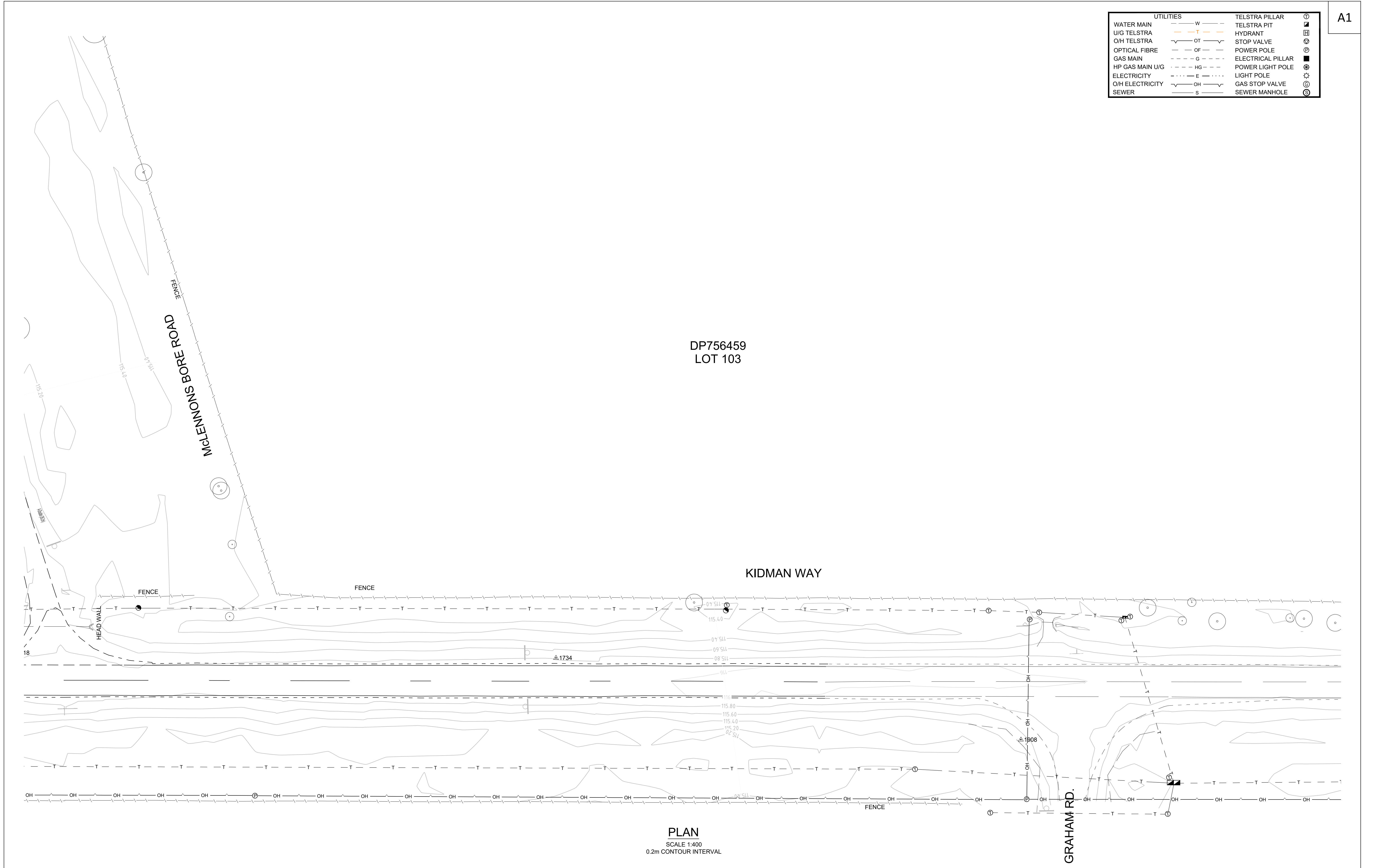
PROJECT #: E240775

SCALE: AS SHOWN

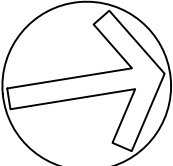
REV: B



UTILITIES		TELSTRA PILLAR	
WATER MAIN	W	TELSTRA PIT	■
U/G TELSTRA	T	HYDRANT	⊞
O/H TELSTRA	OT	STOP VALVE	⊙
OPTICAL FIBRE	OF	POWER POLE	⊕
GAS MAIN	G	ELECTRICAL PILLAR	■
HP GAS MAIN U/G	HG	POWER LIGHT POLE	⊗
ELECTRICITY	E	LIGHT POLE	☆
O/H ELECTRICITY	OH	GAS STOP VALVE	⊙
SEWER	S	SEWER MANHOLE	⊙



PLAN
SCALE 1:400
0.2m CONTOUR INTERVAL

 SYDNEY THE FORUM LEVEL 10 201 Pacific HWY, St Leonards NSW 2065 Phone # 02 9493 9500 www.emmconsulting.com.au	REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED		PROJECT: DINAWAN WIND FARM STRATEGIC CONCEPT DESIGN - INTERSECTION KIDMAN WAY & MCLENNONS BORE ROAD ID101	DRAWING TITLE: STRATEGIC CONCEPT DESIGN SURVEY AND SERVICES PLAN - NORTH	CLIENT: SPARK RENEWABLES	
														DRG. #: EMM - C04	REV: B
	B	19/5/26	TNSW COMMENTS	C.J.	A.U.									PROJECT #: E240775	
	A	05/12/25	TNSW COMMENTS	C.J.	A.U.									SCALE: AS SHOWN	
	-	10/4/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.										

1. ALL WARNING (W), REGULATORY (R) AND TEMPORARY SIGNS (T) TO BE SIZE 'A', UNLESS NOTED OTHERWISE.
2. EXISTING SIGNS AND STEMS MAY BE REUSED PROVIDED THEY ARE IN GOOD CONDITION.
3. GRIND OFF ALL REDUNDANT LINE MARKINGS.
4. ALL LINE MARKING AND SIGNPOSTING TO BE INSTALLED TO RMS DELINEATION GUIDELINES AND STANDARDS AS SOON AS PRACTICABLE.
5. RAISED REFLECTIVE PAVEMENT MARKERS (RRPMs) ARE TO BE INSTALLED TO RMS DELINEATION GUIDELINES AND STANDARDS AT THE FOLLOWING CENTRES, UNLESS NOTED OTHERWISE:
 - **DL1 LINES** - BI-DIRECTIONAL YELLOW MARKERS AT MIN 12m CENTRES.
 - **BL2 LINES** - BI-DIRECTIONAL YELLOW MARKERS AT MIN 12m CENTRES OR AT 3m CENTRES WHERE LINE IS 12m LONG OR LESS.
 - **EL1 LINES** - MONO-DIRECTIONAL RED MARKERS AT MIN 24m CENTRES OR AT 6m CENTRES WHERE LINE IS 12m LONG OR LESS.
 - **OL1 LINES** - MONO-DIRECTIONAL YELLOW (LHS OF ISLAND) OR RED (RHS OF ISLAND) MARKERS AT MIN 6m CENTRES OR AT 3m CENTRES WHERE LINE IS 12m LONG OR LESS.
 - **CL1 LINES** - MONO-DIRECTIONAL WHITE MARKERS AT MINIMUM 8m CENTRES OR AT 3m CENTRES WHERE LINE IS 6m LONG OR LESS.
8. ALL TEMPORARY LINEMARKING TO BE MARKED WITH REMOVABLE LINEMARKING TAPE (3M STALMARK REMOVABLE ALL WEATHER LINE MARKING TAPE SERIES 710 OR EQUIVALENT).
9. ALL EXISTING LINEMARKING, TEMPORARILY NOT REQUIRED, TO BE BLACKED OUT WITH REMOVABLE BLACK MASKING TAPE (3M STALMARK REMOVABLE BLACK MAKING TAPE SERIES 715 OR EQUIVALENT).



NOTES:

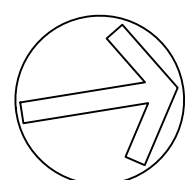
1. The CHR(s) and CHL Treatments have been designed based on and in accordance with Austroads guides to traffic engineering practice.
2. Posted speed 100km/h, design speed is 110km/h and through lanes typically 3.5m wide.
3. The turn bays provides for storage of a 36.2m long vehicle.
4. Radius of travel lanes are 500m or greater.

STRATEGIC CONCEPT DESIGN
SIGNS AND LINEMARKING PLAN 1.

SCALE: AS SHOWN

REV: B

REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
B	19/5/26	TINSW COMMENTS	C.J.	A.U.					
A	05/12/25	TINSW COMMENTS	C.J.	A.U.					
-	10/4/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					

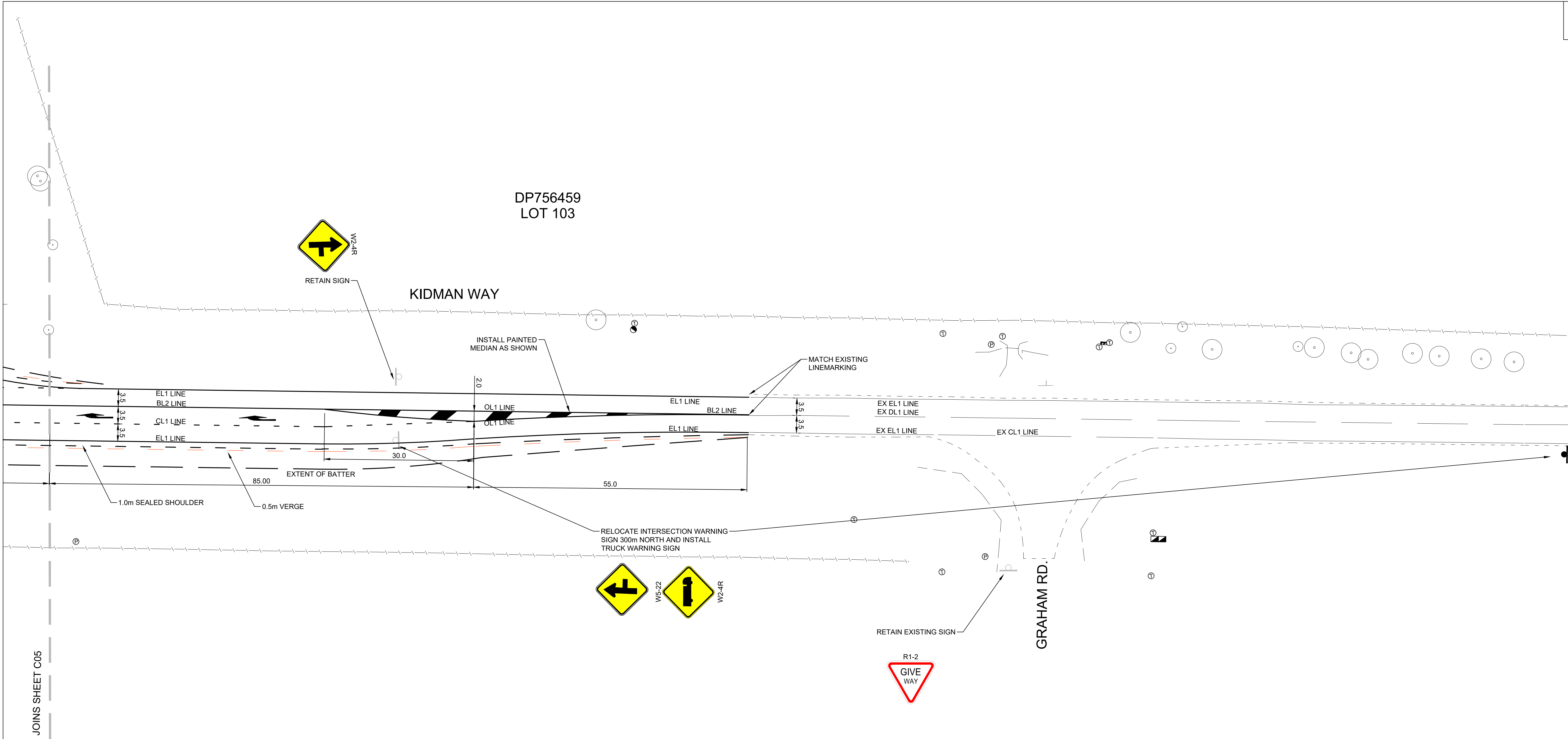


PROJECT:
DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
INTERSECTION
KIDMAN WAY & MCLENNONS BORE
ROAD ID101

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St Leonards NSW 2065

Phone # 02 9493 9500

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SIGNPOSTING AND LINEMARKING

1. ALL WARNING (W), REGULATORY (R) AND TEMPORARY SIGNS (T) TO BE SIZE 'A', UNLESS NOTED OTHERWISE.
2. EXISTING SIGNS AND STEMS MAY BE REUSED PROVIDED THEY ARE IN GOOD CONDITION.
3. GRIND OFF ALL REDUNDANT LINE MARKINGS.
4. ALL LINE MARKING AND SIGNPOSTING TO BE INSTALLED TO RMS DELINEATION GUIDELINES AND STANDARDS AS SOON AS PRACTICABLE.
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PLAN
SCALE 1:400

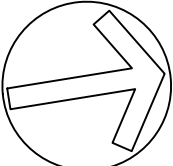
LEGEND

- PROPOSED SIGN
- EXISTING SIGN
- EDGE OF 0.5m WIDE VERGE

NOT FOR CONSTRUCTION

COMMENTS

- NOTES:
1. The CHR(s) and CHL Treatments have been designed based on and in accordance with Austroads guides to traffic engineering practice.
 2. Posted speed 100km/h, design speed is 110km/h and through lanes typically 3.5m wide.
 3. The turn bays provides for storage of a 36.2m long vehicle.
 4. Radius of travel lanes are 500m or greater.

 SYDNEY THE FORUM LEVEL 10 201 Pacific HWY, St Leonards NSW 2065 Phone # 02 9493 9500 www.emmconsulting.com.au	REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED		PROJECT: DINAWAN WIND FARM STRATEGIC CONCEPT DESIGN - INTERSECTION KIDMAN WAY & MCLENNONS BORE ROAD ID101	DRAWING TITLE: STRATEGIC CONCEPT DESIGN SIGNS AND LINEMARKING PLAN 2.	CLIENT: SPARK RENEWABLES	
														DRG. #: EMM - C06	REV: B
	B	19/5/26	TNSW COMMENTS	C.J.	A.U.									PROJECT #: E240775	
	A	05/12/25	TNSW COMMENTS	C.J.	A.U.									SCALE: AS SHOWN	
	-	10/4/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.										

WARNING
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EXTREME CAUTION SHOULD BE TAKEN BY PERSONS EXCAVATING.

WARNING U/G TELSTRA

CABLES
— T — T — T —
PLEASE CONTACT THE N.I.A.C. GROUP AT TELSTRA ON 9204-0880 OR 9204-0923. BEFORE STARTING ANY CONSTRUCTION WORK IN THE AREA.

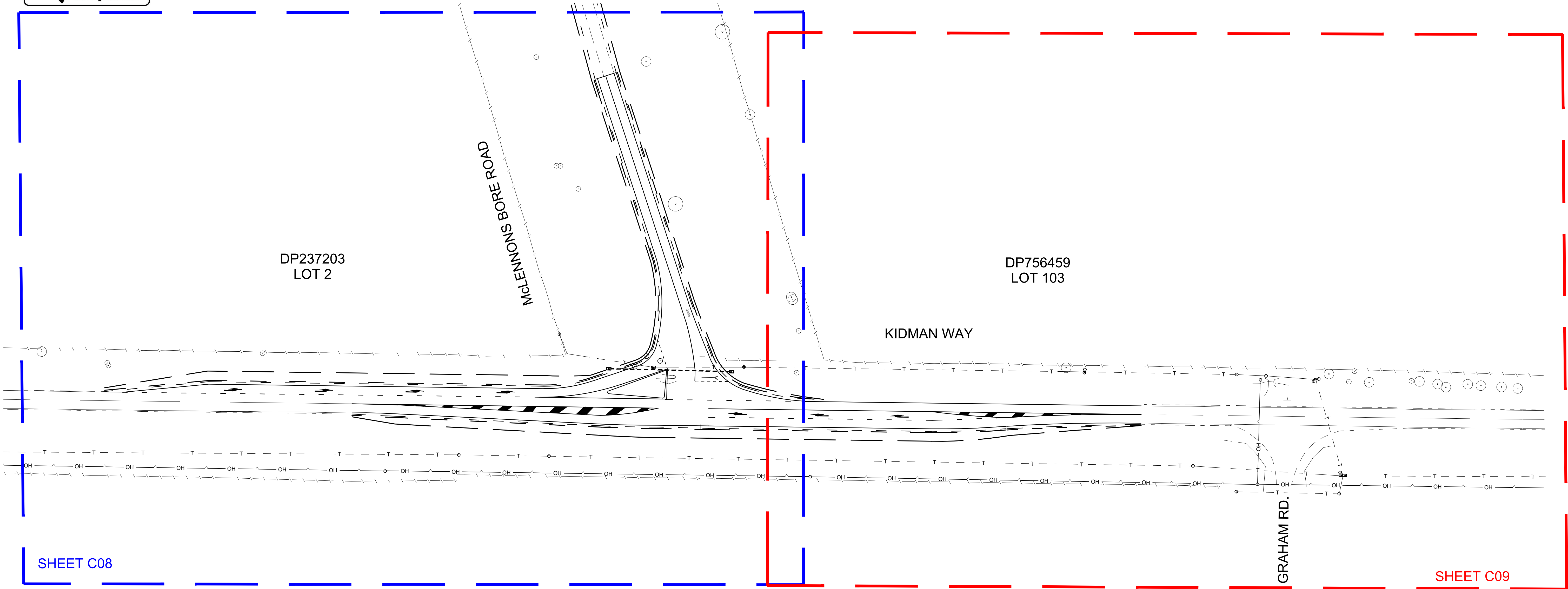
WARNING U/G TELSTRA

CABLES
— OF — OF — OF —
PLEASE CONTACT THE N.I.A.C. GROUP AT TELSTRA ON 9204-0880 OR 9204-0923. BEFORE STARTING ANY CONSTRUCTION WORK IN THE AREA.

 **BEWARE OPTIC FIBRE**



UTILITIES		TELSTRA PILLAR	
WATER MAIN	— W —	TELSTRA PIT	Ⓜ
U/G TELSTRA	— T —	HYDRANT	Ⓜ
O/H TELSTRA	— OT —	STOP VALVE	Ⓜ
OPTICAL FIBRE	— OF —	POWER POLE	Ⓜ
GAS MAIN	— G —	ELECTRICAL PILLAR	Ⓜ
HP GAS MAIN U/G	— HG —	POWER LIGHT POLE	Ⓜ
ELECTRICITY	— E —	LIGHT POLE	Ⓜ
O/H ELECTRICITY	— OH —	GAS STOP VALVE	Ⓜ
SEWER	— S —	SEWER MANHOLE	Ⓜ



PLAN
SCALE 1:800

COMMENTS

- NOTES:
- The CHR(s) and CHL Treatments have been designed based on and in accordance with Austroads guides to traffic engineering practice.
 - Posted speed 100km/h, design speed is 110km/h and through lanes typically 3.5m wide.
 - The turn bays provides for storage of a 36.2m long vehicle.
 - Radius of travel lanes are 500m or greater.

NOT FOR CONSTRUCTION

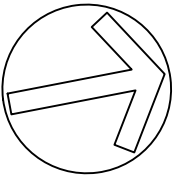
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REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
B	19/5/26	TNSW COMMENTS	C.J.	A.U.					
A	05/12/25	TNSW COMMENTS	C.J.	A.U.					
-	10/4/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
INTERSECTION
KIDMAN WAY & MCLENNONS BORE
ROAD ID101

DRAWING TITLE:
STRATEGIC CONCEPT DESIGN
OVERALL CONSTRUCTION PLAN

CLIENT: **SPARK RENEWABLES**

DRG. #: **EMM - C07**

PROJECT #: **E240775**

SCALE: **AS SHOWN**

REV: B

WARNING
UNDERGROUND SERVICES HAVE BEEN PLOTTED FROM RECORDS SUPPLIED BY THE PUBLIC AUTHORITIES TO EMM CONSULTING APRIL 2024.
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WARNING U/G TELSTRA

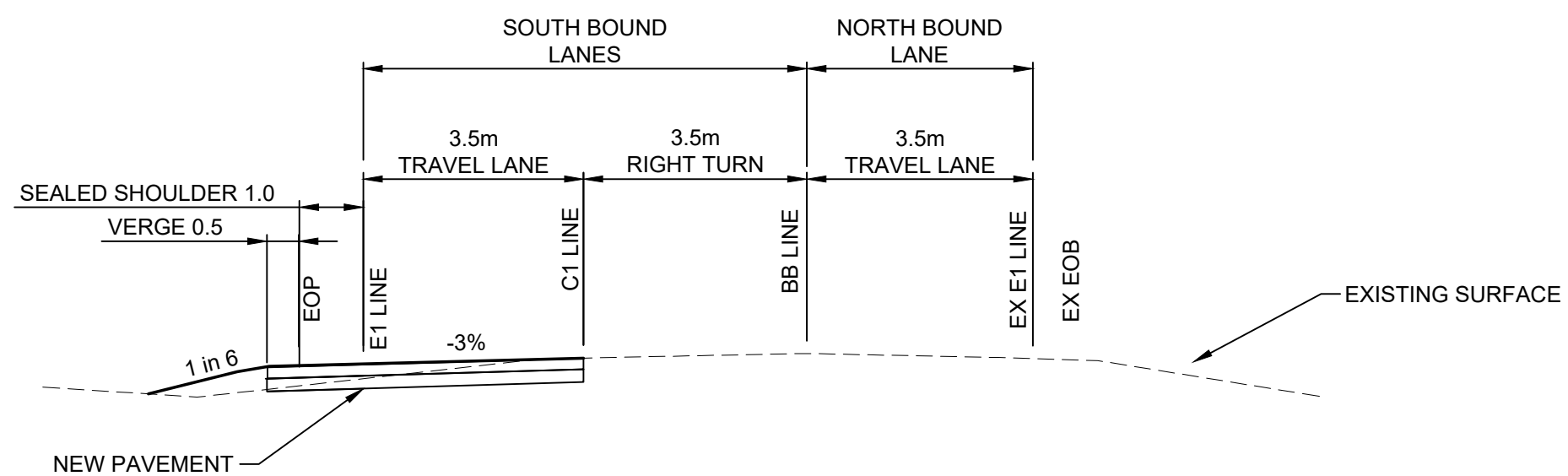
CABLES
PLEASE CONTACT THE N.I.A.C. GROUP AT TELSTRA ON 9204-0880 OR 9204-0923, BEFORE STARTING ANY CONSTRUCTION WORK IN THE AREA.

WARNING U/G TELSTRA

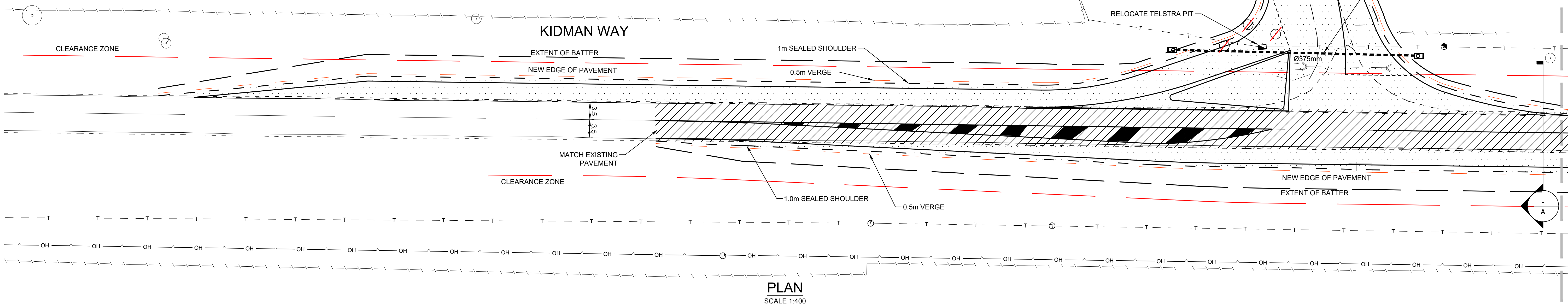
CABLES
PLEASE CONTACT THE N.I.A.C. GROUP AT TELSTRA ON 9204-0880 OR 9204-0923, BEFORE STARTING ANY CONSTRUCTION WORK IN THE AREA.
 BEWARE OPTIC FIBRE

LEGEND

- PROFILE EXISTING SEAL AND GRADE TO DESIGN LEVELS.
- PROPOSED PAVEMENT
- CLEARANCE ZONE (8m FROM EDGE OF THROUGH TRAVELING LANE) AGRD06-2010 TABLE 4.1
- EDGE OF 0.5m WIDE VERGE
- EXISTING TREE TO BE ASSESSED FOR REMOVAL
- TRAVERSABLE HEADWALL



SECTION A - TYPICAL SECTION
SCALE 1:100 Nat.



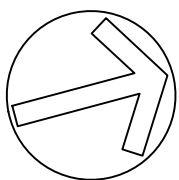
PLAN
SCALE 1:400

NOT FOR CONSTRUCTION



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REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
B	19/5/26	TNSW COMMENTS	C.J.	A.U.					
A	05/12/25	TNSW COMMENTS	C.J.	A.U.					
-	10/4/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
**DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
INTERSECTION
KIDMAN WAY & MCLENNONS BORE
ROAD ID101**

DRAWING TITLE:
**STRATEGIC CONCEPT DESIGN
CONSTRUCTION PLAN - SOUTH**

CLIENT: **SPARK RENEWABLES**

DRG. #: **EMM - C08**

PROJECT #: **E240775**

SCALE: **AS SHOWN**

REV: B

WARNING
UNDERGROUND SERVICES HAVE BEEN PLOTTED FROM RECORDS SUPPLIED BY THE PUBLIC AUTHORITIES TO EMM CONSULTING APRIL 2024.

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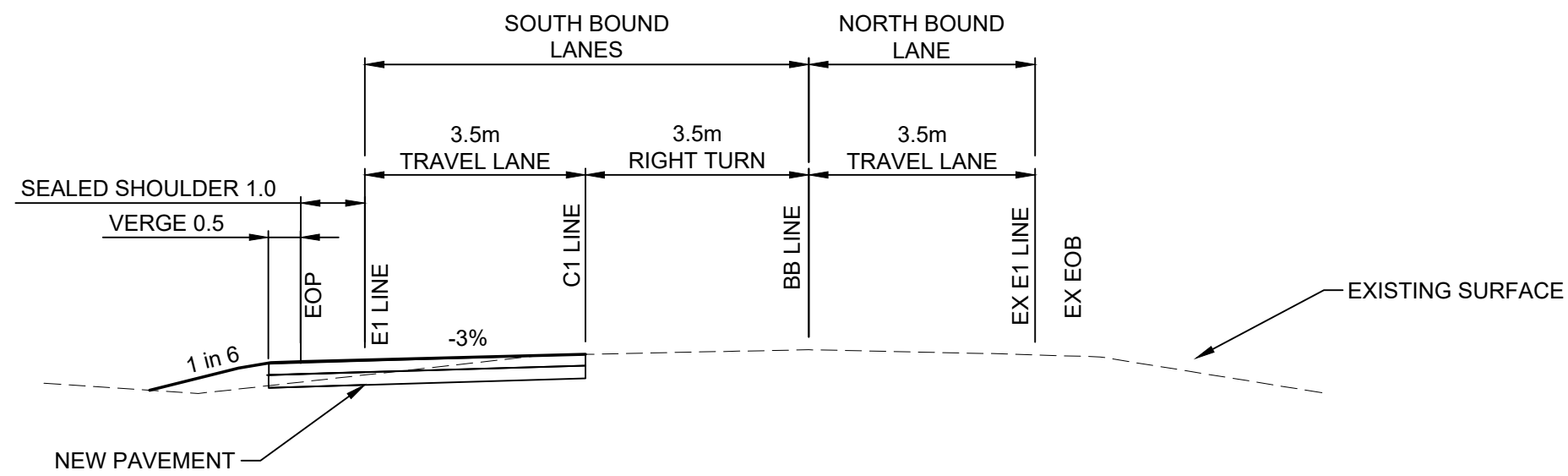


WARNING U/G TELSTRA

CABLES
— T — T —
PLEASE CONTACT THE N.I.A.C. GROUP AT TELSTRA ON 9204-0880 OR 9204-0923, BEFORE STARTING ANY CONSTRUCTION WORK IN THE AREA.

WARNING U/G TELSTRA

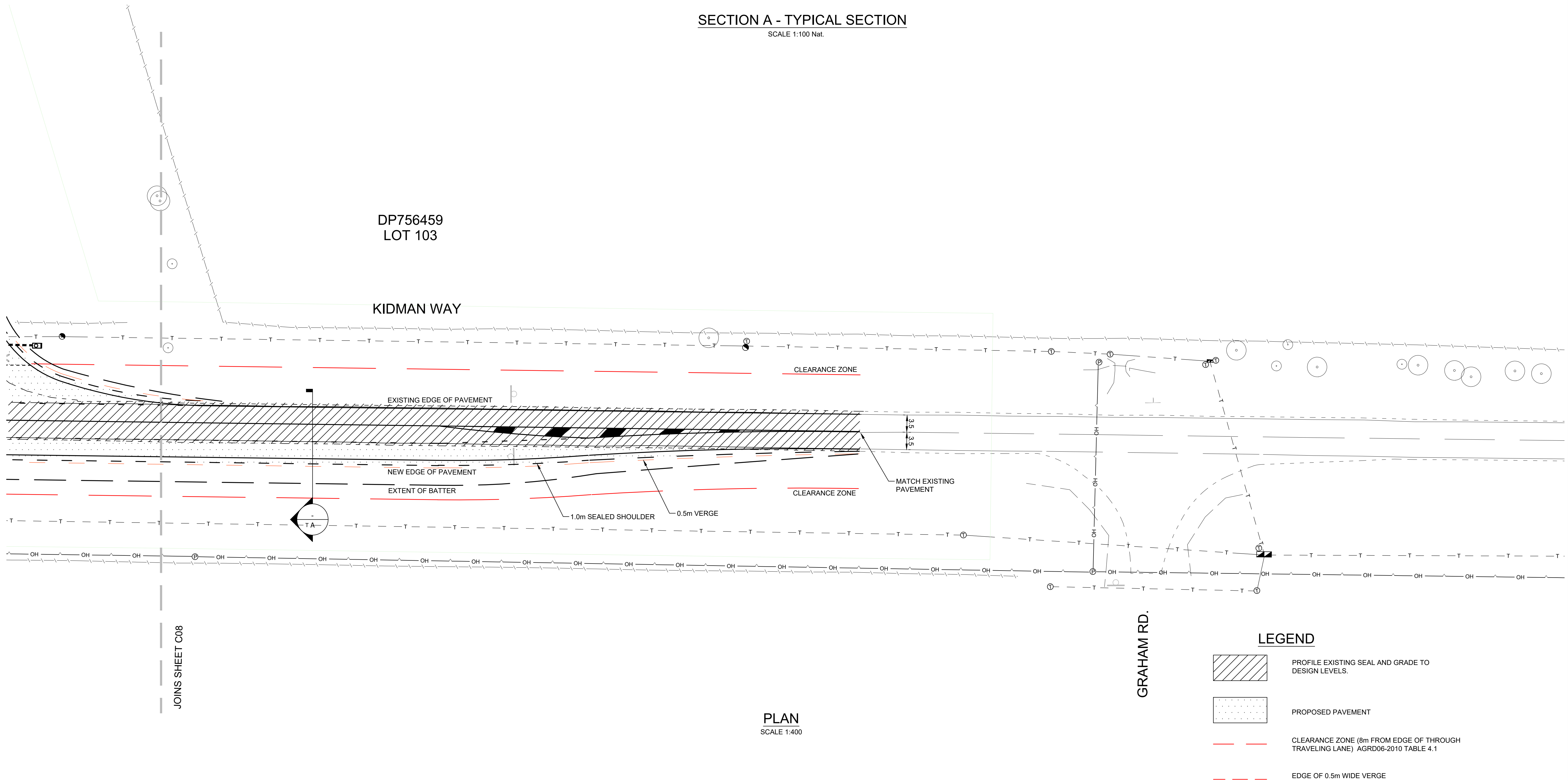
CABLES
— OF — OF —
PLEASE CONTACT THE N.I.A.C. GROUP AT TELSTRA ON 9204-0880 OR 9204-0923, BEFORE STARTING ANY CONSTRUCTION WORK IN THE AREA.
 BEWARE OPTIC FIBRE



SECTION A - TYPICAL SECTION
SCALE 1:100 Nat.

UTILITIES		TELSTRA PILLAR	
WATER MAIN	— W —	TELSTRA PIT	⊠
U/G TELSTRA	— T —	HYDRANT	⊞
O/H TELSTRA	— OT —	STOP VALVE	⊙
OPTICAL FIBRE	— OF —	POWER POLE	⊕
GAS MAIN	— G —	ELECTRICAL PILLAR	⬛
HP GAS MAIN U/G	— HG —	POWER LIGHT POLE	⊗
ELECTRICITY	— E —	LIGHT POLE	⊙
O/H ELECTRICITY	— OH —	GAS STOP VALVE	⊕
SEWER	— S —	SEWER MANHOLE	⊙

A1



PLAN
SCALE 1:400

LEGEND

- PROFILE EXISTING SEAL AND GRADE TO DESIGN LEVELS.
- PROPOSED PAVEMENT
- CLEARANCE ZONE (8m FROM EDGE OF THROUGH TRAVELING LANE) AGRD06-2010 TABLE 4.1
- EDGE OF 0.5m WIDE VERGE

NOT FOR CONSTRUCTION

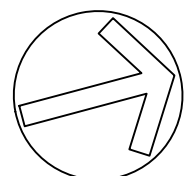


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REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
B	19/5/26	TNSW COMMENTS	C.J.	A.U.					
A	05/12/25	TNSW COMMENTS	C.J.	A.U.					
-	10/4/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
**DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
INTERSECTION
KIDMAN WAY & MCLENNONS BORE
ROAD ID101**

DRAWING TITLE:
**STRATEGIC CONCEPT DESIGN
CONSTRUCTION PLAN - NORTH**

CLIENT: **SPARK RENEWABLES**

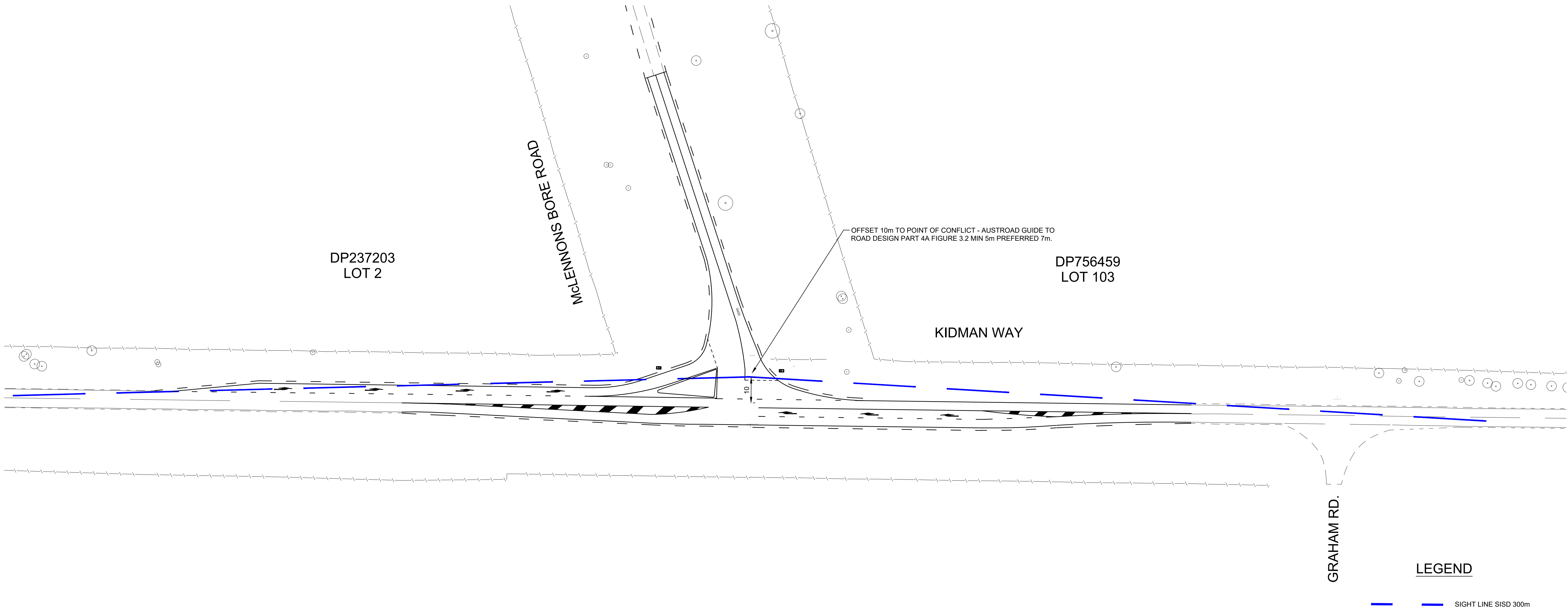
DRG. #: **EMM - C09**

PROJECT #: **E240775**

SCALE: **AS SHOWN**

REV: B

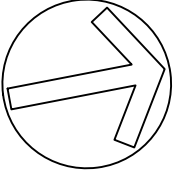
UTILITIES		TELSTRA PILLAR	
WATER MAIN	— W —	TELSTRA PIT	■
U/G TELSTRA	— T —	HYDRANT	⌘
O/H TELSTRA	— OT —	STOP VALVE	⊗
OPTICAL FIBRE	— OF —	POWER POLE	⊕
GAS MAIN	— G —	ELECTRICAL PILLAR	■
HP GAS MAIN U/G	— HG —	POWER LIGHT POLE	⊗
ELECTRICITY	— E —	LIGHT POLE	⊕
O/H ELECTRICITY	— OH —	GAS STOP VALVE	⊗
SEWER	— S —	SEWER MANHOLE	⊕

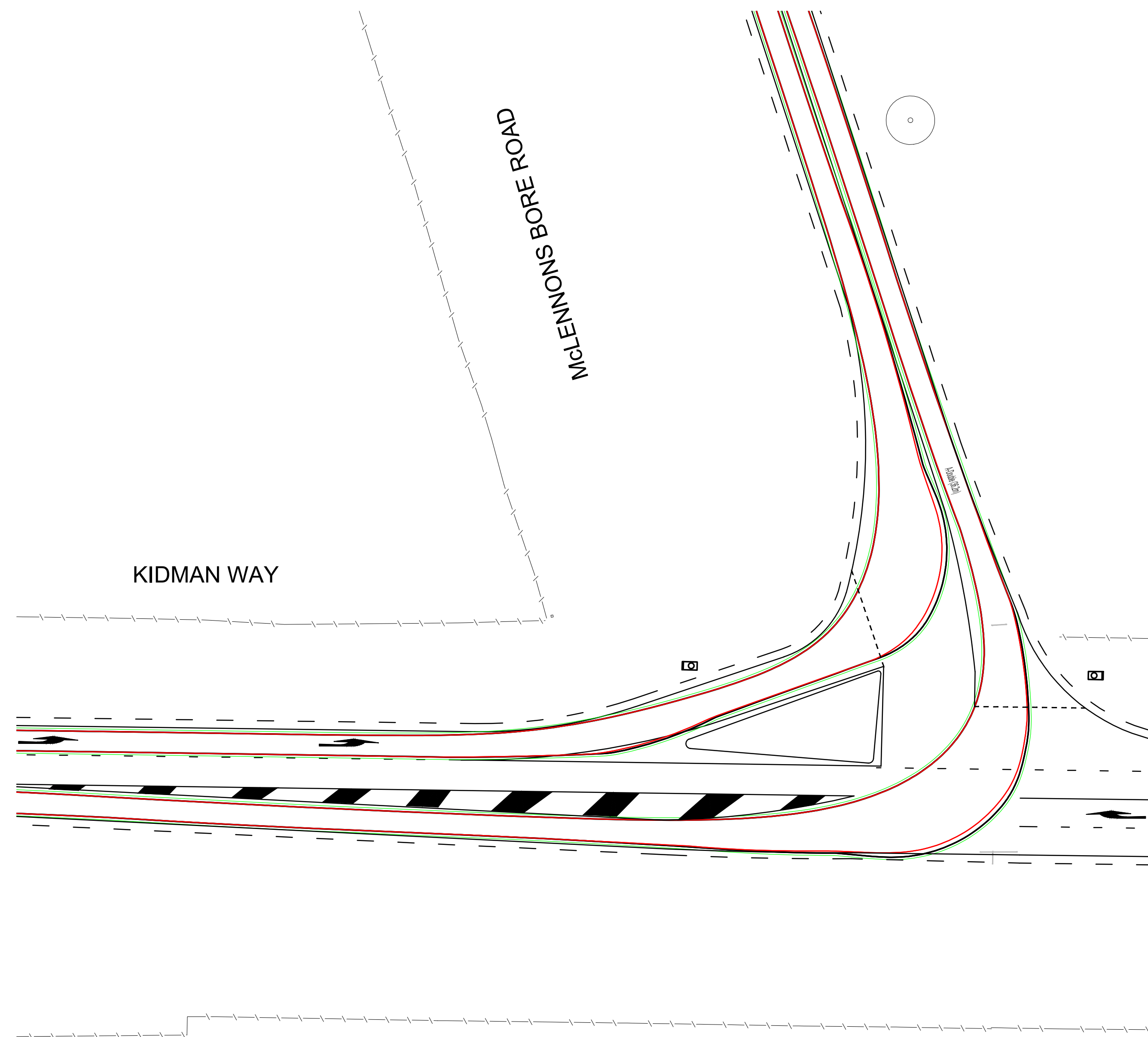


COMMENTS

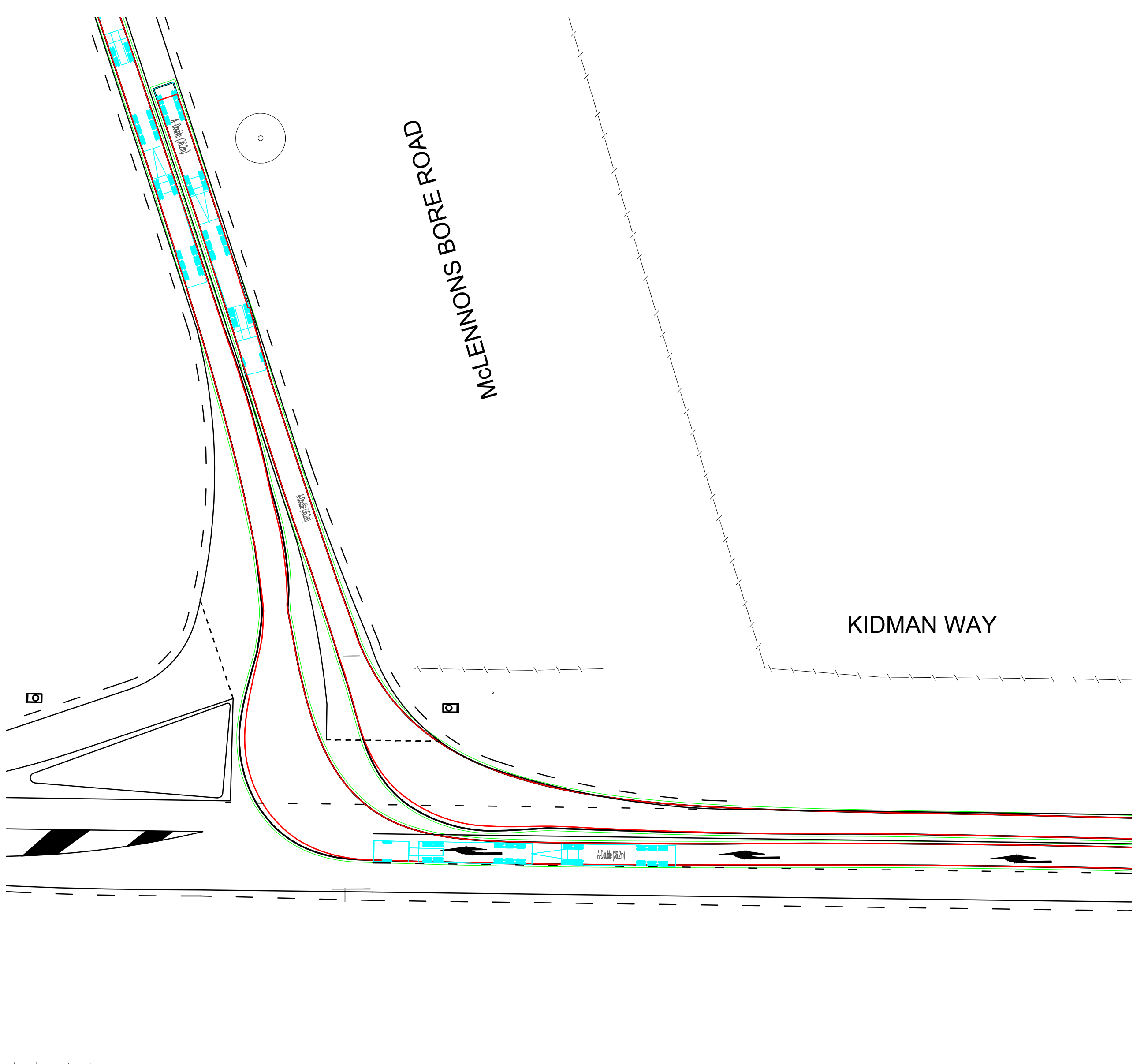
- NOTES:
- SISD calculated in accordance Austroads guides to traffic engineering practice
 - Posted speed 100km/h, design speed is 110km/h and through lanes typically 3.5m wide.
 - Driver reaction time of 2.5sec.

NOT FOR CONSTRUCTION

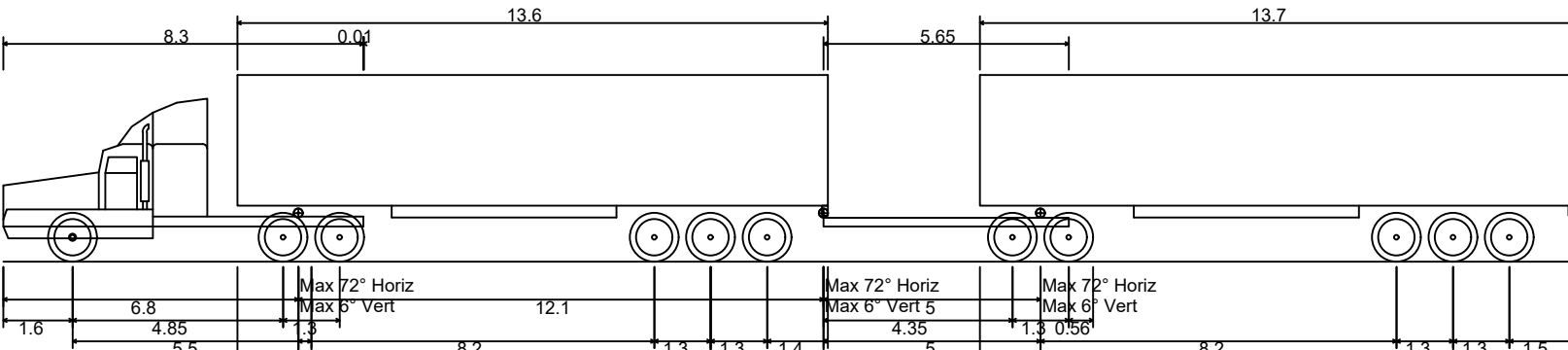
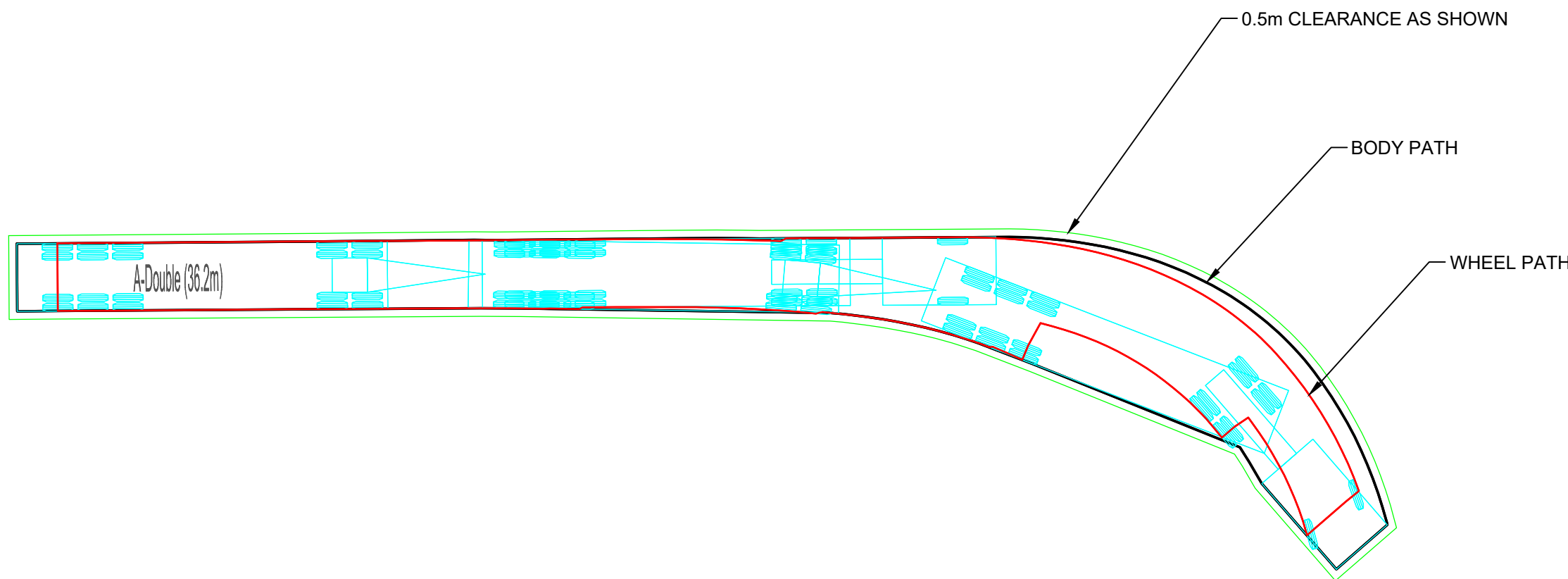
 SYDNEY THE FORUM LEVEL 10 201 Pacific HWY, St Leonards NSW 2065 Phone # 02 9493 9500 www.emmconsulting.com.au	REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED		PROJECT: DINAWAN WIND FARM STRATEGIC CONCEPT DESIGN - INTERSECTION KIDMAN WAY & MCLENNONS BORE ROAD ID101	DRAWING TITLE: STRATEGIC CONCEPT DESIGN SAFE INTERSECTION SIGHT DISTANCE PLAN	CLIENT: SPARK RENEWABLES	
														DRG. #: EMM - C10	
														PROJECT #: E240775	
														SCALE: AS SHOWN	
	B	19/5/26	TNSW COMMENTS	C.J.	A.U.									REV: B	
A	05/12/25	TNSW COMMENTS	C.J.	A.U.											
-	10/4/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.											



PLAN
SCALE 1:400



PLAN
SCALE 1:400

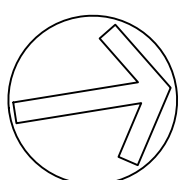


A-Double (36.2m)
Overall Length 36.200m
Overall Width 2.500m
Overall Body Height 4.300m
Min Body Ground Clearance 0.540m
Track Width 2.500m
Lock-to-lock time 6.00s
Curb to Curb Turning Radius 15.000m

- The speed used for the swept paths is **15kmh** and no initial lock, lock to lock or turn on spot has been utilised to produce the swept paths shown.
- The turning paths illustrated in this drawing have been prepared using the AutoCAD Vehicle tracking modelling software in conjunction with AutoCAD Civil3D.
- The vehicle model was prepared by Vehicle Tracking based upon vehicle data provided by Austroads.
- While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

NOT FOR CONSTRUCTION

REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
B	19/5/26	TINSW COMMENTS	C.J.	A.U.					
A	05/12/25	TINSW COMMENTS	C.J.	A.U.					
-	10/4/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
**DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
INTERSECTION
KIDMAN WAY & MCLENNONS BORE
ROAD ID101**

DRAWING TITLE:
**STRATEGIC CONCEPT DESIGN
SWEEP PATH PLAN
A-DOUBLE**

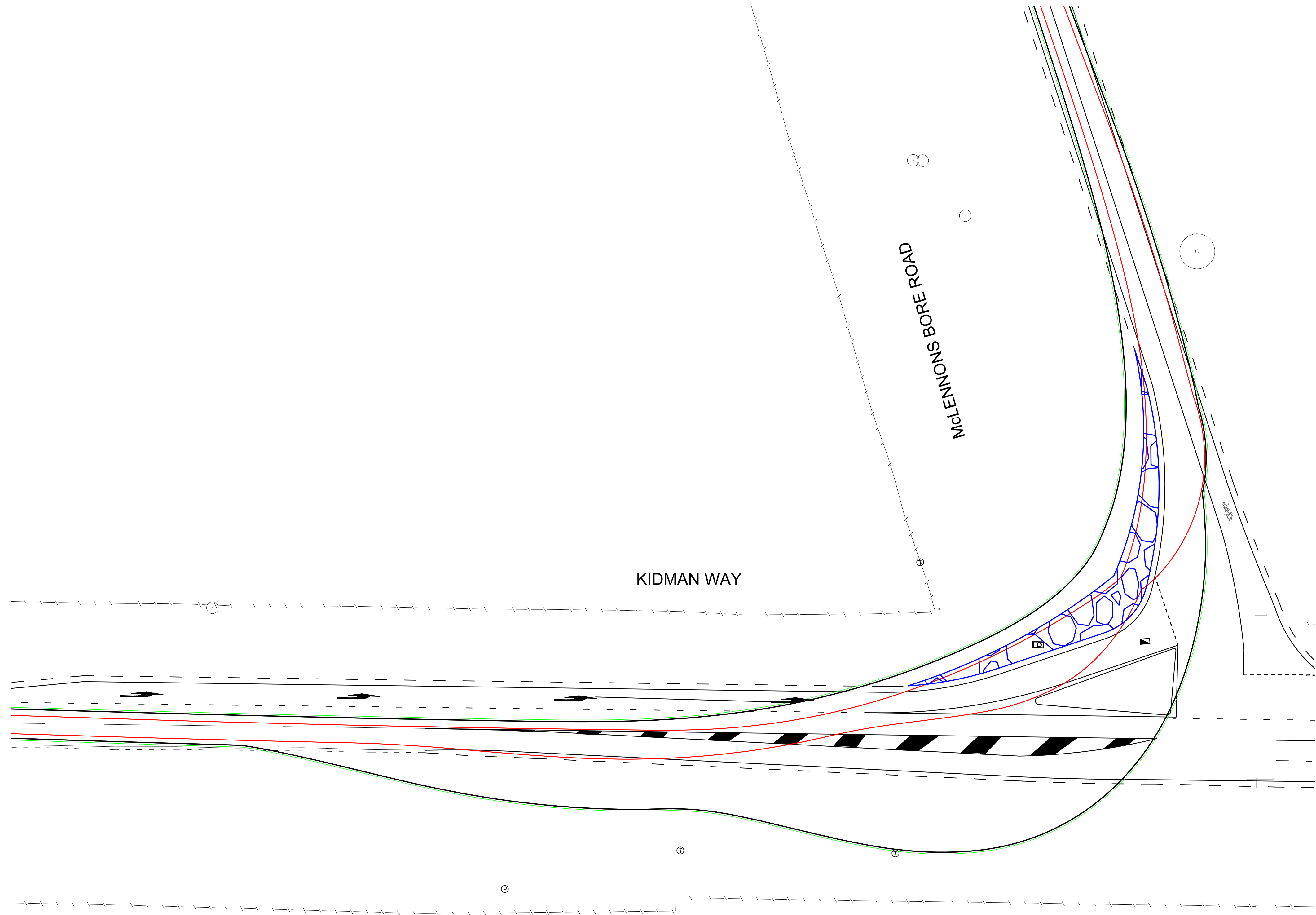
CLIENT: **SPARK RENEWABLES**

DRG. #: **EMM - C11**

PROJECT #: **E240775**

SCALE: **AS SHOWN**

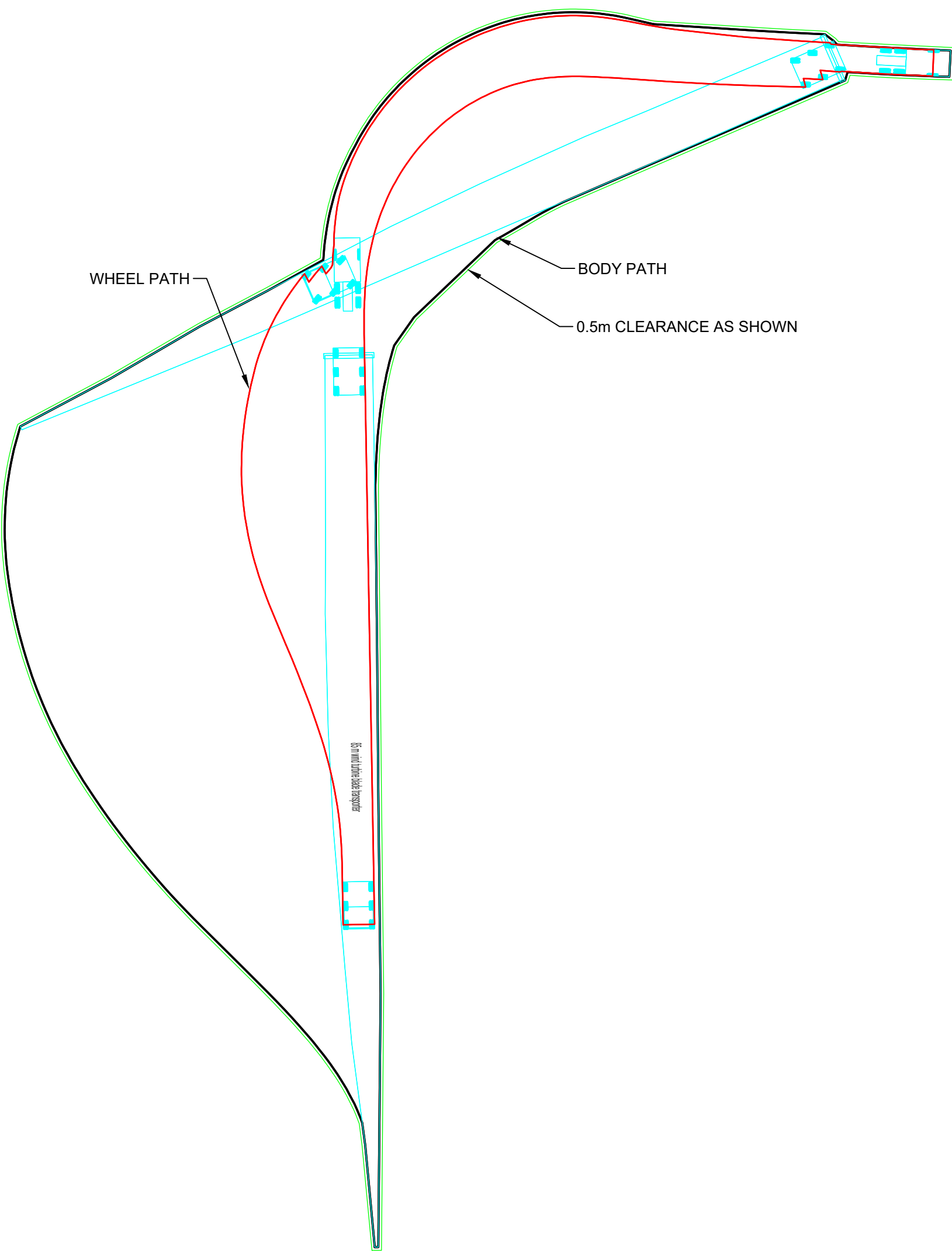
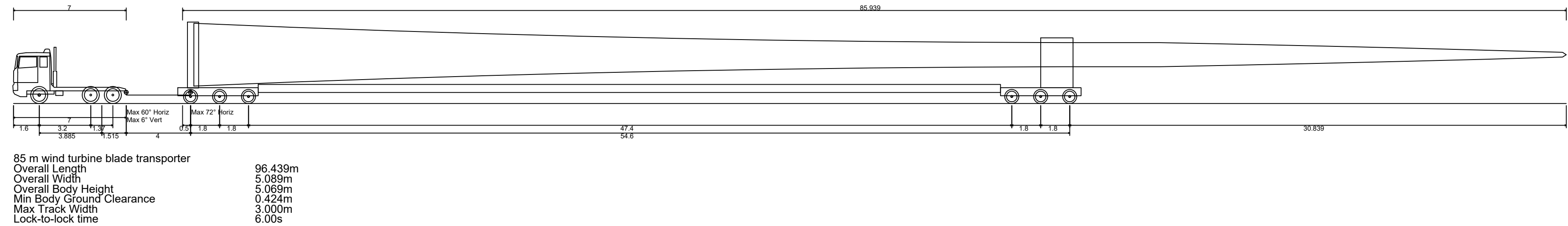
REV: B



KIDMAN WAY

MCLENNONS BORE ROAD

PLAN
SCALE 1:400

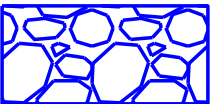


WHEEL PATH

BODY PATH

0.5m CLEARANCE AS SHOWN

LEGEND



HARDSTAND AREA - 285m2

- The speed used for the swept paths is **15kmh** and no initial lock, lock to lock or turn on spot has been utilised to produce the swept paths shown.
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- The vehicle model was prepared by Vehicle Tracking based upon vehicle data provided by Austroads.
- While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

NOT FOR CONSTRUCTION

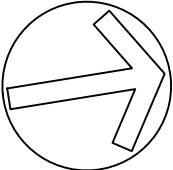


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REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
B	19/5/26	TINSW COMMENTS	C.J.	A.U.					
A	05/12/25	TINSW COMMENTS	C.J.	A.U.					
-	10/4/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
INTERSECTION
KIDMAN WAY & MCLENNONS BORE
ROAD ID101

DRAWING TITLE:
STRATEGIC CONCEPT DESIGN
SWEEP PATH PLAN
OSOM VEHICLE

CLIENT: SPARK RENEWABLES
DRG. #: EMM - C12
PROJECT #: E240775
SCALE: AS SHOWN

REV: B

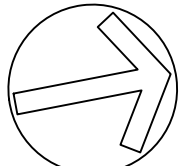
UTILITIES		TELSTRA PILLAR	①
WATER MAIN	— W —	TELSTRA PIT	②
U/G TELSTRA	— T —	HYDRANT	③
O/H TELSTRA	— OT —	STOP VALVE	④
OPTICAL FIBRE	— OF —	POWER POLE	⑤
GAS MAIN	— G —	ELECTRICAL PILLAR	⑥
HP GAS MAIN U/G	— HG —	POWER LIGHT POLE	⑦
ELECTRICITY	— E —	LIGHT POLE	⑧
O/H ELECTRICITY	— OH —	GAS STOP VALVE	⑨
SEWER	— S —	SEWER MANHOLE	⑩



PLAN
SCALE 1:800

NOT FOR CONSTRUCTION

REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
B	19/5/26	TfNSW COMMENTS	C.J.	A.U.					
A	05/12/25	TfNSW COMMENTS	C.J.	A.U.					
-	10/4/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
INTERSECTION
KIDMAN WAY & MCLENNONS BORE
ROAD ID101

DRAWING TITLE:

STRATEGIC CONCEPT DESIGN
ROAD UPGRADE CORRIDOR PLAN

CLIENT: SPARK RENEWABLES

DRG. #: EMM - C13

PROJECT #: E240775

REV: B

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St Leonards NSW 2065

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A.2 Kidman Way and Cadell Road (south) intersection

DINAWAN WIND FARM

STRATEGIC CONCEPT DESIGN - INTERSECTION

KIDMAN WAY/CADELL ROAD ID102



OVERALL SITE PLAN
NTS.

SHEET INDEX		
SHEET No	DESCRIPTION	REV
EMM - C00	COVER SHEET AND SHEET INDEX	A
EMM - C01	NOTES	A
EMM - C02	OVERALL SURVEY AND SERVICES PLAN	A
EMM - C03	SURVEY AND SERVICES PLAN - SOUTH	A
EMM - C04	SURVEY AND SERVICES PLAN - NORTH	A
EMM - C05	SIGNS AND LINEMARKING PLAN	A
EMM - C06	CONSTRUCTION PLAN	A
EMM - C07	SISD PLAN	A
EMM - C08	SWEPT PATH PLAN - 19m SEMI	A
EMM - C09	ROAD UPGRADE CORRIDOR PLAN	A

GENERAL

- THE DRAWINGS ARE A DIAGRAMMATIC REPRESENTATION ONLY OF THE WORK TO BE CARRIED OUT AND DIMENSIONS SHALL NOT BE OBTAINED BY SCALING.
- ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT MURRUMBIDGEE COUNCIL (MC) GUIDELINES AND SPECIFICATIONS. TNSW THEN AUSTRALIAN STANDARDS TO BE USED IN OTHER INSTANCES.
- PROVISION FOR TRAFFIC DURING CONSTRUCTION TO BE IN ACCORDANCE WITH MC CONSTRUCTION SPECIFICATION (201 - CONTROL OF TRAFFIC.
- ALL LOCATION, ORIENTATION AND LEVELS SHALL BE VERIFIED ON SITE BEFORE COMMENCING ANY WORK. ANY DISCREPANCIES IN THE DRAWINGS AND/OR SPECIFICATIONS SHALL BE REFERRED TO THE PRINCIPAL FOR CLARIFICATION BEFORE PROCEEDING. NATURAL SURFACE LEVELS ARE INDICATIVE ONLY.
- ALL INVESTIGATION & WORK TO BE UNDERTAKEN IN ACCORDANCE WITH MC CONSTRUCTION SPECIFICATION - DEVELOPMENT CONSTRUCTION - GENERAL.
- PRIOR TO COMMENCEMENT OF WORKS THE CONTRACTOR SHALL SATISFY HIMSELF OF THE CORRECT LOCATION OF EXISTING SERVICES WHETHER INDICATED OR NOT ON THE DRAWINGS.
- ADJUST ALL UTILITY SERVICE COVERS TO SUIT NEW GRADES & LEVELS, FLUSH WITH SURROUNDING AREA.
- EXISTING STATE SURVEY MARKS AFFECTED BY THE WORKS ARE TO BE RECOVERED IN ACCORDANCE WITH SURVEYOR GENERAL'S DIRECTION No. 11 - "PRESERVATION OF SURVEY INFRASTRUCTURE".

SITE MANAGEMENT:

- PROVIDE BARRIERS AROUND ALL CONSTRUCTION WORKS WITHIN THE FOOTPATH AREA TO PROVIDE SAFE ACCESS FOR PEDESTRIANS.
- CONCRETE PUMPS AND CRANES ARE TO OPERATE FROM WITHIN THE DESIGNATED WORK AREA AND ARE NOT TO OPERATE FROM THE PUBLIC ROADWAY UNLESS SPECIFIC COUNCIL PERMISSION IS OBTAINED.
- DELIVERY VEHICLES MUST NOT STAND WITHIN THE PUBLIC ROADWAY FOR MORE THAN 20 MINUTES AT A TIME.
- TOILET FACILITIES MUST BE EITHER FLUSHING TYPE OR APPROVED PORTABLE CHEMICAL CLOSET. CHEMICAL CLOSETS ARE TO BE MAINTAINED AND SERVICES ON A REGULAR BASIS SO THAT OFFENSIVE ODOUR IS NOT EMITTED.
- TRAFFIC MANAGEMENT MEASURES ARE REQUIRED TO BE IMPLEMENTED AND MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE RMS TRAFFIC CONTROL AT WORKSITES MANUAL AND AS1742, MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- PEDESTRIAN CONTROL MEASURES ARE REQUIRED TO BE IMPLEMENTED AND MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH AS1742, MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL WORK CARRIED OUT AT THE SITE IS IN ACCORDANCE WITH COUNCIL'S WORK HEALTH & SAFETY POLICY.
- DO NOT STORE OR PLACE MATERIALS INSIDE THE DRIP LINE OF ANY TREE. CONSTRUCTION ACTIVITIES, VEHICLE PARKING OR MAINTENANCE, MATERIALS STORAGE OR LOCATING OF CONTAINERS AND SITE SHEDS MUST NOT OCCUR WITHIN THE DRIP LINE OF ANY TREES OR WITHIN 5M OF TREES WHERE THE DRIP LINE RADIUS IS LESS THAN 5M.
- THE CONTRACTOR SHALL EFFECT TEMPORARY DRAINAGE MEASURES TO AVOID LOCALISED PONDING.

EARTHWORKS:

- EARTHWORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE DRAWINGS AND GEOTECHNICAL ENGINEERS RECOMMENDATIONS. THE DESIGN AS DETAILED ON THESE DRAWINGS ASSUMES A PROPERLY PREPARED UNIFORM AND STABLE SUBGRADE.
- THE DRAWINGS SHOULD BE READ IN CONJUNCTION WITH ANY GEOTECHNICAL REPORT PREPARED FOR THE WORKS.
- STRIP OFF ALL VEGETATION, RUBBISH AND TOPSOIL CONTAINING ORGANIC OR ROOT MATTER FROM THE AREA OF THE WORKS AND REMOVE FROM SITE/STOCKPILE FOR RE-USE.
- PRIOR TO ANY FILLING, THE EXPOSED SUBGRADE SHALL BE PROOF ROLLED WITH A MINIMUM OF 10 PASSES OF A 5 TONNE (MIN) DEAD WEIGHT VIBRATING ROLLER IN THE PRESENCE OF THE SUPERINTENDENT OR GEOTECHNICAL ENGINEER AND ANY SOFT OR YIELDING MATERIALS REMOVED AND REPLACED WITH APPROVED FILLING COMPACTED AS HEREAFTER SPECIFIED.
- FILL SHALL BE SOUND WELL GRADED MATERIAL WITH A HIGH GRANULAR CONTENT AND SHALL BE THE BEST OF EXCAVATED MATERIALS FROM THE SITE, OR APPROVED SOUND IMPORTED MATERIAL FREE OF RUBBISH, PLASTIC CLAY OR LARGE PIECES THAT WOULD PRECLUDE COMPACTION.
- FILL SHALL BE SPREAD IN LAYERS NOT EXCEEDING 200MM AND COMPACTED USING SUITABLE MECHANICAL EQUIPMENT AT OPTIMUM MOISTURE CONTENT ±2 % TO NOT LESS THAN 98% MAXIMUM STANDARD DRY DENSITY (MSDD) IN ACCORDANCE WITH AS1289 - E11 UNLESS OTHERWISE NOTED.
- FINISH FILLING LEVELS TO SUIT CONSTRUCTION OVER, ALLOWING FOR MIN 75MM OF BASE COURSE (DGB20) COMPACTED TO 98% MAXIMUM MODIFIED DRY DENSITY (MMD0) WHERE NOTED ON DRAWINGS.
- DENSITY TESTING OF FILLING (AND BASE COURSE WHERE APPLICABLE) SHALL BE CARRIED OUT AT THE RATE OF 1 TEST PER 200 SQUARE METRES EACH LAYER (MINIMUM 2 TESTS). TESTING SHALL BE BY A NATA REGISTERED LABORATORY AND SHALL BE ALLOWED FOR BY THE CONTRACTOR.
- THE CONTRACTOR SHALL PROGRAM AND UNDERTAKE THE EARTHWORKS OPERATIONS SUCH THAT WORKING AREAS ARE ADEQUATELY DRAINED DURING CONSTRUCTION. THE SURFACE SHALL BE GRADED AND SEALED OFF TO REMOVE DEPRESSIONS WHICH WOULD ALLOW WATER TO POND AND PENETRATE THE UNDERLYING MATERIAL. ANY DAMAGE RESULTING FROM FAILURE TO COMPLY WITH THESE REQUIREMENTS SHALL BE RECTIFIED AT THE CONTRACTORS EXPENSE.

DEMOLITION:

- CARRY OUT ALL DEMOLITION WORK IN ACCORDANCE WITH AS 2601.
- UNTIL PERMANENT SUPPORT IS PROVIDED, PROVIDE TEMPORARY SUPPORT FOR SECTIONS OF EXISTING STRUCTURES WHICH ARE TO BE ALTERED AND WHICH NORMALLY RELY FOR SUPPORT ON WORK TO BE DEMOLISHED.
- SUPPORT EXCAVATIONS FOR DEMOLITION OF UNDERGROUND SERVICES.
- PROVIDE SUPPORT TO ADJACENT STRUCTURES WHERE NECESSARY, SUFFICIENT TO PREVENT DAMAGE RESULTING FROM THE WORKS.
 - LATERAL SUPPORTS: PROVIDE LATERAL SUPPORT AT LEAST EQUAL TO THAT GIVEN BY THE STRUCTURE TO BE DEMOLISHED, USING SHORING.
 - VERTICAL SUPPORTS: PROVIDE SUPPORT WHERE NECESSARY USING PILING OR UNDERPINNING, OR BOTH.
- PROVIDE DUST PROOF, SCREENS, BULKHEADS AND COVERS TO PROTECT EXISTING FINISHES AND THE IMMEDIATE ENVIRONMENT FROM DUST AND DEBRIS.
- DO NOT USE EXPLOSIVES.
- HAZARDOUS MATERIALS. GIVE NOTICE IMMEDIATELY IF HAZARDOUS MATERIALS OR CONDITIONS ARE FOUND, INCLUDING THE FOLLOWING:
 - ASBESTOS OR MATERIAL CONTAINING ASBESTOS.
 - FLAMMABLE OR EXPLOSIVE LIQUIDS OR GASES.
 - TOXIC, INFECTIVE AND CONTAMINATED MATERIALS.
 - RADIATION OR RADIOACTIVE MATERIALS.
 - NOXIOUS OR EXPLOSIVE CHEMICALS.
 - TANK OR OTHER CONTAINERS WHICH HAVE BEEN USED FOR STORAGE OF EXPLOSIVE, TOXIC, INFECTIVE OR CONTAMINATED SUBSTANCES.

ROAD WORKS

GENERAL

- EXISTING VEGETATION TO BE REMOVED WITHIN EXTENTS OF WORKS UNLESS NOTED OTHERWISE
- ALL PIT GRATES TO SUIT KMC STANDARDS KERB INLET ARRANGEMENTS SHOWING KMC STANDARDS DRAWINGS
- KERB TYPES AND KERB RAMPS REFER TO KMC STANDARDS.

SET OUT PLANS AND COORDINATES TABLES

- DESIGN HAS BEEN BASED ON LAND SURVEY COMPLETED BY EMM.
- SURVEY DATUM IS AHD.
- SURVEY AZIMUTH IS BASED ON MGA ZONE 56.
- SURVEY MARKS ARE NOT TO BE DISTURBED BEFORE ASSESSMENT BY SURVEYOR
- ALL LOCATIONS, ORIENTATION AND LEVELS SHALL BE VERIFIED ON SITE BEFORE COMMENCING ANY WORK. ANY DISCREPANCIES IN THE DRAWINGS AND/OR SPECIFICATIONS SHALL BE REFERRED TO THE PRINCIPAL FOR CLARIFICATION BEFORE PROCEEDING. NATURAL SURFACE LEVELS ARE INDICATIVE ONLY.
- ANY SURVEY PMS OR SMS THAT ARE DESTROYED ARE TO BE REPLACED WITH ANOTHER PM OR SM TO LANDS DEPARTMENT STANDARDS. IT ALSO SHOULD BE DOCUMENTED AND COORDINATED TO EQUIVALENT LANDS DEPARTMENT STANDARDS.

PAVEMENT

- PAVEMENT INTERFACES TO BE EITHER MID LANE OR AT LANE LINE UNLESS NOTED OTHERWISE ON THESE DRAWINGS OR INSTRUCTED BY THE PRINCIPAL.
- LOCATION AND AREA OF MILL AND RE-SHEET PAVEMENT ARE INDICATIVE ONLY. FINAL LOCATIONS AND VOLUMES ARE TO BE DETERMINED ON SITE DURING CONSTRUCTION BY THE CONTRACTOR WITH AGREEMENT FROM THE PRINCIPAL.

STORMWATER DRAINAGE

- STORMWATER DRAINAGE SHALL BE GENERALLY IN ACCORDANCE WITH CURRENT AUSTRALIAN STANDARDS AND COUNCIL'S SPECIFICATION.
- PIPES OF 225mm DIA. AND UNDER SHALL BE UPVC. PIPES OF 300mm DIA. AND LARGER SHALL BE FRC OR CONCRETE CLASS 2 RUBBER RING JOINTED UNO.
- ALL FRC OR RCP STORMWATER PIPES WITHIN ROAD RESERVE AREAS TO BE CLASS 3 UNO.
- PIPES SHALL GENERALLY BE LAID AT THE GRADES INDICATED ON THE DRAWINGS.
- MINIMUM COVER TO PIPES 300mm DIA. AND OVER GENERALLY SHALL BE 600mm IN CARPARK & ROADWAY AREAS UNO.
- PIPES UP TO 150mm DIA SHALL BE LAID AT 1.0% MIN. GRADE UNO. PIPES 225mm DIA AND OVER SHALL BE LAID AT 0.5% MIN. GRADE UNO.
- BACKFILL TRENCHES WITH APPROVED FILL COMPACTED IN 200MM LAYERS TO 98% OF STANDARD DENSITY
- ANY PIPES OVER 16% GRADE SHALL HAVE CONCRETE BULKHEADS AT ALL JOINTS
- PITS SHALL BE AS DETAILED WITH METAL GRATES AT LEVELS INDICATED. ALL PITS DEEPER THAN 1000mm TO HAVE CLIMB IRONS.
- INSTALL TEMPORARY SEDIMENT BARRIERS TO INLET PITS, TO COUNCIL'S STANDARDS UNTIL SURROUNDING AREAS ARE PAVED OR GRASSED.
- PIT LOCATIONS AND LEVELS MAY BE VARIED TO SUIT SITE CONDITIONS AFTER CONSULTING COUNCIL'S REPRESENTATIVE.
- HAND-EXCAVATE STORMWATER PIPES IN VICINITY OF TREE ROOTS.
- TRENCHING AND BEDDING DETAILS TO BE IN ACCORDANCE WITH AS3500 TO HS2 DETAIL UNLESS OTHERWISE NOTED.

SUBSURFACE DRAINAGE

- LOCATION OF SUBSURFACE DRAINAGE SHOWN ON PLANS IS INDICATIVE ONLY. DRAWINGS TO BE READ IN CONJUNCTION WITH PAVEMENT DETAILS SECTIONS AND PLANS AND KMC CONSTRUCTION SPECIFICATION.
- CONSTRUCTION OF TRENCH DRAINS TO BE IN ACCORDANCE WITH KMC CONSTRUCTION SPECIFICATION
- DEPTH OF TRENCH AND PAVEMENT INTERFACE DRAINS TO BE CONFIRMED ONSITE BY THE CONTRACTOR WITH AGREEMENT FROM THE PRINCIPAL AND TO BE MEASURED FROM LOWEST POINT OF THE EXISTING OF NEW PAVEMENT SMZ.
- GEOTEXTILE FOR TRENCH AND PAVEMENT INTERFACE DRAINS TO BE LAPPED ON THE TOP FACE.
- MINIMUM GRADE OF SUBSURFACE DRAINAGE TO BE 0.5%.

REINFORCEMENT:

1. REINFORCEMENT SYMBOLS:

- R DENOTES GRADE 250 R HOT ROLLED PLAIN BARS TO AS1302
 - F DENOTES GRADE 450 F HARD-DRAWN WIRE REINFORCING FABRIC TO AS1304
 - W DENOTES GRADE 450 W HARD-DRAWN PLAIN WIRE TO AS1303
 - N DENOTES DEFORMED BAR NORMAL DUCTILITY TO AS/NZS 4671 GRADE D500N
 - L DENOTES DEFORMED BAR LOW DUCTILITY TO AS/NZS 4671 GRADE D500L
 - RN DENOTES RECTANGULAR WIRE MESH NORMAL DUCTILITY TO AS/NZS 4671
 - RL DENOTES RECTANGULAR WIRE MESH LOW DUCTILITY
 - SN DENOTES SQUARE WIRE MESH NORMAL DUCTILITY
 - SL DENOTED SQUARE WIRE MESH LOW DUCTILITY TO AS/NZS 4671
- REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION.
 - THE SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITIONS SHOWN OR OTHERWISE APPROVED IN WRITING BY THE ENGINEER.
 - R4, LAPS SHALL BE IN ACCORDANCE WITH AS 3600 AND NOT LESS THAN THE DEVELOPMENT LENGTH FOR EACH BAR.
 - WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE DRAWINGS OR APPROVED BY THE SUPERINTENDENT.
 - MINIMUM FABRIC LAP SHALL BE TWO TRANSVERSE WIRES PLUS 50MM, WHERE FABRIC LAPS, SHEETS TO HAVE MAXIMUM 2 LAYERS AT ANY POINT, CUT BACK FABRIC AT CORNERS AS REQUIRED.
 - WHERE TRANSVERSE TIE BARS ARE NOT SHOWN PROVIDE N12-400 SPLICED WHERE NECESSARY AND LAP WITH MAIN BARS 400MM UNLESS NOTED.
 - ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON PLASTIC CHAIRS OR CONCRETE CHAIRS, AT NOT GREATER THAN 1 METRE CENTRES BOTH WAYS, AND 800 EACH WAY FOR FABRIC. WHEN POURED ON GROUND AS FORMWORK PROVIDE PLATES UNDER ALL BAR CHAIRS. PLASTIC TIPPED STEEL CHAIRS SHALL NOT BE USED ON EXPOSED FACES IN EXPOSURE CLASSIFICATION B2 AND C.

CONCRETE:

- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 AND AS 3610 CURRENT EDITIONS WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- ALL CEMENT TO BE TYPE GP. GENERAL PURPOSE CEMENT IN ACCORDANCE WITH AS3972
- PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 3600
- DETAILS OF THE PROPOSED MIX ARE TO BE SUBMITTED & APPROVAL OBTAINED PRIOR TO POURING ANY CONCRETE.
- NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING.
- MINIMUM CLEAR COVER TO ALL REINFORCEMENT SHALL BE AS FOLLOWS UNLESS SHOWN OTHERWISE:

ELEMENT	STRENGTH GRADE (MPa)	SLUP (mm)	MAX. AGGREG. SIZE (mm)	CAST AGAINST GROUND (mm)	CAST IN FORMS AND NOT EXPOSED (mm)	CAST IN FORMS AND EXPOSED (mm)
PATH	25	80	20	40	40	40

- CONCRETE SIZES/DIMENSIONS SHOWN DO NOT INCLUDE THE THICKNESS OF ANY APPLIED FINISHES. NO FINISH THAT DECREASES COVER IS PERMITTED WITHOUT THE WRITTEN APPROVAL OF THE SUPERINTENDENT/ENGINEER.
- MAINTAIN COVER TO REINFORCEMENT AT CHAMFERS, DRIP GROOVED, REGLETTS ETC.
- NO HOLES, CHASES, BLOCKOUT, DUCTS OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE SUPERINTENDENT/ENGINEER.
- CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO THE APPROVAL OF THE SUPERINTENDENT/ENGINEER.
- ALL CONCRETE MEMBERS SHALL BE MECHANICALLY VIBRATED TO ACHIEVE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK AND THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS.
- CURING OF ALL CONCRETE IS TO BE ACHIEVED BY KEEPING SURFACES CONTINUOUSLY WET FOR A PERIOD OF THREE DAYS, AND THE PREVENTION OF LOSS OF MOISTURE FOR A TOTAL OF 7 DAYS FOLLOWED BY A GRADUAL DRYING OUT.
- CONSTRUCTION SUPPORT PROPPING IS TO BE LEFT IN PLACE WHERE NEEDED TO AVOID OVERSTRESSING THE STRUCTURE DUE TO CONSTRUCTION LOADING.
- ALL CONCRETE SHALL BE PLACED IN SUCH A MANNER SO AS TO AVOID SEGREGATION OR LOSS OF MATERIALS.
- UNDER NO CIRCUMSTANCES SHALL EXCESS CONCRETE BE DISPOSED OF ON-SITE. ALL EXCESS CONCRETE MUST BE CARTED FROM SITE AND DISPOSED OF IN AN APPROPRIATE MANNER.
- WATER USED FOR FLUSHING CHUTES AND FOR CLEANING OF CONCRETE TRUCKS AND EQUIPMENT MUST BE DISCHARGED IN AN AREA DESIGNATED FOR THAT PURPOSE AND WHICH HAS EROSION AND SEDIMENT CONTROL MEASURES IN PLACE.

FORMWORK:

- RESPONSIBILITY FOR DESIGN, CERTIFICATION, CONSTRUCTION AND PERFORMANCE OF FORMWORK AND FALSEWORK LIES WITH CONTRACTOR.
- DO NOT SUPPORT OR RESTRAIN FORMWORK ON PERMANENT WORKS WITHOUT SUPERINTENDENTS WRITTEN APPROVAL.
- CONSTRUCT FORMWORK TO COMPLY WITH AS3610 AND CLAUSE 19.6.2 OF AS3600 WHERE THIS IS MORE STRINGENT SO CONCRETE WILL HAVE DIMENSIONS, SHAPE, LOCATION AND FINISH SPECIFIED. PROVIDE OPENINGS OR REMOVABLE PANELS FOR INSPECTION AND CLEANING. APPLY RELEASE AGENT COMPATIBLE WITH CONTACT SURFACES TO INTERIOR OR FORMWORK (EXCEPT WHERE CONCRETE IS TO RECEIVE AND APPLIED FINISH FOR WHICH THERE IS NO COMPATIBLE RELEASE AGENT). WHERE NECESSARY CLEAN REINFORCEMENT TO REMOVE TRACES OF RELEASE AGENT. SEAL JOINT BETWEEN FORMWORK PANELS, AND TO HARDENED CONCRETE WITH FLEXIBLE RUBBER STRIP. SET OUT FORMWORK TO GIVE A REGULAR ARRANGEMENT OF PANELS, JOINT, BOLT HOLES ETC.
- DO NOT USE FORMWORK HARDWARE THAT FORMS A COMPLETE HOLE THROUGH CONCRETE ELEMENTS. DO NOT USE REINFORCEMENT TO SUPPORT FORMWORK.
- PROVIDE HOLES IN REBATE FORMERS ETC AS REQUIRED TO PREVENT AIR ENTRAPMENT.
- CONSTRUCTION TOLERANCES TO BE TO AS3610.
- STRIP FORMWORK TO AS3600 CLAUSE 19.6. REMOVE FROM TIE BOLTS WITHOUT DAMAGING CONCRETE. PARTS OF BOLTS LEFT IN CONCRETE MUST NOT INTRUDE INTO COVER CONCRETE. FLUSH FILL HOLES USING PRE-MIXED NON-SHRINK CEMENTITIOUS REPAIR MORTAR MATCHING CONCRETE SURFACE COLOUR, STRENGTH AND DURABILITY AND ADEQUATE BOND.

WORK NEAR EXISTING TREES AND TREE PROTECTION

GENERAL:

- TREES MUST NOT BE REMOVED OR LOPPED OR OTHERWISE DAMAGED, UNLESS SPECIFIED AND APPROVAL TO DO SO IS GIVEN BY THE SUPERINTENDENT. ALL CARE MUST BE TAKEN NOT TO DAMAGE OR INJURE ANY EXISTING TREES THAT ARE TO BE RETAINED. A QUALIFIED ARBORIST OR TREE PRESERVATION OFFICER IS TO BE CONSULTED PRIOR TO ANY EARTHWORKS BEING CONDUCTED NEAR EXISTING TREES WITHIN THE CONSTRUCTION ZONE. ANY DAMAGE INCURRED TO TREES THAT ARE TO BE RETAINED IS TO BE MADE GOOD AS SOON AS POSSIBLE FOLLOWING ADVICE BY AN APPROVED ARBORIST.

PROTECTION:

- IT IS THE SITE SUPERVISOR'S RESPONSIBILITY TO PROTECT ALL TREES IDENTIFIED FOR RETENTION.
- TREES TO BE RETAINED ARE TO BE PROTECTED WITH FENCING AND/OR TREE ARMOUR AS INDICATED ON THE DRAWINGS.
- COMPACTION OF SOIL IS TO BE AVOIDED WITHIN THE TREE PROTECTION ZONES SHOWN ON THE DRAWINGS.
- WHERE WORK IS REQUIRED TO BE UNDERTAKEN WITHIN THE TREE PROTECTION ZONES, TREE ARMOUR IS TO BE ERECTED AROUND THE TRUNK OF THE TREES AS INDICATED ON PLAN.

TREE PROTECTION FENCING:

- TREES ARE TO BE PROTECTED BY TEMPORARY CHAIN-WIRE CONSTRUCTION FENCING INSTALLED AT THE DRIPLINE IF POSSIBLE. TEMPORARY SIGNAGE LABELLED "TREE PROTECTION AREA. NO STORAGE OF MATERIALS OR MACHINERY" IS TO BE INSTALLED ON ALL TREE PROTECTION FENCING.

TREE ARMOUR:

- PROVIDE TREE ARMOUR AROUND TRUNKS OF TREES AS INDICATED ON PLAN BEFORE COMMENCEMENT OF ANY WORKS. ARMOUR IS TO CONSIST OF JUTE MATTING AND TIMBER BATTENS WRAPPED AROUND TREE TRUNKS AS INDICATED IN DRAWINGS.
- INSTALL A PROTECTIVE LAYER OF JUTE MAT AROUND TREE TRUNKS PRIOR TO INSTALLING TIMBER BATTENS AROUND TREE TRUNKS.
- TIMBER BATTENS ARE TO BE 1800 X 90 X 20mm. SECURE BATTENS INTO POSITION WITH THREE STRANDS OF WIRE OR NYLON WEBBING STAPLED OR NAILED TO CREATE A CONTINUOUS STRING, LONG ENOUGH TO SURROUND EACH TREE.
- ENSURE ARMOUR IS ATTACHED SECURELY AROUND THE TREE. AMOUR SHOULD BE ATTACHED TO ITSELF. NAILS OR FASTENERS ARE NOT TO BE ATTACHED DIRECTLY TO THE TREE TRUNK. ARMOUR IS TO REMAIN IN PLACE AS LONG AS MACHINERY IS REQUIRED ON SITE.

STORAGE OF MATERIALS:

- DO NOT STORE OR OTHERWISE PLACE BULK MATERIALS AND HARMFUL MATERIALS UNDER OR NEAR TREES WITHIN THE TREE PROTECTION ZONE. STORAGE OF MATERIALS, MIXING OF MATERIALS, VEHICLE PARKING, DISPOSAL OF LIQUIDS, MACHINERY REPAIRS AND REFUELLING, SITE OFFICE AND SHEDS MUST NOT OCCUR WITHIN THE DRIP LINE OF ANY EXISTING TREES, OR WITHIN 5M OF ANY EXISTING TREES WHERE THE DRIP LINE RADIUS IS LESS THAN 5m.
- DO NOT PLACE SPOIL FROM EXCAVATIONS AGAINST TREE TRUNKS, EVEN FOR SHORT PERIODS. PREVENT WIND-BLOWN MATERIALS SUCH AS CEMENT FROM HARMING TREES AND PLANTS.

WORK UNDER TREES:

- MINIMISE EXCAVATION OR FILLING AROUND TREES. IF CONSTRUCTION WORKS ARE NECESSARY AROUND TREES THEN MINIMISE THE USE OF MACHINERY. LEAVE TRENCHES OR EXCAVATED AREAS EXPOSED FOR AS SHORT A PERIOD AS POSSIBLE.

ROOTS:

- TREE ROOTS EXCEEDING 100mm DIAMETER ARE NOT TO BE CUT UNLESS ADVICE IS FIRST SOUGHT FROM AN ARBORIST.
- USE HAND TOOLS OR A CHAINSAW TO MAKE CLEAN CUTS TO ROOTS THAT REQUIRE CUTTING.

BACKFILLING:

- MINIMISE CHANGES TO SOIL SURFACE LEVELS AROUND TREES.
- RETURN NATURAL SOILS TO EXCAVATED AREAS OR USE OTHER VIRGIN EXCAVATED NATURAL MATERIAL (VENM) TO BACKFILL.
- ROAD MILLINGS, WASTE CONCRETE, ASPHALT OR OTHER FOREIGN MATERIALS ARE NOT TO BE USED FOR BACKFILLING WITHIN TREE ROOT ZONES.
- DO NOT BACKFILL AROUND TREE TRUNKS TO A HEIGHT GREATER THAN 300MM ABOVE THE ORIGINAL GROUND SURFACE UNAUTHORISED.
- THOROUGHLY WATER THE SOIL FOLLOWING EXCAVATION WITHIN TREE ROOT ZONES.

REMOVAL OF TREES:

- WHEN REMOVING TREES, TAKE CARE NOT TO DAMAGE ANY ADJACENT EXISTING STRUCTURES, SERVICES OR TREES TO BE RETAINED.
- WHERE TREES BEING REMOVED ARE LOCATED IN FUTURE PLANTING AREAS AS SHOWN ON THE PLANTING PLAN, FULLY REMOVE THE TREES AND ALL THEIR PARTS INCLUDING THE ROOT SYSTEM.
- WHERE THIS IS NOT PRACTICAL CUT TRUNKS CLOSE TO THE EXISTING SOIL SURFACE LEVEL AND IMMEDIATELY APPLY UNDILUTED GLYPHOSATE HERBICIDE TO THE CUT SURFACES.

UTILITIES

- THE LOCATION OF EXISTING UTILITIES SHOWN ON THE PLANS ARE INDICATIVE ONLY. THE CONTRACTOR IS TO REFER TO UTILITY RELOCATION PLANS APPROVED BY APPROPRIATE AUTHORITY FOR DETAILS ON PROPOSED UTILITY WORKS.
- THE CONTRACTOR IS TO CONFIRM THE PRESENCE OF ALL UTILITIES ON SITE PRIOR TO THE COMMENCEMENT OF ROAD WORKS, REFERENCE MUST BE MADE TO THESE DRAWINGS PRIOR TO THE COMMENCEMENT OF ROAD WORKS, AND THE RELEVANT UTILITY PLANS OBTAINED BY CONTACTING DIAL BEFORE YOU DIG. CAUTION SHALL BE EXERCISED WHEN WORKING IN THE VICINITY OF ALL UTILITY SERVICES.
- LOCATION AND LEVEL OF ALL SERVICES CROSSING THE PROPOSED WORKS MUST BE OBTAINED PRIOR TO CONSTRUCTION. ALL LEVELS MUST BE CHECKED FOR CONFLICT WITH ANY SERVICES, AND ANY CONFLICTS TO BE RAISED WITH PRINCIPAL.
- PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF FURTHER UNDERGROUND SERVICES AND DETAILED LOCATIONS OF ALL SERVICES.
- UNDERGROUND SERVICES HAVE BEEN PLOTTED FROM RECORDS SUPPLIED BY THE PUBLIC AUTHORITIES TO SHIRE CIVIL DESIGN IN DECEMBER 2019 LOCATIONS HAVE BEEN INTERPRETED FROM THESE RECORDS AND ARE APPROXIMATE ONLY. EXTREME CAUTION SHOULD BE TAKEN BY PERSONS EXCAVATING.

EROSION AND SEDIMENT CONTROL

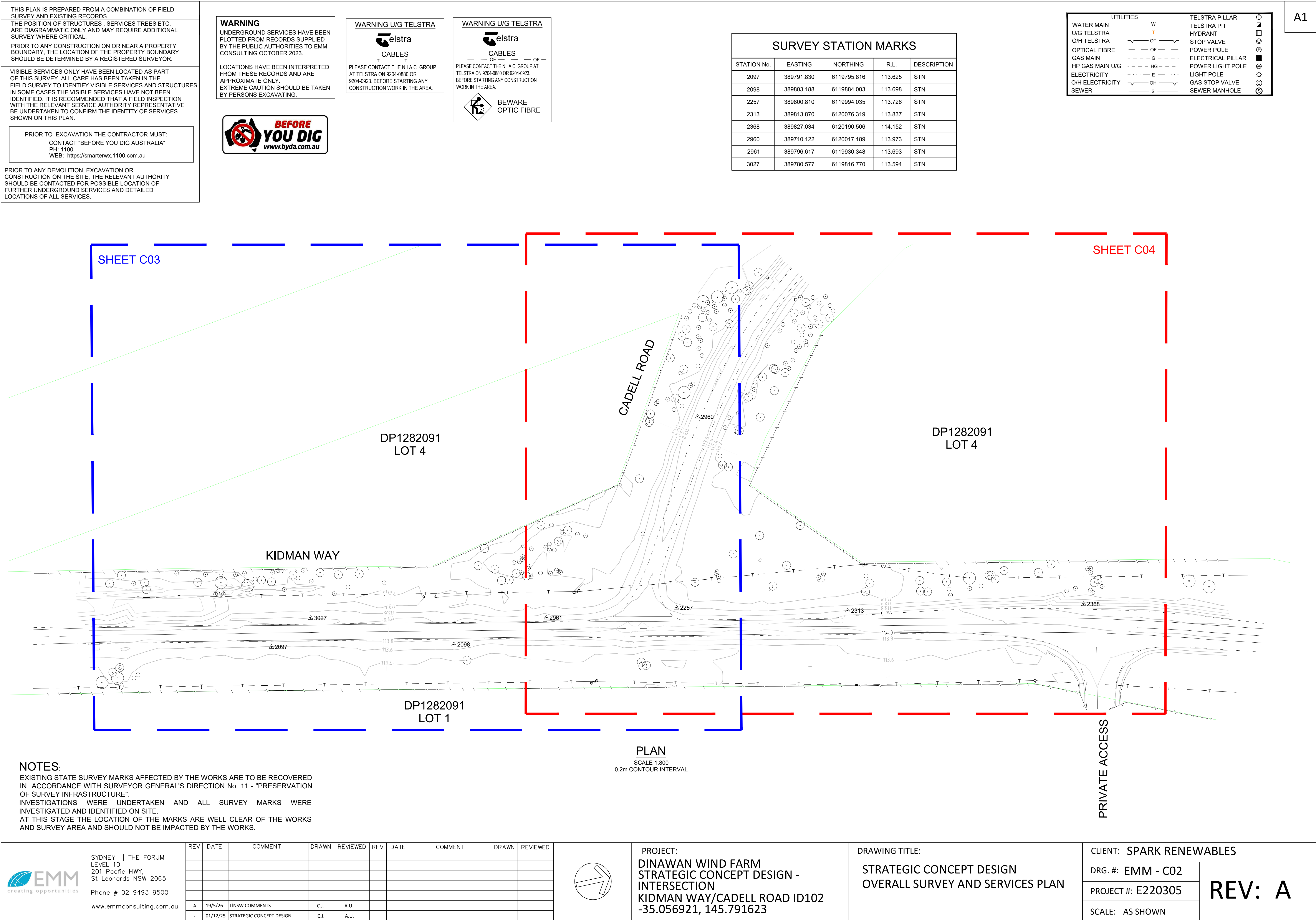
1. GENERAL MEASURES

- SOIL EROSION AND SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION SHALL CONFORM WITH GUIDELINES IN ACCORDANCE WITH "MANAGING URBAN STORMWATER: SOILS AND CONSTRUCTION - VOLUME 1, LANDCOM 2004" AND COUNCIL'S POLICY.
 - PERIMETER CONTROL MEASURES SHALL BE PLACED PRIOR TO OR IN CONJUNCTION WITH THE FIRST PHASE OF THE EARTHWORKS. THESE MEASURES SHALL BE APPLIED TO PROTECT ADJOINING PROPERTIES FROM EROSION AND SILT DAMAGE.
 - EARTH STOCKPILES SHALL BE CONFINED TO ONE CENTRAL AREA WHERE POSSIBLE. ALL STOCKPILES OF EXCAVATED OR CONSTRUCTION SOILS MUST HAVE A SILT FENCE ERECTED IMMEDIATELY DOWNHILL FOR THE FULL EXTENT OF THE STOCKPILE. WHERE SITE REGRADING OR FILLING IS BEING UNDERTAKEN PROVISION SHALL BE MADE TO ENSURE THAT NO WATER IS PONDED IN ANY LOT.
 - ALL AREAS NOT SUBJECT TO CONSTRUCTION WORKS SHALL BE RETAINED FREE FROM DISTURBANCE OR DAMAGE DURING THE CURRENCY OF THE WORK. SHOULD THESE AREAS BECOME DISTURBED OR DAMAGED THEY SHALL BE REINSTATED AS DIRECTED BY THE SUPERINTENDENT.
- SEDIMENT CONTROL DEVICES (S.C.D.)
 - THESE DEVICES SHALL BE CONSTRUCTED AT INLETS TO STORMWATER SYSTEMS TO TRAP THE SEDIMENT IN RUN-OFF.
 - STABILISATION OF DISTURBED AREAS
 - STABILISATION OF DISTURBED AREAS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS INDICATED IN GENERAL NOTES ABOVE.
 - THE FOLLOWING SHALL BE APPLIED FOR THE CONTROL OF EROSION AND SEDIMENTATION:-
 - STABILISATION OF DENUDED AREAS SHALL COMMENCE AS SOON AS POSSIBLE AFTER THE AREAS HAVE BEEN DISTURBED.
 - STABILISATION OF ALL CUT AND FILL SLOPES SHALL BE COMMENCED AS SOON AS PRACTICABLE AFTER COMPLETION OF FORMATION.
 - ALL STABILISATION MEASURES SHALL BE TAKEN PRIOR TO THE END OF THE MAINTENANCE PERIOD.
 - MAINTENANCE
 - ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE MAINTAINED IN A SATISFACTORY WORKING ORDER THROUGHOUT THE CONTRACT, MAINTENANCE AND DEFECTS LIABILITY PERIODS OR UNTIL SUCH EARLIER TIME AS THE AREA HAS BEEN STABILISED AND COUNCIL'S ENGINEER DIRECTS THAT THE DEVICE BE REMOVED.
 - ALL DEVICES SHALL BE INSPECTED AFTER EACH STORM FOR STRUCTURAL DAMAGE OR LOGGING BY SILT AND OTHER DEBRIS AND MAKE PROMPT REPAIRS OR REPLACEMENT.

SIGNAGE AND LINEMARKING

- INSTALLATION OF PAVEMENT MARKING RRPMS AND SIGNAGE TO BE IN ACCORDANCE WITH TNSW CONSTRUCTION SPECIFICATION, GUIDELINES AND STANDARDS.
- CONTRACTOR TO OBTAIN WRITTEN APPROVAL FROM TNSW PRIOR TO INSTALLATION OF ANY SIGNAGE OR LINEMARKING.
- LOCATION OF ALL SIGNAGE TO BE CONFIRMED ON SITE IN COORDINATION WITH THE PRINCIPAL PRIOR TO MANUFACTURE.
- ALL SIGNS TO BE SIZE 'B' UNLESS NOTED OTHERWISE.
- EXISTING SIGNS DESIGNATED REMOVAL TO BE STORED IN CONTRACTOR'S COMPOUND FOR WCC RECOVERY.
- SIGNAGE TO BE LOCATED IN ACCORDANCE WITH AS1742 APPENDIX B
- SIGNS TO BE MOUNTED A MINIMUM 2.5M ABOVE FSL.
- CONTRACTOR TO CONFIRM LOCATION OF ALL SERVICES, DRAINAGE WORKS AND UNDERGROUND INFRASTRUCTURE PRIOR TO COMMENCING WORK. CONTRACTOR TO ENSURE ADOPTED METHOD OF CONSTRUCTION AND PROPOSED WORK WILL AVOID DAMAGE TO ALL SERVICES AND DRAINAGE WORKS, INCLUDING CLEARANCE TO OVERHEAD POWERLINES.
- INSTALL PAINTED DIAGONAL AND CHEVRON MARKINGS IN ACCORDANCE WITH TNSW DELINEATION GUIDELINES.
- ALL PERMANENT ROAD LINEMARKING AND PAVEMENT MESSAGES INCLUDING ARROWS TO BE NON-PROFILE REFLECTIVE THERMO-PLASTIC MATERIAL IN ACCORDANCE WITH WCC CONSTRUCTION SPECIFICATIONS.
- ALL TEMPORARY LINEMARKING TO BE WATERBORNE PAINT.

 SYDNEY THE FORUM LEVEL 10 201 Pacific HWY, St Leonards NSW 2065 Phone # 02 9493 9500 www.emmconsulting.com.au	REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED	PROJECT: DINAWAN WIND FARM STRATEGIC CONCEPT DESIGN - INTERSECTION KIDMAN WAY/CADELL ROAD ID102 -35.056921, 145.791623 DRAWING TITLE: STRATEGIC CONCEPT DESIGN NOTES	CLIENT: SPARK RENEWABLES	
												DRG. #: EMM - C01	REV: A
												PROJECT #: E220305	
												SCALE: AS SHOWN	
	A	19/5/26	TNSW COMMENTS	C.J.	A.U.								
	-	01/12/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.								



REV: A

THIS PLAN IS PREPARED FROM A COMBINATION OF FIELD SURVEY AND EXISTING RECORDS.

THE POSITION OF STRUCTURES , SERVICES TREES ETC. ARE DIAGRAMMATIC ONLY AND MAY REQUIRE ADDITIONAL SURVEY WHERE CRITICAL.

PRIOR TO ANY CONSTRUCTION ON OR NEAR A PROPERTY BOUNDARY, THE LOCATION OF THE PROPERTY BOUNDARY SHOULD BE DETERMINED BY A REGISTERED SURVEYOR.

VISIBLE SERVICES ONLY HAVE BEEN LOCATED AS PART OF THIS SURVEY. ALL CARE HAS BEEN TAKEN IN THE FIELD SURVEY TO IDENTIFY VISIBLE SERVICES AND STRUCTURES. IN SOME CASES THE VISIBLE SERVICES HAVE NOT BEEN IDENTIFIED. IT IS RECOMMENDED THAT A FIELD INSPECTION WITH THE RELEVANT SERVICE AUTHORITY REPRESENTATIVE BE UNDERTAKEN TO CONFIRM THE IDENTITY OF SERVICES SHOWN ON THIS PLAN.

PRIOR TO EXCAVATION THE CONTRACTOR MUST:
CONTACT "BEFORE YOU DIG AUSTRALIA"
PH: 1100
WEB: <https://smarterwx.1100.com.au>

PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF FURTHER UNDERGROUND SERVICES AND DETAILED LOCATIONS OF ALL SERVICES.

UNDERGROUND SERVICES HAVE BEEN PLOTTED FROM RECORDS SUPPLIED BY THE PUBLIC AUTHORITIES TO EMM CONSULTING OCTOBER 2023.

LOCATIONS HAVE BEEN INTERPRETED FROM THESE RECORDS AND ARE APPROXIMATE ONLY.
EXTREME CAUTION SHOULD BE TAKEN BY PERSONS EXCAVATING.



WARNING U/G TELSTRA

 **elstra**

CABLES

— T — T — OF —

PLEASE CONTACT THE N.I.A.C. GROUP AT TELSTRA ON 9204-0880 OR 9204-0923. BEFORE STARTING ANY CONSTRUCTION WORK IN THE AREA.

WARNING U/G TELSTRA

 **elstra**

CABLES

— OF — OF —

PLEASE CONTACT THE N.I.A.C. GROUP AT TELSTRA ON 9204-0880 OR 9204-0923. BEFORE STARTING ANY CONSTRUCTION WORK IN THE AREA.

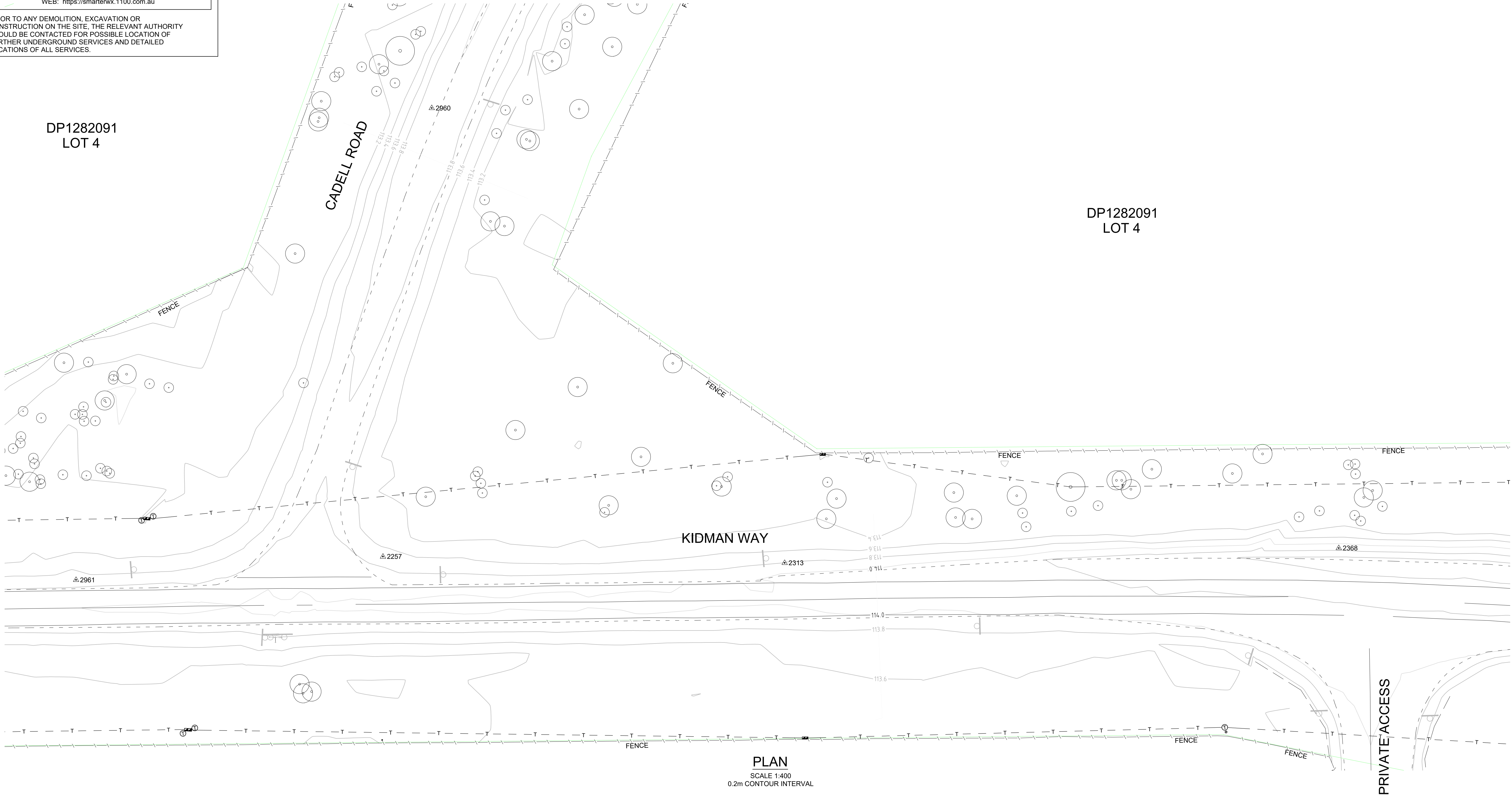
 BEWARE OPTIC FIBRE

UTILITIES		TELSTRA PILLAR	
WATER MAIN	— W —	TELSTRA PIT	⬮
U/G TELSTRA	— T —	HYDRANT	⬮
O/H TELSTRA	— OT —	STOP VALVE	⬮
OPTICAL FIBRE	— OF —	POWER POLE	⬮
GAS MAIN	— G —	ELECTRICAL PILLAR	⬮
HP GAS MAIN U/G	— HG —	POWER LIGHT POLE	⬮
ELECTRICITY	— E —	LIGHT POLE	⬮
O/H ELECTRICITY	— OH —	GAS STOP VALVE	⬮
SEWER	— S —	SEWER MANHOLE	⬮

A1

DP1282091
LOT 4

DP1282091
LOT 4



PLAN
SCALE 1:400
0.2m CONTOUR INTERVAL

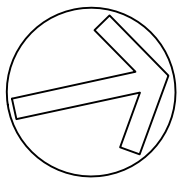
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REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
A	19/5/26	TINSW COMMENTS	C.J.	A.U.					
-	01/12/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
INTERSECTION
KIDMAN WAY/CADELL ROAD ID102
-35.056921, 145.791623

DRAWING TITLE:
STRATEGIC CONCEPT DESIGN
SURVEY AND SERVICES PLAN - NORTH

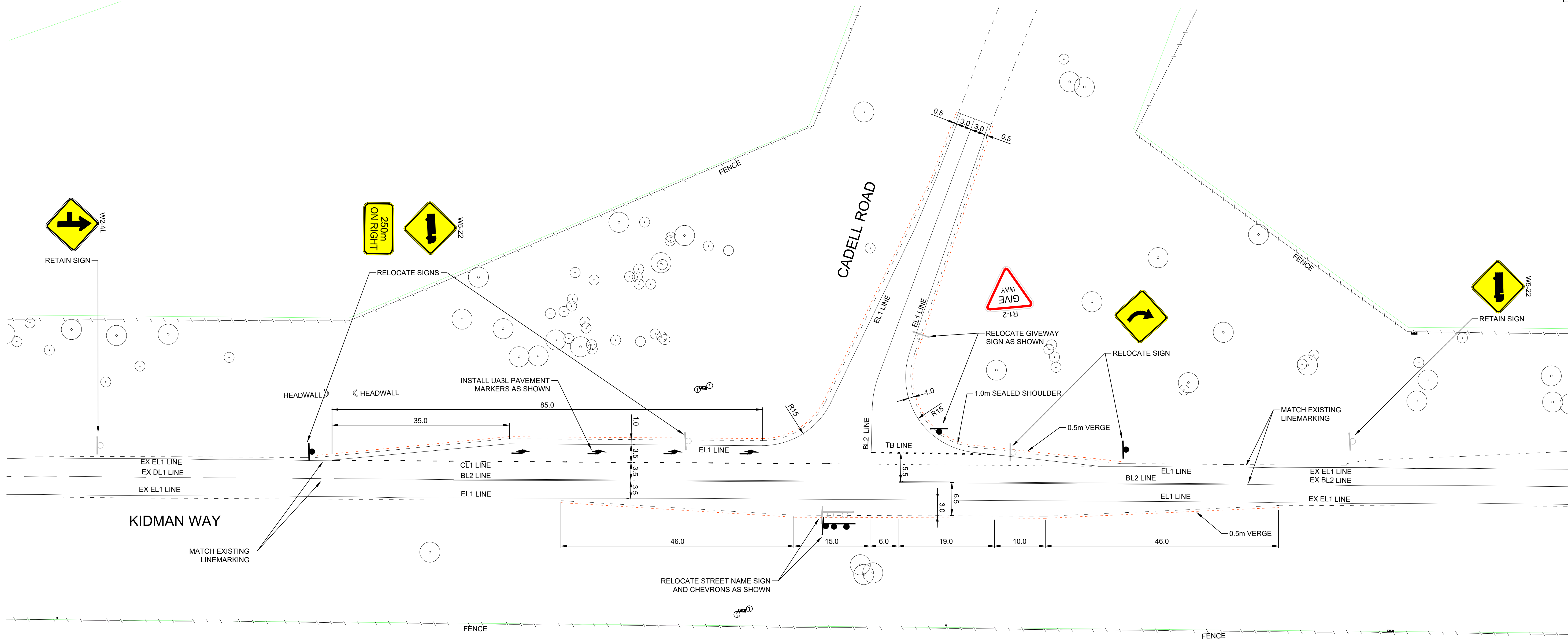
CLIENT: SPARK RENEWABLES

DRG. #: EMM - C04

PROJECT #: E220305

SCALE: AS SHOWN

REV: A



PLAN
SCALE 1:400

- SIGNPOSTING AND LINEMARKING**
- ALL WARNING (W), REGULATORY (R) AND TEMPORARY SIGNS (T) TO BE SIZE 'A', UNLESS NOTED OTHERWISE.
 - EXISTING SIGNS AND STEMS MAY BE REUSED PROVIDED THEY ARE IN GOOD CONDITION.
 - GRIND OFF ALL REDUNDANT LINE MARKINGS.
 - ALL LINE MARKING AND SIGNPOSTING TO BE INSTALLED TO RMS DELINEATION GUIDELINES AND STANDARDS AS SOON AS PRACTICABLE.
 - RAISED REFLECTIVE PAVEMENT MARKERS (RRPMs) ARE TO BE INSTALLED TO RMS DELINEATION GUIDELINES AND STANDARDS AT THE FOLLOWING CENTRES, UNLESS NOTED OTHERWISE:
 - DL1 LINES** - BI-DIRECTIONAL YELLOW MARKERS AT MIN 12m CENTRES.
 - BL2 LINES** - BI-DIRECTIONAL YELLOW MARKERS AT MIN 12m CENTRES OR AT 3m CENTRES WHERE LINE IS 12m LONG OR LESS.
 - EL1 LINES** - MONO-DIRECTIONAL RED MARKERS AT MIN 24m CENTRES OR AT 6m CENTRES WHERE LINE IS 12m LONG OR LESS.
 - OL1 LINES** - MONO-DIRECTIONAL YELLOW (LHS OF ISLAND) OR RED (RHS OF ISLAND) MARKERS AT MIN 6m CENTRES OR AT 3m CENTRES WHERE LINE IS 12m LONG OR LESS.
 - CL1 LINES** - MONO-DIRECTIONAL WHITE MARKERS AT MINIMUM 8m CENTRES OR AT 3m CENTRES WHERE LINE IS 6m LONG OR LESS.
 - ALL TEMPORARY LINEMARKING TO BE MARKED WITH REMOVABLE LINEMARKING TAPE (3M STALMARK REMOVABLE ALL WEATHER LINE MARKING TAPE SERIES 710 OR EQUIVALENT).
 - ALL EXISTING LINEMARKING, TEMPORARILY NOT REQUIRED, TO BE BLACKED OUT WITH REMOVABLE BLACK MASKING TAPE (3M STALMARK REMOVABLE BLACK MAKING TAPE SERIES 715 OR EQUIVALENT).

LEGEND

- PROPOSED SIGN
- EXISTING SIGN
- EDGE OF 0.5m WIDE VERGE

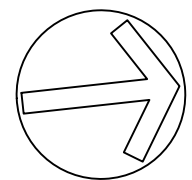
COMMENTS

- NOTES:
- The AUL(S) and BAR Treatments have been designed based on and in accordance with Austroads guides to traffic engineering practice.
 - Posted speed 100km/h, design speed is 110km/h and through lanes typically 3.5m wide.
 - The Left turn bay and BAR provides for storage of a 19m long vehicle.
 - Radius of travel lanes are 500m or greater.

NOT FOR CONSTRUCTION

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-	01/12/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
INTERSECTION
KIDMAN WAY/CADELL ROAD ID102
-35.056921, 145.791623

DRAWING TITLE:
STRATEGIC CONCEPT DESIGN
SIGNS AND LINEMARKING PLAN

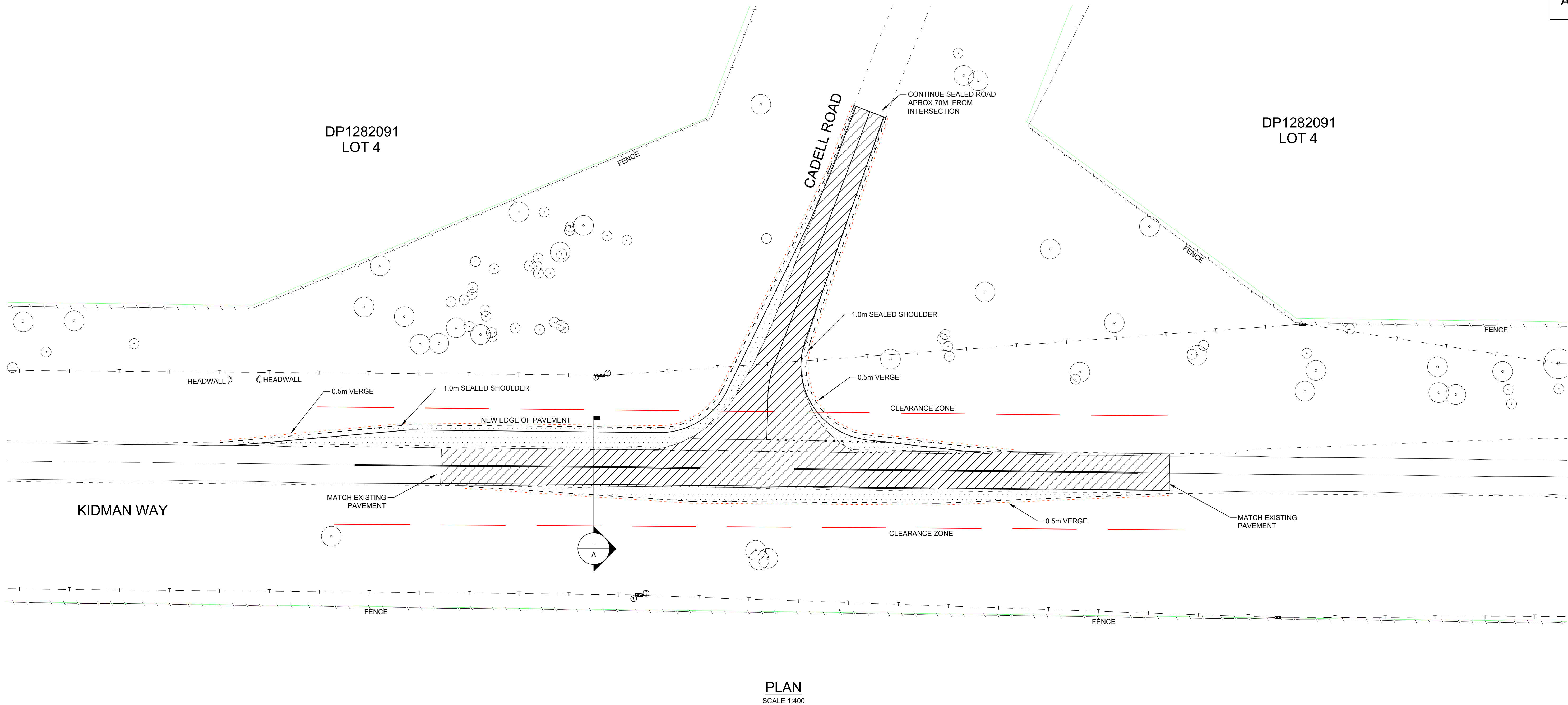
CLIENT: SPARK RENEWABLES

DRG. #: EMM - C05

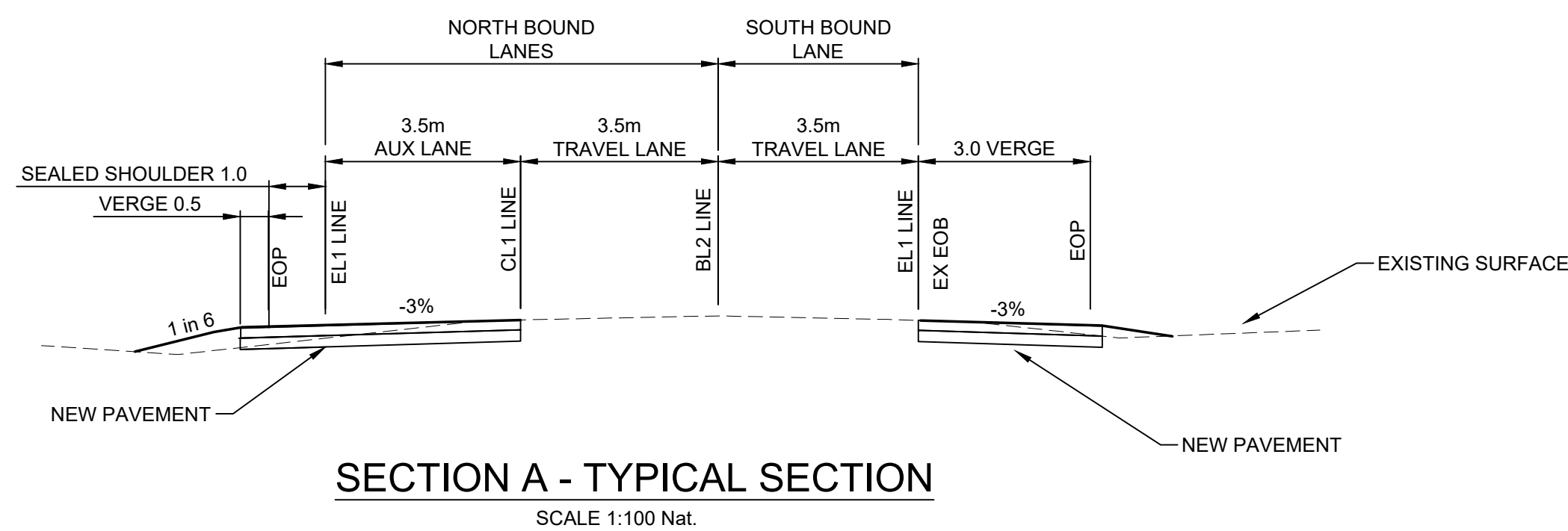
PROJECT #: E220305

SCALE: AS SHOWN

REV: A



PLAN
SCALE 1:400



SECTION A - TYPICAL SECTION
SCALE 1:100 Nat.

LEGEND

- PROFILE EXISTING SEAL AND GRADE TO DESIGN LEVELS.
- PROPOSED PAVEMENT
- CLEARANCE ZONE (8m FROM EDGE OF THROUGH TRAVELING LANE) AGRD06-2010 TABLE 4.1
- EDGE OF 0.5m WIDE VERGE

NOT FOR CONSTRUCTION

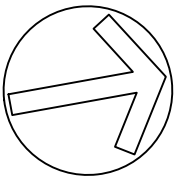
COMMENTS

- NOTES:
- The AUL(S) and BAR Treatments have been designed based on and in accordance with Austroads guides to traffic engineering practice.
 - Posted speed 100km/h, design speed is 110km/h and through lanes typically 3.5m wide.
 - The Left turn bay and BAR provides for storage of a 19m long vehicle.
 - Radius of travel lanes are 500m or greater.



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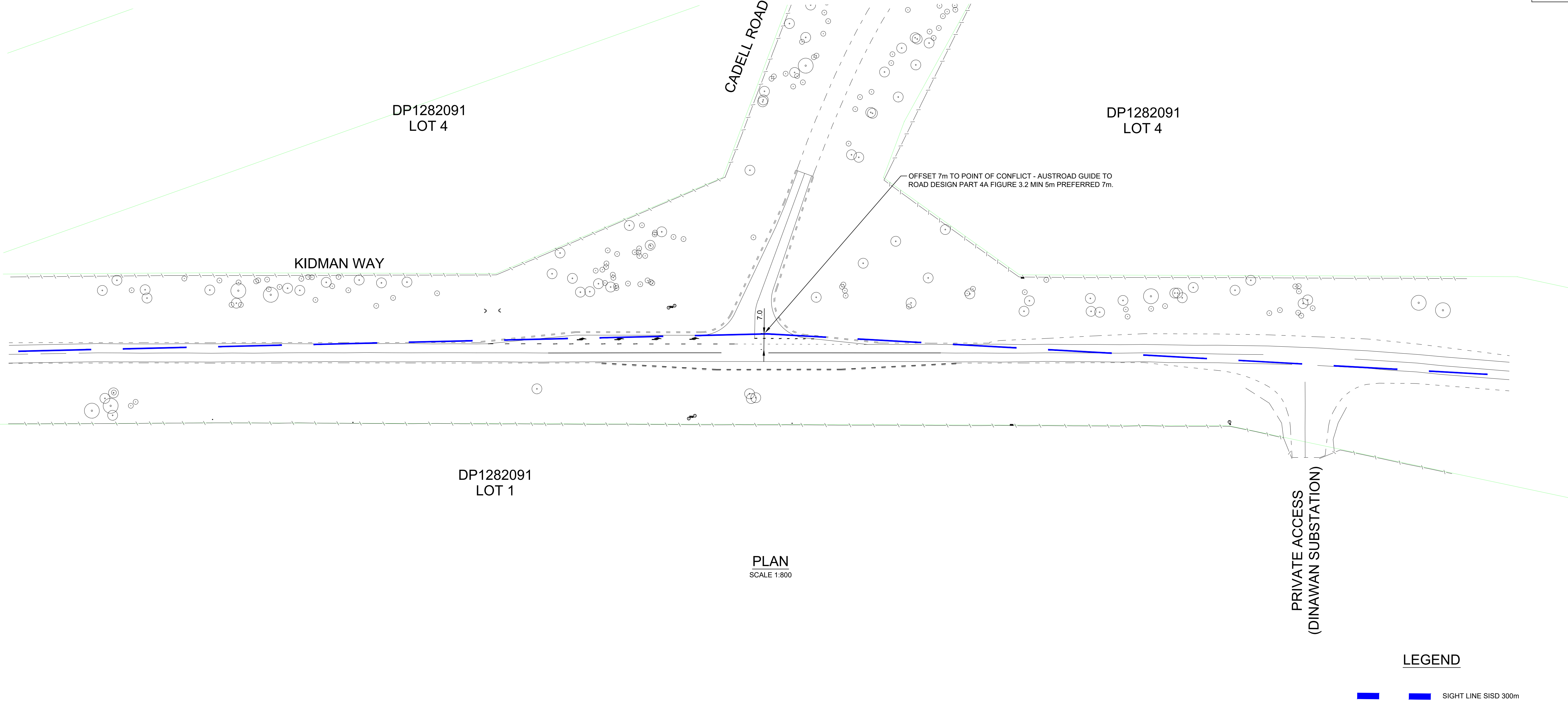


PROJECT:
DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
INTERSECTION
KIDMAN WAY/CADELL ROAD ID102
-35.056921, 145.791623

DRAWING TITLE:
STRATEGIC CONCEPT DESIGN
CONSTRUCTION PLAN

CLIENT: SPARK RENEWABLES
DRG. #: EMM - C06
PROJECT #: E220305
SCALE: AS SHOWN

REV: A

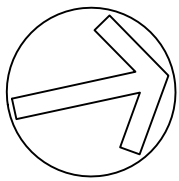


COMMENTS

- NOTES:
- 1. SISD calculated in accordance Austroads guides to traffic engineering practice
 - 2. Posted speed 100km/h, design speed is 110km/h and through lanes typically 3.5m wide.
 - 3. Driver reaction time of 2.5sec.

NOT FOR CONSTRUCTION

REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
A	19/5/26	TINSW COMMENTS	C.J.	A.U.					
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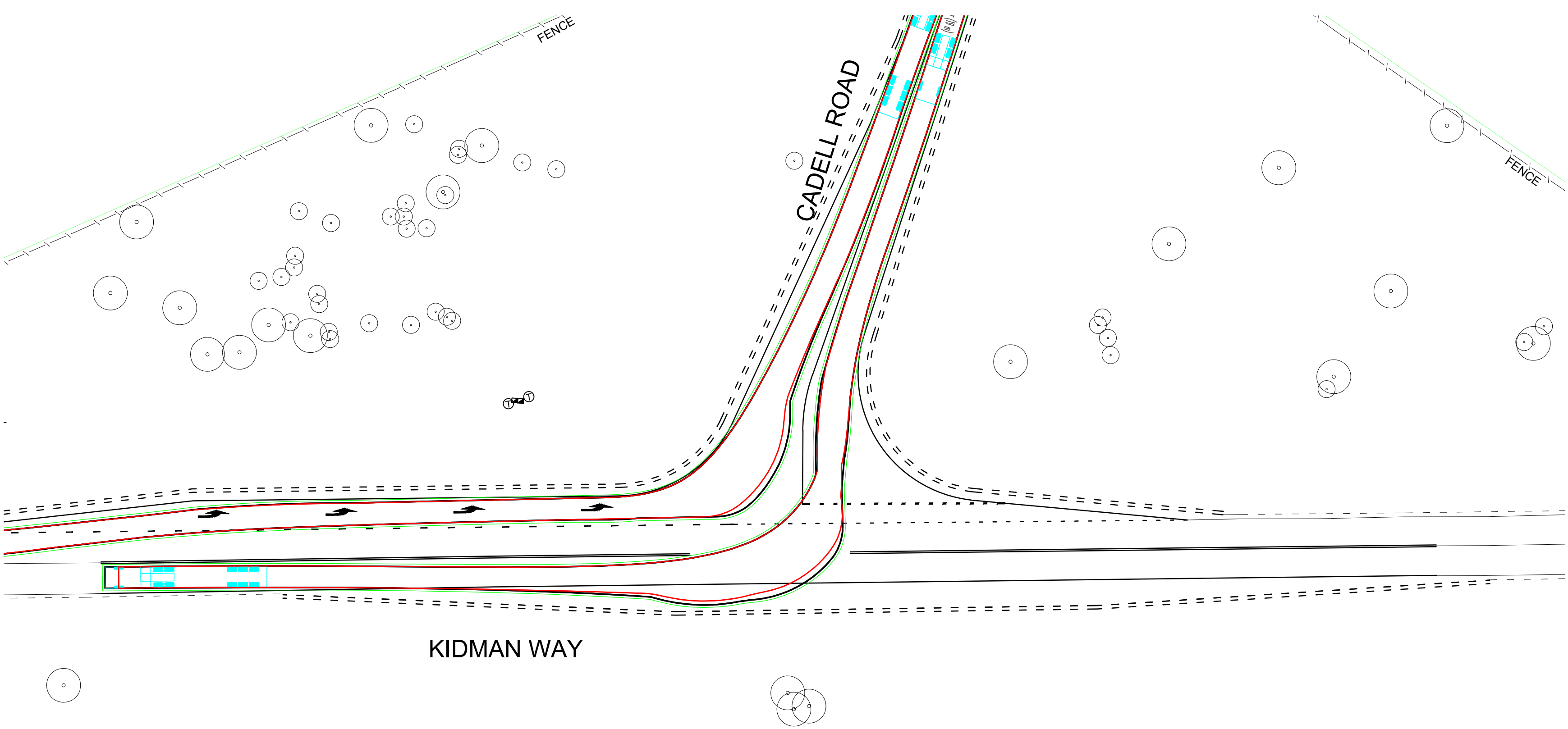


PROJECT:
DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
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KIDMAN WAY/CADELL ROAD ID102
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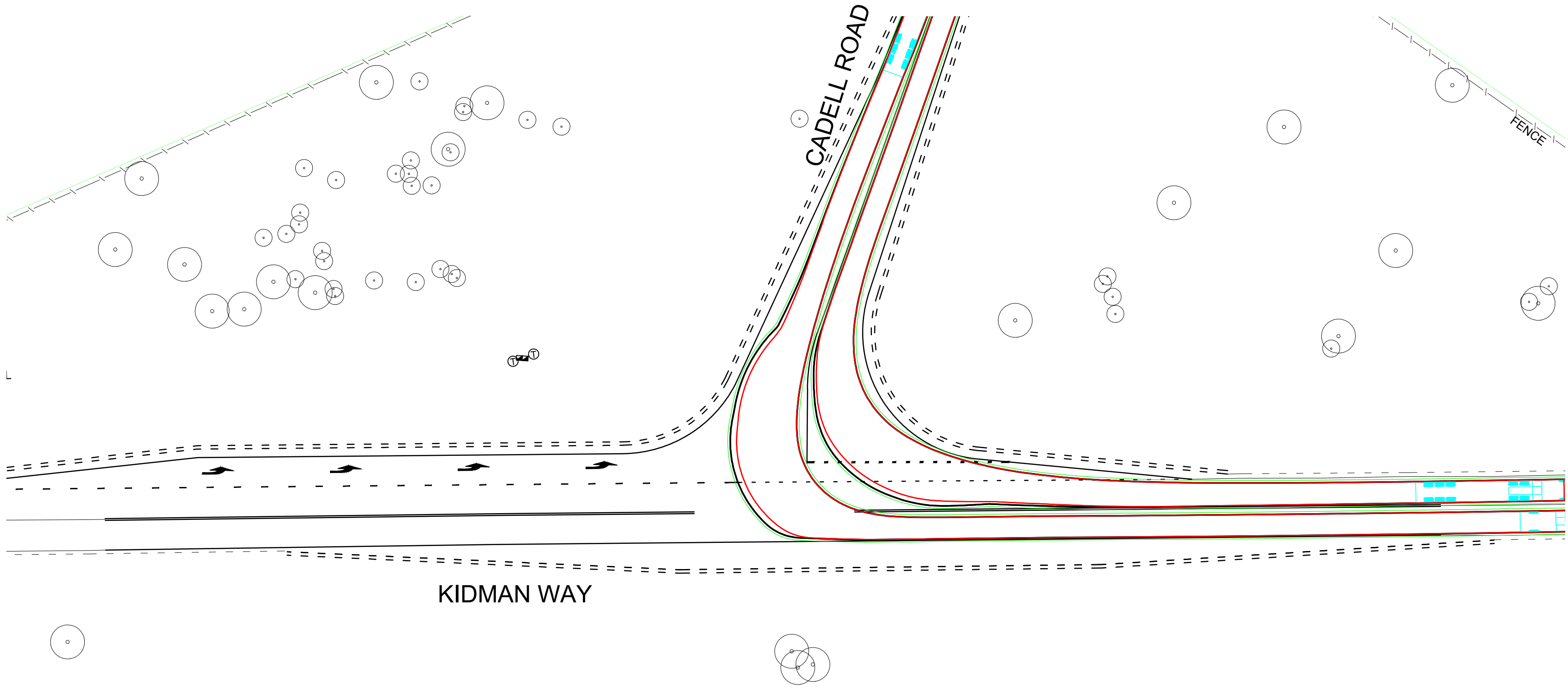
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STRATEGIC CONCEPT DESIGN
SISD PLAN

CLIENT: SPARK RENEWABLES
DRG. #: EMM - C07
PROJECT #: E220305
SCALE: AS SHOWN

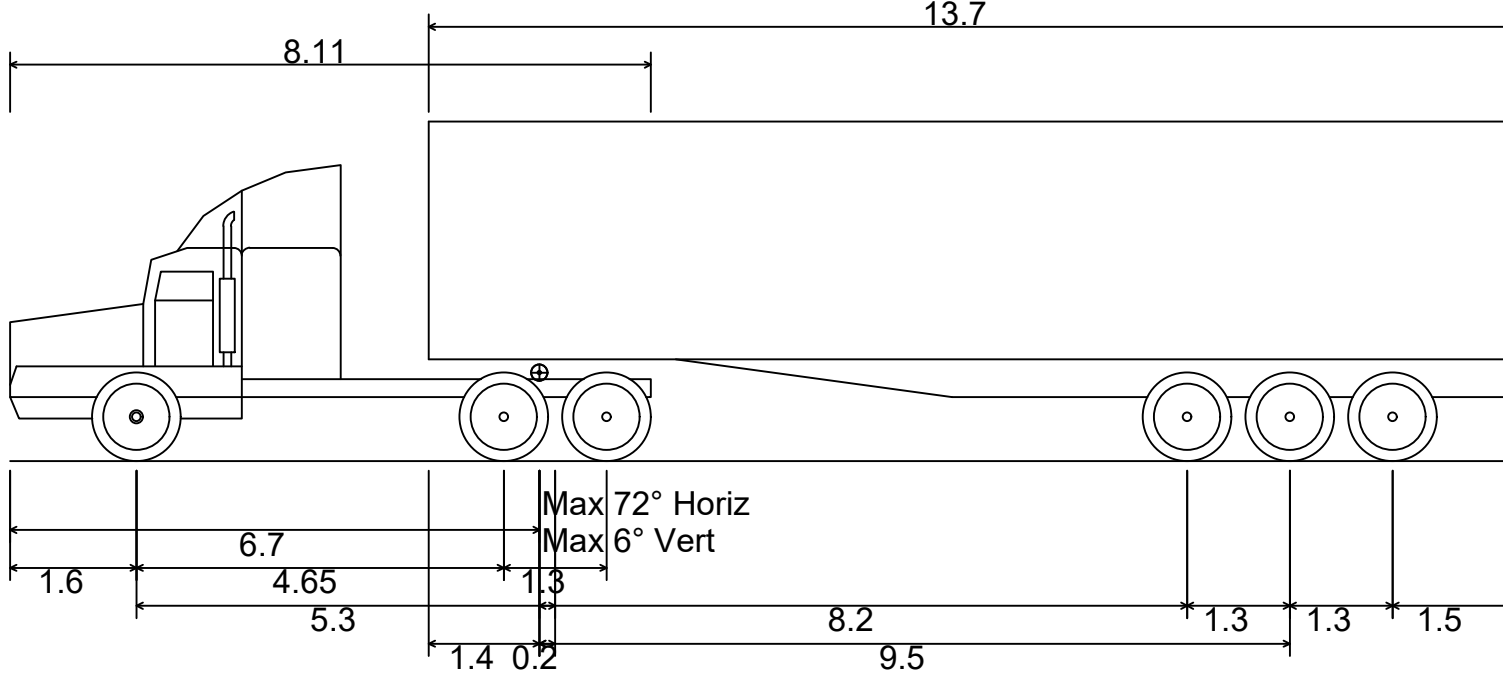
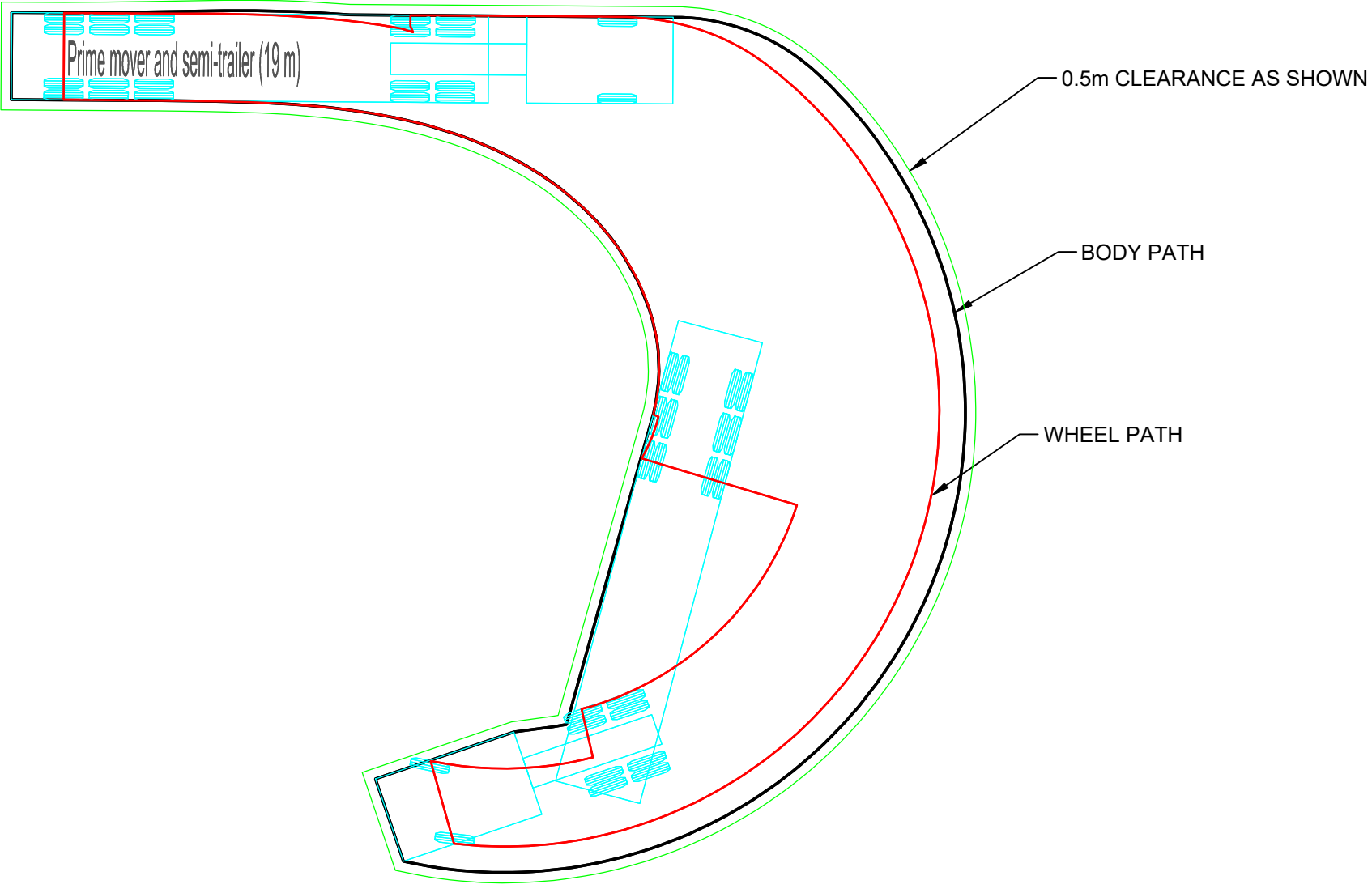
REV: A



PLAN
SCALE 1:400



PLAN
SCALE 1:400



Prime mover and semi-trailer (19 m)	
Overall Length	19.000m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.540m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m

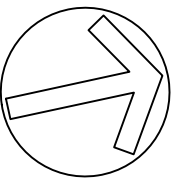
- The speed used for the swept paths is **15kmh** and no initial lock, lock to lock or turn on spot has been utilised to produce the swept paths shown.
- The turning paths illustrated in this drawing have been prepared using the AutoCAD Vehicle tracking modelling software in conjunction with AutoCAD Civil3D.
- The vehicle model was prepared by Vehicle Tracking based upon vehicle data provided by Austroads.
- While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

NOT FOR CONSTRUCTION



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REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
A	19/5/26	TINSW COMMENTS	C.J.	A.U.					
-	01/12/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
INTERSECTION
KIDMAN WAY/CADELL ROAD ID102
-35.056921, 145.791623

DRAWING TITLE:
STRATEGIC CONCEPT DESIGN
SWEPT PATH PLAN
19m SEMI

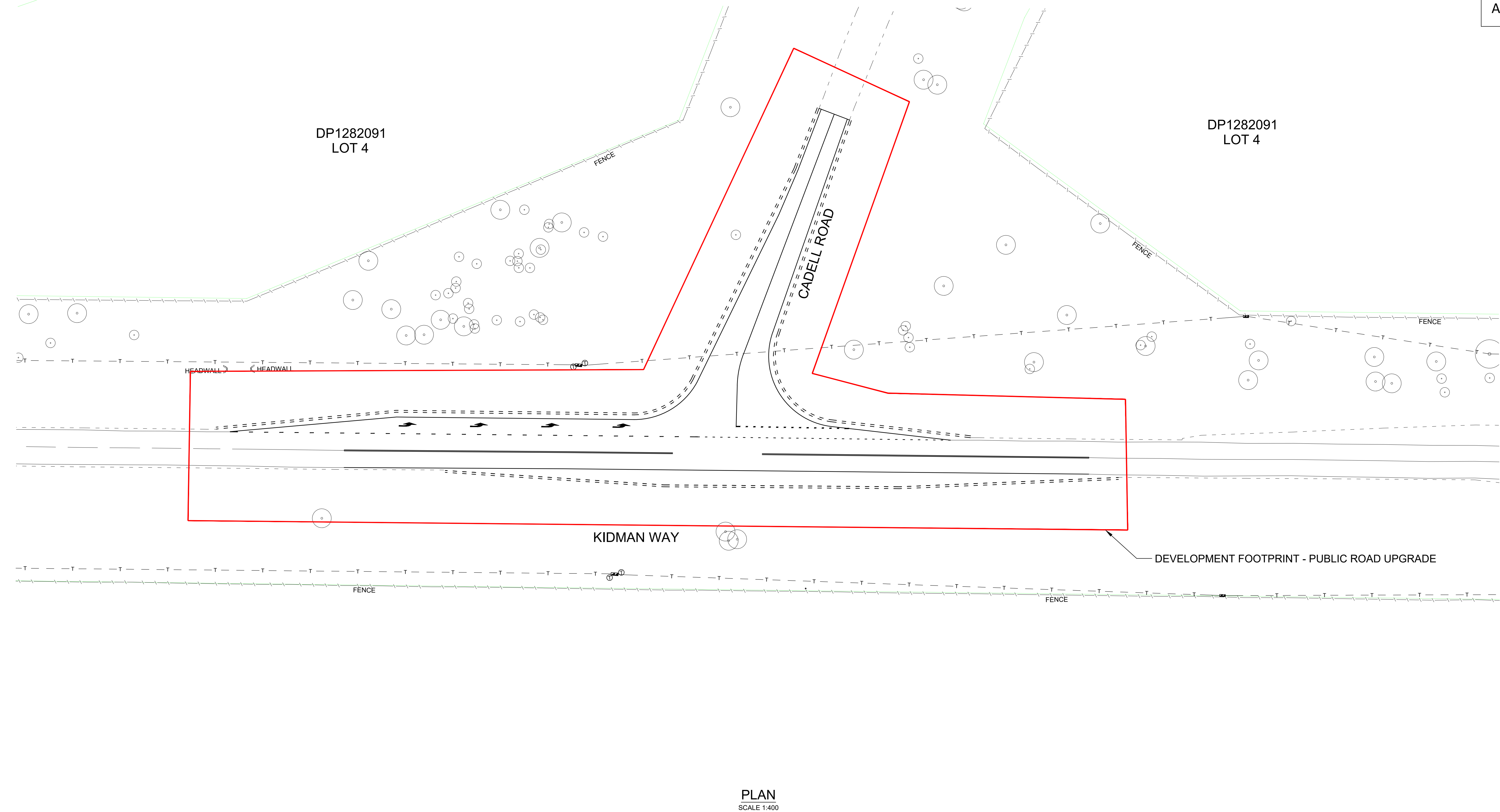
CLIENT: SPARK RENEWABLES

DRG. #: EMM - C08

PROJECT #: E220305

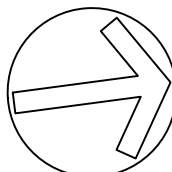
SCALE: AS SHOWN

REV: A



PLAN
SCALE 1:400

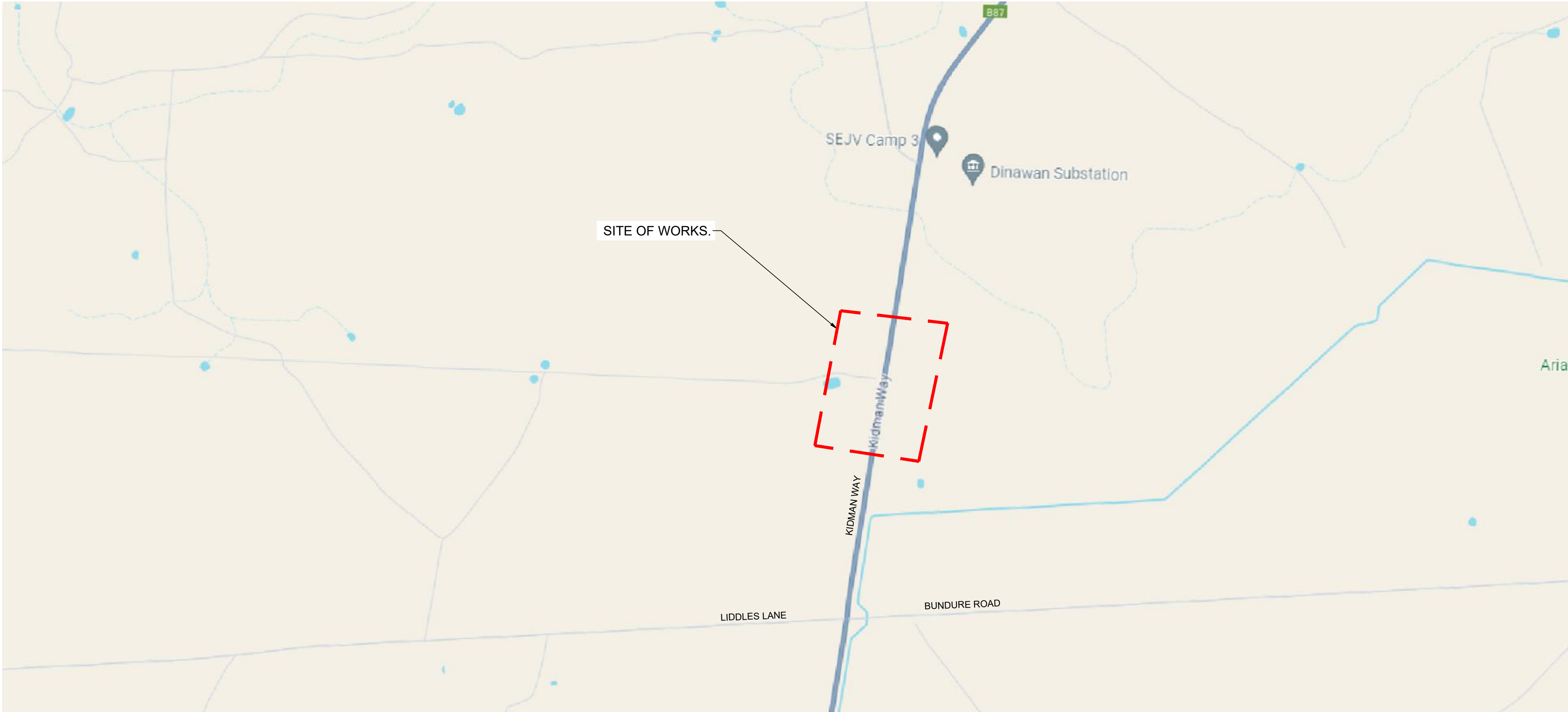
NOT FOR CONSTRUCTION

 SYDNEY THE FORUM LEVEL 10 201 Pacific HWY, St Leonards NSW 2065 Phone # 02 9493 9500 www.emmconsulting.com.au	REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED		PROJECT: DINAWAN WIND FARM STRATEGIC CONCEPT DESIGN - INTERSECTION KIDMAN WAY/CADELL ROAD ID102 -35.056921, 145.791623	DRAWING TITLE: STRATEGIC CONCEPT DESIGN ROAD UPGRADE CORRIDOR PLAN	CLIENT: SPARK RENEWABLES		REV: A
														DRG. #: EMM - C09		
														PROJECT #: E220305		
														SCALE: AS SHOWN		
	A	19/5/26	TNSW COMMENTS	C.J.	A.U.											
	-	01/12/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.											

A.3 Kidman Way and site access intersection

DINAWAN WIND FARM

STRATEGIC CONCEPT DESIGN - NEW SITE ACCESS INTERSECTIONS, KIDMAN WAY



OVERALL SITE PLAN
NTS.

SHEET INDEX		
SHEET No	DESCRIPTION	REV
EMM - C00	COVER SHEET AND SHEET INDEX	C
EMM - C01	NOTES	C
EMM - C02	SURVEY AND SERVICES PLAN	C
EMM - C03	SURVEY AND SERVICES PLAN - SOUTH	C
EMM - C04	SURVEY AND SERVICES PLAN - NORTH	C
EMM - C05	SIGNS AND LINEMARKING PLAN SOUTH	C
EMM - C06	SIGNS AND LINEMARKING PLAN NORTH	C
EMM - C07	OVERALL CONSTRUCTION PLAN	C
EMM - C08	CONSTRUCTION PLAN SOUTH	C
EMM - C09	CONSTRUCTION PLAN NORTH	C
EMM - C10	SISD PLAN	C
EMM - C11	SISD LONGITUDINAL SECTIONS	C
EMM - C12	SISD LONGITUDINAL SECTIONS	C
EMM - C13	SWEPT PATH PLAN - EAST ACCESS B-DOUBLE	C
EMM - C14	SWEPT PATH PLAN - WEST ACCESS B-DOUBLE	C
EMM - C15	ROAD UPGRADE CORRIDOR PLAN	C

GENERAL

1. THE DRAWINGS ARE A DIAGRAMMATIC REPRESENTATION ONLY OF THE WORK TO BE CARRIED OUT AND DIMENSIONS SHALL NOT BE OBTAINED BY SCALING.
2. ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE CURRENT MURRUMBIDGEE COUNCIL (MC) GUIDELINES AND SPECIFICATIONS. TNSW THEN AUSTRALIAN STANDARDS TO BE USED IN OTHER INSTANCES.
3. PROVISION FOR TRAFFIC DURING CONSTRUCTION TO BE IN ACCORDANCE WITH MC CONSTRUCTION SPECIFICATION C201 – CONTROL OF TRAFFIC.
4. ALL LOCATION, ORIENTATION AND LEVELS SHALL BE VERIFIED ON SITE BEFORE COMMENCING ANY WORK. ANY DISCREPANCIES IN THE DRAWINGS AND/OR SPECIFICATIONS SHALL BE REFERRED TO THE PRINCIPAL FOR CLARIFICATION BEFORE PROCEEDING. NATURAL SURFACE LEVELS ARE INDICATIVE ONLY.
5. ALL INVESTIGATION & WORK TO BE UNDERTAKEN IN ACCORDANCE WITH MC CONSTRUCTION SPECIFICATION – DEVELOPMENT CONSTRUCTION – GENERAL.
6. PRIOR TO COMMENCEMENT OF WORKS THE CONTRACTOR SHALL SATISFY HIMSELF OF THE CORRECT LOCATION OF EXISTING SERVICES WHETHER INDICATED OR NOT ON THE DRAWINGS.
7. ADJUST ALL UTILITY SERVICE COVERS TO SUIT NEW GRADES & LEVELS, FLUSH WITH SURROUNDING AREA.
8. EXISTING STATE SURVEY MARKS AFFECTED BY THE WORKS ARE TO BE RECOVERED IN ACCORDANCE WITH SURVEYOR GENERAL'S DIRECTION No. 11 – "PRESERVATION OF SURVEY INFRASTRUCTURE".

SITE MANAGEMENT:

1. PROVIDE BARRIERS AROUND ALL CONSTRUCTION WORKS WITHIN THE FOOTPATH AREA TO PROVIDE SAFE ACCESS FOR PEDESTRIANS.
2. CONCRETE PUMPS AND CRANES ARE TO OPERATE FROM WITHIN THE DESIGNATED WORK AREA AND ARE NOT TO OPERATE FROM THE PUBLIC ROADWAY UNLESS SPECIFIC COUNCIL PERMISSION IS OBTAINED.
3. DELIVERY VEHICLES MUST NOT STAND WITHIN THE PUBLIC ROADWAY FOR MORE THAN 20 MINUTES AT A TIME.
4. TOILET FACILITIES MUST BE EITHER FLUSHING TYPE OR APPROVED PORTABLE CHEMICAL CLOSET. CHEMICAL CLOSETS ARE TO BE MAINTAINED AND SERVICES ON A REGULAR BASIS SO THAT OFFENSIVE ODOUR IS NOT EMITTED.
5. TRAFFIC MANAGEMENT MEASURES ARE REQUIRED TO BE IMPLEMENTED AND MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE RMS TRAFFIC CONTROL AT WORKSITES MANUAL AND AS1742, MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
6. PEDESTRIAN CONTROL MEASURES ARE REQUIRED TO BE IMPLEMENTED AND MAINTAINED DURING CONSTRUCTION IN ACCORDANCE WITH AS1742, MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
7. THE CONTRACTOR IS RESPONSIBLE TO ENSURE THAT ALL WORK CARRIED OUT AT THE SITE IS IN ACCORDANCE WITH COUNCIL'S WORK HEALTH & SAFETY POLICY.
8. DO NOT STORE OR PLACE MATERIALS INSIDE THE DRIP LINE OF ANY TREE. CONSTRUCTION ACTIVITIES, VEHICLE PARKING OR MAINTENANCE, MATERIALS STORAGE OR LOCATING OF CONTAINERS AND SITE SHEETS MUST NOT OCCUR WITHIN THE DRIP LINE OF ANY TREES OR WITHIN 5M OF TREES WHERE THE DRIP LINE RADIUS IS LESS THAN 5M.
9. THE CONTRACTOR SHALL EFFECT TEMPORARY DRAINAGE MEASURES TO AVOID LOCALISED PONDING.

EARTHWORKS:

1. EARTHWORKS ARE TO BE CARRIED OUT IN ACCORDANCE WITH THE DRAWINGS AND GEOTECHNICAL ENGINEERS RECOMMENDATIONS. THE DESIGN AS DETAILED ON THESE DRAWINGS ASSUMES A PROPERLY PREPARED UNIFORM AND STABLE SUBGRADE.
2. THE DRAWINGS SHOULD BE READ IN CONJUNCTION WITH ANY GEOTECHNICAL REPORT PREPARED FOR THE WORKS.
3. STRIP OFF ALL VEGETATION, RUBBISH AND TOPSOIL CONTAINING ORGANIC OR ROOT MATTER FROM THE AREA OF THE WORKS AND REMOVE FROM SITE/STOCKPILE FOR RE-USE.
4. PRIOR TO ANY FILLING, THE EXPOSED SUBGRADE SHALL BE PROOF ROLLED WITH A MINIMUM OF 10 PASSES OF A 5 TONNE (MIN) DEAD WEIGHT VIBRATING ROLLER IN THE PRESENCE OF THE SUPERINTENDENT OR GEOTECHNICAL ENGINEER AND ANY SOFT OR YIELDING MATERIALS REMOVED AND REPLACED WITH APPROVED FILLING COMPACTED AS HEREAFTER SPECIFIED.
5. FILL SHALL BE SOUND WELL GRADED MATERIAL WITH A HIGH GRANULAR CONTENT AND SHALL BE THE BEST OF EXCAVATED MATERIALS FROM THE SITE, OR APPROVED SOUND IMPORTED MATERIAL FREE OF RUBBISH, PLASTIC CLAY OR LARGE PIECES THAT WOULD PRECLUDE COMPACTION.
6. FILL SHALL BE SPREAD IN LAYERS NOT EXCEEDING 200MM AND COMPACTED USING SUITABLE MECHANICAL EQUIPMENT AT OPTIMUM MOISTURE CONTENT ±2 % TO NOT LESS THAN 98% MAXIMUM STANDARD DRY DENSITY (MSDD) IN ACCORDANCE WITH AS1289 - E11 UNLESS OTHERWISE NOTED.
7. FINISH FILLING LEVELS TO SUIT CONSTRUCTION OVER, ALLOWING FOR MIN 75MM OF BASE COURSE (DGB20) COMPACTED TO 98% MAXIMUM MODIFIED DRY DENSITY (MMD0) WHERE NOTED ON DRAWINGS.
8. DENSITY TESTING OF FILLING (AND BASE COURSE WHERE APPLICABLE) SHALL BE CARRIED OUT AT THE RATE OF 1 TEST PER 200 SQUARE METRES EACH LAYER (MINIMUM 2 TESTS). TESTING SHALL BE BY A NATA REGISTERED LABORATORY AND SHALL BE ALLOWED FOR BY THE CONTRACTOR.
9. THE CONTRACTOR SHALL PROGRAM AND UNDERTAKE THE EARTHWORKS OPERATIONS SUCH THAT WORKING AREAS ARE ADEQUATELY DRAINED DURING CONSTRUCTION. THE SURFACE SHALL BE GRADED AND SEALED OFF TO REMOVE DEPRESSIONS WHICH WOULD ALLOW WATER TO POND AND PENETRATE THE UNDERLYING MATERIAL. ANY DAMAGE RESULTING FROM FAILURE TO COMPLY WITH THESE REQUIREMENTS SHALL BE RECTIFIED AT THE CONTRACTORS EXPENSE.

DEMOLITION:

1. CARRY OUT ALL DEMOLITION WORK IN ACCORDANCE WITH AS 2601.
2. UNTIL PERMANENT SUPPORT IS PROVIDED, PROVIDE TEMPORARY SUPPORT FOR SECTIONS OF EXISTING STRUCTURES WHICH ARE TO BE ALTERED AND WHICH NORMALLY RELY FOR SUPPORT ON WORK TO BE DEMOLISHED.
3. SUPPORT EXCAVATIONS FOR DEMOLITION OF UNDERGROUND SERVICES.
4. PROVIDE SUPPORT TO ADJACENT STRUCTURES WHERE NECESSARY, SUFFICIENT TO PREVENT DAMAGE RESULTING FROM THE WORKS.
 - LATERAL SUPPORTS: PROVIDE LATERAL SUPPORT AT LEAST EQUAL TO THAT GIVEN BY THE STRUCTURE TO BE DEMOLISHED, USING SHORING.
 - VERTICAL SUPPORTS: PROVIDE SUPPORT WHERE NECESSARY USING PILING OR UNDERPINNING, OR BOTH.
5. PROVIDE DUST PROOF, SCREENS, BULKHEADS AND COVERS TO PROTECT EXISTING FINISHES AND THE IMMEDIATE ENVIRONMENT FROM DUST AND DEBRIS.
6. DO NOT USE EXPLOSIVES.
7. HAZARDOUS MATERIALS. GIVE NOTICE IMMEDIATELY IF HAZARDOUS MATERIALS OR CONDITIONS ARE FOUND, INCLUDING THE FOLLOWING:
 - ASBESTOS OR MATERIAL CONTAINING ASBESTOS.
 - FLAMMABLE OR EXPLOSIVE LIQUIDS OR GASES.
 - TOXIC, INFECTIVE AND CONTAMINATED MATERIALS.
 - RADIATION OR RADIOACTIVE MATERIALS.
 - NOXIOUS OR EXPLOSIVE CHEMICALS.
 - TANK OR OTHER CONTAINERS WHICH HAVE BEEN USED FOR STORAGE OF EXPLOSIVE, TOXIC, INFECTIVE OR CONTAMINATED SUBSTANCES.

ROAD WORKS

GENERAL

1. EXISTING VEGETATION TO BE REMOVED WITHIN EXTENTS OF WORKS UNLESS NOTED OTHERWISE
2. ALL PIT GRATES TO SUIT KMC STANDARDS KERB INLET ARRANGEMENTS SHOWING KMC STANDARDS DRAWINGS
3. KERB TYPES AND KERB RAMPS REFER TO KMC STANDARDS.

SET OUT PLANS AND COORDINATES TABLES

4. DESIGN HAS BEEN BASED ON LAND SURVEY COMPLETED BY EMM.
5. SURVEY DATUM IS AHD.
6. SURVEY AZIMUTH IS BASED ON MGA ZONE 56.
7. SURVEY MARKS ARE NOT TO BE DISTURBED BEFORE ASSESSMENT BY SURVEYOR
8. ALL LOCATIONS, ORIENTATION AND LEVELS SHALL BE VERIFIED ON SITE BEFORE COMMENCING ANY WORK. ANY DISCREPANCIES IN THE DRAWINGS AND/OR SPECIFICATIONS SHALL BE REFERRED TO THE PRINCIPAL FOR CLARIFICATION BEFORE PROCEEDING. NATURAL SURFACE LEVELS ARE INDICATIVE ONLY.
9. ANY SURVEY PMS OR SMS THAT ARE DESTROYED ARE TO BE REPLACED WITH ANOTHER PM OR SSM TO LANDS DEPARTMENT STANDARDS. IT ALSO SHOULD BE DOCUMENTED AND COORDINATED TO EQUIVALENT LANDS DEPARTMENT STANDARDS.

PAVEMENT

1. PAVEMENT INTERFACES TO BE EITHER MID LANE OR AT LANE LINE UNLESS NOTED OTHERWISE ON THESE DRAWINGS OR INSTRUCTED BY THE PRINCIPAL.
2. LOCATION AND AREA OF MILL AND RE-SHEET PAVEMENT ARE INDICATIVE ONLY. FINAL LOCATIONS AND VOLUMES ARE TO BE DETERMINED ON SITE DURING CONSTRUCTION BY THE CONTRACTOR WITH AGREEMENT FROM THE PRINCIPAL.

STORMWATER DRAINAGE

1. STORMWATER DRAINAGE SHALL BE GENERALLY IN ACCORDANCE WITH CURRENT AUSTRALIAN STANDARDS AND COUNCIL'S SPECIFICATION.
2. PIPES OF 225mm DIA. AND UNDER SHALL BE UPVC. PIPES OF 300mm DIA. AND LARGER SHALL BE FRC OR CONCRETE CLASS 2 RUBBER RING JOINTED UNO.
3. ALL FRC OR RCP STORMWATER PIPES WITHIN ROAD RESERVE AREAS TO BE CLASS 3 UNO.
4. PIPES SHALL GENERALLY BE LAID AT THE GRADES INDICATED ON THE DRAWINGS.
5. MINIMUM COVER TO PIPES 300mm DIA. AND OVER GENERALLY SHALL BE 600mm IN CARPARK & ROADWAY AREAS UNO.
6. PIPES UP TO 150mm DIA SHALL BE LAID AT 1.0% MIN. GRADE UNO. PIPES 225mm DIA AND OVER SHALL BE LAID AT 0.5% MIN. GRADE UNO.
7. BACKFILL TRENCHES WITH APPROVED FILL COMPACTED IN 200MM LAYERS TO 98% OF STANDARD DENSITY
8. ANY PIPES OVER 16% GRADE SHALL HAVE CONCRETE BULKHEADS AT ALL JOINTS
9. PITS SHALL BE AS DETAILED WITH METAL GRATES AT LEVELS INDICATED. ALL PITS DEEPER THAN 1000mm TO HAVE CLUMP IRONS.
10. INSTALL TEMPORARY SEDIMENT BARRIERS TO INLET PITS, TO COUNCIL'S STANDARDS UNTIL SURROUNDING AREAS ARE PAVED OR GRASSED.
11. PIT LOCATIONS AND LEVELS MAY BE VARIED TO SUIT SITE CONDITIONS AFTER CONSULTING COUNCIL'S REPRESENTATIVE.
12. HAND-EXCAVATE STORMWATER PIPES IN VICINITY OF TREE ROOTS.
13. TRENCHING AND BEDDING DETAILS TO BE IN ACCORDANCE WITH AS3500 TO HS2 DETAIL UNLESS OTHERWISE NOTED.

SUBSURFACE DRAINAGE

1. LOCATION OF SUBSURFACE DRAINAGE SHOWN ON PLANS IS INDICATIVE ONLY. DRAWINGS TO BE READ IN CONJUNCTION WITH PAVEMENT DETAILS SECTIONS AND PLANS AND KMC CONSTRUCTION SPECIFICATION.
2. CONSTRUCTION OF TRENCH DRAINS TO BE IN ACCORDANCE WITH KMC CONSTRUCTION SPECIFICATION
3. DEPTH OF TRENCH AND PAVEMENT INTERFACE DRAINS TO BE CONFIRMED ONSITE BY THE CONTRACTOR WITH AGREEMENT FROM THE PRINCIPAL AND TO BE MEASURED FROM LOWEST POINT OF THE EXISTING OF NEW PAVEMENT SMZ.
4. GEOTEXTILE FOR TRENCH AND PAVEMENT INTERFACE DRAINS TO BE LAPPED ON THE TOP FACE.
5. MINIMUM GRADE OF SUBSURFACE DRAINAGE TO BE 0.5%.

REINFORCEMENT:

1. REINFORCEMENT SYMBOLS:
 - R DENOTES GRADE 250 R HOT ROLLED PLAIN BARS TO AS1302
 - F DENOTES GRADE 450 F HARD-DRAWN WIRE REINFORCING FABRIC TO AS1304
 - W DENOTES GRADE 450 W HARD-DRAWN PLAIN WIRE TO AS1303
 - N DENOTES DEFORMED BAR NORMAL DUCTILITY TO AS/NZS 4671 GRADE D500N
 - L DENOTES DEFORMED BAR LOW DUCTILITY TO AS/NZS 4671 GRADE D500L
 - RN DENOTES RECTANGULAR WIRE MESH NORMAL DUCTILITY TO AS/NZS 4671
 - RL DENOTES RECTANGULAR WIRE MESH LOW DUCTILITY
 - SN DENOTES SQUARE WIRE MESH NORMAL DUCTILITY
 - SL DENOTES SQUARE WIRE MESH LOW DUCTILITY TO AS/NZS 4671
2. REINFORCEMENT IS REPRESENTED DIAGRAMMATICALLY AND NOT NECESSARILY IN TRUE PROJECTION.
3. THE SPLICES IN REINFORCEMENT SHALL BE MADE ONLY IN POSITIONS SHOWN OR OTHERWISE APPROVED IN WRITING BY THE ENGINEER.
4. R4, LAPS SHALL BE IN ACCORDANCE WITH AS 3600 AND NOT LESS THAN THE DEVELOPMENT LENGTH FOR EACH BAR.
5. WELDING OF REINFORCEMENT SHALL NOT BE PERMITTED UNLESS SHOWN ON THE DRAWINGS OR APPROVED BY THE SUPERINTENDENT.
6. MINIMUM FABRIC LAP SHALL BE TWO TRANSVERSE WIRES PLUS 50MM, WHERE FABRIC LAPS, SHEETS TO HAVE MAXIMUM 2 LAYERS AT ANY POINT, CUT BACK FABRIC AT CORNERS AS REQUIRED.
7. WHERE TRANSVERSE TIE BARS ARE NOT SHOWN PROVIDE N12-400 SPLICED WHERE NECESSARY AND LAP WITH MAIN BARS 400MM UNLESS NOTED.
8. ALL REINFORCEMENT SHALL BE FIRMLY SUPPORTED ON PLASTIC CHAIRS OR CONCRETE CHAIRS, AT NOT GREATER THAN 1 METRE CENTRES BOTH WAYS, AND 800 EACH WAY FOR FABRIC. WHEN POURED ON GROUND AS FORMWORK PROVIDE PLATES UNDER ALL BAR CHAIRS. PLASTIC TIPPED STEEL CHAIRS SHALL NOT BE USED ON EXPOSED FACES IN EXPOSURE CLASSIFICATION B2 AND C.

CONCRETE:

1. ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH AS 3600 AND AS 3610 CURRENT EDITIONS WITH AMENDMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
2. ALL CEMENT TO BE TYPE GP. GENERAL PURPOSE CEMENT IN ACCORDANCE WITH AS3972
3. PROJECT CONTROL TESTING SHALL BE CARRIED OUT IN ACCORDANCE WITH AS 3600
4. DETAILS OF THE PROPOSED MIX ARE TO BE SUBMITTED & APPROVAL OBTAINED PRIOR TO POURING ANY CONCRETE.
5. NO ADMIXTURES SHALL BE USED IN CONCRETE UNLESS APPROVED IN WRITING.
6. MINIMUM CLEAR COVER TO ALL REINFORCEMENT SHALL BE AS FOLLOWS UNLESS SHOWN OTHERWISE:

ELEMENT	STRENGTH GRADE (MPa)	SLUP (mm)	MAX. AGGREG. SIZE (mm)	CAST AGAINST GROUND (mm)	CAST IN FORMS AND NOT EXPOSED (mm)	CAST IN FORMS AND EXPOSED (mm)
PATH	25	80	20	40	40	40

7. CONCRETE SIZES/DIMENSIONS SHOWN DO NOT INCLUDE THE THICKNESS OF ANY APPLIED FINISHES. NO FINISH THAT DECREASES COVER IS PERMITTED WITHOUT THE WRITTEN APPROVAL OF THE SUPERINTENDENT/ENGINEER.
8. MAINTAIN COVER TO REINFORCEMENT AT CHAMFERS, DRIP GROOVED, REGLETTS ETC.
9. NO HOLES, CHASES, BLOCKOUT, DUCTS OR EMBEDMENT OF PIPES OTHER THAN THOSE SHOWN ON THE DRAWINGS SHALL BE MADE IN CONCRETE MEMBERS WITHOUT THE PRIOR WRITTEN APPROVAL OF THE SUPERINTENDENT/ENGINEER.
10. CONSTRUCTION JOINTS WHERE NOT SHOWN SHALL BE LOCATED TO THE APPROVAL OF THE SUPERINTENDENT/ENGINEER.
11. ALL CONCRETE MEMBERS SHALL BE MECHANICALLY VIBRATED TO ACHIEVE A DENSE HOMOGENEOUS MASS, COMPLETELY FILLING THE FORMWORK AND THOROUGHLY EMBEDDING THE REINFORCEMENT AND FREE OF STONE POCKETS.
12. CURING OF ALL CONCRETE IS TO BE ACHIEVED BY KEEPING SURFACES CONTINUOUSLY WET FOR A PERIOD OF THREE DAYS, AND THE PREVENTION OF LOSS OF MOISTURE FOR A TOTAL OF 7 DAYS FOLLOWED BY A GRADUAL DRYING OUT.
13. CONSTRUCTION SUPPORT PROPPING IS TO BE LEFT IN PLACE WHERE NEEDED TO AVOID OVERSTRESSING THE STRUCTURE DUE TO CONSTRUCTION LOADING.
14. ALL CONCRETE SHALL BE PLACED IN SUCH A MANNER SO AS TO AVOID SEGREGATION OR LOSS OF MATERIALS.
15. UNDER NO CIRCUMSTANCES SHALL EXCESS CONCRETE BE DISPOSED OF ON-SITE. ALL EXCESS CONCRETE MUST BE CARTED FROM SITE AND DISPOSED OF IN AN APPROPRIATE MANNER.
16. WATER USED FOR FLUSHING CHUTES AND FOR CLEANING OF CONCRETE TRUCKS AND EQUIPMENT MUST BE DISCHARGED IN AN AREA DESIGNATED FOR THAT PURPOSE AND WHICH HAS EROSION AND SEDIMENT CONTROL MEASURES IN PLACE.

FORMWORK:

1. RESPONSIBILITY FOR DESIGN, CERTIFICATION, CONSTRUCTION AND PERFORMANCE OF FORMWORK AND FALSEWORK LIES WITH CONTRACTOR.
2. DO NOT SUPPORT OR RESTRAIN FORMWORK ON PERMANENT WORKS WITHOUT SUPERINTENDENTS WRITTEN APPROVAL.
3. CONSTRUCT FORMWORK TO COMPLY WITH AS3610 AND CLAUSE 19.6.2 OF AS3600 WHERE THIS IS MORE STRINGENT SO CONCRETE WILL HAVE DIMENSIONS, SHAPE, LOCATION AND FINISH SPECIFIED. PROVIDE OPENINGS OR REMOVABLE PANELS FOR INSPECTION AND CLEANING. APPLY RELEASE AGENT COMPATIBLE WITH CONTACT SURFACES TO INTERIOR OR FORMWORK (EXCEPT WHERE CONCRETE IS TO RECEIVE AND APPLIED FINISH FOR WHICH THERE IS NO COMPATIBLE RELEASE AGENT). WHERE NECESSARY CLEAN REINFORCEMENT TO REMOVE TRACES OF RELEASE AGENT. SEAL JOINT BETWEEN FORMWORK PANELS, AND TO HARDENED CONCRETE WITH FLEXIBLE RUBBER STRIP. SET OUT FORMWORK TO GIVE A REGULAR ARRANGEMENT OF PANELS, JOINT, BOLT HOLES ETC.
4. DO NOT USE FORMWORK HARDWARE THAT FORMS A COMPLETE HOLE THROUGH CONCRETE ELEMENTS. DO NOT USE REINFORCEMENT TO SUPPORT FORMWORK.
5. PROVIDE HOLES IN REBATE FORMERS ETC AS REQUIRED TO PREVENT AIR ENTRAPMENT.
6. CONSTRUCTION TOLERANCES TO BE TO AS3610.
7. STRIP FORMWORK TO AS3600 CLAUSE 19.6. REMOVE FROM TIE BOLTS WITHOUT DAMAGING CONCRETE. PARTS OF BOLTS LEFT IN CONCRETE MUST NOT INTRUDE INTO COVER CONCRETE. FLUSH FILL HOLES USING PRE-MIXED NON-SHRINK CEMENTITIOUS REPAIR MORTAR MATCHING CONCRETE SURFACE COLOUR, STRENGTH AND DURABILITY AND ADEQUATE BOND.

WORK NEAR EXISTING TREES AND TREE PROTECTION

GENERAL:

- TREES MUST NOT BE REMOVED OR LOPPED OR OTHERWISE DAMAGED, UNLESS SPECIFIED AND APPROVAL TO DO SO IS GIVEN BY THE SUPERINTENDENT. ALL CARE MUST BE TAKEN NOT TO DAMAGE OR INJURE ANY EXISTING TREES THAT ARE TO BE RETAINED. A QUALIFIED ARBORIST OR TREE PRESERVATION OFFICER IS TO BE CONSULTED PRIOR TO ANY EARTHWORKS BEING CONDUCTED NEAR EXISTING TREES WITHIN THE CONSTRUCTION ZONE. ANY DAMAGE INCURRED TO TREES THAT ARE TO BE RETAINED IS TO BE MADE GOOD AS SOON AS POSSIBLE FOLLOWING ADVICE BY AN APPROVED ARBORIST.

PROTECTION:

- IT IS THE SITE SUPERVISOR'S RESPONSIBILITY TO PROTECT ALL TREES IDENTIFIED FOR RETENTION.
- TREES TO BE RETAINED ARE TO BE PROTECTED WITH FENCING AND/OR TREE ARMOUR AS INDICATED ON THE DRAWINGS.
- COMPACTION OF SOIL IS TO BE AVOIDED WITHIN THE TREE PROTECTION ZONES SHOWN ON THE DRAWINGS.
- WHERE WORK IS REQUIRED TO BE UNDERTAKEN WITHIN THE TREE PROTECTION ZONES, TREE ARMOUR IS TO BE ERECTED AROUND THE TRUNK OF THE TREES AS INDICATED ON PLAN.

TREE PROTECTION FENCING:

- TREES ARE TO BE PROTECTED BY TEMPORARY CHAIN-WIRE CONSTRUCTION FENCING INSTALLED AT THE DIPLINE IF POSSIBLE. TEMPORARY SIGNAGE LABELLED "TREE PROTECTION AREA. NO STORAGE OF MATERIALS OR MACHINERY" IS TO BE INSTALLED ON ALL TREE PROTECTION FENCING.

TREE ARMOUR:

- PROVIDE TREE ARMOUR AROUND TRUNKS OF TREES AS INDICATED ON PLAN BEFORE COMMENCEMENT OF ANY WORKS. ARMOUR IS TO CONSIST OF JUTE MATTING AND TIMBER BATTENS WRAPPED AROUND TREE TRUNKS AS INDICATED IN DRAWINGS.
- INSTALL A PROTECTIVE LAYER OF JUTE MAT AROUND TREE TRUNKS PRIOR TO INSTALLING TIMBER BATTENS AROUND TREE TRUNKS.
- TIMBER BATTENS ARE TO BE 1800 X 90 X 20mm. SECURE BATTENS INTO POSITION WITH THREE STRANDS OF WIRE OR NYLON WEBBING STAPLED OR NAILED TO CREATE A CONTINUOUS STRING, LONG ENOUGH TO SURROUND EACH TREE.
- ENSURE ARMOUR IS ATTACHED SECURELY AROUND THE TREE. AMOUR SHOULD BE ATTACHED TO ITSELF. NAILS OR FASTENERS ARE NOT TO BE ATTACHED DIRECTLY TO THE TREE TRUNK. ARMOUR IS TO REMAIN IN PLACE AS LONG AS MACHINERY IS REQUIRED ON SITE.

STORAGE OF MATERIALS:

- DO NOT STORE OR OTHERWISE PLACE BULK MATERIALS AND HARMFUL MATERIALS UNDER OR NEAR TREES WITHIN THE TREE PROTECTION ZONE. STORAGE OF MATERIALS, MIXING OF MATERIALS, VEHICLE PARKING, DISPOSAL OF LIQUIDS, MACHINERY REPAIRS AND REFUELLING, SITE OFFICE AND SHEDS MUST NOT OCCUR WITHIN THE DRIP LINE OF ANY EXISTING TREES, OR WITHIN 5M OF ANY EXISTING TREES WHERE THE DRIP LINE RADIUS IS LESS THAN 5m.
- DO NOT PLACE SPOIL FROM EXCAVATIONS AGAINST TREE TRUNKS, EVEN FOR SHORT PERIODS. PREVENT WIND-BLOWN MATERIALS SUCH AS CEMENT FROM HARMING TREES AND PLANTS.

WORK UNDER TREES:

- MINIMISE EXCAVATION OR FILLING AROUND TREES. IF CONSTRUCTION WORKS ARE NECESSARY AROUND TREES THEN MINIMISE THE USE OF MACHINERY. LEAVE TRENCHES OR EXCAVATED AREAS EXPOSED FOR AS SHORT A PERIOD AS POSSIBLE.

ROOTS:

- TREE ROOTS EXCEEDING 100mm DIAMETER ARE NOT TO BE CUT UNLESS ADVICE IS FIRST SOUGHT FROM AN ARBORIST.
- USE HAND TOOLS OR A CHAINSAW TO MAKE CLEAN CUTS TO ROOTS THAT REQUIRE CUTTING.

BACKFILLING:

- MINIMISE CHANGES TO SOIL SURFACE LEVELS AROUND TREES.
- RETURN NATURAL SOILS TO EXCAVATED AREAS OR USE OTHER VIRGIN EXCAVATED NATURAL MATERIAL (VENM) TO BACKFILL.
- ROAD MILLINGS, WASTE CONCRETE, ASPHALT OR OTHER FOREIGN MATERIALS ARE NOT TO BE USED FOR BACKFILLING WITHIN TREE ROOT ZONES.
- DO NOT BACKFILL AROUND TREE TRUNKS TO A HEIGHT GREATER THAN 300MM ABOVE THE ORIGINAL GROUND SURFACE UNLESS AUTHORISED.
- THOROUGHLY WATER THE SOIL FOLLOWING EXCAVATION WITHIN TREE ROOT ZONES.

REMOVAL OF TREES:

- WHEN REMOVING TREES, TAKE CARE NOT TO DAMAGE ANY ADJACENT EXISTING STRUCTURES, SERVICES OR TREES TO BE RETAINED.
- WHERE TREES BEING REMOVED ARE LOCATED IN FUTURE PLANTING AREAS AS SHOWN ON THE PLANTING PLAN, FULLY REMOVE THE TREES AND ALL THEIR PARTS INCLUDING THE ROOT SYSTEM.
- WHERE THIS IS NOT PRACTICAL CUT TRUNKS CLOSE TO THE EXISTING SOIL SURFACE LEVEL AND IMMEDIATELY APPLY UNDILUTED GLYPHOSATE HERBICIDE TO THE CUT SURFACES.

UTILITIES

1. THE LOCATION OF EXISTING UTILITIES SHOWN ON THE PLANS ARE INDICATIVE ONLY. THE CONTRACTOR IS TO REFER TO UTILITY RELOCATION PLANS APPROVED BY APPROPRIATE AUTHORITY FOR DETAILS ON PROPOSED UTILITY WORKS.
2. THE CONTRACTOR IS TO CONFIRM THE PRESENCE OF ALL UTILITIES ON SITE PRIOR TO THE COMMENCEMENT OF ROAD WORKS, REFERENCE MUST BE MADE TO THESE DRAWINGS PRIOR TO THE COMMENCEMENT OF ROAD WORKS, AND THE RELEVANT UTILITY PLANS OBTAINED BY CONTACTING DIAL BEFORE YOU DIG. CAUTION SHALL BE EXERCISED WHEN WORKING IN THE VICINITY OF ALL UTILITY SERVICES.
3. LOCATION AND LEVEL OF ALL SERVICES CROSSING THE PROPOSED WORKS MUST BE OBTAINED PRIOR TO CONSTRUCTION. ALL LEVELS MUST BE CHECKED FOR CONFLICT WITH ANY SERVICES, AND ANY CONFLICTS TO BE RAISED WITH PRINCIPAL.
4. PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF FURTHER UNDERGROUND SERVICES AND DETAILED LOCATIONS OF ALL SERVICES.
5. UNDERGROUND SERVICES HAVE BEEN PLOTTED FROM RECORDS SUPPLIED BY THE PUBLIC AUTHORITIES TO SHIRE CIVIL DESIGN IN DECEMBER 2019 LOCATIONS HAVE BEEN INTERPRETED FROM THESE RECORDS AND ARE APPROXIMATE ONLY. EXTREME CAUTION SHOULD BE TAKEN BY PERSONS EXCAVATING.

EROSION AND SEDIMENT CONTROL

1. GENERAL MEASURES

- SOIL EROSION AND SEDIMENTATION CONTROL MEASURES DURING CONSTRUCTION SHALL CONFORM WITH GUIDELINES IN ACCORDANCE WITH "MANAGING URBAN STORMWATER: SOILS AND CONSTRUCTION - VOLUME 1, LANDCOM 2004" AND COUNCIL'S POLICY.
- PERIMETER CONTROL MEASURES SHALL BE PLACED PRIOR TO OR IN CONJUNCTION WITH THE FIRST PHASE OF THE EARTHWORKS. THESE MEASURES SHALL BE APPLIED TO PROTECT ADJOINING PROPERTIES FROM EROSION AND SILT DAMAGE.
- EARTH STOCKPILES SHALL BE CONFINED TO ONE CENTRAL AREA WHERE POSSIBLE. ALL STOCKPILES OF EXCAVATED OR CONSTRUCTION SOILS MUST HAVE A SILT FENCE ERECTED IMMEDIATELY DOWNHILL FOR THE FULL EXTENT OF THE STOCKPILE. WHERE SITE REGRADING OR FILLING IS BEING UNDERTAKEN PROVISION SHALL BE MADE TO ENSURE THAT NO WATER IS PONDED IN ANY LOT.
- ALL AREAS NOT SUBJECT TO CONSTRUCTION WORKS SHALL BE RETAINED FREE FROM DISTURBANCE OR DAMAGE DURING THE CURRENCY OF THE WORK. SHOULD THESE AREAS BECOME DISTURBED OR DAMAGED THEY SHALL BE REINSTATED AS DIRECTED BY THE SUPERINTENDENT.

2. SEDIMENT CONTROL DEVICES (S.C.D.)

- THESE DEVICES SHALL BE CONSTRUCTED AT INLETS TO STORMWATER SYSTEMS TO TRAP THE SEDIMENT IN RUN-OFF.

3. STABILISATION OF DISTURBED AREAS

- STABILISATION OF DISTURBED AREAS SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS INDICATED IN GENERAL NOTES ABOVE.
- THE FOLLOWING SHALL BE APPLIED FOR THE CONTROL OF EROSION AND SEDIMENTATION:-
 - a. STABILISATION OF DENUDED AREAS SHALL COMMENCE AS SOON AS POSSIBLE AFTER THE AREAS HAVE BEEN DISTURBED.
 - b. STABILISATION OF ALL CUT AND FILL SLOPES SHALL BE COMMENCED AS SOON AS PRACTICABLE AFTER COMPLETION OF FORMATION.
 - c. ALL STABILISATION MEASURES SHALL BE TAKEN PRIOR TO THE END OF THE MAINTENANCE PERIOD.

4. MAINTENANCE

- ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE MAINTAINED IN A SATISFACTORY WORKING ORDER THROUGHOUT THE CONTRACT, MAINTENANCE AND DEFECTS LIABILITY PERIODS OR UNTIL SUCH EARLIER TIME AS THE AREA HAS BEEN STABILISED AND COUNCIL'S ENGINEER DIRECTS THAT THE DEVICE BE REMOVED.
- ALL DEVICES SHALL BE INSPECTED AFTER EACH STORM FOR STRUCTURAL DAMAGE OR LOGGING BY SILT AND OTHER DEBRIS AND MAKE PROMPT REPAIRS OR REPLACEMENT.

SIGNAGE AND LINEMARKING

1. INSTALLATION OF PAVEMENT MARKING RRPMS AND SIGNAGE TO BE IN ACCORDANCE WITH TNSW CONSTRUCTION SPECIFICATION, GUIDELINES AND STANDARDS.
2. CONTRACTOR TO OBTAIN WRITTEN APPROVAL FROM TNSW PRIOR TO INSTALLATION OF ANY SIGNAGE OR LINEMARKING.
3. LOCATION OF ALL SIGNAGE TO BE CONFIRMED ON SITE IN COORDINATION WITH THE PRINCIPAL PRIOR TO MANUFACTURE.
4. ALL SIGNS TO BE SIZE 'B' UNLESS NOTED OTHERWISE.
5. EXISTING SIGNS DESIGNATED REMOVAL TO BE STORED IN CONTRACTOR'S COMPOUND FOR WCC RECOVERY.
6. SIGNAGE TO BE LOCATED IN ACCORDANCE WITH AS1742 APPENDIX B
7. SIGNS TO BE MOUNTED A MINIMUM 2.5M ABOVE FSL.
8. CONTRACTOR TO CONFIRM LOCATION OF ALL SERVICES, DRAINAGE WORKS AND UNDERGROUND INFRASTRUCTURE PRIOR TO COMMENCING WORK. CONTRACTOR TO ENSURE ADOPTED METHOD OF CONSTRUCTION AND PROPOSED WORK WILL AVOID DAMAGE TO ALL SERVICES AND DRAINAGE WORKS, INCLUDING CLEARANCE TO OVERHEAD POWERLINES.
9. INSTALL PAINTED CHEVRONS IN ACCORDANCE WITH RMS DELINEATION GUIDELINES.
10. ALL PERMANENT ROAD LINEMARKING AND PAVEMENT MESSAGES INCLUDING ARROWS TO BE NON-PROFILE REFLECTIVE THERMO-PLASTIC MATERIAL IN ACCORDANCE WITH WCC CONSTRUCTION SPECIFICATIONS.
11. ALL TEMPORARY LINEMARKING TO BE WATERBORNE PAINT.

 SYDNEY Suite 01 Ground Floor 20 Chandos Street, St Leonards NSW 2065 Phone # 02 9493 9500 www.emmconsulting.com.au	REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED	PROJECT: DINAWAN WIND FARM STRATEGIC CONCEPT DESIGN - NEW SITE ACCESS INTERSECTIONS, KIDMAN WAY DRAWING TITLE: STRATEGIC CONCEPT DESIGN NOTES CLIENT: SPARK RENEWABLES DRG. #: EMM - C01 PROJECT #: E220305 SCALE: AS SHOWN REV: C
	C	26/1/26	TNSW COMMENTS	C.J.	A.U.						
	B	10/4/25	TNSW COMMENTS	C.J.	A.U.						
	A	18/10/24	TNSW COMMENTS	C.J.	A.U.						

THIS PLAN IS PREPARED FROM A COMBINATION OF FIELD SURVEY AND EXISTING RECORDS.

THE POSITION OF STRUCTURES , SERVICES TREES ETC. ARE DIAGRAMMATIC ONLY AND MAY REQUIRE ADDITIONAL SURVEY WHERE CRITICAL.

PRIOR TO ANY CONSTRUCTION ON OR NEAR A PROPERTY BOUNDARY, THE LOCATION OF THE PROPERTY BOUNDARY SHOULD BE DETERMINED BY A REGISTERED SURVEYOR.

VISIBLE SERVICES ONLY HAVE BEEN LOCATED AS PART OF THIS SURVEY. ALL CARE HAS BEEN TAKEN IN THE FIELD SURVEY TO IDENTIFY VISIBLE SERVICES AND STRUCTURES. IN SOME CASES THE VISIBLE SERVICES HAVE NOT BEEN IDENTIFIED. IT IS RECOMMENDED THAT A FIELD INSPECTION WITH THE RELEVANT SERVICE AUTHORITY REPRESENTATIVE BE UNDERTAKEN TO CONFIRM THE IDENTITY OF SERVICES SHOWN ON THIS PLAN.

PRIOR TO EXCAVATION THE CONTRACTOR MUST:

CONTACT "BEFORE YOU DIG AUSTRALIA"

PH: 1100

WEB: <https://smarterwx.1100.com.au>

PRIOR TO ANY DEMOLITION, EXCAVATION OR CONSTRUCTION ON THE SITE, THE RELEVANT AUTHORITY SHOULD BE CONTACTED FOR POSSIBLE LOCATION OF FURTHER UNDERGROUND SERVICES AND DETAILED LOCATIONS OF ALL SERVICES.

WARNING

UNDERGROUND SERVICES HAVE BEEN PLOTTED FROM RECORDS SUPPLIED BY THE PUBLIC AUTHORITIES TO EMM CONSULTING APRIL 2024.

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WARNING U/G TELSTRA



CABLES

— T — T —

PLEASE CONTACT THE N.I.A.C. GROUP AT TELSTRA ON 9204-0880 OR 9204-0923. BEFORE STARTING ANY CONSTRUCTION WORK IN THE AREA.

WARNING U/G TELSTRA



CABLES

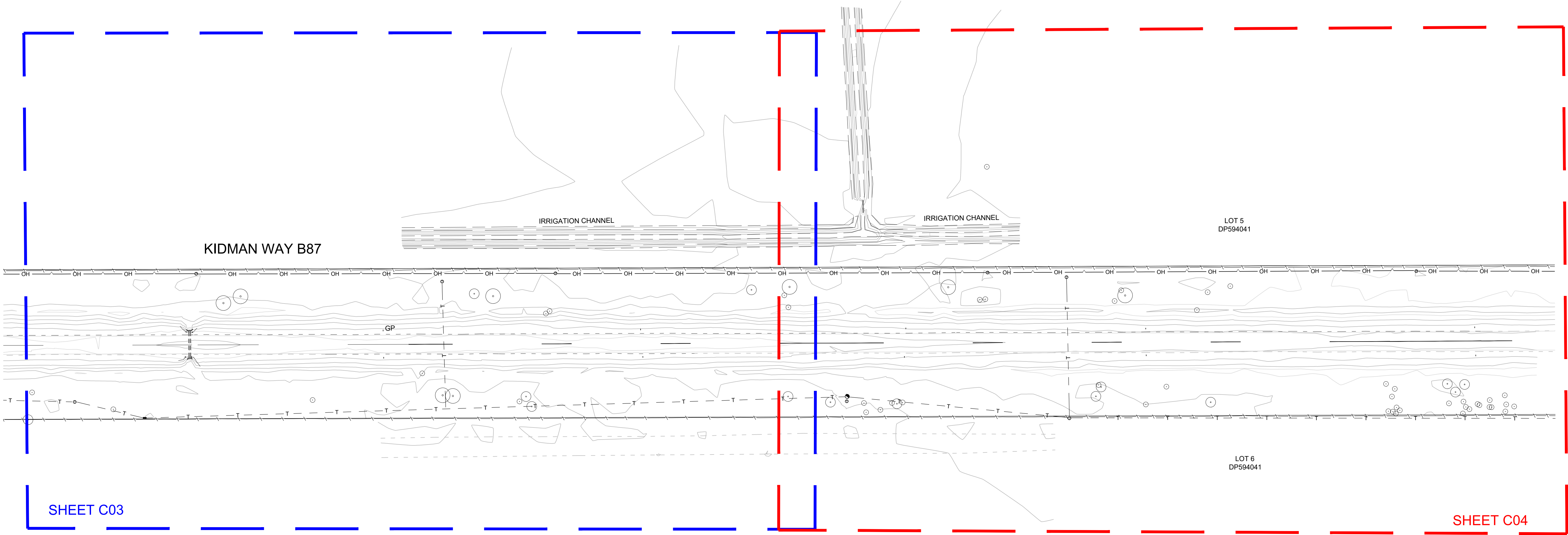
— OF — OF —

PLEASE CONTACT THE N.I.A.C. GROUP AT TELSTRA ON 9204-0880 OR 9204-0923. BEFORE STARTING ANY CONSTRUCTION WORK IN THE AREA.

 **BEWARE OPTIC FIBRE**

SURVEY STATION MARKS				
STATION No.	EASTING	NORTHING	R.L.	DESCRIPTION
2690	389648.311	6118704.532	113.407	STN
2691	389639.260	6118634.126	113.400	STN
3039	389626.752	6118536.958	113.433	STN
3248	389640.191	6118463.904	113.445	STN
3255	389614.232	6118444.170	113.600	STN
3481	389603.559	6118358.534	113.729	STN
3671	389592.264	6118273.121	113.767	STN
3672	389628.954	6118383.518	113.643	STN
3673	389572.586	6118394.774	113.577	STN
4102	389580.176	6118181.128	113.769	STN

UTILITIES		TELSTRA PILLAR	
WATER MAIN	— W —	TELSTRA PIT	Ⓜ
U/G TELSTRA	— T —	HYDRANT	Ⓜ
O/H TELSTRA	— OT —	STOP VALVE	Ⓜ
OPTICAL FIBRE	— OF —	POWER POLE	Ⓜ
GAS MAIN	— G —	ELECTRICAL PILLAR	Ⓜ
HP GAS MAIN U/G	— HG —	POWER LIGHT POLE	Ⓜ
ELECTRICITY	— E —	LIGHT POLE	Ⓜ
O/H ELECTRICITY	— OH —	GAS STOP VALVE	Ⓜ
SEWER	— S —	SEWER MANHOLE	Ⓜ



PLAN

SCALE 1:800

0.2m CONTOUR INTERVAL

NOTES:

EXISTING STATE SURVEY MARKS AFFECTED BY THE WORKS ARE TO BE RECOVERED IN ACCORDANCE WITH SURVEYOR GENERAL'S DIRECTION No. 11 - "PRESERVATION OF SURVEY INFRASTRUCTURE".

INVESTIGATIONS WERE UNDERTAKEN AND ALL SURVEY MARKS WERE INVESTIGATED AND IDENTIFIED ON SITE.

AT THIS STAGE THE LOCATION OF THE MARKS ARE WELL CLEAR OF THE WORKS AND SURVEY AREA AND SHOULD NOT BE IMPACTED BY THE WORKS.

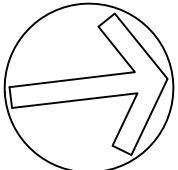


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C	26/1/26	TNSW COMMENTS	C.J.	A.U.					
B	10/4/25	TNSW COMMENTS	C.J.	A.U.					
A	18/10/24	TNSW COMMENTS	C.J.	A.U.					
-	8/7/24	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:

DINAWAN WIND FARM

STRATEGIC CONCEPT DESIGN -

NEW SITE ACCESS INTERSECTIONS,

KIDMAN WAY

DRAWING TITLE:

STRATEGIC CONCEPT DESIGN

OVERALL SURVEY AND SERVICES PLAN

CLIENT: SPARK RENEWABLES

DRG. #: EMM - C02

PROJECT #: E220305

SCALE: AS SHOWN

REV: C



WARNING
UNDERGROUND SERVICES HAVE BEEN PLOTTED FROM RECORDS SUPPLIED BY THE PUBLIC AUTHORITIES TO EMM CONSULTING MARCH 2024

LOCATIONS HAVE BEEN INTERPRETED FROM THESE RECORDS AND ARE APPROXIMATE ONLY. EXTREME CAUTION SHOULD BE TAKEN BY PERSONS EXCAVATING.

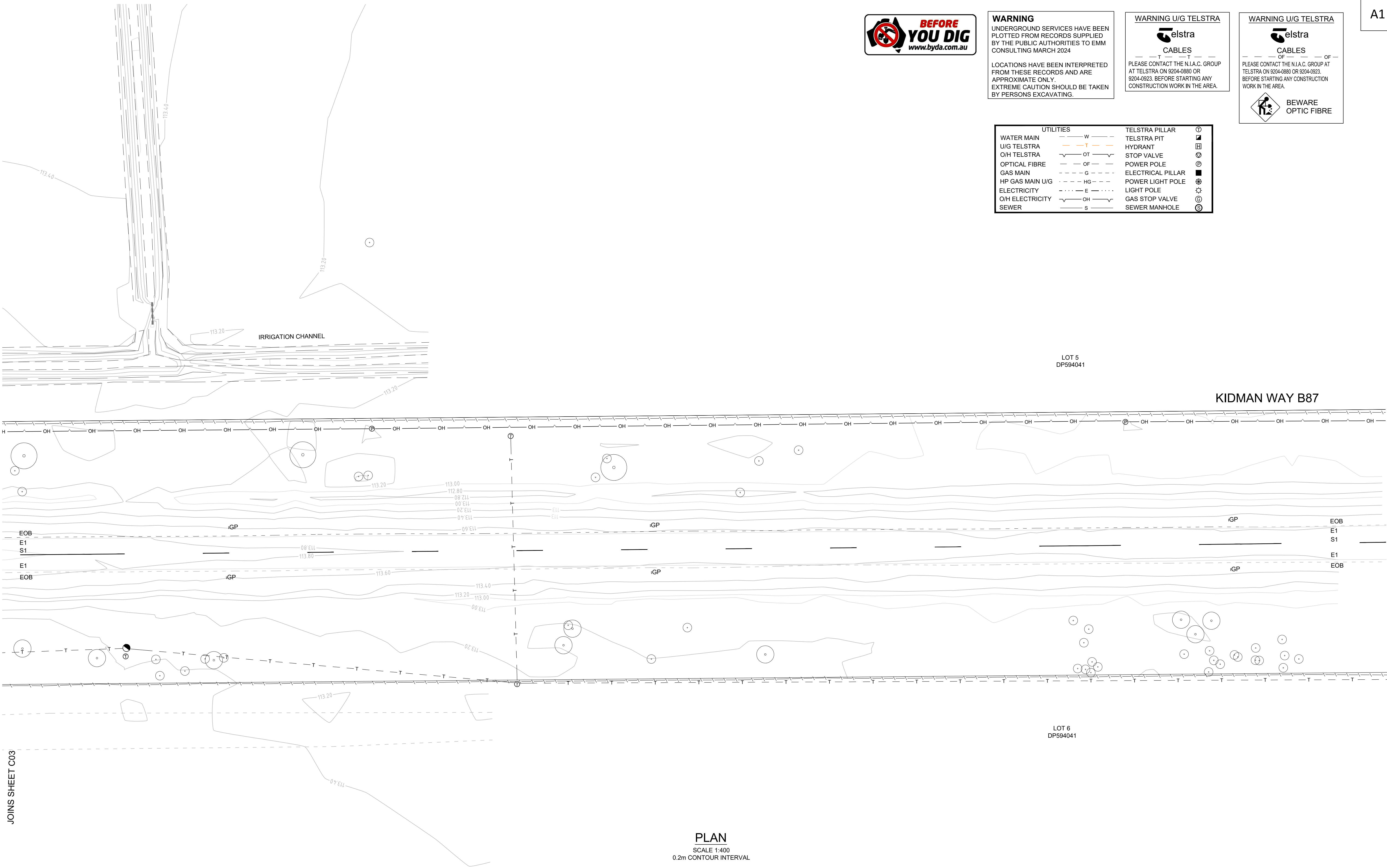
WARNING U/G TELSTRA

CABLES
PLEASE CONTACT THE N.I.A.C. GROUP AT TELSTRA ON 9204-0880 OR 9204-0923. BEFORE STARTING ANY CONSTRUCTION WORK IN THE AREA.

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 BEWARE OPTIC FIBRE

UTILITIES		TELSTRA PILLAR	
WATER MAIN	W	TELSTRA PIT	
U/G TELSTRA	T	HYDRANT	
O/H TELSTRA	OT	STOP VALVE	
OPTICAL FIBRE	OF	POWER POLE	
GAS MAIN	G	ELECTRICAL PILLAR	
HP GAS MAIN U/G	HG	POWER LIGHT POLE	
ELECTRICITY	E	LIGHT POLE	
O/H ELECTRICITY	OH	GAS STOP VALVE	
SEWER	S	SEWER MANHOLE	



PLAN
SCALE 1:400
0.2m CONTOUR INTERVAL

JOINS SHEET C03

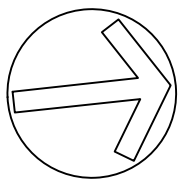


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A	18/10/24	TNSW COMMENTS	C.J.	A.U.					
-	8/7/24	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
NEW SITE ACCESS INTERSECTIONS,
KIDMAN WAY

DRAWING TITLE:
STRATEGIC CONCEPT DESIGN
SURVEY AND SERVICES PLAN - NORTH

CLIENT: **SPARK RENEWABLES**

DRG. #: **EMM - C04**

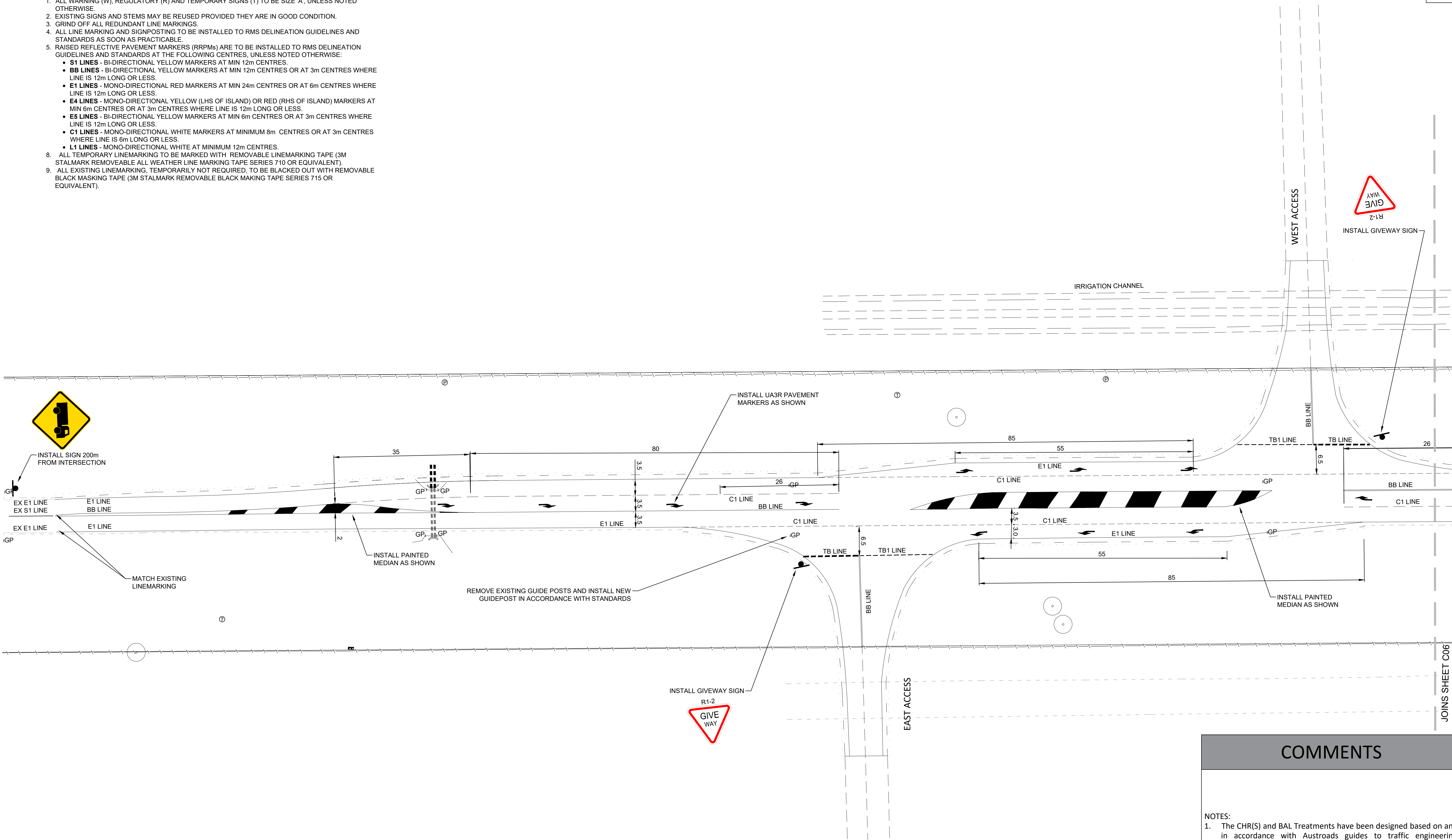
PROJECT #: **E220305**

SCALE: **AS SHOWN**

REV: C

SIGNPOSTING AND LINEMARKING

1. ALL WARNING (W), REGULATORY (R) AND TEMPORARY SIGNS (T) TO BE SIZE 'A', UNLESS NOTED OTHERWISE.
2. EXISTING SIGNS AND STEMS MAY BE REUSED PROVIDED THEY ARE IN GOOD CONDITION.
3. GRIND OFF ALL REDUNDANT LINE MARKINGS.
4. ALL LINE MARKING AND SIGNPOSTING TO BE INSTALLED TO RMS DELINEATION GUIDELINES AND STANDARDS AS SOON AS PRACTICABLE.
5. EXISTING PRACTICE AND EXISTING MARKERS (RRPMs) ARE TO BE INSTALLED TO RMS DELINEATION GUIDELINES AND STANDARDS AT THE FOLLOWING CENTRES, UNLESS NOTED OTHERWISE:
 - **ST LINES** - BI-DIRECTIONAL YELLOW MARKERS AT MIN 12m CENTRES.
 - **BB LINES** - BI-DIRECTIONAL YELLOW MARKERS AT MIN 12m CENTRES OR AT 3m CENTRES WHERE LINE IS 12m LONG OR LESS.
 - **E1 LINES** - MONO-DIRECTIONAL RED MARKERS AT MIN 24m CENTRES OR AT 6m CENTRES WHERE LINE IS 12m LONG OR LESS.
 - **L1 LINES** - MONO-DIRECTIONAL YELLOW (LHS OF ISLAND) OR RED (RHS OF ISLAND) MARKERS AT MIN CENTRES AND AT 3m CENTRES WHERE LINE IS 12m LONG OR LESS.
 - **ES LINES** - BI-DIRECTIONAL YELLOW MARKERS AT MIN 6m CENTRES OR AT 3m CENTRES WHERE LINE IS 12m LONG OR LESS.
 - **C1 LINES** - MONO-DIRECTIONAL WHITE MARKERS AT MINIMUM 8m CENTRES OR AT 3m CENTRES WHERE LINE IS 6m LONG OR LESS.
 - **L1 LINES** - MONO-DIRECTIONAL WHITE AT MINIMUM 12m CENTRES.
6. ALL TEMPORARY LINE MARKING TO BE MARKED WITH REMOVABLE LINE MARKING TAPE (3M STALMARK REMOVABLE BLACK MASKING TAPE) OR REMOVABLE LINE MARKING TAPE SERIES 710 OR EQUIVALENT.
7. ALL EXISTING LINE MARKING TEMPORARILY NOT REQUIRED, TO BE BLACKED OUT WITH REMOVABLE BLACK MASKING TAPE (3M STALMARK REMOVABLE BLACK MASKING TAPE SERIES 715 OR EQUIVALENT).

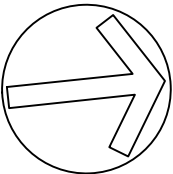


PLAN
SCALE 1:400

SCALE 1:400

NOT FOR CONSTRUCTION

REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
C	26/1/26	TfNSW COMMENTS	C.J.	A.U.					
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A	18/10/24	TfNSW COMMENTS	C.J.	A.U.					
-	8/7/24	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
NEW SITE ACCESS INTERSECTIONS,
KIDMAN WAY

DRAWING TITLE:

STRATEGIC CONCEPT DESIGN
SIGNS AND LINEMARKING PLAN SOUTH

COMMENTS

NOTES:

1. The CHR(S) and BAL Treatments have been designed based on and in accordance with Austroads guides to traffic engineering practice.
2. Posted speed 100km/h, design speed is 110km/h and through lanes typically 3.5m wide.
3. The right turn bay provides for storage of a 26m long vehicle.
4. Radius of travel lanes are 500m or greater.

CLIENT: SPARK RENEWABLES

DRG. #: EMM - C05

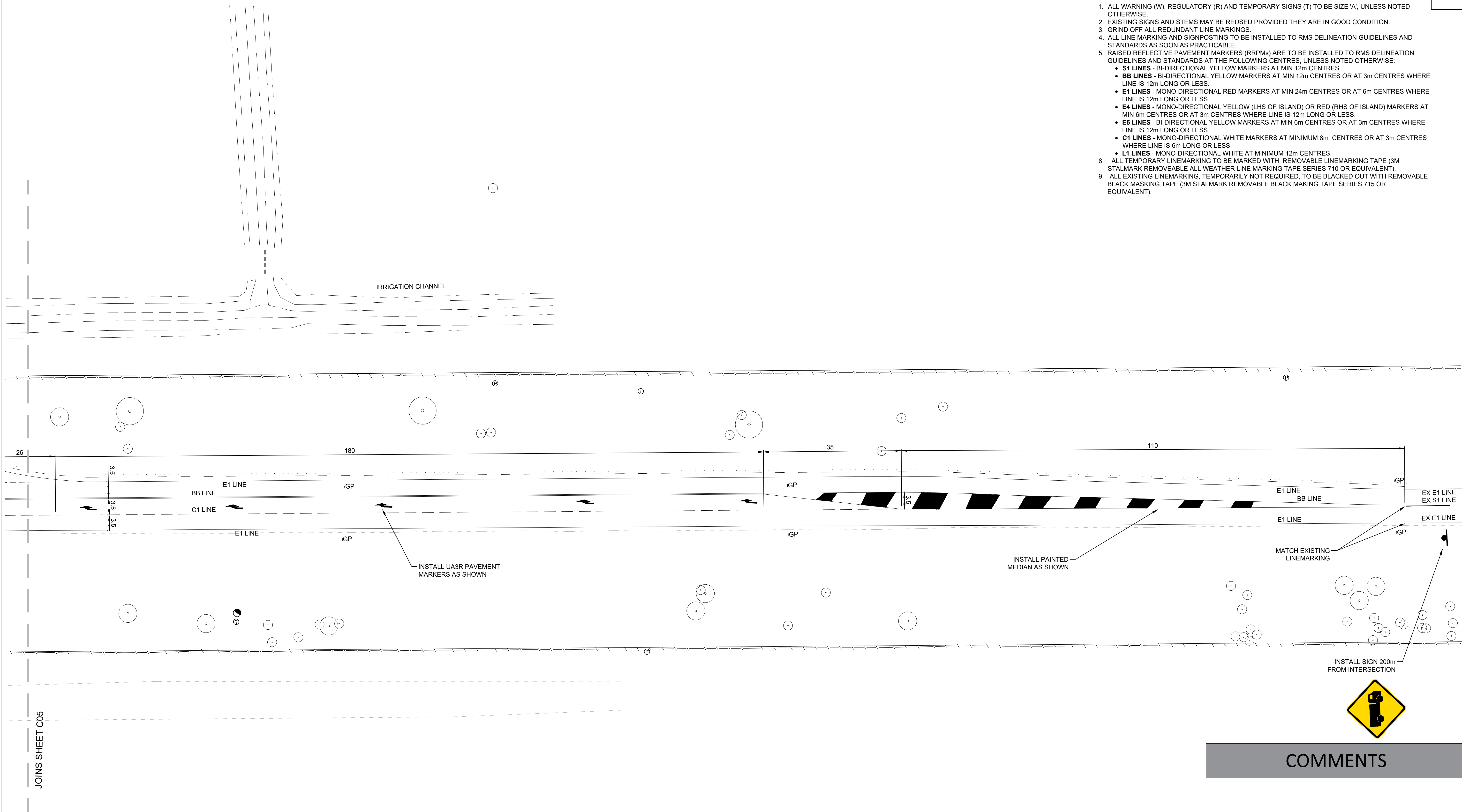
PROJECT #: E220305

REV: C

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 - **S1 LINES** - BI-DIRECTIONAL YELLOW MARKERS AT MIN 12m CENTRES.
 - **BB LINES** - BI-DIRECTIONAL YELLOW MARKERS AT MIN 12m CENTRES OR AT 3m CENTRES WHERE LINE IS 12m LONG OR LESS.
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 - **E4 LINES** - MONO-DIRECTIONAL YELLOW (LHS OF ISLAND) OR RED (RHS OF ISLAND) MARKERS AT MIN 6m CENTRES OR AT 3m CENTRES WHERE LINE IS 12m LONG OR LESS.
 - **E5 LINES** - BI-DIRECTIONAL YELLOW MARKERS AT MIN 6m CENTRES OR AT 3m CENTRES WHERE LINE IS 12m LONG OR LESS.
 - **C1 LINES** - MONO-DIRECTIONAL WHITE MARKERS AT MINIMUM 8m CENTRES OR AT 3m CENTRES WHERE LINE IS 6m LONG OR LESS.
 - **L1 LINES** - MONO-DIRECTIONAL WHITE AT MINIMUM 12m CENTRES.
8. ALL TEMPORARY LINEMARKING TO BE MARKED WITH REMOVABLE LINEMARKING TAPE (3M STALMARK REMOVABLE ALL WEATHER LINE MARKING TAPE SERIES 710 OR EQUIVALENT).
9. ALL EXISTING LINEMARKING, TEMPORARILY NOT REQUIRED, TO BE BLACKED OUT WITH REMOVABLE BLACK MASKING TAPE (3M STALMARK REMOVABLE BLACK MAKING TAPE SERIES 715 OR EQUIVALENT).



PLAN
SCALE 1:400

SCALE 1:400

NOT FOR CONSTRUCTION

COMMENTS

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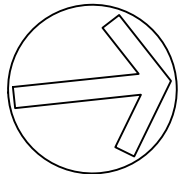
CLIENT: SPARK RENEWABLES

DRG. #: EMM - C06

SCALE: AS SHOWN

REV: C

REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
C	26/11/26	TfNSW COMMENTS	C.J.	A.U.					
B	10/4/25	TfNSW COMMENTS	C.J.	A.U.					
A	18/10/24	TfNSW COMMENTS	C.J.	A.U.					
-	8/7/24	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
NEW SITE ACCESS INTERSECTIONS,
KIDMAN WAY

DRAWING TITLE:

STRATEGIC CONCEPT DESIGN
SIGNS AND LINEMARKING PLAN NORTH

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20 Chandos Street,
St Leonards NSW 2065
Phone # 02 9493 9500
www.emmconsulting.com.au

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WARNING U/G TELSTRA

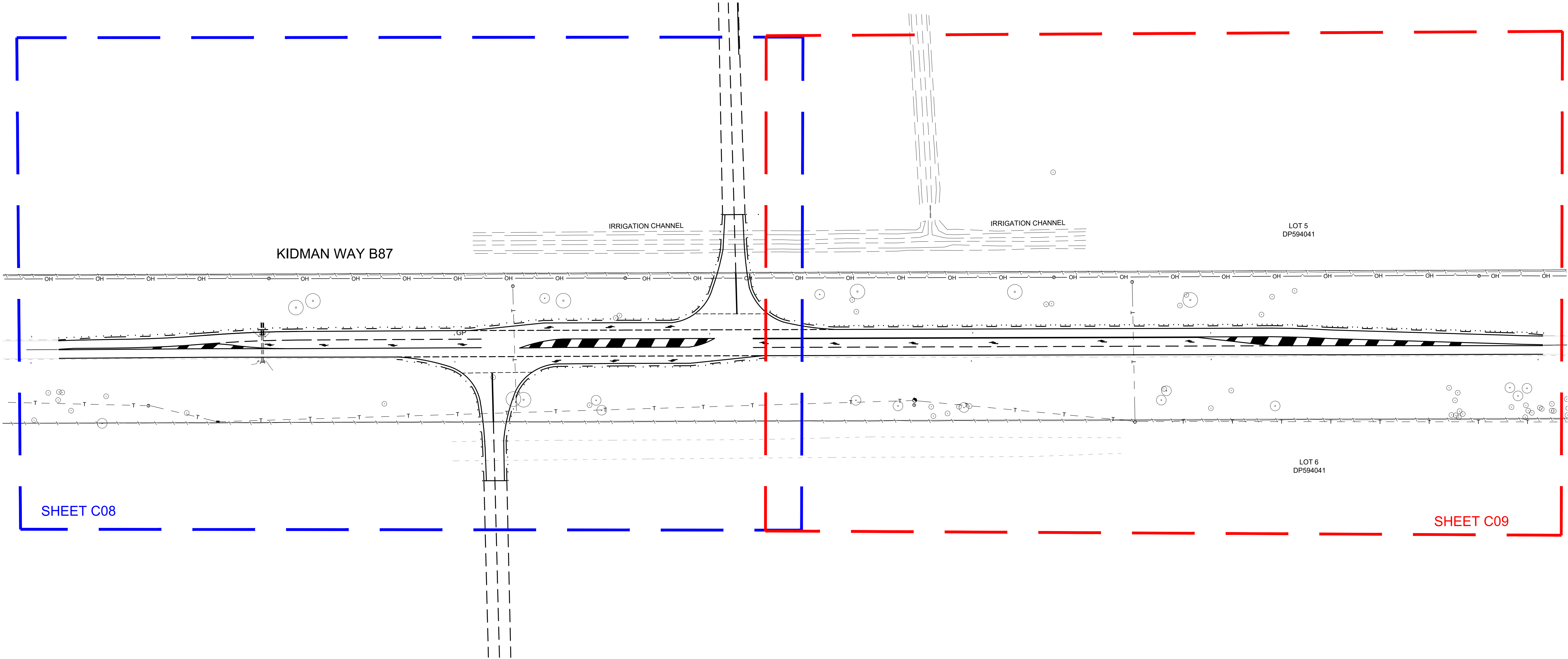
CABLES
— T — T —
PLEASE CONTACT THE N.I.A.C. GROUP AT TELSTRA ON 9204-0880 OR 9204-0923. BEFORE STARTING ANY CONSTRUCTION WORK IN THE AREA.

WARNING U/G TELSTRA

CABLES
— OF — OF —
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 BEWARE OPTIC FIBRE

UTILITIES		TELSTRA PILLAR	
WATER MAIN	— W —	TELSTRA PIT	Ⓜ
U/G TELSTRA	— T —	HYDRANT	Ⓜ
O/H TELSTRA	— OT —	STOP VALVE	Ⓜ
OPTICAL FIBRE	— OF —	POWER POLE	Ⓜ
GAS MAIN	— G —	ELECTRICAL PILLAR	Ⓜ
HP GAS MAIN U/G	— HG —	POWER LIGHT POLE	Ⓜ
ELECTRICITY	— E —	LIGHT POLE	Ⓜ
O/H ELECTRICITY	— OH —	GAS STOP VALVE	Ⓜ
SEWER	— S —	SEWER MANHOLE	Ⓜ

A1



PLAN
SCALE 1:800

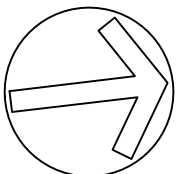


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-	8/7/24	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
NEW SITE ACCESS INTERSECTIONS,
KIDMAN WAY

DRAWING TITLE:
STRATEGIC CONCEPT DESIGN
OVERALL CONSTRUCTION PLAN

CLIENT: **SPARK RENEWABLES**

DRG. #: **EMM - C07**

PROJECT #: **E220305**

SCALE: **AS SHOWN**

REV: C

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EXTREME CAUTION SHOULD BE TAKEN BY PERSONS EXCAVATING.



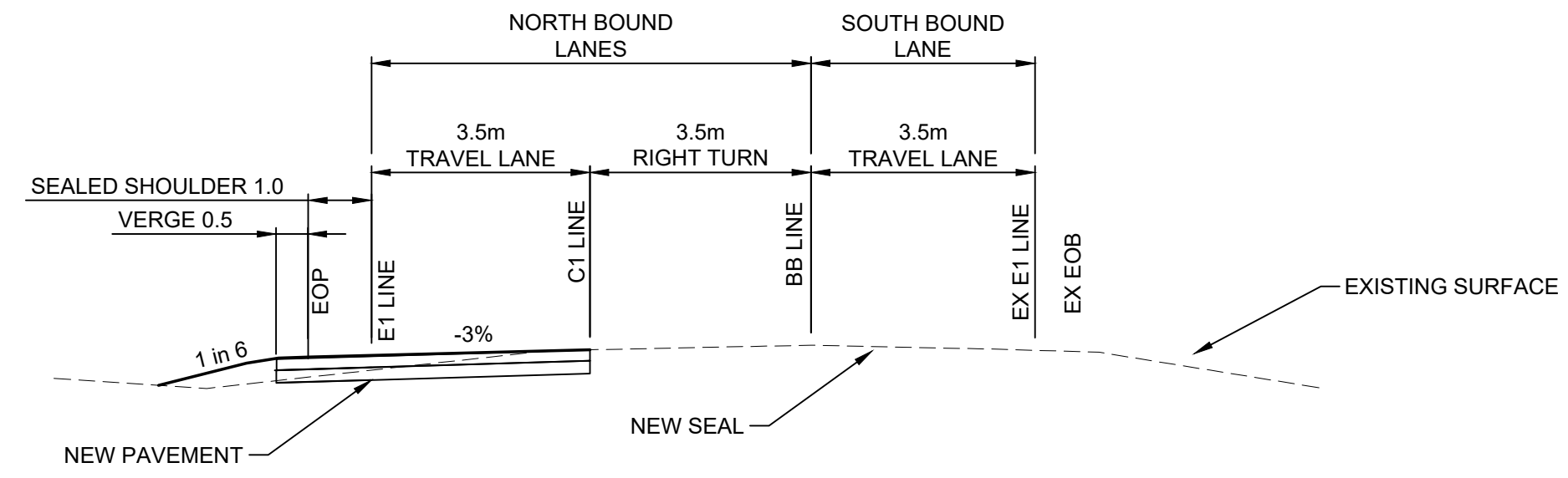
WARNING U/G TELSTRA

CABLES
PLEASE CONTACT THE N.I.A.C. GROUP AT TELSTRA ON 9204-0880 OR 9204-0923. BEFORE STARTING ANY CONSTRUCTION WORK IN THE AREA.

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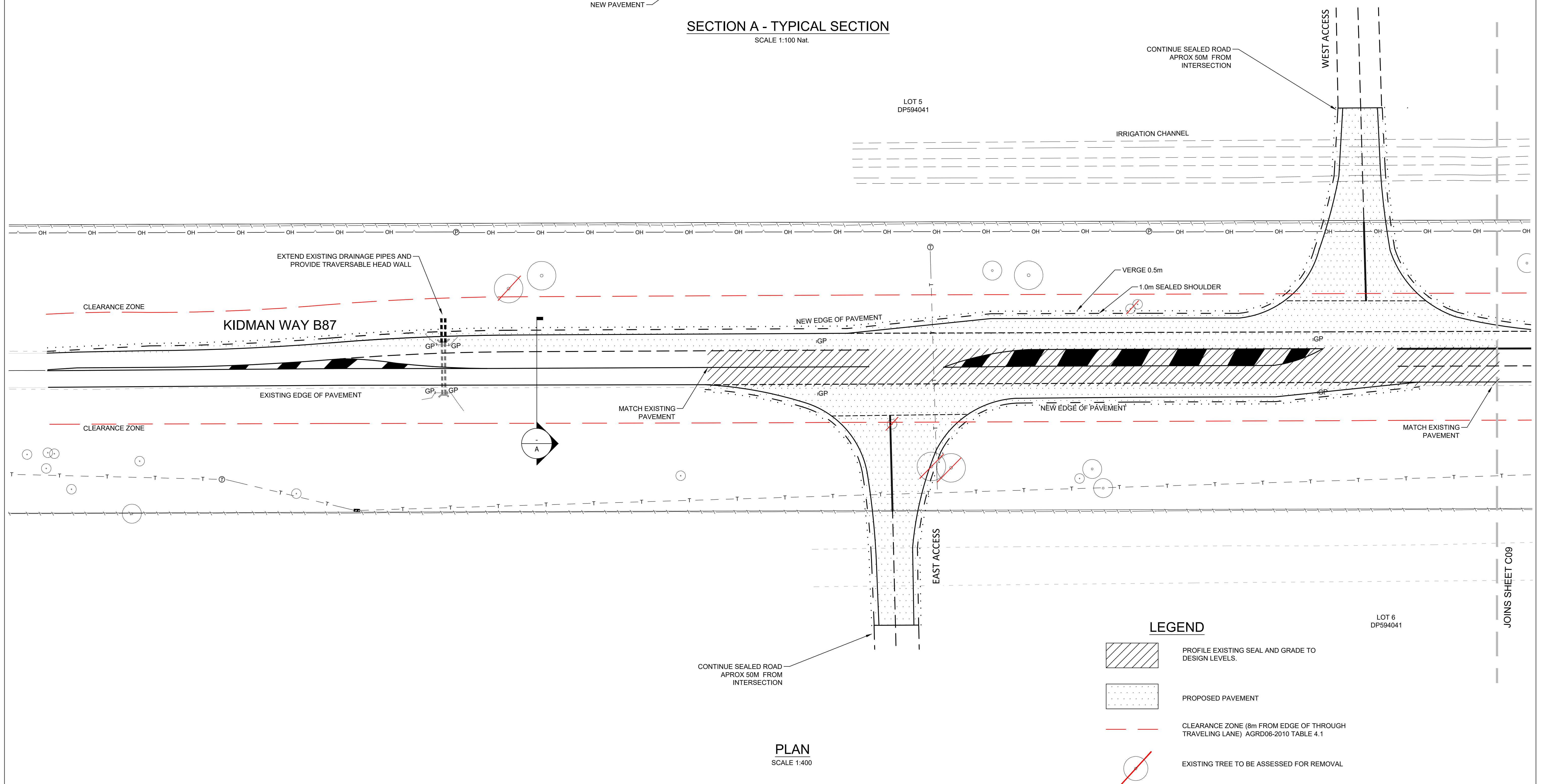
BEWARE OPTIC FIBRE



SECTION A - TYPICAL SECTION
SCALE 1:100 Nat.

UTILITIES		TELSTRA PILLAR	
WATER MAIN	W	TELSTRA PIT	Ⓜ
U/G TELSTRA	T	HYDRANT	Ⓜ
O/H TELSTRA	OT	STOP VALVE	Ⓜ
OPTICAL FIBRE	OF	POWER POLE	Ⓜ
GAS MAIN	G	ELECTRICAL PILLAR	Ⓜ
HP GAS MAIN U/G	HG	POWER LIGHT POLE	Ⓜ
ELECTRICITY	E	LIGHT POLE	Ⓜ
O/H ELECTRICITY	OH	GAS STOP VALVE	Ⓜ
SEWER	S	SEWER MANHOLE	Ⓜ

A1



PLAN
SCALE 1:400

LEGEND

- PROFILE EXISTING SEAL AND GRADE TO DESIGN LEVELS.
- PROPOSED PAVEMENT
- CLEARANCE ZONE (8m FROM EDGE OF THROUGH TRAVELING LANE) AGRD06-2010 TABLE 4.1
- EXISTING TREE TO BE ASSESSED FOR REMOVAL

 SYDNEY Suite 01 Ground Floor 20 Chandos Street, St Leonards NSW 2065 Phone # 02 9493 9500 www.emmconsulting.com.au	REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED		PROJECT: DINAWAN WIND FARM STRATEGIC CONCEPT DESIGN - NEW SITE ACCESS INTERSECTIONS, KIDMAN WAY	DRAWING TITLE: STRATEGIC CONCEPT DESIGN CONSTRUCTION PLAN 1.	CLIENT: SPARK RENEWABLES	
	C	26/1/26	TNSW COMMENTS	C.J.	A.U.									DRG. #: EMM - C08	REV: C
	B	10/4/25	TNSW COMMENTS	C.J.	A.U.									PROJECT #: E220305	
	A	18/10/24	TNSW COMMENTS	C.J.	A.U.									SCALE: AS SHOWN	
	-	8/7/24	STRATEGIC CONCEPT DESIGN	C.J.	A.U.										

WARNING
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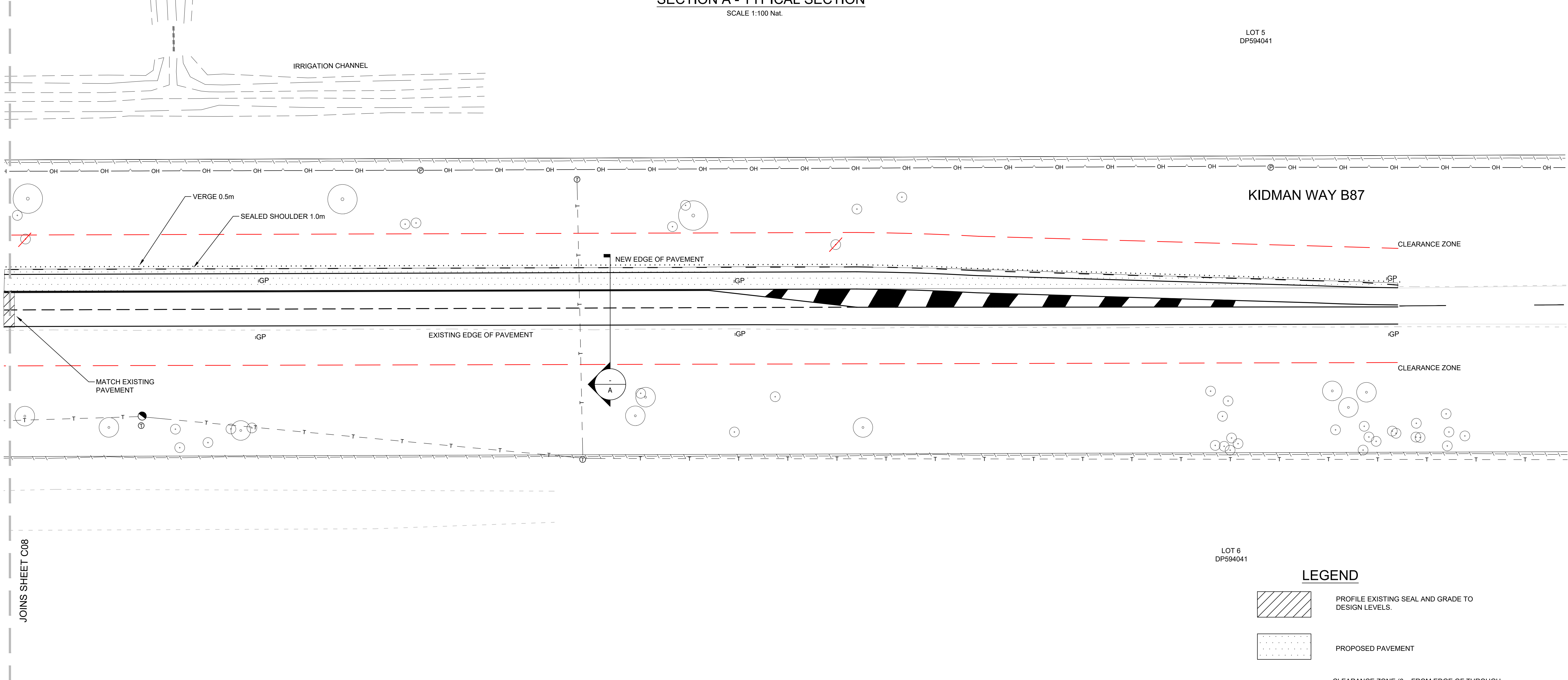
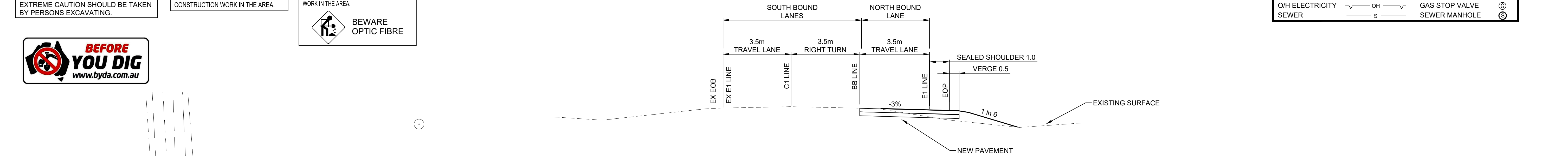
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 BEWARE OPTIC FIBRE

UTILITIES		TELSTRA PILLAR	
WATER MAIN	W	TELSTRA PIT	
U/G TELSTRA	T	HYDRANT	
O/H TELSTRA	OT	STOP VALVE	
OPTICAL FIBRE	OF	POWER POLE	
GAS MAIN	G	ELECTRICAL PILLAR	
HP GAS MAIN U/G	HG	POWER LIGHT POLE	
ELECTRICITY	E	LIGHT POLE	
O/H ELECTRICITY	OH	GAS STOP VALVE	
SEWER	S	SEWER MANHOLE	



LEGEND

	PROFILE EXISTING SEAL AND GRADE TO DESIGN LEVELS.
	PROPOSED PAVEMENT
	CLEARANCE ZONE (8m FROM EDGE OF THROUGH TRAVELING LANE) AGRD06-2010 TABLE 4.1
	EXISTING TREE TO BE ASSESSED FOR REMOVAL

	SYDNEY Suite 01 Ground Floor 20 Chandos Street, St Leonards NSW 2065 Phone # 02 9493 9500 www.emmconsulting.com.au		REV		DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED		PROJECT: DINAWAN WIND FARM STRATEGIC CONCEPT DESIGN - NEW SITE ACCESS INTERSECTIONS, KIDMAN WAY	DRAWING TITLE: STRATEGIC CONCEPT DESIGN CONSTRUCTION PLAN 2.	CLIENT: SPARK RENEWABLES	
																	DRG. #: EMM - C09 PROJECT #: E220305 SCALE: AS SHOWN	REV: C

WARNING
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— T — T —
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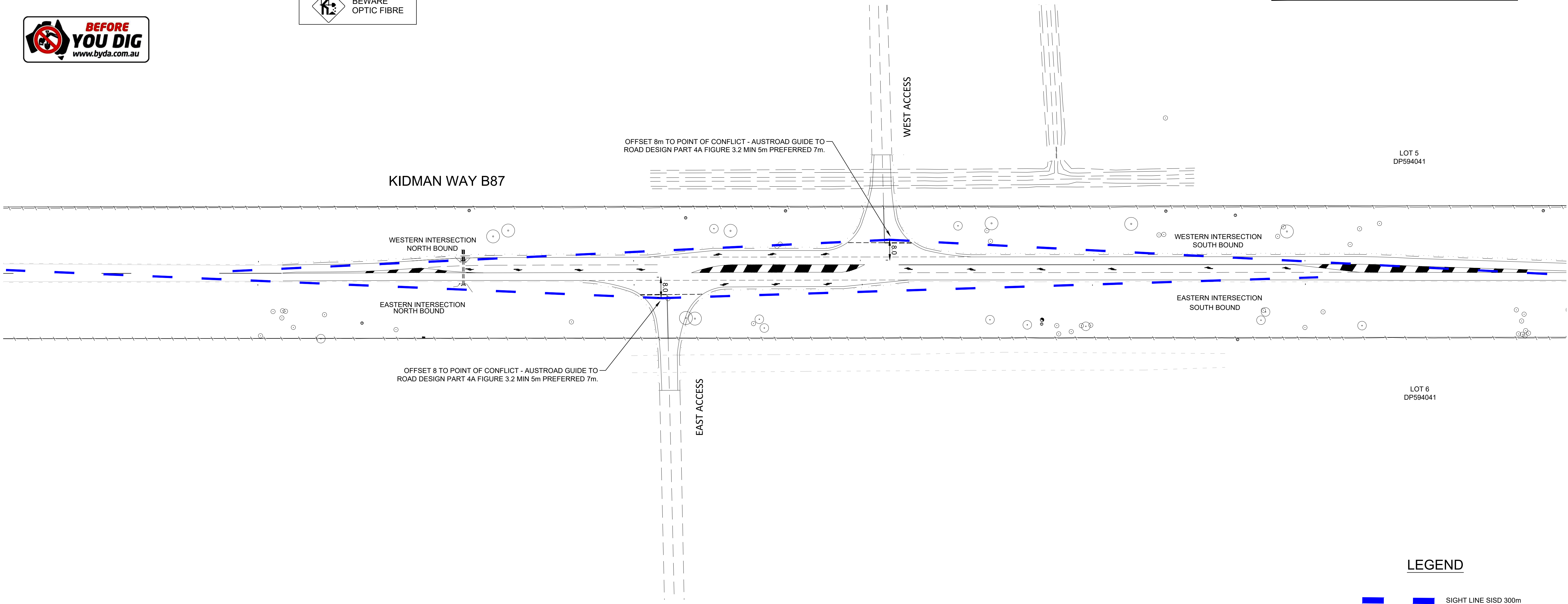
WARNING U/G TELSTRA

CABLES
— OF — OF —
PLEASE CONTACT THE N.I.A.C. GROUP AT TELSTRA ON 9204-0880 OR 9204-0923, BEFORE STARTING ANY CONSTRUCTION WORK IN THE AREA.

 **BEWARE OPTIC FIBRE**



UTILITIES		TELSTRA PILLAR	
WATER MAIN	— W —	TELSTRA PILLAR	①
U/G TELSTRA	— T —	TELSTRA PIT	■
O/H TELSTRA	— OT —	HYDRANT	⊞
OPTICAL FIBRE	— OF —	STOP VALVE	⊕
GAS MAIN	— G —	POWER POLE	⊙
HP GAS MAIN U/G	— HG —	ELECTRICAL PILLAR	■
ELECTRICITY	— E —	POWER LIGHT POLE	⊕
O/H ELECTRICITY	— OH —	LIGHT POLE	⊙
SEWER	— S —	GAS STOP VALVE	⊕
		SEWER MANHOLE	⊙



PLAN
SCALE 1:900

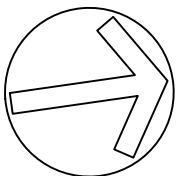
REFER TO SHEET C11 & C12 FOR LONGITUDINAL SECTIONS

NOT FOR CONSTRUCTION

COMMENTS

- NOTES:
- 1. SISD calculated in accordance Austroads guides to traffic engineering practice
 - 2. Posted speed 100km/h, design speed is 110km/h and through lanes typically 3.5m wide.
 - 3. Driver reaction time of 2.5sec.

REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
C	26/1/26	TINSW COMMENTS	C.J.	A.U.					
B	10/4/25	TINSW COMMENTS	C.J.	A.U.					
A	18/10/24	TINSW COMMENTS	C.J.	A.U.					
-	8/7/24	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
NEW SITE ACCESS INTERSECTIONS,
KIDMAN WAY

DRAWING TITLE:
STRATEGIC CONCEPT DESIGN
SISD PLAN

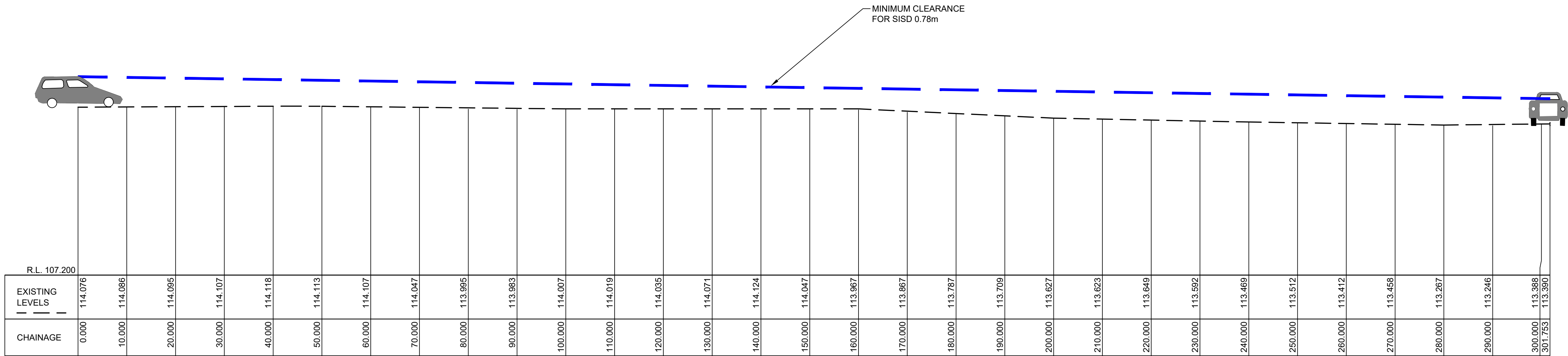
CLIENT: **SPARK RENEWABLES**

DRG. #: **EMM - C10**

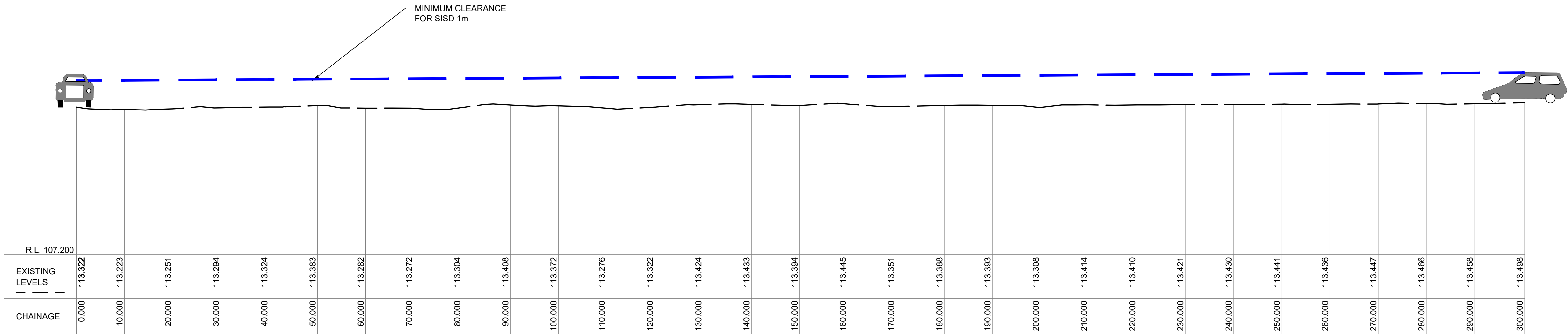
PROJECT #: **E220305**

SCALE: **AS SHOWN**

REV: C



SISD LONGITUDINAL SECTION - EASTERN INTERSECTION - NORTH BOUND APPROACH
SCALES: HORIZONTAL 1:500 VERTICAL 1:100



SISD LONGITUDINAL SECTION - EASTERN INTERSECTION - SOUTH BOUND APPROACH
SCALES: HORIZONTAL 1:500 VERTICAL 1:100



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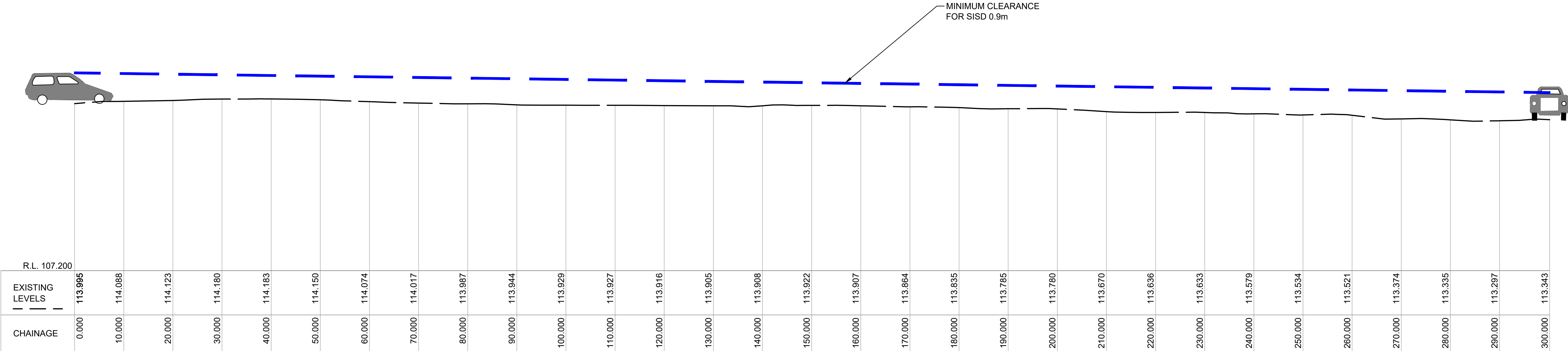
REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
C	26/1/26	TNSW COMMENTS	C.J.	A.U.					
B	10/4/25	TNSW COMMENTS	C.J.	A.U.					
A	18/10/24	TNSW COMMENTS	C.J.	A.U.					
-	8/7/24	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					

PROJECT:
DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
NEW SITE ACCESS INTERSECTIONS,
KIDMAN WAY

DRAWING TITLE:
STRATEGIC CONCEPT DESIGN
SISD LONGITUDINAL SECTIONS
EAST ACCESS

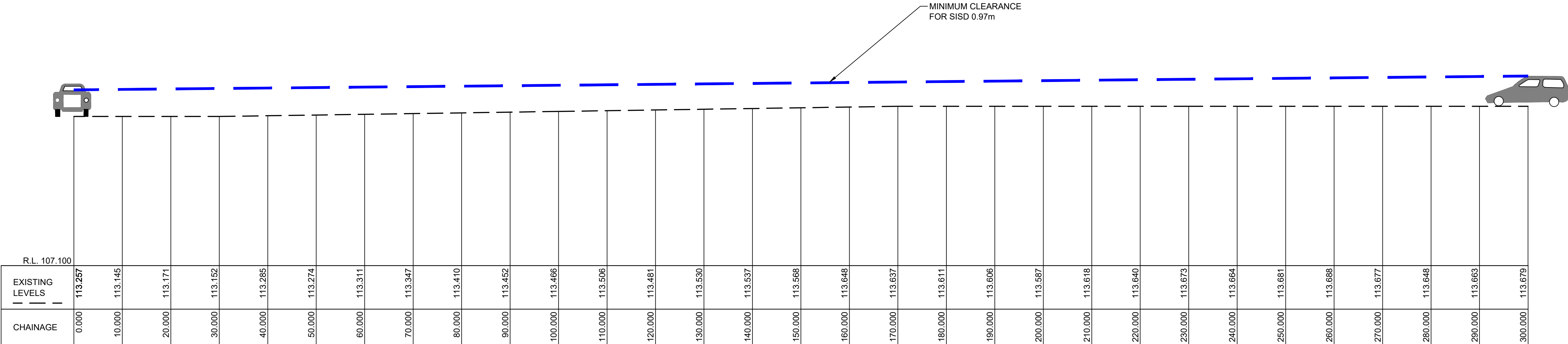
CLIENT: SPARK RENEWABLES
DRG. #: EMM - C11
PROJECT #: E220305
SCALE: AS SHOWN

REV: C



SISD LONGITUDINAL SECTION - WESTERN INTERSECTION - NORTH BOUND APPROACH

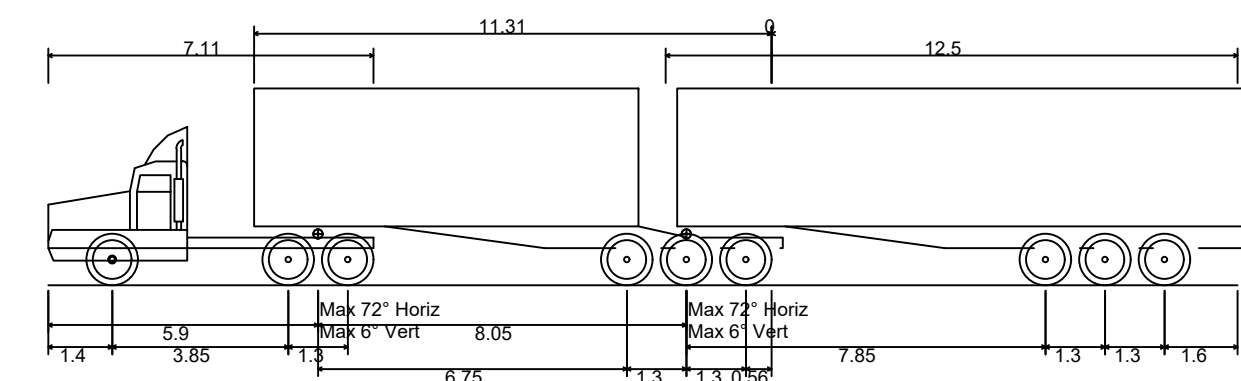
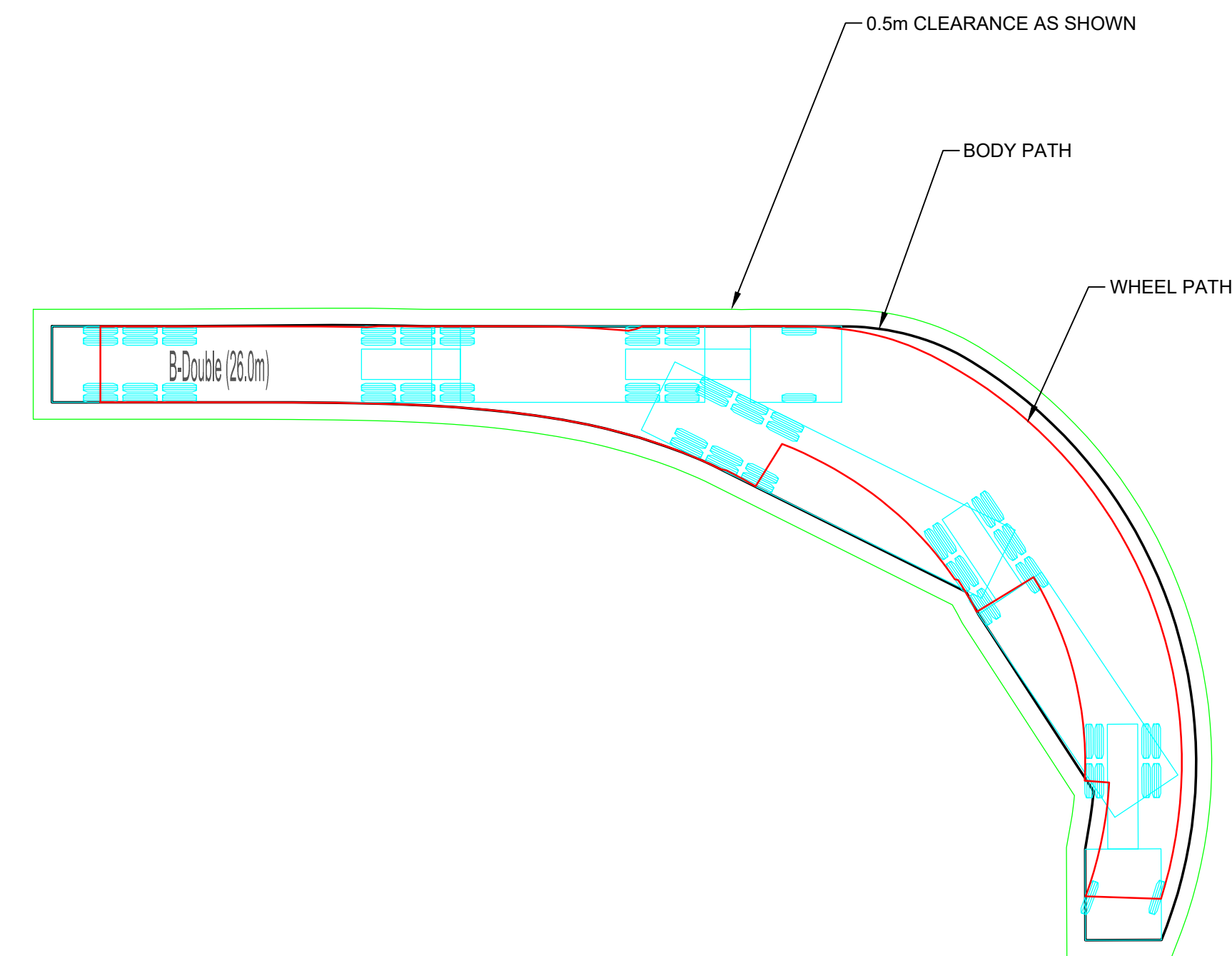
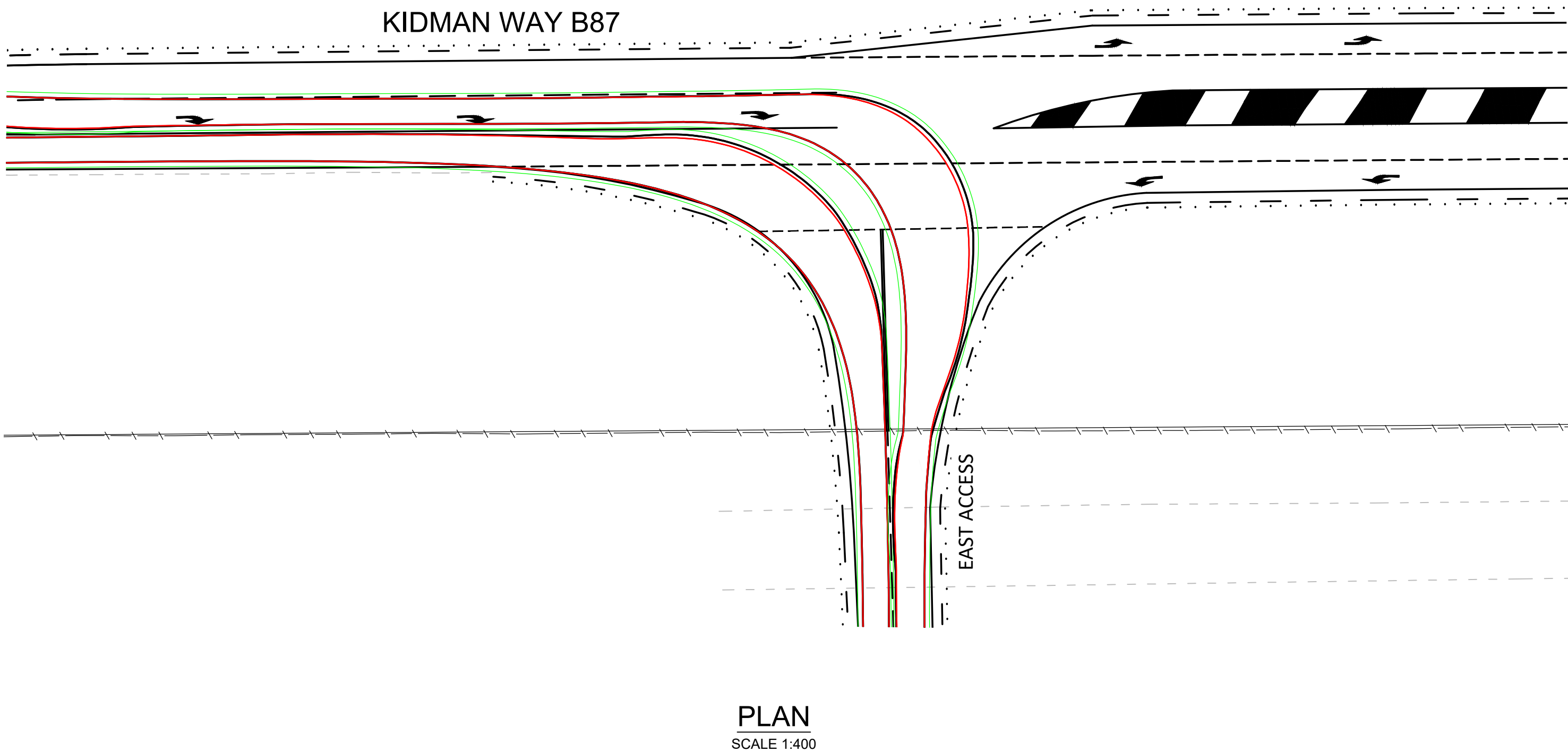
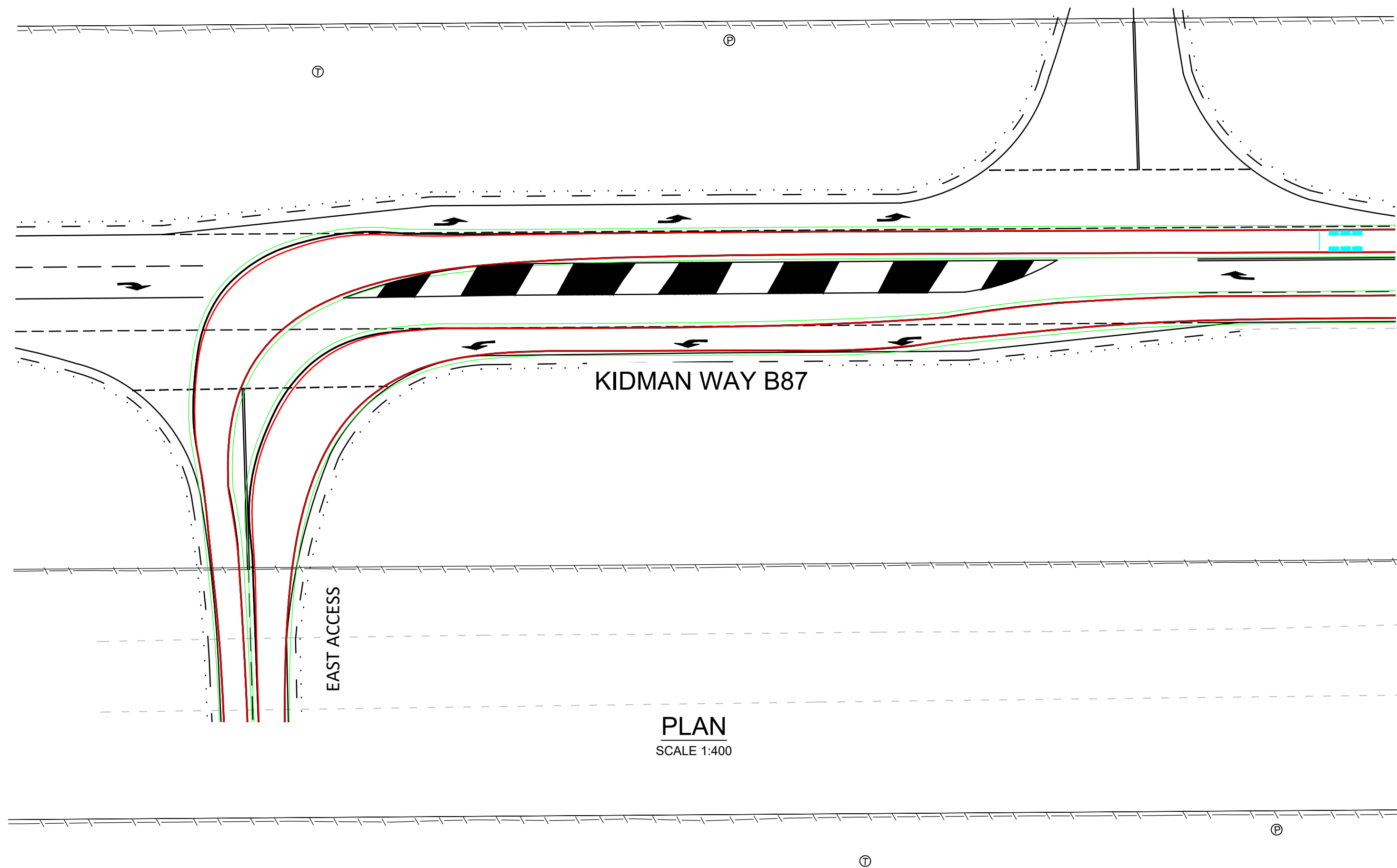
SCALES: HORIZONTAL 1:500 VERTICAL 1:100



SISD LONGITUDINAL SECTION - WESTERN INTERSECTION - SOUTH BOUND APPROACH

SCALES: HORIZONTAL 1:500 VERTICAL 1:100

REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
C	26/1/26	TfNSW COMMENTS	C.J.	A.U.					
B	10/4/25	TfNSW COMMENTS	C.J.	A.U.					
A	18/10/24	TfNSW COMMENTS	C.J.	A.U.					
-	8/7/24	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



B-Double (26.0m)	26.000m
Overall Length	2.500m
Overall Width	4.300m
Overall Body Height	0.540m
Min Body Ground Clearance	2.500m
Track Width	6.00s
Lock-to-lock time	

NOTES:

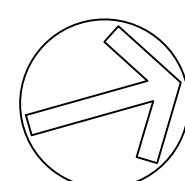
- The design speed used for the swept paths is **15kmh** and no initial lock, lock to lock or turn on spot has been utilised to produce the swept paths shown.
- The turning paths illustrated in this drawing have been prepared using the AutoCAD Vehicle tracking modelling software in conjunction with AutoCAD Civil3D.
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- While this modelling represents a conservative assessment of the vehicles ability, it is not possible to account for all vehicle types/characteristics or driver ability.

NOT FOR CONSTRUCTION



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-	8/7/24	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
NEW SITE ACCESS INTERSECTIONS,
KIDMAN WAY

DRAWING TITLE:
STRATEGIC CONCEPT DESIGN
SWEPT PATH PLAN - EAST ACCESS
B-DOUBLE

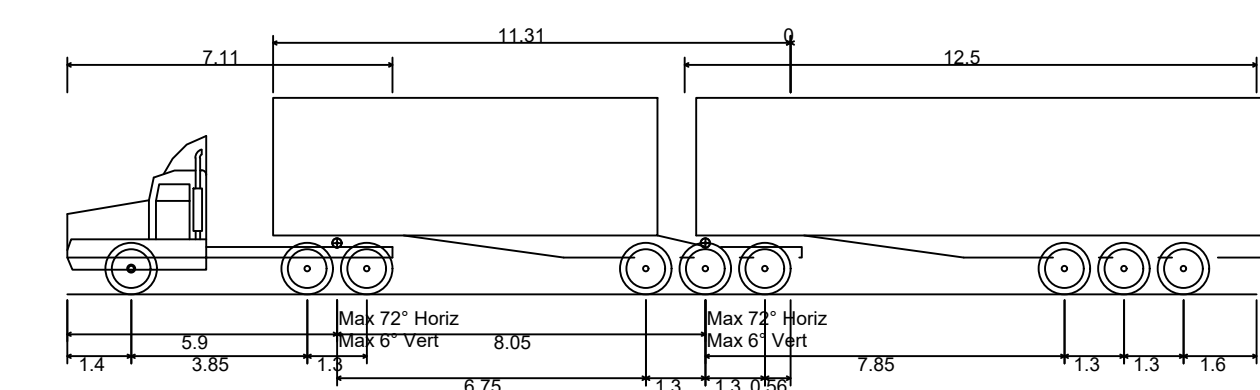
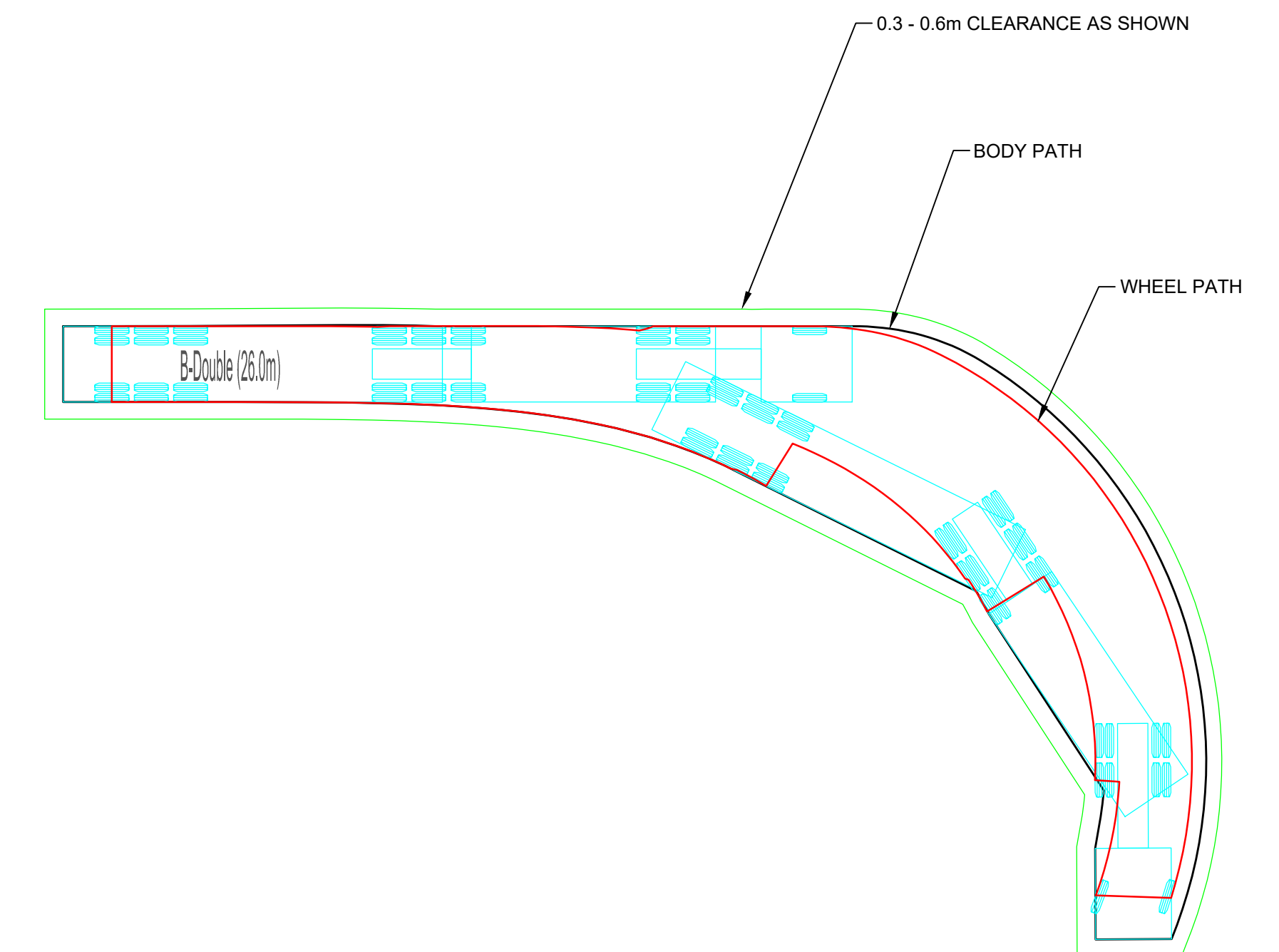
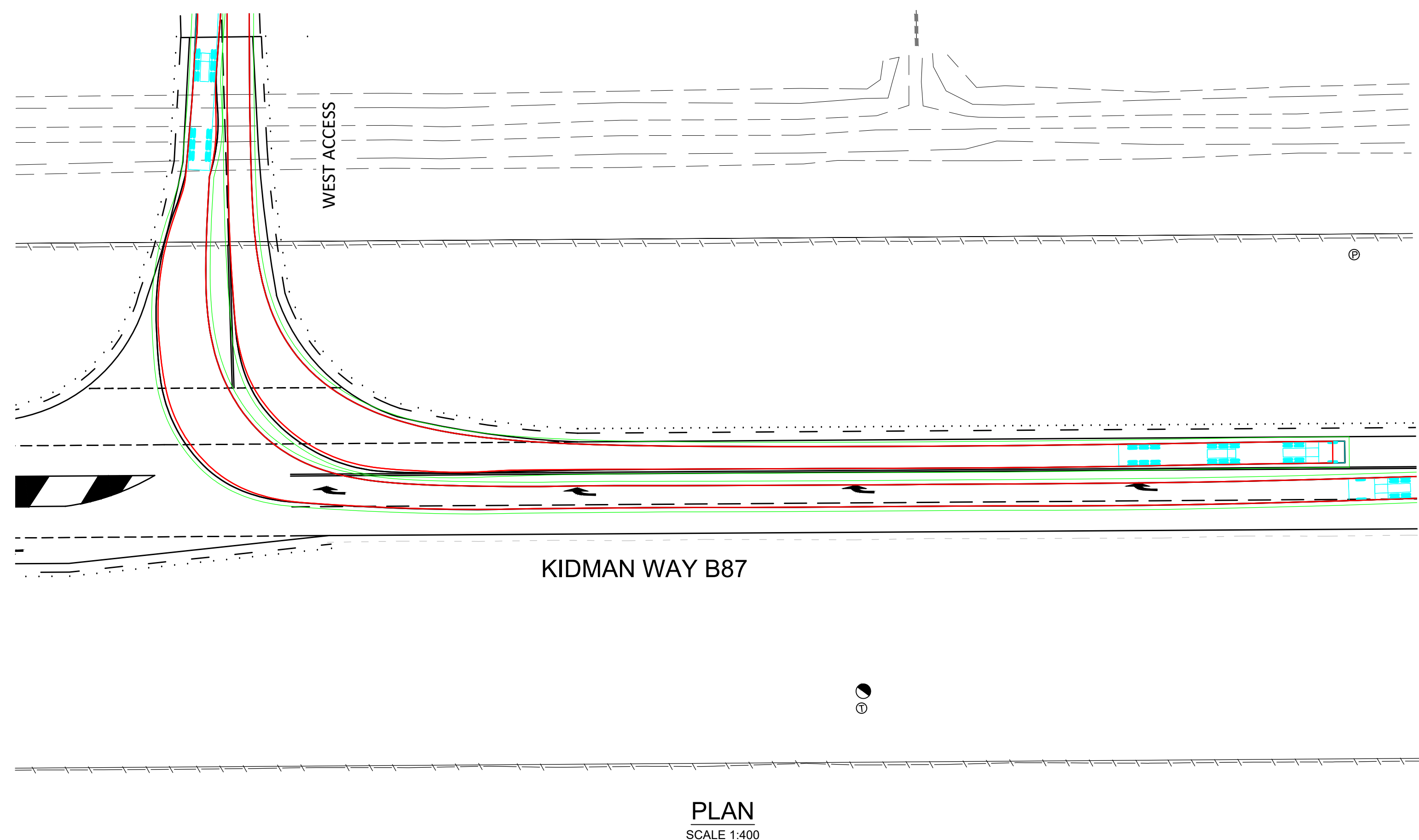
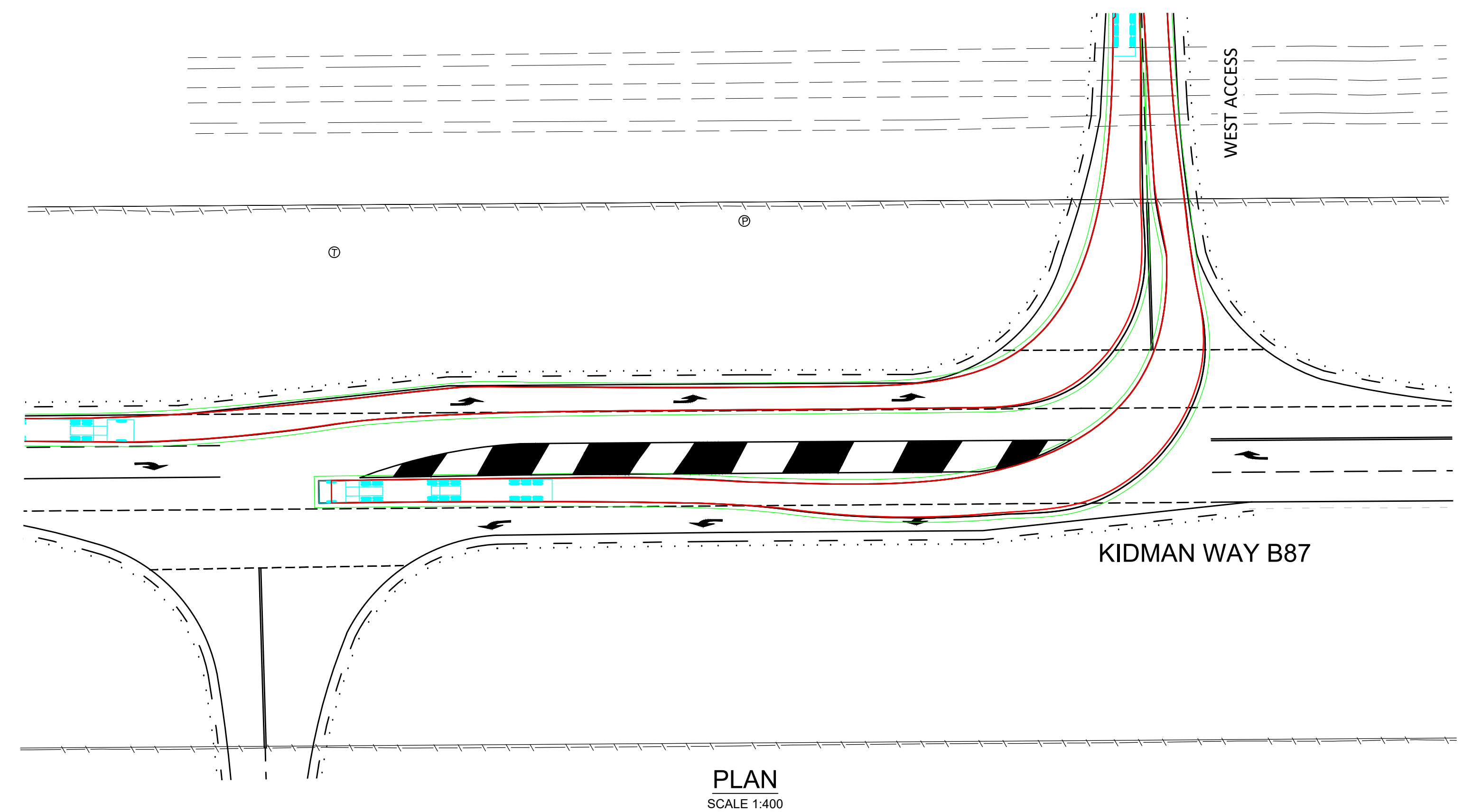
CLIENT: SPARK RENEWABLES

DRG. #: EMM - C13

PROJECT #: E220305

SCALE: AS SHOWN

REV: C



B-Double (26.0m)	
Overall Length	26.000m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.540m
Track Width	2.500m
Lock-to-lock time	6.00s

NOTES:

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DRAWING TITLE:

STRATEGIC CONCEPT DESIGN
SWEEP PATH PLAN - WEST ACCESS
B-DOUBLE

CLIENT: SPARK RENEWABLES

DRG. #: EMM - C14

PROJECT #:	E220305
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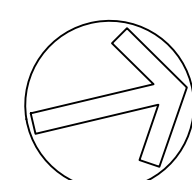
REV: C

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A	18/10/24	TNSW COMMENTS	C.J.	A.U.					
-	8/7/24	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
NEW SITE ACCESS INTERSECTIONS,
KIDMAN WAY

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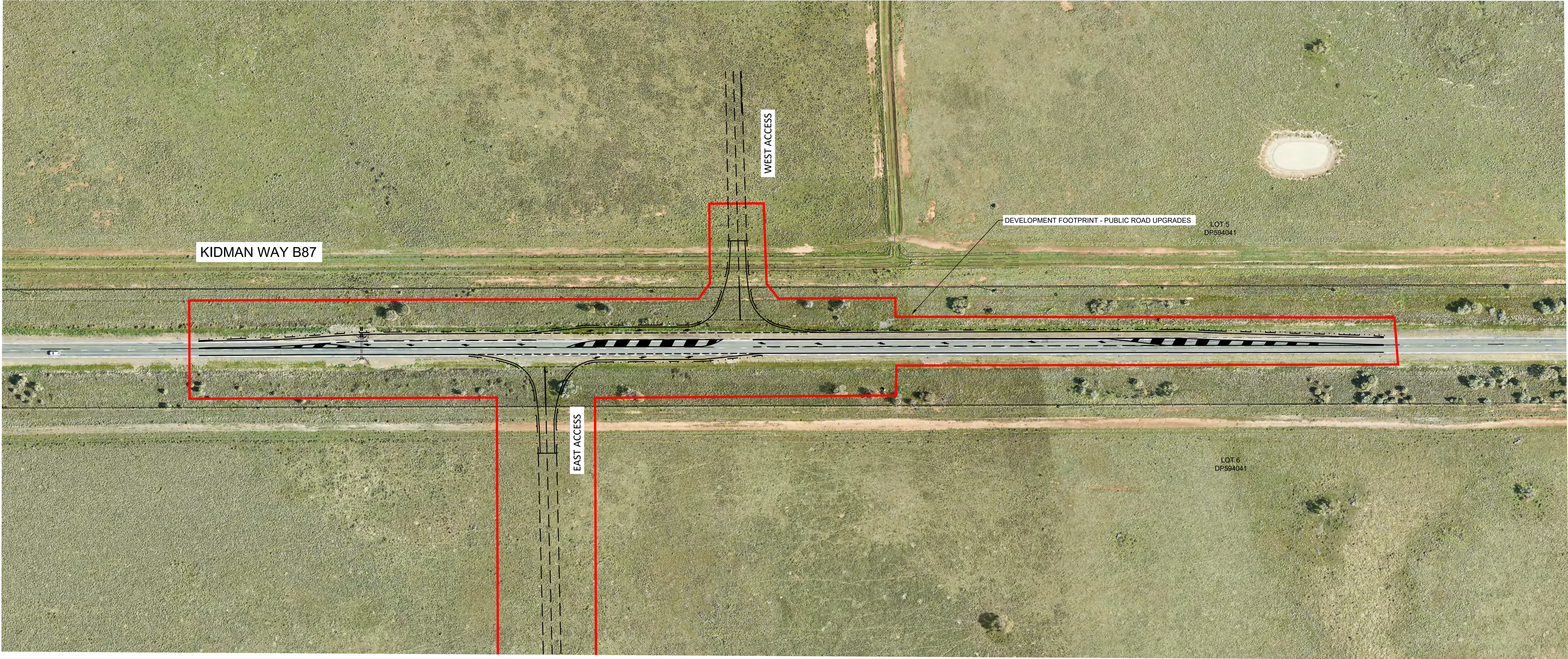
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 BEWARE OPTIC FIBRE

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WATER MAIN	— W —	TELSTRA PIT	Ⓜ
U/G TELSTRA	— T —	HYDRANT	Ⓜ
O/H TELSTRA	— OT —	STOP VALVE	Ⓜ
OPTICAL FIBRE	— OF —	POWER POLE	Ⓜ
GAS MAIN	— G —	ELECTRICAL PILLAR	Ⓜ
HP GAS MAIN U/G	— HG —	POWER LIGHT POLE	Ⓜ
ELECTRICITY	— E —	LIGHT POLE	Ⓜ
O/H ELECTRICITY	— OH —	GAS STOP VALVE	Ⓜ
SEWER	— S —	SEWER MANHOLE	Ⓜ



PLAN
SCALE 1:1000

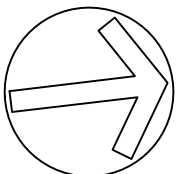


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A	18/10/24	TNSW COMMENTS	C.J.	A.U.					
-	8/7/24	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
**DINAWAN WIND FARM
STRATEGIC CONCEPT DESIGN -
NEW SITE ACCESS INTERSECTIONS,
KIDMAN WAY**

DRAWING TITLE:
**STRATEGIC CONCEPT DESIGN
ROAD UPGRADE CORRIDOR PLAN**

CLIENT: **SPARK RENEWABLES**

DRG. #: **EMM - C15**

PROJECT #: **E220305**

SCALE: **AS SHOWN**

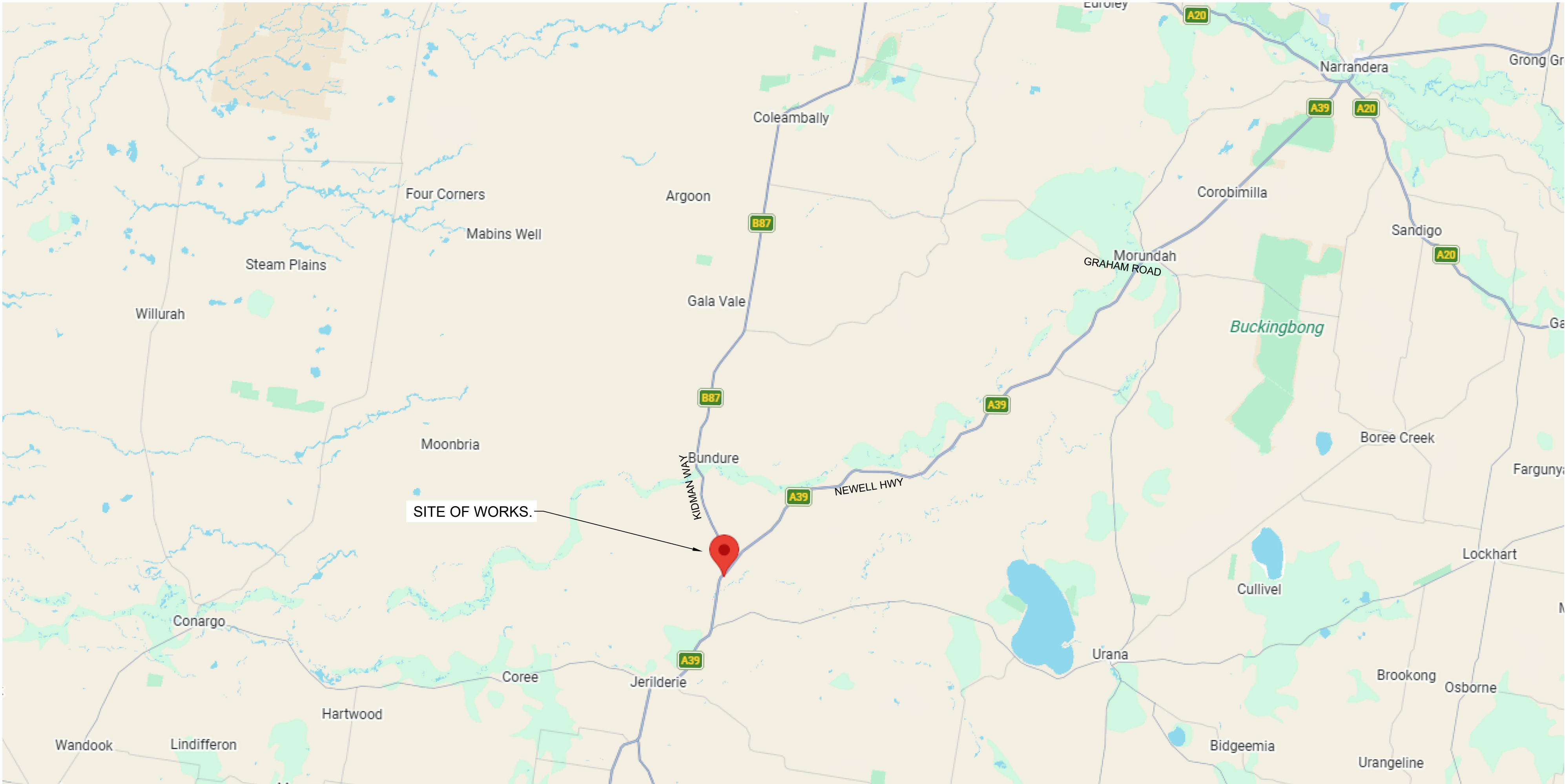
REV: C

A.4 Newell Highway and Kidman Way intersection

DINAWAN WIND FARM

2D STRATEGIC CONCEPT DESIGN - OSOM HARDSTAND

KIDMAN WAY & NEWELL HIGHWAY



TfNSW STRATEGIC DESIGN REQUIREMENTS 2D		
DESIGN INCLUSIONS	YES	NO
North point	X	
Road names	X	
Proposed edge of pavement	X	
New pavement shown as shaded	X	
Proposed line and pavement markings	X	
Proposed medians including type (raised or painted)	X	
Proposed footpaths and/or cycle ways	X	
Proposed safety barriers	X	
Property boundaries (from mapping program)	X	N/A
Sight distance checks	X	N/A
Proposed regulatory signage (e.g. parking restrictions, speed zone changes)	X	
Vegetation- tree trunks and foliage, including proposed trees removal to enable works	X	
Hazard free zone (clear zone)	X	N/A
Dimension all proposed design elements (incl. line marking)	X	
Typical section/s	X	
Turning paths of design vehicle at 15km/h	X	

OVERALL SITE PLAN
NTS.

SHEET INDEX		
SHEET No	DESCRIPTION	REV
EMM - C00	COVER SHEET AND SHEET INDEX	C
EMM - C01	2D Strategic Concept Design for the OSOM vehicle travelling from the south along Newell Highway	C
EMM - C02	2D Strategic Concept Design for the OSOM vehicle SIGNAGE PLAN	C

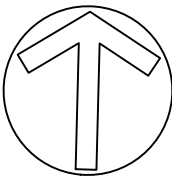


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REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
C	20/5/26	TfNSW COMMENTS	C.J.	A.U.					
B	13/2/26	HAULAGE ROUTE ROAD UPGRADES	C.J.	A.U.					
A	26/1/26	UPDATE SWEPT PATH PLANS	C.J.	A.U.					
-	15/4/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
DINAWAN WIND FARM
HIGH LEVEL DESIGN - OSOM
HARDSTAND
KIDMAN WAY & NEWELL HIGHWAY
-35.251418911, 145.806220554

DRAWING TITLE:
2D STRATEGIC CONCEPT DESIGN
COVER SHEET AND SHEET INDEX

CLIENT: SPARK RENEWABLES

DRG. #: EMM - C00

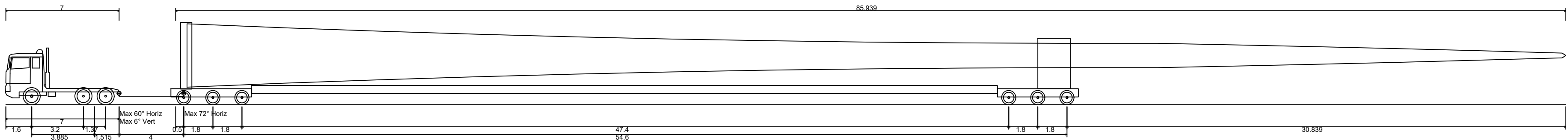
PROJECT #: E240775

SCALE: AS SHOWN

REV: C

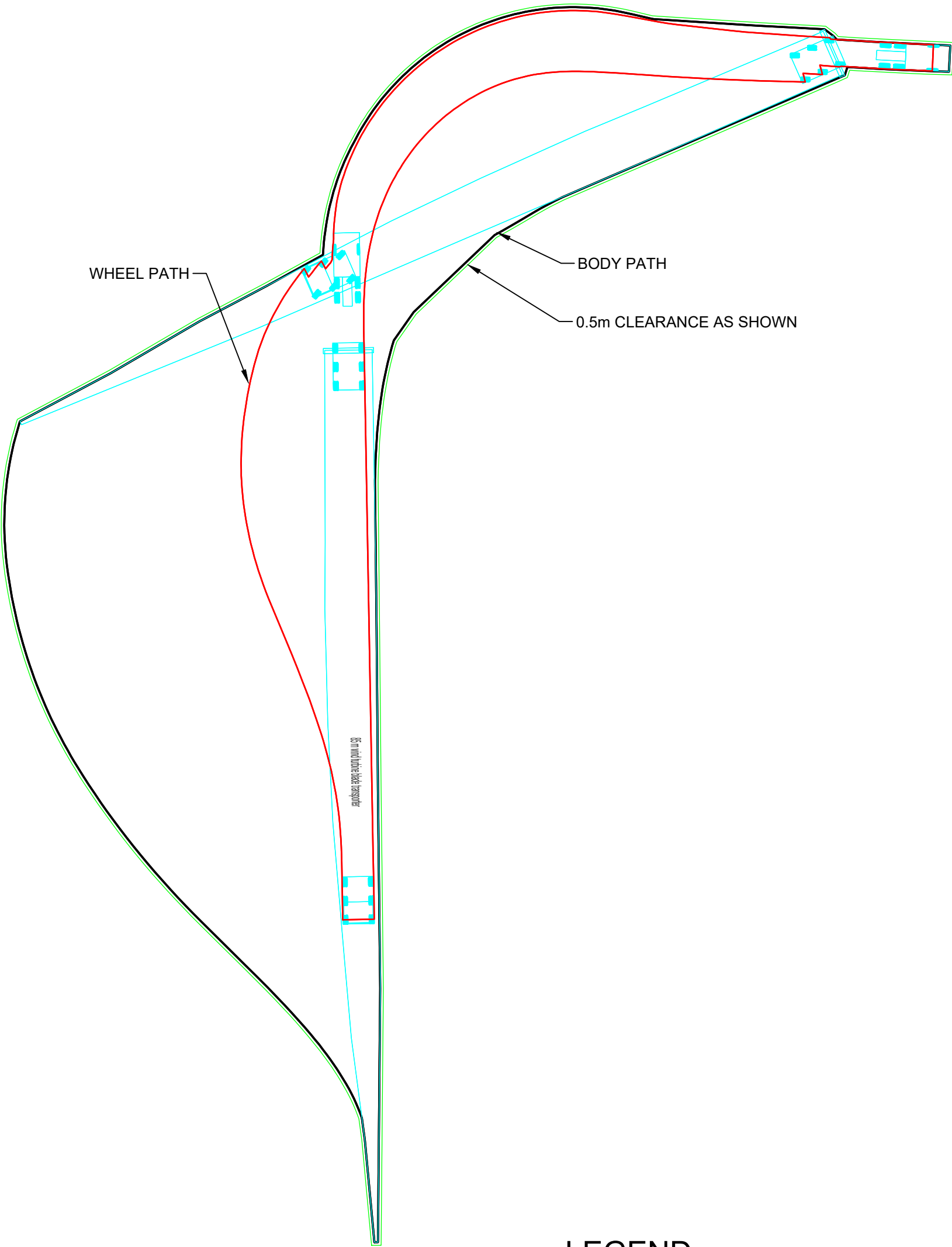


PLAN
SCALE 1:500



85 m wind turbine blade transporter
Overall Length 96.439m
Overall Width 5.089m
Overall Body Height 5.069m
Min Body Ground Clearance 0.424m
Max Track Width 3.000m
Lock-to-lock time 6.00s
Curb to Curb Turning Radius 12.500m

- The design speed used for the swept paths is **15kmh** and no initial lock, lock to lock or turn on spot has been utilised to produce the swept paths shown.
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LEGEND

- HARDSTAND AREA
- EXISTING SIGN
- PROPOSED SIGN

NOT FOR CONSTRUCTION

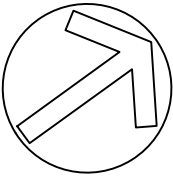


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-	15/4/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
DINAWAN WIND FARM
HIGH LEVEL DESIGN - OSOM
HARDSTAND AREA
KIDMAN WAY & NEWELL HIGHWAY

DRAWING TITLE:
2D Strategic Concept Design for the
OSOM vehicle travelling from the
south along Newell Highway

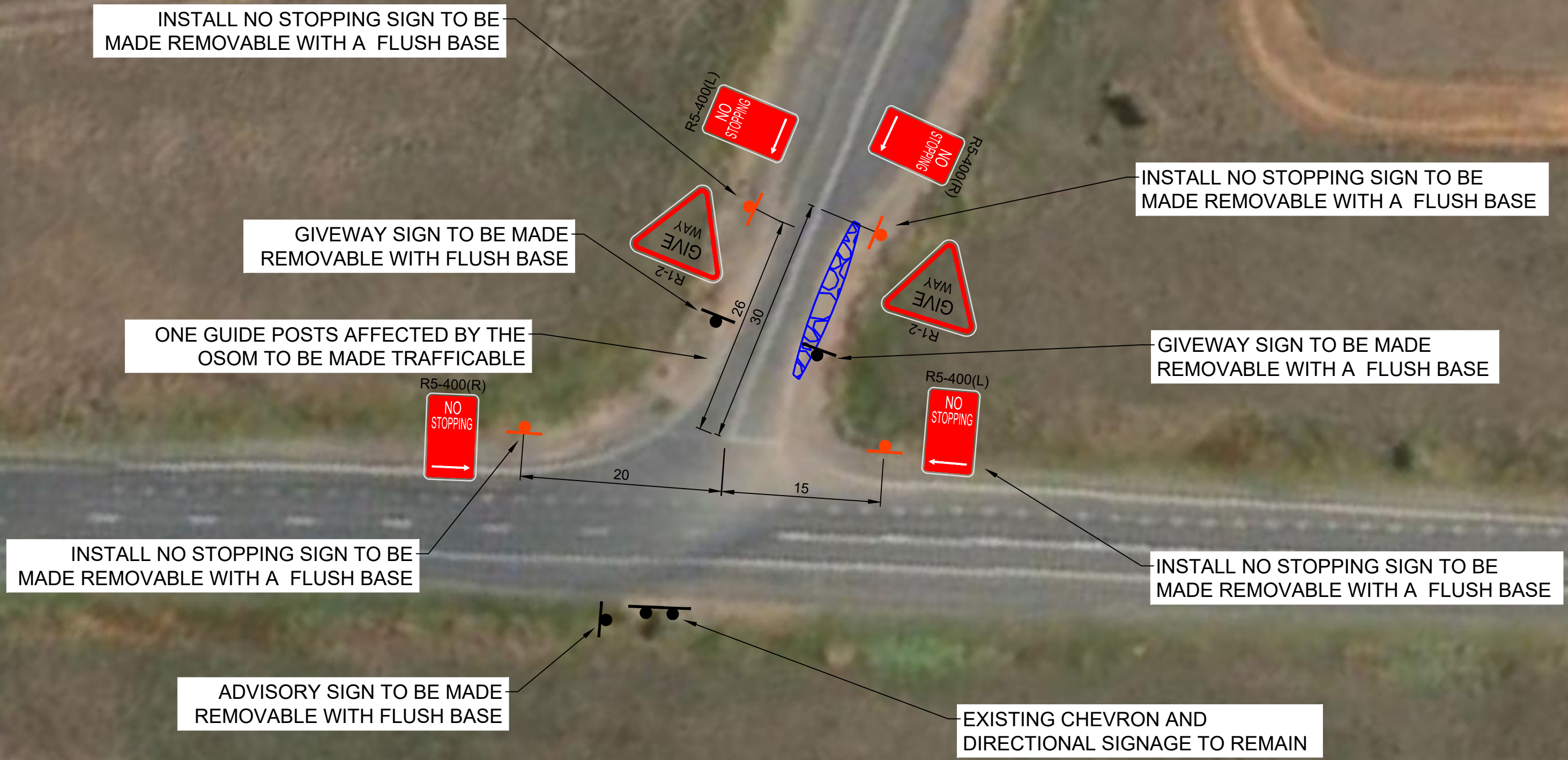
CLIENT: SPARK RENEWABLES

DRG. #: EMM - C01

PROJECT #: E240775

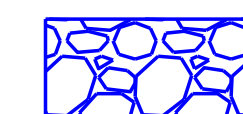
SCALE: AS SHOWN

REV: C



PLAN
SCALE 1:500

LEGEND



HARDSTAND AREA



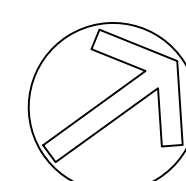
EXISTING SIGN



PROPOSED SIGN

NOT FOR CONSTRUCTION

REV	DATE	COMMENT	DRAWN	REVIEWED	REV	DATE	COMMENT	DRAWN	REVIEWED
C	20/5/26	TNSW COMMENTS	C.J.	A.U.					
B	13/2/26	HAULAGE ROUTE ROAD UPGRADES	C.J.	A.U.					
A	26/1/26	UPDATE SWEPT PATH PLANS	C.J.	A.U.					
-	15/4/25	STRATEGIC CONCEPT DESIGN	C.J.	A.U.					



PROJECT:
DINAWAN WIND FARM
HIGH LEVEL DESIGN - OSOM
HARDSTAND AREA
KIDMAN WAY & NEWELL HIGHWAY

DRAWING TITLE:	2D Strategic Concept Design for the OSOM vehicle SIGNAGE PLAN
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CLIENT: SPARK RENEWABLES

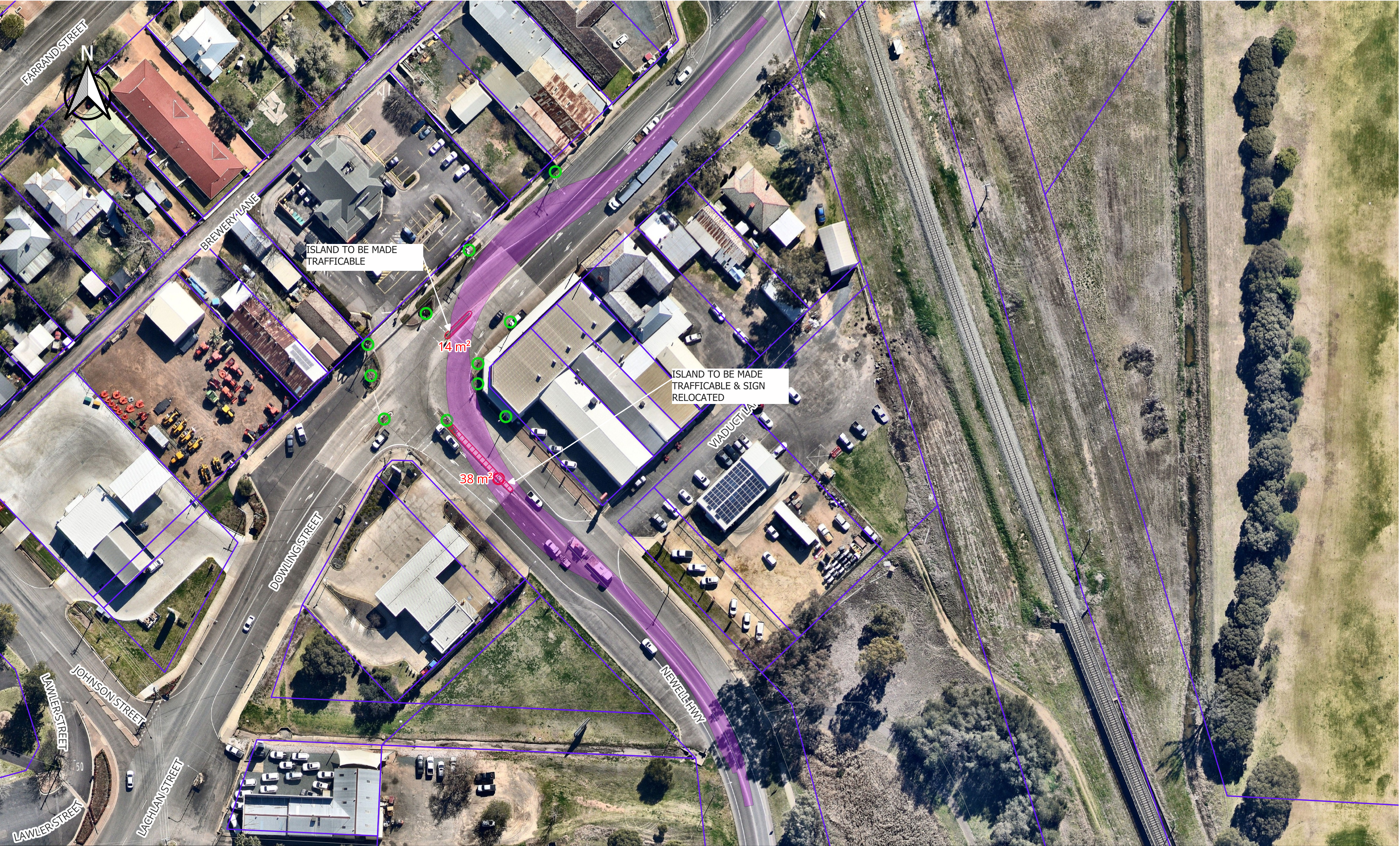
DRG. #: EMM - C02

PROJECT #: E240775

SCALE: AS SHOWN

REV: C

A.5 Newell Highway and Dowling Street intersection

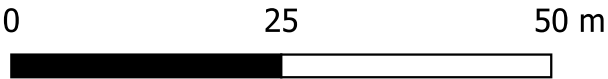


DINAWAN WIND FARM			
581.0 Km's: Newell Highway intersection with Dowling Street			
GDA2020 / MGA zone 55			
Drawing number		RJX Report Figure 60	
Author		AMM	
Q.A.	JK - DR	SIZE	A3

Legend

- Road
- Cadastre boundary
- Vehicle Envelope
- Removal unlikely
- Works
- Works required

Note: The requirement for changes to existing infrastructure will be discussed in detail with TfNSW and Council post-approval. The extent of upgrade works will be subject to the agreement of the relevant authorities.



SCALE 1: 700
Date:27/05/2026

NEWELL HWY INTERSECTION WITH DOWLING STREET



While Spark Renewables has taken steps to ensure the reliability of the maps included in this material, they are provided "as is" without any warranty, express or implied, regarding their accuracy or suitability for any specific purpose.

A.6 Newell Highway and Conargo Road intersection



DINAWAN WIND FARM			
415.0 Km's: Corner on Newell Highway at Conargo Road			
GDA2020 / MGA zone 55			
Drawing number	RJX Geelong Report Figure 13/45		
Author	AMM		
Q.A.	JK - DR	SIZE	A3

Legend

- Road

— Load Envelope

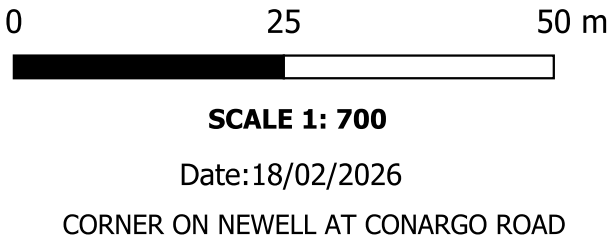
▭ Cadastre boundary

▭ Vehicle Envelope
- ▭ Spotter required

▭ Works

▭ Works required

Note: The requirement for changes to existing infrastructure will be discussed in detail with TfNSW and Council post-approval, to be read in conjunction with the OSOM assessment completed by RJA. The extent of upgrade works will be subject to the agreement of the relevant authorities.



While Spark Renewables has taken steps to ensure the reliability of the maps included in this material, they are provided "as is" without any warranty, express or implied, regarding their accuracy or suitability for any specific purpose.

Annexure B

OSOM route assessment (Port of Geelong)



ROUTE STUDY: WIND TURBINE TRANSPORT

PROJECT: DINAWAN ENERGY HUB WINDFARM

POI: GEELONG PORT

TURBINE SIZE: V172 85 METRE BLADE, HUB
HEIGHT 150 METRE

29/07/2025 REV 01

Rev	Date	Change	Responsible	Checked
00	05/05/25	Report compiled	G Allen	✓
00	05/05/25	Report completed	W Andrews	
01	29/07/25	Report updated	W Andrews	

Index

1.0	INTRODUCTION	3
2.0	EVALUATION	4
3.0	PROJECT DATA.....	5
4.0	PORT OF IMPORT.....	6
5.0	SITE LOCATION.....	7
6.0	TRANSPORT SUMMARY.....	9
7.0	ROUTE 1: GEELONG PORT TO DINAWAN WINDFARM	10
8.0	ROUTE 1: CONCLUSION	31
9.0	ROUTE 2: GEELONG TO DINAWAN WINDFARM	33
10.0	ROUTE 2: CONCLUSION	67
11.0	TRANSPORT APPROVALS REQUIRED.....	70
12.0	REFERENCES	71
13.0	APPENDIX 1 –TRANSPORT COMBINATIONS.....	72
14.0	APPENDIX 2 –TRANSPORT DRAWINGS	74

1.0 Introduction

Spark Renewables are in the early stages of investigating a potential windfarm as part of the Dinawan Energy Hub in the Southwest Renewable Energy Zone in Southwestern NSW.

This study has been prepared to provide an understanding of the transport route constraints for the proposed components as listed in the report and provide route options in order to assist in planning of the project.

This document utilises observations gained from route surveys, as well as previous experience on route and outlines the requirements for the transport of wind turbine equipment from Geelong port to the Dinawan Energy Hub.

The study is based on a V172, 85-metre blade with a hub height of 150 metres and a tower diameter of up to 6.0 metres.

2.0 Evaluation

Assessment of the proposed routes was conducted by Rex J Andrews Engineered Transportation based on onsite route surveys as well as previous experience on sections of the identified routes and transporting turbine equipment similar to the proposed turbine that is used on various other projects. The assessment was conducted utilising the knowledge, experience and intellectual property of Rex J Andrews Engineered Transportation on purpose-built equipment and is not intended for use by other parties.

The assessment considered the key constraints encountered on the routes and an estimation of the amount of work required to make the route viable based on previous experience. Table 1 shows the evaluation of each route and provides an overall ranking to give guidance on the most suitable route for the development from a transport perspective. The assessment was based on operational factors and equipment capability and does not consider external factors such as regulatory, landholder, environmental, cultural or any other external factors beyond the knowledge or control of Rex J Andrews Engineered Transportation.

		Harbour	Road Modification (Civil & infrastructure works, etc)	Road Furnishings (Minor works to signs etc).	Vegetation	Site Entrance	Bridge Calculations	Overhead utilities	Overall Work Required
1	No Cost								
2	Some Work								
3	Moderate Amount of Work								
4	Large Amount of Work								
Route 1	Blades & Loads under 5.2m High	2	3	3	2	4	3	2	3
Route 2	Towers & Loads up to 6.5m High	1	4	4	3	4	4	4	3.5

Table 1 - Route Evaluation

3.0 Project Data

Date of latest Route Study 05/05 /2025

Survey undertaken by. Rex J Andrews Engineered Transportation P/L

Project name. Dinawan Energy Hub Windfarm

Location. Geelong (VIC) to Jerilderie (NSW)

Turbine types undertaken in the study:

Vestas V172.

Tower types undertaken in the study:

150 Metre

4.0 Port of Import

The wind turbine equipment is to be imported from various countries and arrive on ships into the Port of Geelong. Alternatively, the client may source local towers.

The ideal berth for these shipments is the Lascelles Wharf. This facility has a hardstand storage area of roughly 41,000 s/q meters, adjacent to the berth.

Additionally, there is an external storage area of 35,000 s/q metres at the Infrabuild site on Madden Avenue approx 400 metres west of the port.

If both storage areas were used for a wind turbine project than the storage areas would have the capacity for the following.

Towers: 25 sets of 6 section towers

Blades: 30 sets of 85 metre blades

Turbine motors components: 30 sets



Figure 1 – Geelong Port Lascelles 3 and storage areas

5.0 Site Location

The proposed Dinawan Energy Hub development is located approximately 30 kilometres (km) Southwest of Darlington Point, in southwest New South Wales. Access is via Kidman Way. The Project Area is within the Murray Region of New South Wales (NSW). 3T

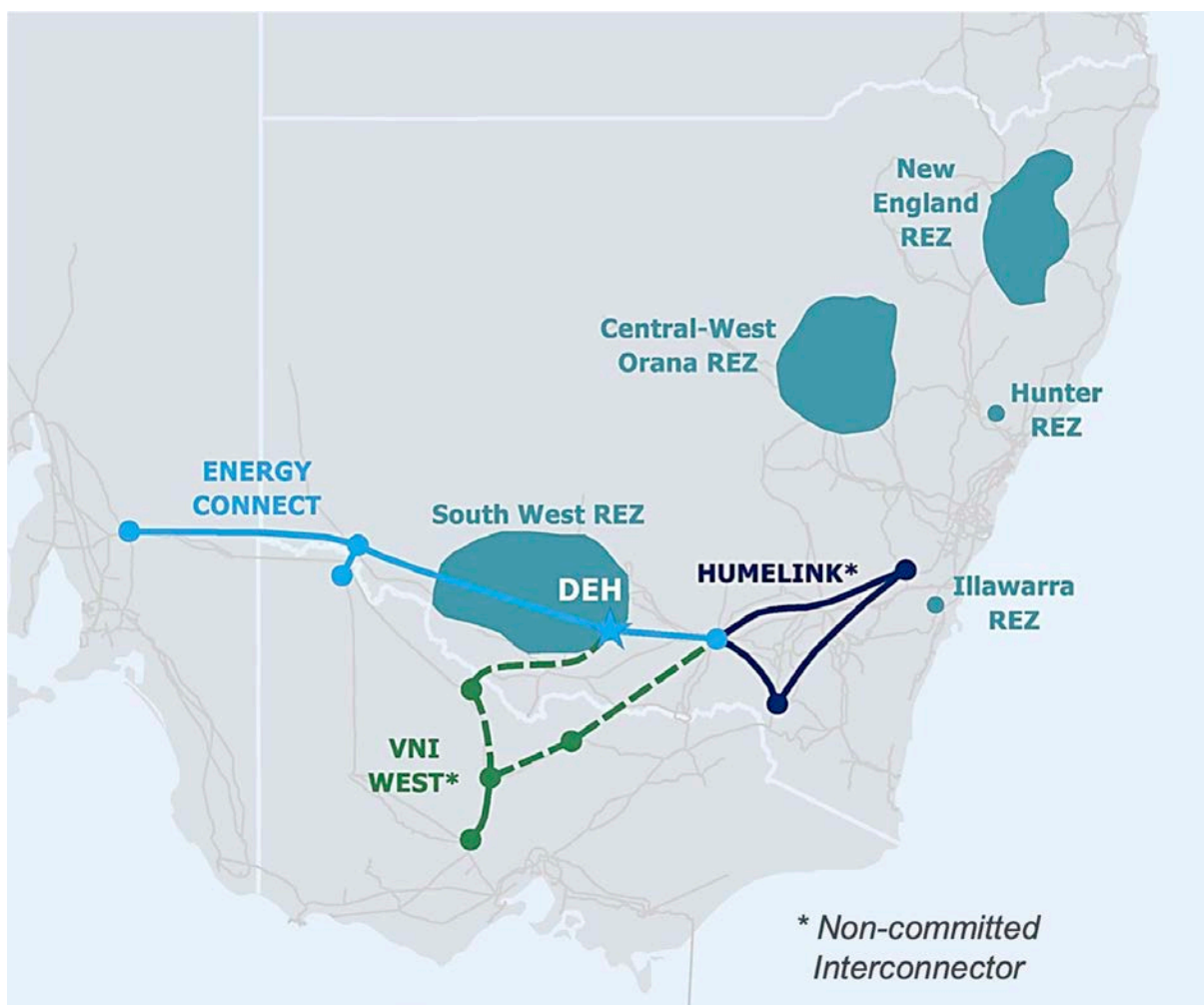


Figure 2 - Dinawan Energy Hub Location



Figure 3 - Dinawan Energy Hub Site Layout

6.0 Transport Summary

The study is based on the turbine components and imported towers entering Australia via Geelong. The study details the proposed routes for these components, and the constraints that they may encounter on the identified routes.

ROUTE 1: Geelong to Dinawan Windfarm (Main Blade Route)

COMPONENTS: Blades (**Max loaded height 5.2m**)

DISTANCE: 491 kilometres

GPS LINK: <https://maps.app.goo.gl/6fb6uwyUjVbbxABy5>

ROUTE: Geelong Port, The Esplanade, Sea Breeze Parade, Aberly Road, Corio Quay Road, Princess Highway, Geelong Ring Road, Princess Freeway, Western Ring Road, Hume Motorway, Goulburn Valley Highway, Newell Highway, Kidman Way, McLennons Bore Road, Wilson Road

ROUTE 2: Geelong to Dinawan Windfarm (High Load Route)

COMPONENTS: Towers & Larger items (**Max loaded height 6.5m**)

DISTANCE: 720 kilometres

GPS LINK: <https://maps.app.goo.gl/p4dJXeN9CrqBgJP58>

ROUTE: Geelong Port, Madden Ave, Seabeach Parade, St Georges Road, Cox Road, Anakie Road, Midland Highway, Princes Freeway, Hamilton Highway, Colac-Ballarat Road, Pitfield-Cressy Road, Rokewood-Skipton Road, Glenelg Highway, Beaufort Road, Skipton Road, Lawrence Street, Albert Street, Lexton Road, Beaufort-Lexton Road, Williamson Street, Sunraysia Highway, Wimmera Highway, Bridgewater-Dunolly Road, Arnold Road, Bridgewater-Serpentine Road, River Street, Loddon Valley Highway, Boort-Mitiamo Road, Pyramid-Yarraberb Road, Bendigo-Pyramid Road, Echuca-Mitiamo Road, Northern Highway, Ogilvie Ave, Murray Valley Highway, Goulburn Valley Highway, Newell Highway, Kidman Way, McLennons Bore Road, Wilson Road.

7.0 Route 1: Geelong Port to Dinawan Windfarm

COMPONENTS: Blades (Max loaded height 5.2m)

DISTANCE: 491 kilometres

GPS LINK: <https://maps.app.goo.gl/6fb6uwyUjVbbxABY5>

ROUTE: Geelong Port, The Esplanade, Sea Breeze Parade, Aberly Road, Corio Quay Road, Princess Highway, Geelong Ring Road, Princess Freeway, Western Ring Road, Hume Motorway, Goulburn Valley Highway, Newell Highway, Kidman Way, McLennons Bore Road, Wilson Road.

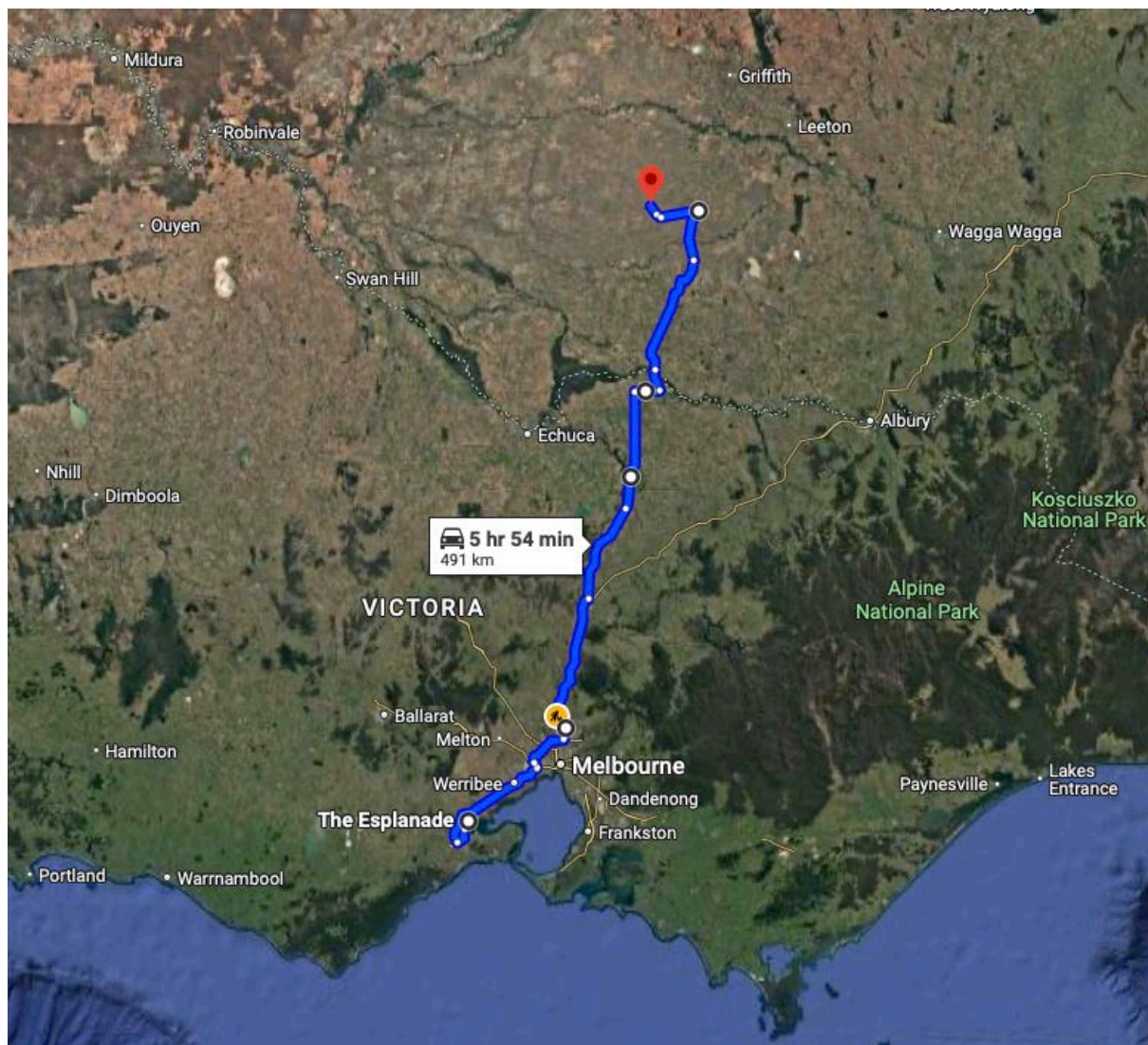


Figure 2 - Route 1

ROUTE STUDY
DINAWAN ENERGY HUB WINDFARM

KEY	
MODIFICATIONS REQUIRED	
PINCH POINT	
EMERGENCY PARKING	

KM index	Location	Section of road	Current clearance	Procedure	Notes
0.0	Infrabuild storage yard North Shore	Infrabuild storage yard onto Madden Avenue and onto The Esplanade GPS Link: https://maps.app.goo.gl/3k1D6ZT3e47mT1agQ9	Length: 79.0 metres Width: 7.0 Metres	Turn right out of Infrabuild and onto Madden Avenue	Hardstand to be installed on inside and outside of corner.
0.0	Lacelles Berth #3 North Shore	Lacelles berth 3 onto The Esplanade GPS Link: https://goo.gl/maps/kwFzJmbVPH17v5Er9	Length: 79.0 metres Width: 7.0 Metres	Reverse out of the wharf onto The Esplanade	Hardstand to be installed on inside and outside of corner.
1.2	North Shore	The Esplanade onto Sea Breeze Parade GPS Link: https://goo.gl/maps/5DLZerKJvFuSjZAu9	Length: 79.0 metres Width: 7.0 Metres	Right hand turn	Kerbs and barriers on entry to be removed and road made trafficable on entry. Signs to be removed.
1.9	North Shore	Sea Breeze Parade onto Abery Road GPS Link: https://goo.gl/maps/1Hkz2TfbSnF7mD6eZ	Length: 79.0 metres Width: 7.0 Metres	Left hand turn	Islands to be made trafficable/replaced with painted lines. Signs to be relocated or made removable with flush bases.
2.3	North Shore	Rail Crossing on Abery Rd https://maps.app.goo.gl/iN6tNsuVt6YQxXsE8	Width: 5.0 Metres	Travel directly ahead	Rail Manager approvals required
2.4	North Shore	Aberly Road onto Corio Quay Road GPS Link: https://goo.gl/maps/N6DdQGvYVb32	Length: 79.0 metres Width: 7.0 Metres	Travel through the roundabout on the incorrect side	Several signs to be relocated or made removable.
2.8	North Shore	Corio Quay Road Righthand Curve GPS Link: https://goo.gl/maps/4ZAuVzwLs8r	Length: 92.0 metres Width: 7.0 Metres	Right hand bend	Island to be made trafficable and signs relocated.
4.3	North Geelong	Corio Quay Road onto Princess Highway GPS Link: https://goo.gl/maps/f8vw9vbYTnD2	Length: 92.0 metres Width: 5.0 Metres	Slight merge onto The Princes Highway	No problem with this section of road.
5.6	North Geelong	Princess Hwy Margret St Overpass GPS Link: https://maps.app.goo.gl/ehZR0W9Ke4Si1YIV8	Height: 5.5 Metres	Travel directly ahead	No problem with this section of road.
6.5	North Geelong	Princess Hwy Church St Overpass GPS Link: https://maps.app.goo.gl/YP3nGTfun33sRzqL6	Height: 5.5 Metres	Travel directly ahead	No problem with this section of road.
17.0	Highton	The Princes Highway onto the Geelong Ring Road GPS Link: https://goo.gl/maps/U56WCcU182B2	Length: 79.0 metres Width: 7.0 Metres	Right hand turn using bypass installed on inside of roadway	Spotter required on this section of road.
17.1	Waurm Ponds	Geelong Ring Road Princes Fwy Overpass GPS Link: https://maps.app.goo.gl/xyVhWa3RokqKAKSw5	Height: 5.2 Metres	Travel directly ahead	No problem with this section of road.

ROUTE STUDY

DINAWAN ENERGY HUB WINDFARM

KM index	Location	Section of road	Current clearance	Procedure	Notes
18.1	Highton	Geelong Ring Road Thornhill Rd Overpass GPS Link: https://maps.app.goo.gl/CRaaYM7Vu9mCnyCS7	Height: 7.6 Metres	Travel directly ahead	No problem with this section of road.
20.6	Wandana Heights	Geelong Ring Road Barrabool Rd Overpass GPS Link: https://maps.app.goo.gl/f93eGSWBtxc94oG46	Height: 6.5 Metres	Travel directly ahead	No problem with this section of road.
29.3	Batesford	Geelong Ring Road Ballarat Rd Overpass GPS Link: https://maps.app.goo.gl/ZvDv4eRDvQivwTZ76	Height: 6.2 Metres	Travel directly ahead	No problem with this section of road.
30.2	Bell Post Hill	Geelong Ring Road Creamery Rd Overpass GPS Link: https://maps.app.goo.gl/h4PdkqSmeg5HKn8M9	Height: 6.0 Metres	Travel directly ahead	No problem with this section of road.
32.7	Lovely Banks	Geelong Ring Road Anakie Rd Overpass GPS Link: https://maps.app.goo.gl/3a3VApBPUD1rrKvw9	Height: 5.9 Metres	Travel directly ahead	No problem with this section of road.
36.4	Corio	Geelong Ring Road onto the Princess Freeway at Baccus Marsh Rd GPS Link: https://maps.app.goo.gl/wxxo5UIBcZNRfSYh7	Height: 5.8 Metres	Travel directly ahead	No problem with this section of road.
38.1	Corio	Geelong Ring Road Broderick Rd Overpass GPS Link: https://maps.app.goo.gl/5YWJWVszJLcd4Ct7	Height: 5.8 Metres	Travel directly ahead	No problem with this section of road.
43.9	Lara	Princess Freeway Avalon Rd Overpass GPS Link: https://maps.app.goo.gl/3pn4dtuRBw8ApS5b8	Height: 5.5 Metres	Travel directly ahead	No problem with this section of road.
47.6	Lara	Princess Freeway Beach Rd Overpass GPS Link: https://maps.app.goo.gl/iCuJ4rAAWtHW6Ce7J8	Height: 5.7 Metres	Travel directly ahead	No problem with this section of road.
54.6	Little River	Princess Freeway Point Wilson Rd Overpass GPS Link: https://maps.app.goo.gl/h2RxFZXk4eA6eEP9	Height: 5.3 Metres	Travel directly ahead	No problem with this section of road.
57.4	Little River	Princess Freeway Little River Rd Overpass GPS Link: https://maps.app.goo.gl/zRCcqv4pfr6Yzvx6	Height: 5.3 Metres	Travel directly ahead	No problem with this section of road.
65.6	Werribee	Princess Freeway Werribee Rd Overpass GPS Link: https://maps.app.goo.gl/1HUDbSdegTJKWinJA	Height: 5.6 Metres	Travel directly ahead	No problem with this section of road.
66.8	Werribee	Princess Freeway Farm Rd Overpass GPS Link: https://maps.app.goo.gl/hKscd1bBZW9ip9cA	Height: 5.3 Metres	Travel directly ahead	No problem with this section of road.
70.2	Werribee South	Princess Freeway Duncans Rd Overpass GPS Link: https://maps.app.goo.gl/cerW9EAcDU3FF3RA	Height: 5.09 Metres	Travel directly ahead	No problem with this section of road.
72.9	Werribee South	Princess Freeway Sneydes Rd Overpass https://maps.app.goo.gl/ZzXRsgqixMGsdGbx6	Height: 9.91 Metres	Travel directly ahead	No problem with this section of road.
75.0	Point Cook	Princess Freeway Off Ramp Overpass GPS Link: https://maps.app.goo.gl/KAhqms3SYicYSH2d9	Height: 5.3 Metres	Travel directly ahead	No problem with this section of road.

ROUTE STUDY

DINAWAN ENERGY HUB WINDFARM

KM index	Location	Section of road	Current clearance	Procedure	Notes
77.5	Point Cook	Princess Freeway Forsyth Rd Overpass GPS Link: https://maps.app.goo.gl/FUkL3m4KVGVEo9oK9	Height: 5.99 Metres	Travel directly ahead	No problem with this section of road.
78.5	Point Cook	Princess Freeway Footbridge GPS Link: https://maps.app.goo.gl/MxpkriUGaLHYZv7r7	Height: 6.6 Metres	Travel directly ahead	No problem with this section of road.
78.6	Point Cook	Princess Freeway Palmers Rd Overpass GPS Link: https://maps.app.goo.gl/JQXFZqJOaFTqIEEP7	Height: 6.2 Metres	Travel directly ahead	No problem with this section of road.
79.7	Altona Meadows	Princess Freeway Point Cook Rd Overpass GPS Link: https://maps.app.goo.gl/QE8WcQDWFZv2E5Tn7	Height: 6.12 Metres	Travel directly ahead	No problem with this section of road.
80.7	Altona Meadows	Princess Freeway Footbridge GPS Link: https://maps.app.goo.gl/A7GG8UADqXxCrQDE9	Height: 5.6 Metres	Travel directly ahead	No problem with this section of road.
83.7	Laverton	Princess Freeway Kororoit Rd Overpass GPS Link: https://maps.app.goo.gl/m3L7XHqNavUUR3Kh7	Height: 5.3 Metres	Travel directly ahead	No problem with this section of road.
86.7	Laverton North	The Princess Freeway onto the Western Ring Road at Dohertys Rd Overpass GPS Link: https://maps.app.goo.gl/7qkBDcfqH47PHVcN7	Height: 5.3 Metres	Merge to the left	No problem with this section of road.
91.6	Sunshine West	Western Ring Road Off Ramp Overpass GPS Link: https://maps.app.goo.gl/WYvg3qPr411wvNET7	Height: 7.7 Metres	Travel directly ahead	No problem with this section of road.
92.0	Derrimut	Western Ring Road Off Ramp Overpass GPS Link: https://maps.app.goo.gl/Vxnkax5L5tieaZad9	Height: 6.2 Metres	Travel directly ahead	No problem with this section of road.
99.5	St Albans	Western Ring Road Sunshine Ave overpass GPS Link: https://maps.app.goo.gl/2bXxZRUAfZZWbV2A	Height: 7.1 Metres	Travel directly ahead	No problem with this section of road.
102	Keilor East	Western Ring Road Keilor Park Dr Overpass GPS Link: https://maps.app.goo.gl/Ms3KskEHq4ZoiqLu5	Height: 5.4 Metres	Travel directly ahead	No problem with this section of road.
103	Keilor East	Western Ring Road Calder Fwy off ramp overpass GPS Link: https://maps.app.goo.gl/BtWPMXawFicqmZof8	Height: 5.5 Metres	Travel directly ahead	No problem with this section of road.
103.1	Keilor East	Western Ring Road Calder Fwy overpass GPS Link: https://maps.app.goo.gl/Po369voUsVV2tdWP9	Height: 6.9 Metres	Travel directly ahead	No problem with this section of road.
103.3	Keilor East	Western Ring Road Calder Fwy Fullarton Rd overpass GPS Link: https://maps.app.goo.gl/1uxY4kCwkGWcJv17	Height: 8.1Metres	Travel directly ahead	No problem with this section of road.
105	Tullamarine	Western Ring Road Airport Dr Overpass GPS Link: https://maps.app.goo.gl/SbKivaX45C9Nakxa6	Height: 5.8 Metres	Travel directly ahead	No problem with this section of road.

ROUTE STUDY

DINAWAN ENERGY HUB WINDFARM

KM index	Location	Section of road	Current clearance	Procedure	Notes
107	Gowanbrae	Western Ring Road Tullamarine Fwy overpass GPS Link: https://maps.app.goo.gl/rVFX3Laa42Fpm6x36	Height: 7.4 Metres	Travel directly ahead	No problem with this section of road.
110	Glenroy	Western Ring Road Langton St overpass GPS Link: https://maps.app.goo.gl/hja1es6J5hNicM489	Height: 11.0 Metres	Travel directly ahead	No problem with this section of road.
110	Glenroy	Western Ring Road Pascoe Vale Rd overpass GPS Link: https://maps.app.goo.gl/7f55DqLqa5f1C16h7	Height: 5.7 Metres	Travel directly ahead	No problem with this section of road.
111	Broadmeadows	Western Ring Road Widford St overpass GPS Link: https://maps.app.goo.gl/v8jzc32ibMwWuAax6	Height: 5.5 Metres	Travel directly ahead	No problem with this section of road.
111.5	Broadmeadows	Western Ring Road footbridge GPS Link: https://maps.app.goo.gl/JQ7BT9cPsfBrJLpd8	Height: 5.9 Metres	Travel directly ahead	No problem with this section of road.
113	Fawkner	Western Ring Road Rail overpass GPS Link: https://maps.app.goo.gl/GoDyDFENEu7aXb2r7	Height: 5.6 Metres	Travel directly ahead	No problem with this section of road.
114	Fawkner	Hume Hwy Overpass GPS Link: https://maps.app.goo.gl/GoDyDFENEu7aXb2r7	Height: 5.4 Metres	Travel directly ahead	No problem with this section of road.
114.3	Fawkner	Western Ring Road footbridge GPS Link: https://maps.app.goo.gl/m8KdYihD8nh7aZDq8	Height: 5.6 Metres	Travel directly ahead	No problem with this section of road.
114.8	Fawkner	Western Ring Road Mahoneys Rd Overpass GPS Link: https://maps.app.goo.gl/nJhYzt5LAAxvknpi6	Height: 6.1 Metres	Travel directly ahead	No problem with this section of road.
115	Thomastown	Western Ring Road Industrial Ave overpass GPS Link: https://maps.app.goo.gl/kB5BfAPuzqipYM9w7	Height: 5.8 Metres	Travel directly ahead	No problem with this section of road.
116.0	Thomastown	The Western Ring Road onto the Hume Motorway GPS Link: https://maps.app.goo.gl/2fhZKiVMv4wYXW6f9	Length: 90.0 metres Width: 8.0 Metres	Merge to the left	No problem with this section of road.
118	Lalor	Hume Freeway footbridge GPS Link: https://maps.app.goo.gl/m2md8vXPqRcRMXR79	Height: 5.7 Metres	Travel directly ahead	No problem with this section of road.
122	Epping	Hume Freeway O HERNS Rd overpass GPS Link: https://maps.app.goo.gl/SqSqaWMnVVC2Krc7	Height: 6.1 Metres	Travel directly ahead	No problem with this section of road.
128	Wollert	Hume Freeway Craigieburn Rd overpass GPS Link: https://maps.app.goo.gl/g4MpBQsNEbUWdXaD8	Height: 5.9 Metres	Travel directly ahead	No problem with this section of road.
129	Craigieburn	Hume Freeway Rail overpass GPS Link: https://maps.app.goo.gl/46VG929hd6gcCBbs7	Height: 6.0 Metres	Travel directly ahead	No problem with this section of road.
130	Craigieburn	Hume Freeway Amaroo Rd overpass GPS Link: https://maps.app.goo.gl/fVJmJzpLiNf5RGPv5	Height: 6.1 Metres	Travel directly ahead	No problem with this section of road.
131	Craigieburn	Hume Freeway off ramp overpass GPS Link: https://maps.app.goo.gl/u6dfoXQ87Jwz4mwv5	Height: 8.5 Metres	Travel directly ahead	No problem with this section of road.

ROUTE STUDY

DINAWAN ENERGY HUB WINDFARM

KM index	Location	Section of road	Current clearance	Procedure	Notes
135	Craigieburn	Hume Freeway Donnybrook Rd overpass GPS Link: https://maps.app.goo.gl/mWg7cJa6ITC3nz9J7	Height: 6.2 Metres	Travel directly ahead	No problem with this section of road.
141.0	Beveridge	Hume Freeway Rest Area GPS Link: https://maps.app.goo.gl/vB8aDLWJuBfme2sq8	160.0 long x 17.0 wide	Merge to left	Blade parking is possible, but several signs will need to be relocated or made removable.
147.0	Beveridge	Hume Freeway Northern Hwy Overpass GPS Link: https://maps.app.goo.gl/W5RzSDNjhuBjakK7	Height: 5.7 Metres	Travel directly ahead	No problem with this section of road.
148.0	Wallan	Hume Freeway Macsfield Rd Overpass GPS Link: https://maps.app.goo.gl/NonY8JHNgEQWh8NA	Height: 5.4 Metres	Travel directly ahead	No problem with this section of road.
150.0	Wallan	Hume Freeway Watson Rd Overpass GPS Link: https://maps.app.goo.gl/8rSPS4TzwQvnJVcs9	Height: 5.5 Metres	Travel directly ahead	No problem with this section of road.
153.0	Wallan	Hume Freeway Rest Area https://maps.app.goo.gl/9LjWpRwxqFKs77y7	Length: 80 Metres Width: 4.5 Metres	Veer Left	Not suitable for the blades.
156.0	Wandong	Hume Freeway Arkells Lane Overpass GPS Link: https://maps.app.goo.gl/Lqe1JDMHUL1YhZYk8	Height: 5.3 Metres	Travel directly ahead	No problem with this section of road.
167.0	Kilmore East	Hume Freeway Broadford-Wandong Rd Overpass GPS Link: https://maps.app.goo.gl/BPJoHUuV25x2AxRo6	Height: 5.3 Metres	Travel directly ahead	No problem with this section of road.
175.0	Broadford	Hume Freeway Mia Mia Rd Overpass GPS Link: https://maps.app.goo.gl/HXRREbontT2SytuQGA	Height: 5.3 Metres	Travel directly ahead	No problem with this section of road.
177.0	Broadford	Hume Freeway Strath Creek Rd Overpass GPS Link: https://maps.app.goo.gl/zxHUUnwcmdWzw5uN77	Height: 5.3 Metres	Travel directly ahead	No problem with this section of road.
178.0	Broadford	Hume Freeway Marchbanks Rd Overpass GPS Link: https://maps.app.goo.gl/vWuJ5dRKZnoiah9z6	Height: 5.3 Metres	Travel directly ahead	No problem with this section of road.
201.0	Northwood	Hume Freeway Northwood Rd Overpass GPS Link: https://maps.app.goo.gl/MGKi9h7JCdPYk1ZQ7	Height: 5.9 Metres	Travel directly ahead	No problem with this section of road.
204.0	Seymour	Hume Freeway onto Goulburn Valley Way GPS Link: https://maps.app.goo.gl/RKGDTDq3hRoSaLRTA	Length: 90.0 Metres Width: 8.0 Metres	Veer Left onto off ramp	No problem with this section of road.
219.0	Tablik	Goulburn Valley Hwy Rest Area https://maps.app.goo.gl/uFt68Uz3uMAHeL MU8	Length: 150 Metres Width: 12.0 Metres	Veer Left	Suitable for the blades.
220.0	Tablik	Goulburn Valley Hwy Tablik-Monea Rd Overpass GPS Link: https://maps.app.goo.gl/jpYLMYkNKwoTtwuVR7	Height: 6.0 Metres	Travel directly ahead	No problem with this section of road.
224.0	Tablik	Goulburn Valley Hwy Nagambie-Lockley Rd Overpass GPS Link: https://maps.app.goo.gl/PTEWnT8DvV27LvJh9	Height: 5.8 Metres	Travel directly ahead	No problem with this section of road.

ROUTE STUDY

DINAWAN ENERGY HUB WINDFARM

KM index	Location	Section of road	Current clearance	Procedure	Notes
232.0	Nagambie	Goulburn Valley Hwy Grimwade Rd Overpass GPS Link: https://maps.app.goo.gl/sCiXNa93PJb6oGWWA	Height: 5.8 Metres	Travel directly ahead	
279.0	Shepparton	Rail Crossing on Goulburn Valley Hwy GPS Link: https://maps.app.goo.gl/NWKAi8bFpy2hZQoK6	Width: 8.5 Metres	Travel directly ahead	Rail Manager approvals required
312.0	Numurkah	Goulburn Valley Hwy Rest Area GPS Link: https://maps.app.goo.gl/F9moDrK1YDMk7Dk98	Length: 80 Metres Width: 10 Metres	Veer Left	Not suitable for the blades.
318.0	Numurkah	Goulburn Valley Hwy Rest Area GPS Link: https://maps.app.goo.gl/mWsdnddU5yWWmX8q9	Length: 150 Metres Width: 8 Metres	Veer Left	Suitable for the blades.
331.0	Strathmerton	Bend on Goulburn Valley Hwy at Murray Valley Hwy GPS Link: https://maps.app.goo.gl/ve8Dw3vUdG3sJwP2v4	Length: 40 Metres Width: 4.5 Metres	Right hand turn	Signs to be relocated or made removable.
336.0	Strathmerton	Rail Crossing on Goulburn Valley Hwy GPS Link: https://maps.app.goo.gl/8LAB8gcTLwChN7fv7	Width: 6.5 Metres	Travel directly ahead	Rail Manager approvals required.
346.0	Yarroweyah	Bend on Goulburn Valley Hwy at Murray Valley Hwy GPS Link: https://maps.app.goo.gl/CGNwv8bqVQzck6vA	Length: 50 Metres Width: 5.5 Metres	Left hand turn	Signs to be relocated or made removable.
360.0	Tocumwal	Goulburn Valley Hwy becomes Newell Hwy GPS Link: https://maps.app.goo.gl/vFvubWtGmRzDThcK7	Width: 6.5 Metres	Travel directly ahead	NSW/VIC Border
360.5	Tocumwal	Roundabout on Newell Hwy Tocumwal GPS Link: https://maps.app.goo.gl/v9e8UjP8DscGx5uW176	Length: 50 Metres Width: 8.0 Metres	Travel directly ahead	Sign to be relocated or made removable.
415.0	Jerilderie	Corner on Newell Hwy at Conargo Rd GPS Link: https://maps.app.goo.gl/3YvK85C8Wj0cGq1NzC6	Length: 50 Metres Width: 8.0 Metres	Right hand turn	Light pole to be relocated out of swept path. Signs to be relocated or made removable.
424.0	Jerilderie	Newell Hwy Rest Area GPS Link: https://maps.app.goo.gl/WHITyYbks2sGMawe9	Length: 150 Metres Width: 5.0 Metres	Veer Left	Suitable for the blades.
431.0	Bundure	Newell Hwy onto Kidman Way GPS Link: https://maps.app.goo.gl/vw8RTt6YvE5cknQ28	Length: 50 Metres Width: 8.0 Metres	Left hand turn	Sign to be relocate out of swept path and hardstand installed on inside of corner.
461.0	Gala Vale	Kidman Way at McLennons Bore Road GPS Link: https://maps.app.goo.gl/2wv3Dm6o4q11H4A	Length: 25 Metres Width: 5.5 Metres	Left hand turn	Site Entrance
482.0	Jerilderie	McLennons Bore Rd onto Wilsons Rd GPS Link: https://www.google.com/maps/@35.8666667,146.8333333,15z	Length: 50.0m Width: 5.5m	Right hand turn	Hardstand to be installed on outside of corner.
491.0	Mabins Well	Wilsons Rd onto Goolgumbra Rd GPS Link: https://maps.app.goo.gl/kZFrYG31r7p3mfh97	Length: 65.0m Width: 5.0m	Slight Right Hand Turn	No problems with this section of road. Gravel roads to be maintained for duration of deliveries and may become un-trafficable during periods of wet weather.

0.0 Km's: Infrabuild storage yard onto Madden Avenue



Figure 3 – Infrabuild storage yard onto Madden Avenue

GPS LINK: <https://maps.app.goo.gl/WUDbZF2e57mTEpjQ9>

PROCEDURE: Turn right out of Infrabuild storage yard onto Madden Avenue then turn right from Madden Avenue onto The Esplanade at Lacelles #3 Berth.

ROAD MODIFICATIONS: Fence to be modified.

0.0 Km's: Lacelles #3 berth onto The Esplanade

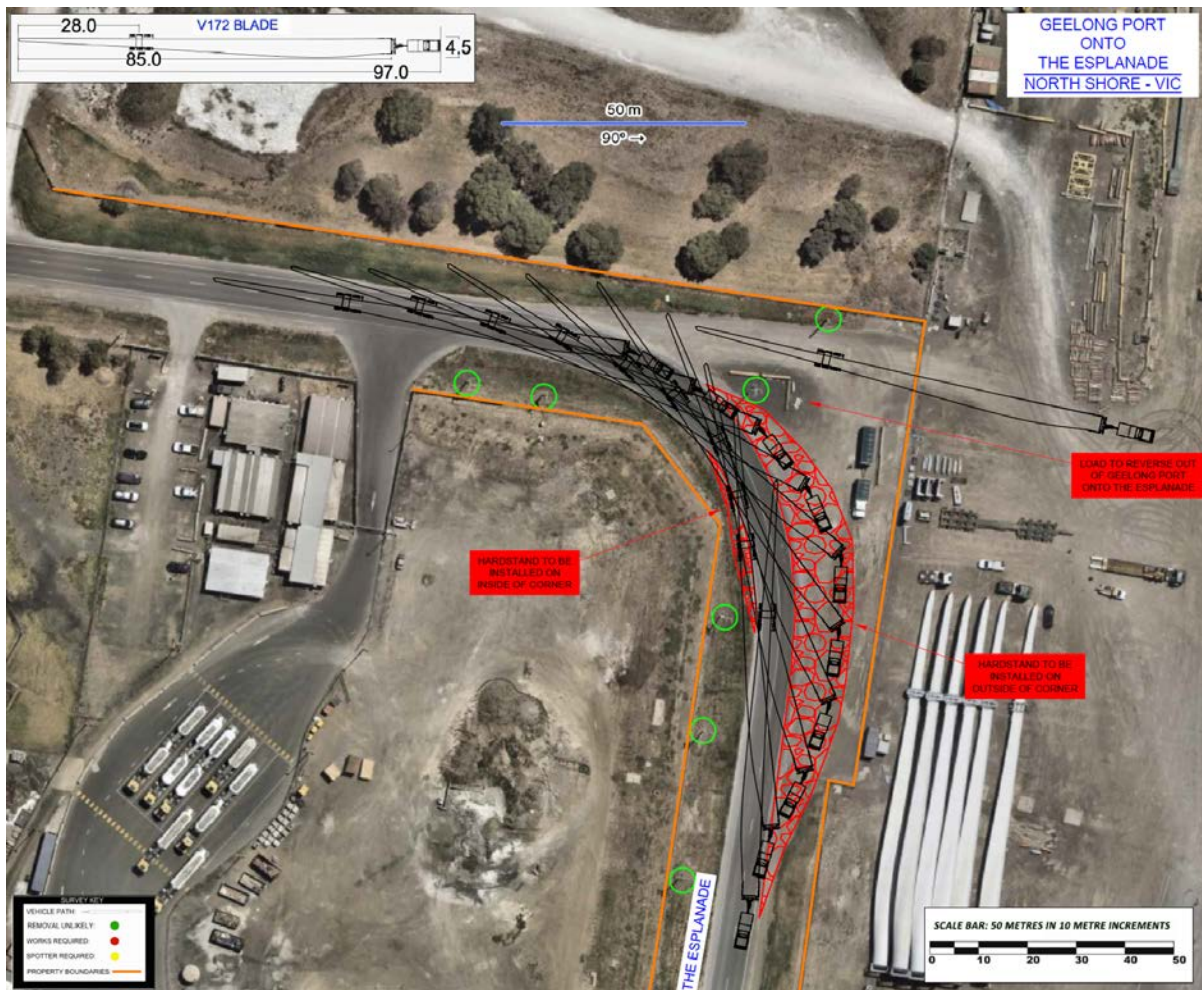


Figure 4 – Lacelles Berth #3 onto The Esplanade

GPS LINK: <https://goo.gl/maps/iwFxJmbVPt17v5Er9>

PROCEDURE: Reverse out of the port storage yard and onto The Esplanade

ROAD MODIFICATIONS: Hardstand to be installed on inside and outside of corner.

1.2 Km's: The Esplanade onto Sea Breeze Parade

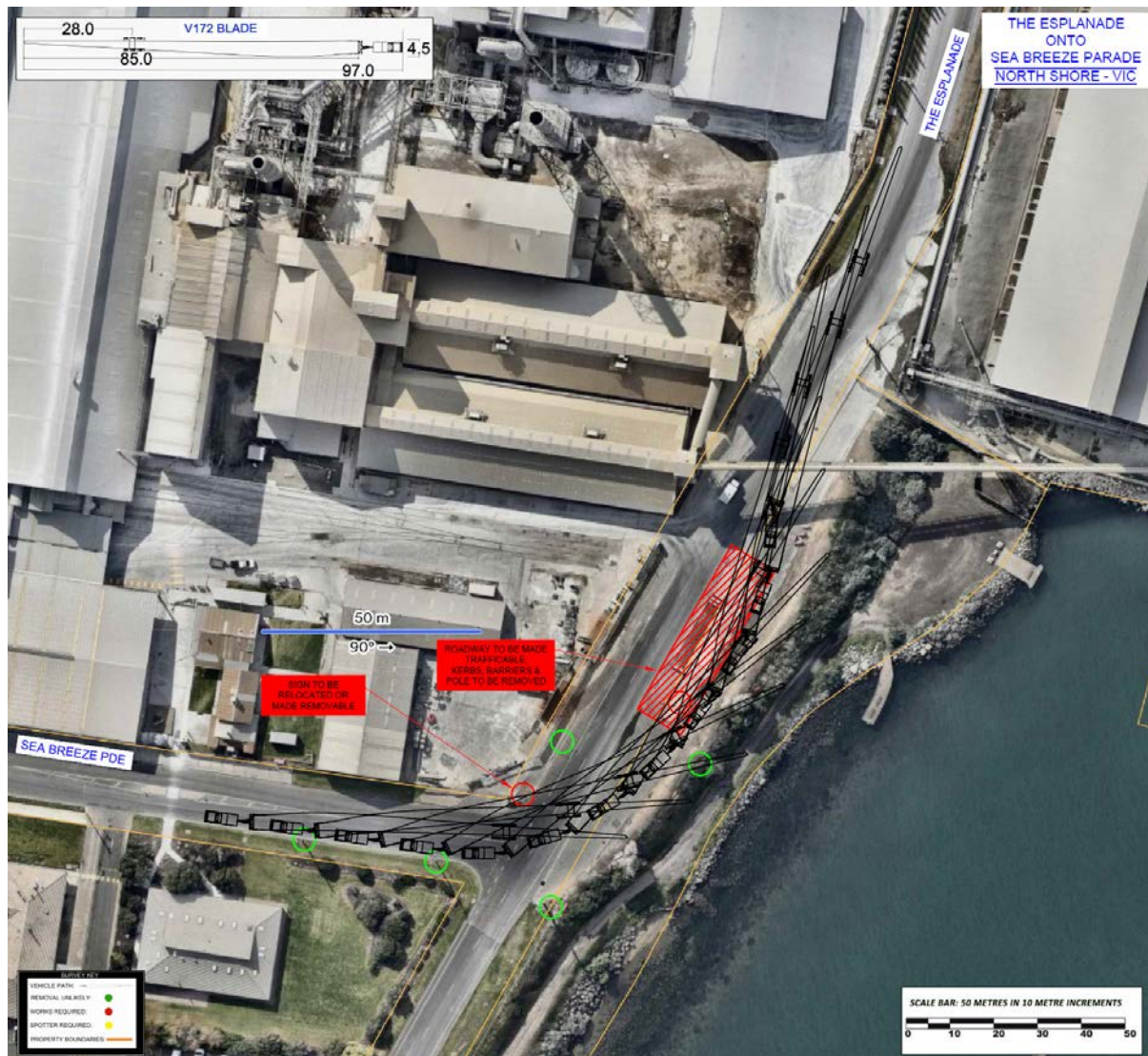


Figure 5 - The Esplanade onto Sea Breeze Parade

GPS LINK: <https://goo.gl/maps/5DL7grKJvFuSLZAs9>

PROCEDURE: Right hand turn

ROAD MODIFICATIONS: Kerbs and barriers on entry to be removed and road made trafficable on entry. Signs and pole to be removed.

1.9 Km's: Sea Breeze Parade onto Abery Road

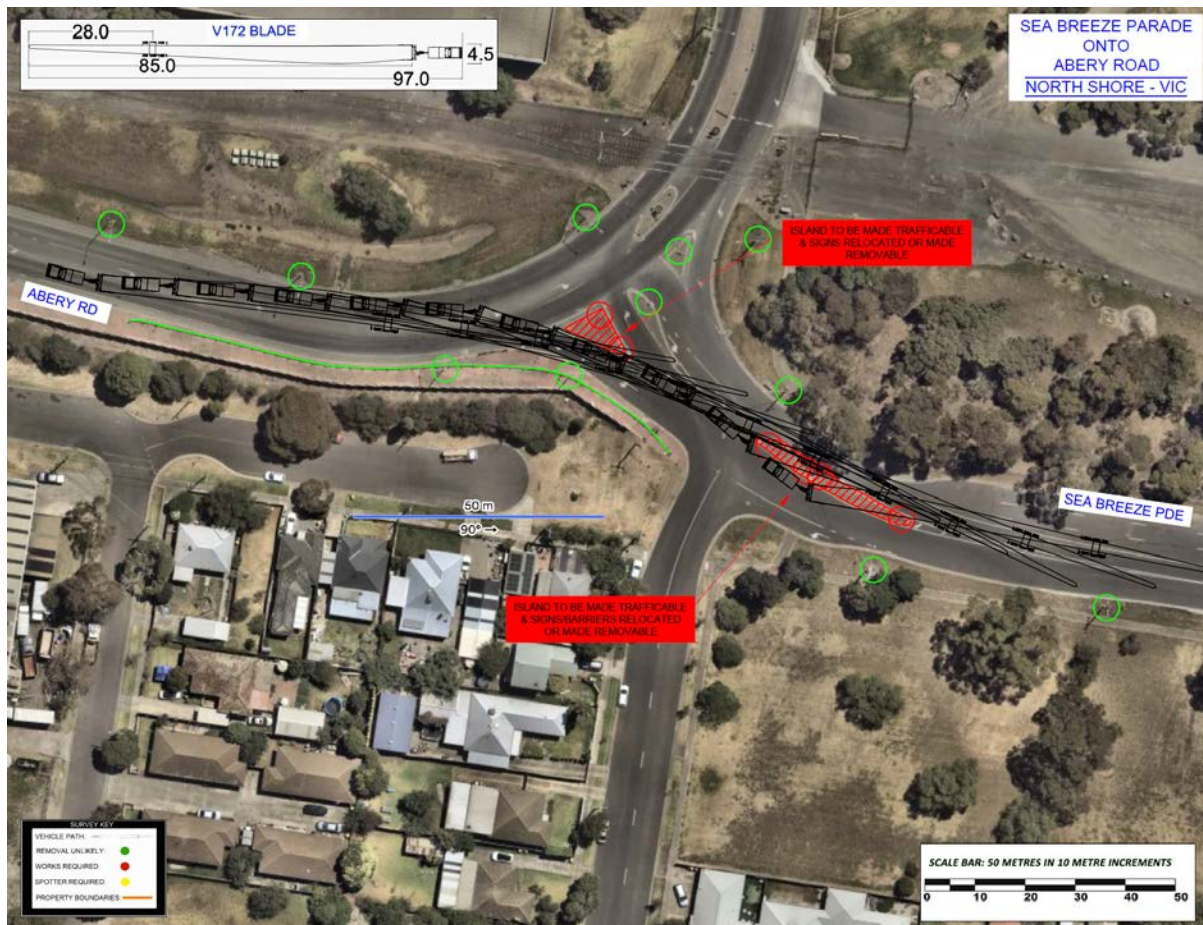


Figure 6 - Sea Breeze Parade onto Abery Road

GPS LINK: <https://goo.gl/maps/1Hkv2fYbSnF7mD6q7>

PROCEDURE: Left hand turn

ROAD MODIFICATIONS: Islands to be made trafficable/replaced with painted lines.
Signs to be relocated or made removable with flush bases.

2.7 Km's: Aberly Road onto Corio Quay Road



Figure 7 - Aberly Road onto Corio Quay Road

GPS LINK: <https://goo.gl/maps/N6DdQGVYVb32>

PROCEDURE: Travel through the roundabout on the incorrect side

ROAD MODIFICATIONS: Several signs to be relocated or made removable

2.8 Km's: Corio Quay Road Righthand Curve



Figure 8 - Corio Quay Road Righthand Curve

GPS LINK: <https://goo.gl/maps/42AuVzwLs8r>

PROCEDURE: Right hand bend

ROAD MODIFICATIONS: Island to be made trafficable and signs relocated.

17.0 Km's: The Princes Highway onto the Geelong Ring Road

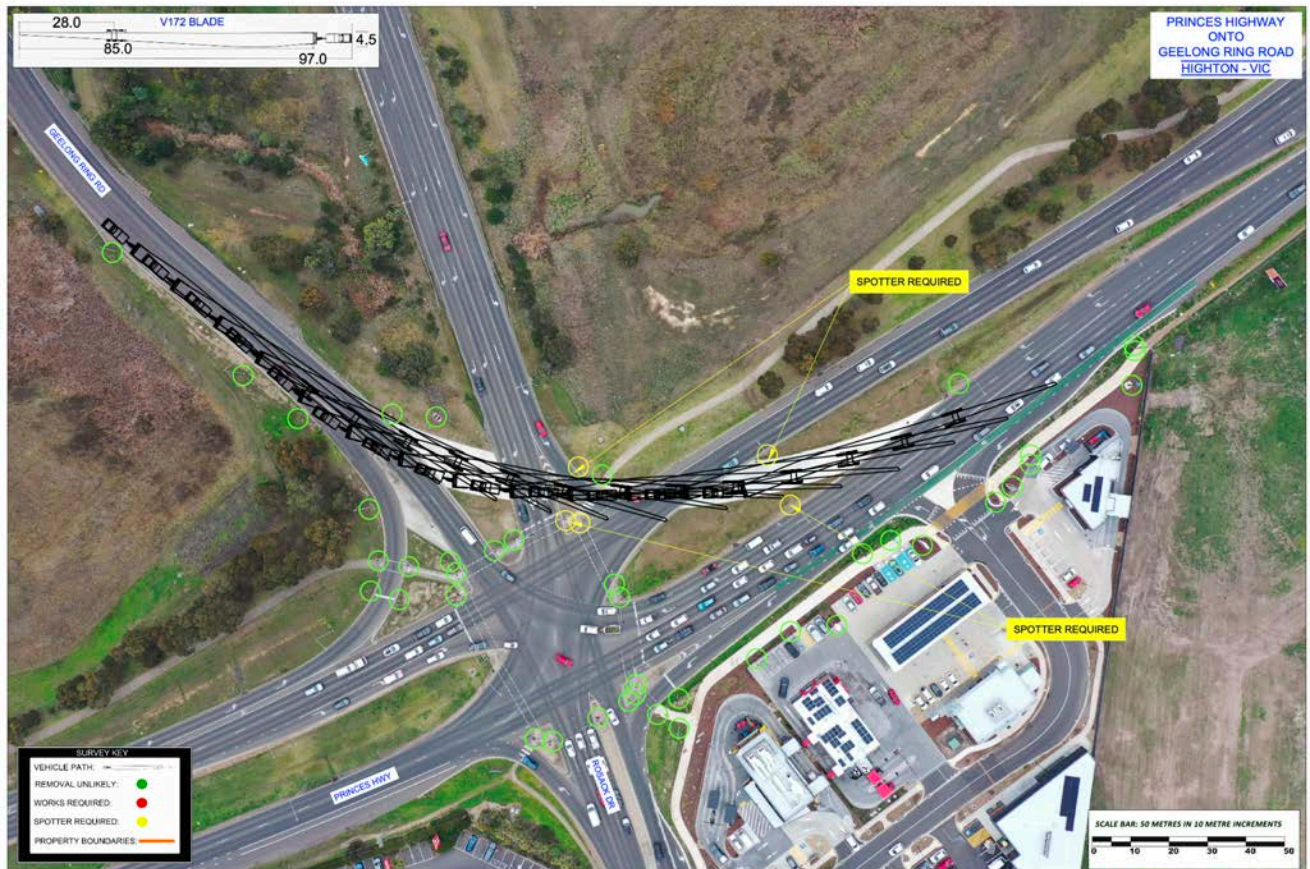


Figure 9 - The Princes Highway onto the Geelong Ring Road

GPS LINK: <https://goo.gl/maps/U56WCcU182B2>

PROCEDURE: Right hand turn using bypass roadway installed on inside of corner. Spotter will be required at this pinchpoint.

ROAD MODIFICATIONS: Nil.

331.0 Km's: Bend on Goulburn Valley Highway at Murray Valley Highway



Figure 10 - Bend on Goulburn Valley Hwy at Murray Valley Hwy

GPS LINK: <https://maps.app.goo.gl/w8Dw3yBQ3eJgyP2b6>

PROCEDURE: Right hand turn

ROAD MODIFICATIONS: Signs to be relocated or made removable.

346.0 Km's: Bend on Goulburn Valley Highway at Murray Valley Highway



Figure 11 - Bend on Goulburn Valley Hwy at Murray Valley Hwy

GPS LINK: <https://maps.app.goo.gl/CQNxp1dyyVQxzXoJA>

PROCEDURE: Left hand turn

ROAD MODIFICATIONS: Signs to be relocated or made removable.

360.5 Km's: Roundabout on Newell Highway Tocumwal



Figure 12 - Roundabout on Newell Hwy

GPS LINK: <https://maps.app.goo.gl/VwEUP6DaGeXn88T78>

PROCEDURE: Travel directly ahead

ROAD MODIFICATIONS: Sign to be relocated or made removable.

415.0 Km's: Corner on Newell Highway at Conargo Road

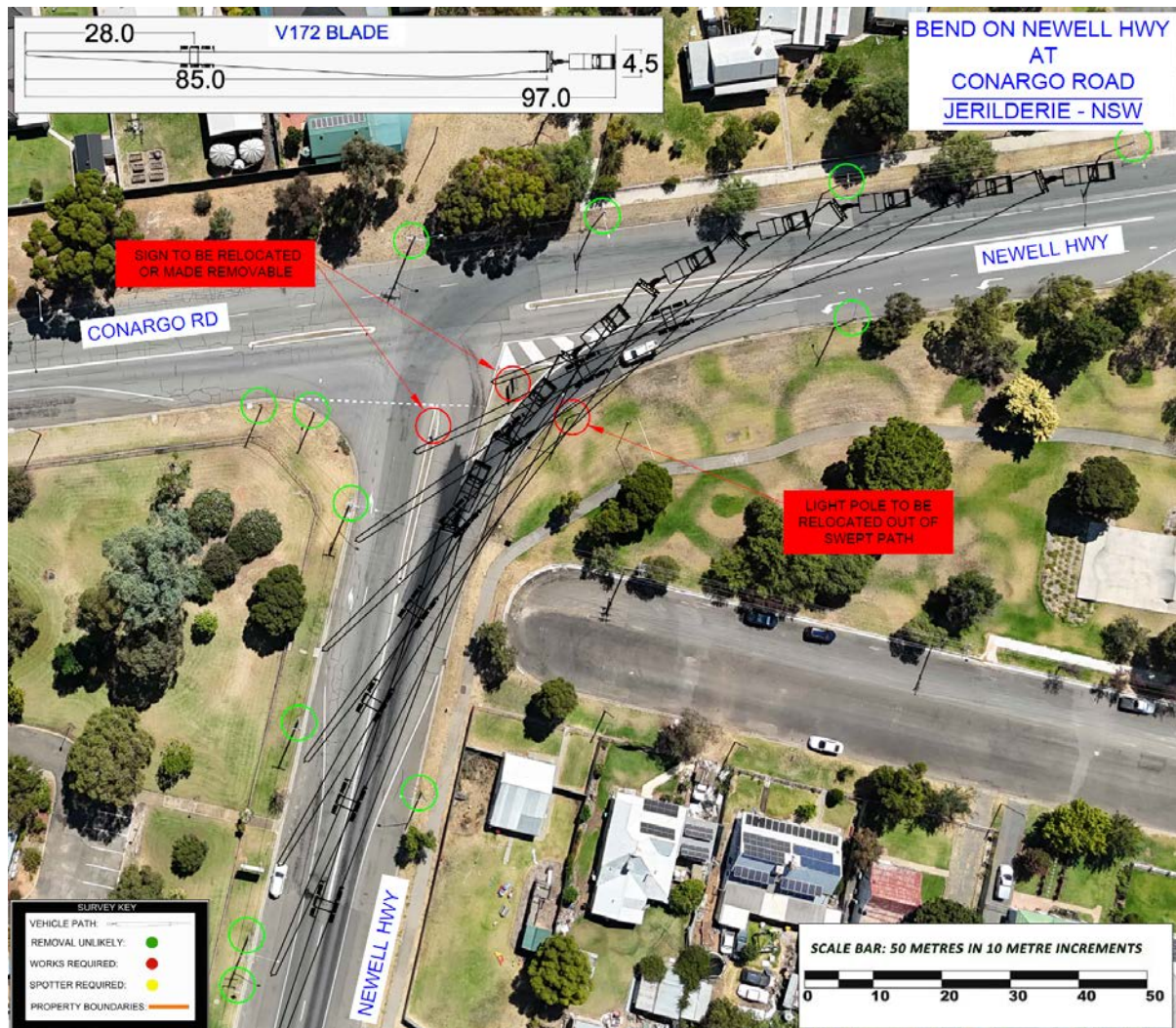


Figure 13 - Corner on Newell Hwy at Conargo Rd

GPS LINK: <https://maps.app.goo.gl/MVKR6CBKobGqH1UC6>

PROCEDURE: Right hand turn

ROAD MODIFICATIONS: Light pole to be relocated out of swept path. Signs to be relocated or made removable.

431.0 Km's: Newell Highway onto Kidman Way

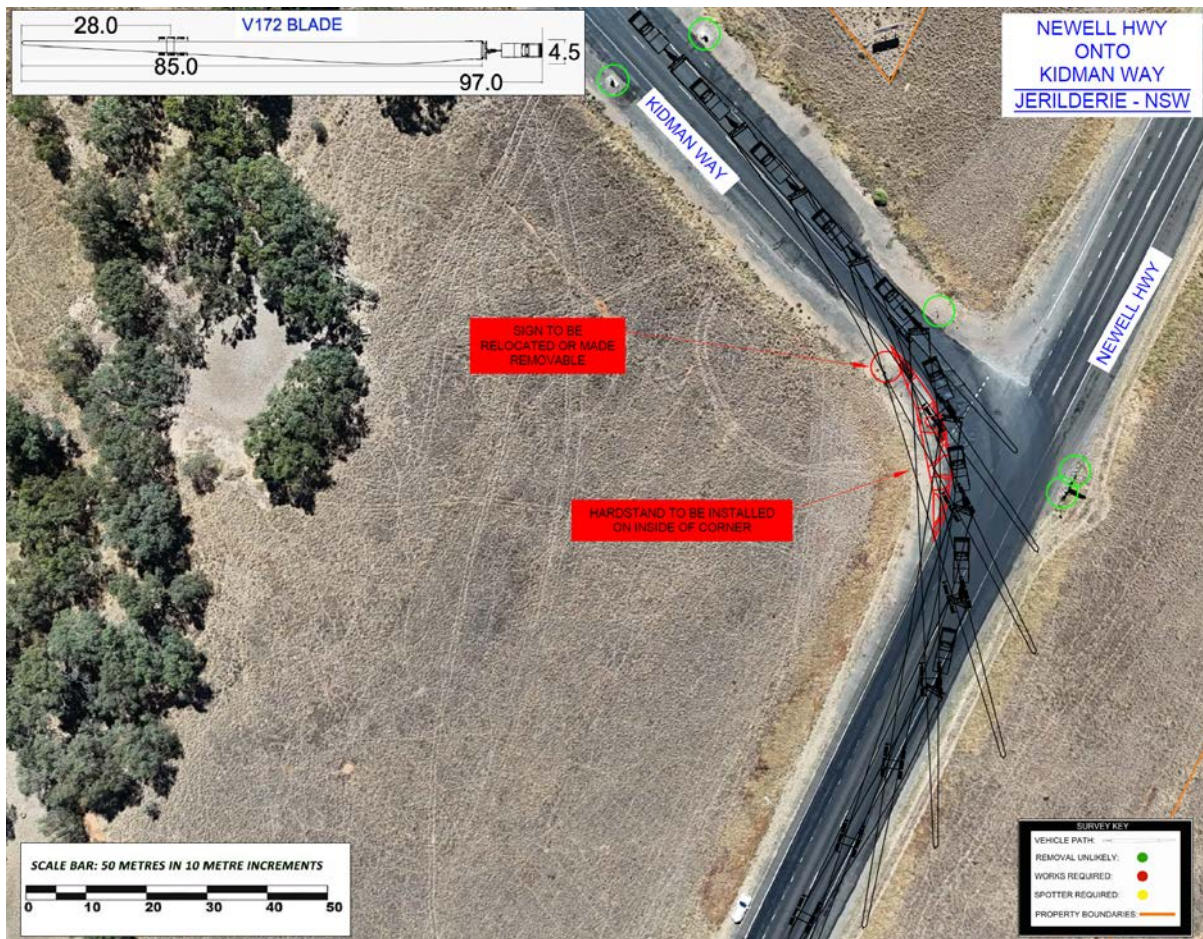


Figure 14 - Newell Hwy onto Kidman Way

GPS LINK: <https://maps.app.goo.gl/qje8RHzyEcknG28>

PROCEDURE: Left hand turn

ROAD MODIFICATIONS: Sign to be relocate out of swept path and hardstand installed on inside of corner.

461.0 Km's: Kidman Way onto McLennons Bore Road

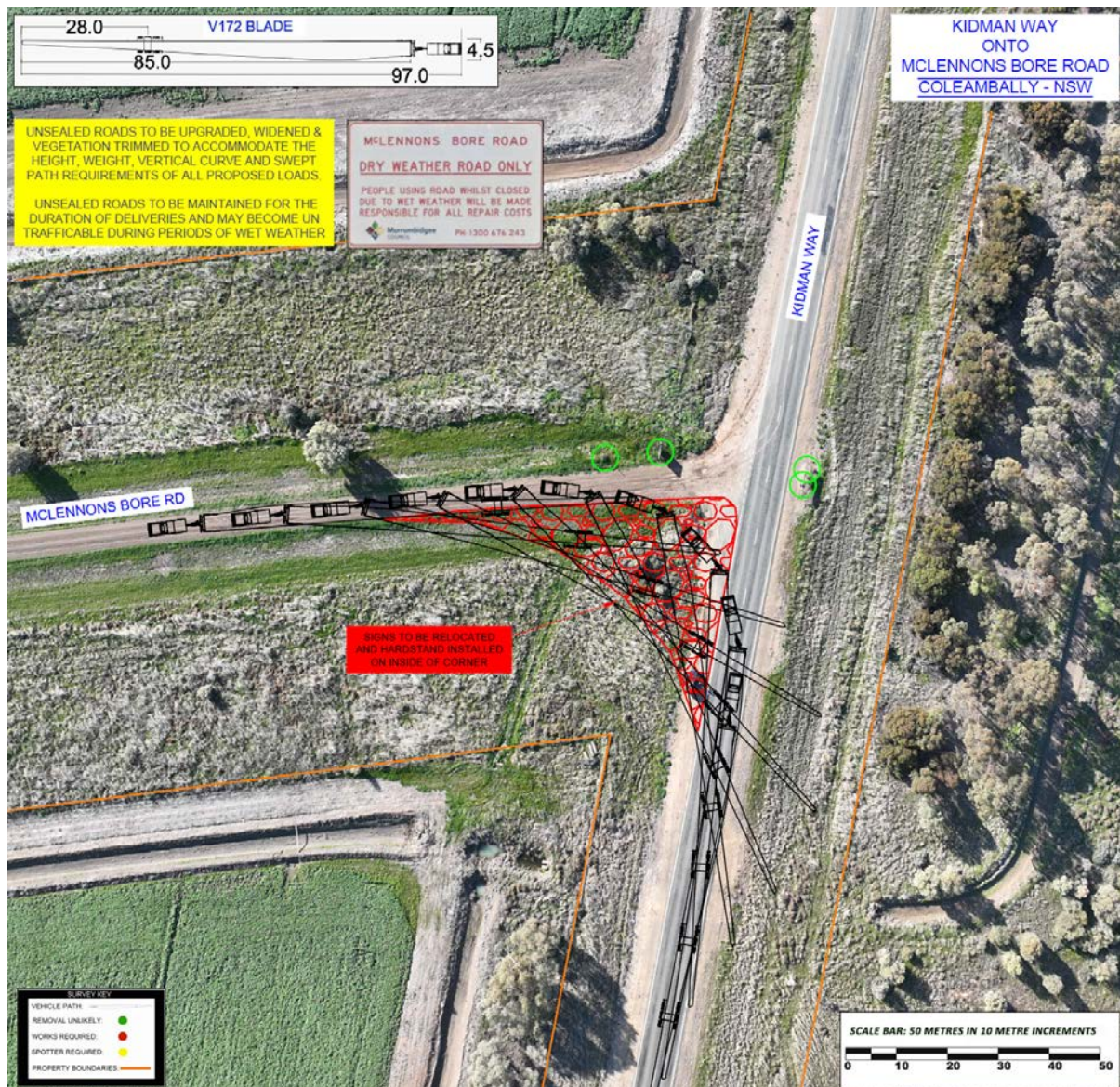


Figure 17 - Kidman Way onto McLennons Bore Road - Blades

GPS LINK: <https://maps.app.goo.gl/2gzv3nwccZbq1i1NA>

PROCEDURE: Left hand turn

ROAD MODIFICATIONS: Signs to be relocated and hardstand installed on inside of corner. Dry weather road only.

482.0 Km's: McLennons Bore Road onto Wilson Road

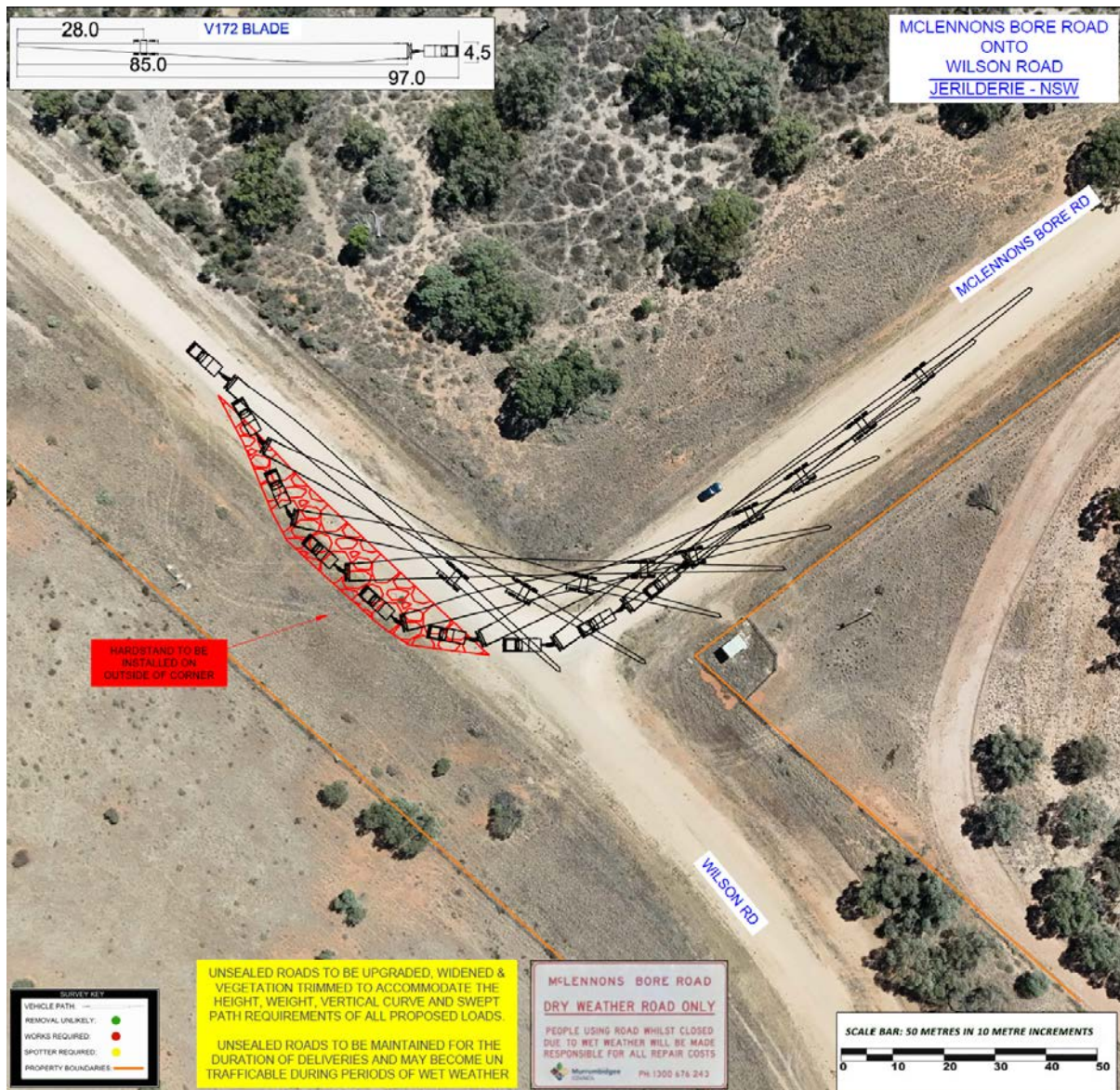


Figure 15 - McLennons Bore Road onto Wilson Road -Blades

GPS LINK: <https://maps.app.goo.gl/dXaMk55ffhDEdtDE6>

PROCEDURE: Right hand turn

ROAD MODIFICATIONS: Hardstand to be installed on outside of corner.

8.0 Route 1: Conclusion

After reviewing all options and undertaking a route study, the route in its current condition will require a large amount of upgrading before it could be deemed suitable for transporting the proposed components.

After reviewing all options and undertaking a route study, the report found that the route in its current condition will require a large amount of upgrading before it could be deemed suitable for transporting the proposed components.

The following are the key points that need to be taken into consideration, if the project moves forward with this route.

SWEPT PATH:

- There are numerous sections along the route that will require a large amount of work in order to accommodate the proposed blade size.
- The corners that have been identified in the report as requiring work should be investigated early in the planning stages to avoid delays or rejections.

VERTICAL CURVE:

- No issues on this route.

OVERHEAD STRUCTURES: (5.2 Maximum loaded height)

- The lowest structures are the overpasses along the Northern Expressway. The lowest of these has a clearance of 5.2m.
- Loads higher than 5.2m cannot use this route and will need to use route 2

OVERHEAD UTILITIES:

- This route will need to be checked by an authorised scoping company. It is likely that a route of at least 5.6 metres is required for this project.

BRIDGES:

- Majority of the bridges have been used previously for similar loads so it is expected they will be ok. A bridge assessment will still be required.

RAIL ASSETS:

- There are a number of rail overbridges and crossings on route that will require approval from authorities before loads can access the routes.

VEGETATION:

- The route requires a moderate amount of vegetation clearing at various locations as listed in the report.

PAVEMENT:

- Pavement on the route is of highway standard up to the start of routes A, B & C. Bypasses or modifications will be required at several corners and are to be constructed to suitable standards and maintained for the duration of deliveries if not sealed.
- McLennons Bore road is a dry weather road only. People using the road whilst closed due to wet weather will be made responsible for all repair costs.
- Site entries, access roads and unsealed roads to be upgraded, widened & vegetation trimmed to accommodate the height, weight, vertical curve and swept path requirements of all proposed loads.
- Unsealed roads to be maintained for the duration of deliveries and may become un trafficable during periods of wet weather.

ROADWORKS:

- The project will need to start discussions with government authorities at least 18 months prior to turbine transport to understand if the project would conflict with any upcoming roadworks. Once a Transport Management Plan "TMP" has been approved for the transport of the turbines, then the exact movement dates need to be communicated with all relevant authorities to make all road stakeholders are aware of the scheduled movements for each day.
- The project will need to regularly check on any new upgrades not listed in the report. If upgrades have taken place on a section of route after this report has been completed, then a swept path study would need to be undertaken on that section of road to confirm that it can still be used.

SITE ACCESS ROADS:

- All site access roads to be constructed to appropriate standards in order to accommodate the height, weight, vertical curves and swept path of all proposed roads.
- Roads to be made all weather and maintained for the duration of deliveries.

9.0 Route 2: Geelong to Dinawan Windfarm

COMPONENTS: Towers & Larger items (**Max loaded height 6.5m**)

DISTANCE: 720 kilometres

GPS LINK: <https://maps.app.goo.gl/p4dJXeN9CrqBgJP58>

ROUTE: Geelong Port, Madden Ave, Seabeach Parade, St Georges Road, Cox Road, Anakie Road, Midland Highway, Princes Freeway, Hamilton Highway, Colac-Ballarat Road, Pitfield-Cressy Road, Rokewood-Skipton Road, Glenelg Highway, Beaufort Road, Skipton Road, Lawrence Street, Albert Street, Lexton Road, Beaufort-Lexton Road, Williamson Street, Sunraysia Highway, Wimmera Highway, Bridgewater-Dunolly Road, Arnold Road, Bridgewater-Serpentine Road, River Street, Loddon Valley Highway, Boort-Mitiamo Road, Pyramid-Yarraberb Road, Bendigo-Pyramid Road, Echuca-Mitiamo Road, Northern Highway, Ogilvie Ave, Murray Valley Highway, Goulburn Valley Highway, Newell Highway, Kidman Way, McLennons Bore Road, Wilson Road.

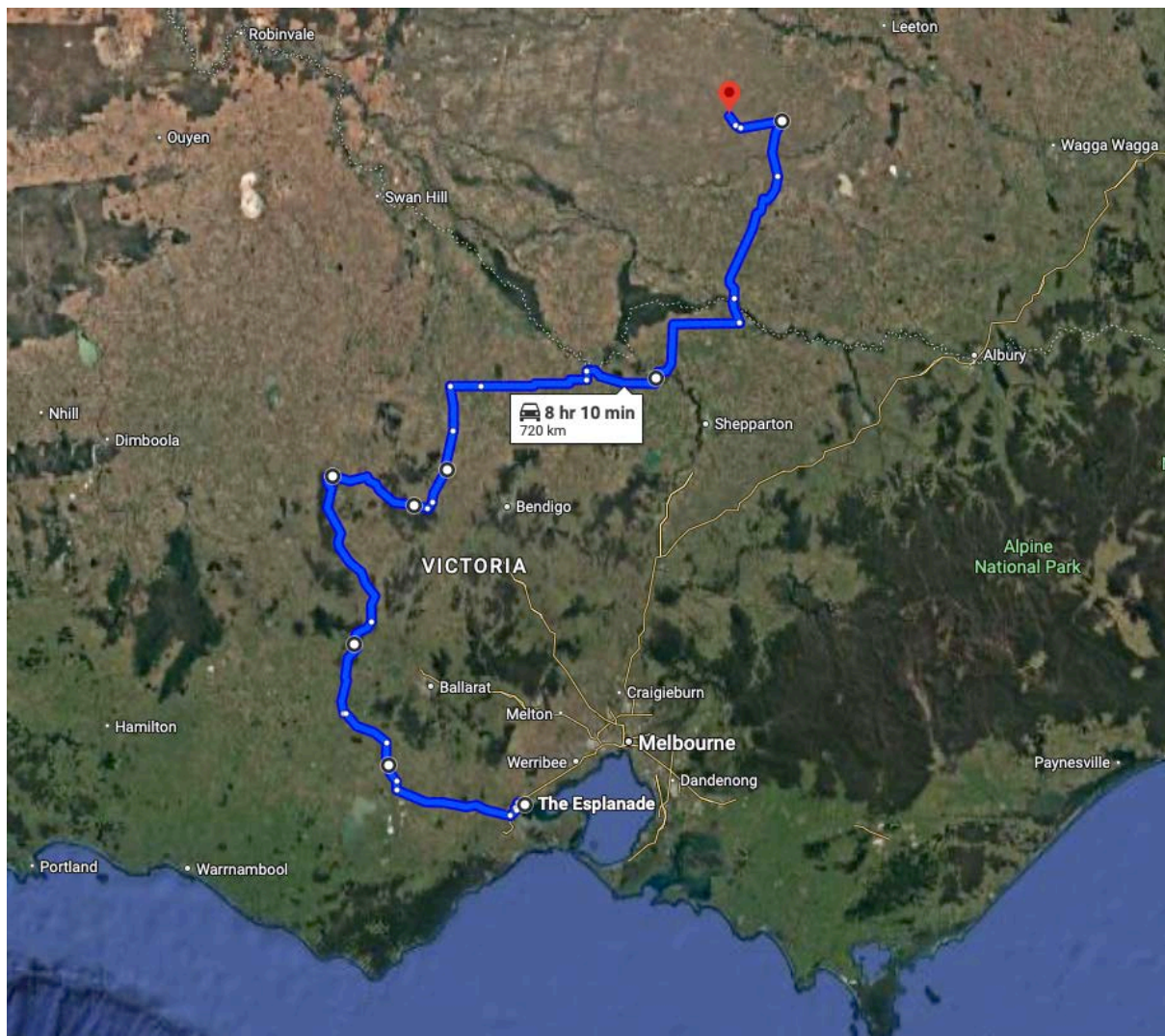


Figure 19 - Route 2

ROUTE STUDY

DINAWAN ENERGY HUB WINDFARM

KEY	
MODIFICATIONS REQUIRED	
PINCH POINT	
EMERGENCY PARKING	

KM index	Location	Section of road	Current clearance	Procedure	Notes
0.2	North Shore	The Esplanade becomes Madden Rd GPS Link: https://maps.app.goo.gl/7FnASiWDFrmk3qv9	Width: 6.5 Metres	Travel directly ahead	No problem with this section of road.
0.65	North Shore	Madden Rd onto Seabeach Pde GPS Link: https://maps.app.goo.gl/3MxJh3YD6c3dN0x09	Length: 40 metres Width: 8.5 Metres	Right hand turn	Power pole and signs to be relocated out of swept path. Hardstand to be installed and kerbs made trafficable.
1.1	North Shore	Seabeach Pde onto St Georges Rd GPS Link: https://maps.app.goo.gl/KEAYVUUDwFvzwg9	Length: 40 metres Width: 9.0 Metres	Left hand turn	Hardstand to be installed on outside of corner and kerbs made trafficable.
1.5	Corio	Roundabout on St Georges Rd GPS Link: https://maps.app.goo.gl/3GarkxQ2R8K6vrb6	Length: 40 metres Width: 5.0 Metres	Travel directly ahead	Island on entry to be made trafficable/replaced with painted lines. Existing roundabout made trafficable for previous project.
2.5	Corio	St Georges Rd onto Cox Rd GPS Link: https://maps.app.goo.gl/TsJK1fFfA6JSVJt9	Width: 7.0 Metres	Travel directly ahead	No problem with this section of road.
4.4	Norlane	Cox Rd onto Anakie Rd GPS Link: https://maps.app.goo.gl/3cuaH5BxQ4Y7zom5D9	Length: 40 metres Width: 7.0 Metres	Left hand turn	Hardstand to be installed on island and roundabout and kerbs made trafficable.
5.7	Bell Post Hill	Rail Crossing on Anakie Rd GPS Link: https://maps.app.goo.gl/u4zZbsX1V4muEnhZ8	Width: 11.0 Metres	Travel directly ahead	Rail Manager approvals required.
6.3	Bell Park	Roundabout on Anakie Rd GPS Link: https://maps.app.goo.gl/F3rT5Hc9Pv72w6d9d	Length: 30 metres Width: 4.5 Metres	Travel directly ahead on incorrect side of roundabout.	Roundabout to be made trafficable/concreted. Islands to be made trafficable/replaced with painted lines.
8.4	Bell Park	Anakie Rd onto Ballarat Road GPS Link: https://maps.app.goo.gl/3wv73u6vum2v078	Length: 35 metres Width: 7.5 Metres	Right hand turn using slip lane on incorrect side of road.	Traffic islands to be made trafficable/replaced with painted lines. Vegetation to be trimmed for clearance.
9.7	Hamlyn Heights	Ballarat Rd onto Geelong Ring Rd GPS Link: https://maps.app.goo.gl/G5w6t51Z76vUUMA	Length: 45 metres Width: 9.0 Metres	Left hand turn	Hardstand to be installed on outside of corner.
14.2	Fyansford	Princes Hwy Off Ramp GPS Link: https://maps.app.goo.gl/kjgvhDNYtbiFSt1Z8	Width: 4.5 Metres	Veer Left	No problem with this section of road.
14.7	Fyansford	Geelong Ring Rd onto Hamilton Hwy GPS Link: https://maps.app.goo.gl/V4B6JZP2x05HwP4	Length: 30 metres Width: 5.0 Metres	Right hand turn	Hardstand to be installed on outside of corner on entry. Loads to use bypass installed for previous project.
14.8	Fyansford	Hamilton Hwy Under Princes Hwy x 2 GPS Link: https://maps.app.goo.gl/4Q4wC4wvHvKv086	Height: 6.5 Metres	Travel directly ahead via bypass roadway	Discussions with asset owners/regulators required to secure use of bypass installed for current project.
32.8	Inverleigh	Rail Crossing on Hamilton Hwy GPS Link: https://maps.app.goo.gl/YcwKdPQpJmaQHS3x8	Width: 6.0 Metres	Travel directly ahead	Rail Manager approvals required

ROUTE STUDY

DINAWAN ENERGY HUB WINDFARM

KM index	Location	Section of road	Current clearance	Procedure	Notes
75.1	Cressy	Hamilton Hwy onto Colac-Ballararat Rd GPS Link: https://maps.app.goo.gl/21mVYQK5eR75Vb6	Length:40 metres Width: 6.0 Metres	Right hand turn	Hardstand to be installed on inside and outside of corner. Island to be made trafficable/replaced with painted lines.
79.6	Werneth	Colac-Ballararat Rd onto Pitfield-Cressy Rd GPS Link: https://maps.app.goo.gl/677474j0X3m4v99YA	Length:40 metres Width: 5.0 Metres	Left hand turn	Hardstand to be installed on inside and outside of corner.
101	Pitfield	Pitfield-Cressy Rd onto Rokewood-Skipton Rd https://maps.app.goo.gl/N6L7v2opYDXr336ZA	Length:75 metres Width: 7.0 Metres	Left hand turn	No problem with this section of road.
127	Skipton	Rokewood-Skipton Rd onto Glenelg Hwy GPS Link: https://maps.app.goo.gl/5F5u54H3Q8M4374vW6	Length:40 metres Width: 10.0 Metres	Left hand turn	Hardstand to be installed on outside of corner. Island to be made trafficable/replaced with painted lines.
128	Skipton	Glenelg Hwy onto Beaufort Rd GPS Link: https://maps.app.goo.gl/31-M45u4v-9Mf-62G	Length:40 metres Width: 8.0 Metres	Right hand turn	Hardstand to be installed on outside of corner.
129.8	Skipton	Beaufort Rd becomes Skipton Rd GPS Link: https://maps.app.goo.gl/eatWikX3xUbXARh7A	Width: 8.0 Metres	Travel directly ahead	No problem with this section of road.
157.8	Beaufort	Skipton Rd becomes Lawrence St GPS Link: https://maps.app.goo.gl/CvqzTqIMN48apEu9	Width: 9.0 Metres	Travel directly ahead	No problem with this section of road.
159.0	Beaufort	Rail crossing on Lawrence St GPS Link: https://maps.app.goo.gl/YJ2NoY3uoFA38e9H7	Width: 8.0 Metres	Travel directly ahead	Rail Manager approvals required
159.1	Beaufort	Lawrence St becomes Albert St GPS Link: https://maps.app.goo.gl/ciiBRPDbar9XMCfe6	Width: 8.0 Metres	Travel directly ahead	No problem with this section of road.
160.3	Beaufort	Albert St becomes Lexton-Beaufort Rd GPS Link: https://maps.app.goo.gl/CXUZO9LavZNy4rqz6	Width: 8.0 Metres	Travel directly ahead	No problem with this section of road.
182.5	Lexton	Lexton-Beaufort Rd onto Williamson St GPS Link: https://maps.app.goo.gl/sFb4KDDK58f32eXo7	Length: 50 metres Width: 6.5 Metres	Right hand turn	No problem with this section of road.
183.0	Lexton	Williamson St onto Sunraysia Hwy GPS Link: https://maps.app.goo.gl/5e74jHdE5u4z71v-d9	Length: 45 metres Width: 10 Metres	Left hand turn	Traffic islands to be made trafficable/replaced with painted lines.
205.0	Avoca	Rail Crossing on Sunraysia Hwy GPS Link: https://maps.app.goo.gl/L1v8XkPfrRh1eAk6	Width: 7.0 Metres	Travel directly ahead	Rail Manager approvals required
266.5	St Arnaud	Rail Crossing on Sunraysia Hwy GPS Link: https://maps.app.goo.gl/PqNwW6iSW5uMXEVEA	Width: 6.0 Metres	Travel directly ahead	Rail Manager approvals required
267.0	St Arnaud	Sunraysia Hwy onto Wimmera Hwy GPS Link: https://maps.app.goo.gl/5uJ1A5Cv2m91oJv1f	Length: 30 metres Width: 6.0 Metres	Right hand turn	Islands to be made trafficable/replaced with painted lines. Signs relocated out of swept path.
326.0	Tarnagulla	Rail Crossing on Wimmera Hwy GPS Link: https://maps.app.goo.gl/gpDaxGh2unmZeJnv9	Width: 6.0 Metres	Travel directly ahead	Rail Manager approvals required

ROUTE STUDY

DINAWAN ENERGY HUB WINDFARM

KM index	Location	Section of road	Current clearance	Procedure	Notes
327.0	Tarnagulla	Turn on Wimmera Hwy at Tarnagulla GPS Link: https://maps.app.goo.gl/8u8uT7b7e2XcQndp87	Length: 40 metres Width: 6.0 Metres	Left hand turn	Island to be made trafficable/replaced with painted lines. Hardstand to be installed on outside of corner.
331.0	Llanelly	Wimmera Hwy onto Bridgewater-Dunolly Rd GPS Link: https://maps.app.goo.gl/7uV8c3bu8M55MUB	Length: 60 metres Width: 10.0 Metres	Left hand turn	Signs to be relocated or made removable.
331.1	Llanelly	Rail Crossing on Bridgewater-Dunolly Rd GPS Link: https://maps.app.goo.gl/YuXaHBoUFGZnJmx7	Width: 5.5 Metres	Travel directly ahead	Rail Manager approvals required
340.3	Arnold	Rail Crossing on Bridgewater-Dunolly Rd GPS Link: https://maps.app.goo.gl/GvJ7ydwAR6KviUq7	Width: 5.5 Metres	Travel directly ahead	Rail Manager approvals required
347.1	Bridgewater on Loddon	Bridgewater-Dunolly Rd becomes Arnold Rd GPS Link: https://maps.app.goo.gl/1yGbh3s25qAEXXcA	Width: 6.0 Metres	Travel directly ahead	No problem with this section of road.
348.0	Bridgewater on Loddon	Arnold Rd onto Bridgewater-Serpentine Rd GPS Link: https://maps.app.goo.gl/cdJROBd69c6ihxYK9	Width: 7.0 Metres	Travel directly ahead	No problem with this section of road.
348.2	Bridgewater on Loddon	Rail Crossing on Bridgewater-Serpentine Rd GPS Link: https://maps.app.goo.gl/MqzAmP4vB6sUSNY77	Width: 5.5 Metres	Travel directly ahead	Rail Manager approvals required
369.6	Serpentine	Bridgewater-Serpentine Rd becomes River Rd GPS Link: https://maps.app.goo.gl/hmNhw3D9Lu7VHWC8	Width: 6.0 Metres	Travel directly ahead	No problem with this section of road.
370.0	Serpentine	River Rd onto Loddon Valley Hwy GPS Link: https://maps.app.goo.gl/Coqna1778wv3bu44	Length: 40 metres Width: 7.5 Metres	Left hand turn	Island to be made trafficable/replaced with painted lines.
393.0	Jarklin	Loddon Valley Hwy onto Boort-Mitiamo Rd GPS Link: https://maps.app.goo.gl/cv8cY8buA4t1c9EL8	Length: 35 metres Width: 6.0 Metres	Right hand turn	Hardstand to be installed on inside and outside of corner and signs relocated or made removable.
408	Calivil	Boort-Mitiamo Rd onto Pyramid-Yarraberb Rd GPS Link: https://maps.app.goo.gl/huQ588F9vVAKKEv87	Length: 35 metres Width: 3.5 Metres	Left hand turn	Islands to be made trafficable/replaced with painted lines.
408.1	Calivil	Pyramid-Yarraberb Rd onto Bendigo-Pyramid Rd GPS Link: https://maps.app.goo.gl/VRPaJn1Yp4G4X1hmQ9	Length: 35 metres Width: 3.5 Metres	Right hand turn	Islands to be made trafficable/replaced with painted lines.
417.1	Mitiamo	Rail Crossing on Bendigo-Pyramid Rd GPS Link: https://maps.app.goo.gl/R4ah7E1W6cqPBVxP9	Width: 6.0 Metres	Travel directly ahead	Rail Manager approvals required
417.2	Mitiamo	Bendigo-Pyramid Rd becomes Echuca-Mitiamo Rd GPS Link: https://maps.app.goo.gl/9vDt9EamGaFSSx6o8	Width: 6.0 Metres	Travel directly ahead	No problem with this section of road.
465.0	Echuca	Echuca-Mitiamo Rd onto Northern Hwy GPS Link: https://maps.app.goo.gl/vyCwETyomDomaR0uG8	Length: 50 metres Width: 6.0 Metres	Left hand turn	Sign to be relocated or made removable.

ROUTE STUDY

DINAWAN ENERGY HUB WINDFARM

KM index	Location	Section of road	Current clearance	Procedure	Notes
469.0	Echuca	Northern Hwy onto Murray Valley Hwy GPS Link: https://maps.app.goo.gl/DJkCtqrFvBhuqoB9	Length: 45 metres Width: 4.5 Metres	Right hand turn using incorrect side of roundabout	Island to be made trafficable/replaced with painted lines and signs relocated.
471.2	Echuca	Rail Crossing on Murray Valley Hwy https://maps.app.goo.gl/RExqo78Tf8daBDcd9	Width: 10 Metres	Travel directly ahead	Rail Manager approvals required
527.0	Nathalla	Roundabout on Murray Valley Hwy GPS Link: https://maps.app.goo.gl/Ycfkka5CTTDeaqCq9	Length: 40 metres Width: 4.0 Metres	Travel directly ahead	Hardstand to be installed and kerbs made trafficable on entry. Roundabout to be made trafficable and signs relocated. Island on exit made trafficable/replaced with painted lines.
567.3	Strathmerton	Rail Crossing on Murray Valley Hwy GPS Link: https://maps.app.goo.gl/okMAAwYzHoLqFVYq7	Width: 7.0 Metres	Travel directly ahead	Rail Manager approvals required
575.0	Yarroweyah	Murray Valley Hwy onto Goulburn Valley Hwy GPS Link: https://maps.app.goo.gl/vs3QmH375dnNq517	Length: 45 metres Width: 7.5 Metres	Left hand turn	Sign to relocated or made removable and hardstand installed on inside of corner.
589.0	Tocumwal	Goulburn Valley Hwy becomes Newell Hwy GPS Link: https://maps.app.goo.gl/6sCQUFAnpiWoYHqc9	Width: 8.0 Metres	Travel directly ahead	No problem with this section of road.
589.5	Tocumwal	Roundabout on Newell Hwy at Tocumwal GPS Link: https://maps.app.goo.gl/q12L5wxnNi5KJZDA	Length: 45 metres Width: 6.0 Metres	Travel directly ahead	No problem with this section of road.
645.4	Jerilderie	Corner on Newell Hwy at Conargo Rd GPS Link: https://maps.app.goo.gl/3xVvB8o0B9m6uH15V0	Length: 50 Metres Width: 8.0 Metres	Right hand turn	Islands to be made trafficable/replaced with painted lines.
652.7	Jerilderie	Newell Hwy Rest Area GPS Link: https://maps.app.goo.gl/WHITyYbks2sGMawe9	Length: 150 Metres Width: 5.0 Metres	Veer Left	
659.0	Bundure	Newell Hwy onto Kidman Way GPS Link: https://maps.app.goo.gl/3ue8TMeVY5ckpG28	Length: 50 Metres Width: 8.0 Metres	Left hand turn	Hardstand to be installed on inside of corner and sign relocated or made removable.
690.0	Gala Vale	Kidman Way at McLennons Bore Road GPS Link: https://maps.app.goo.gl/2qzv3nwccZbq1i1NA	Length: 25 Metres Width: 5.5 Metres	Left hand turn	Site Entrance. Modifications made for blades are adequate for tower loads.
711.0	Jerilderie	McLennons Bore Rd onto Wilsons Rd GPS Link: https://goo.gl/maps/zSfwKKyXzHs9m9nb7	Length: 50.0m Width: 5.5m	Right hand turn	Modifications made for blades are adequate for tower loads.
720.0	Mabins Well	Wilsons Rd onto Goolgumbra Rd GPS Link: https://maps.app.goo.gl/kZFrYG317p3mfh9Z	Length: 65.0m Width: 5.0m	Slight Right Hand Turn	No problems with this section of road. Gravel roads to be maintained for duration of deliveries and may become un-trafficable during periods of wet weather.

0.65 Km's: Madden Road onto Seabeach Parade

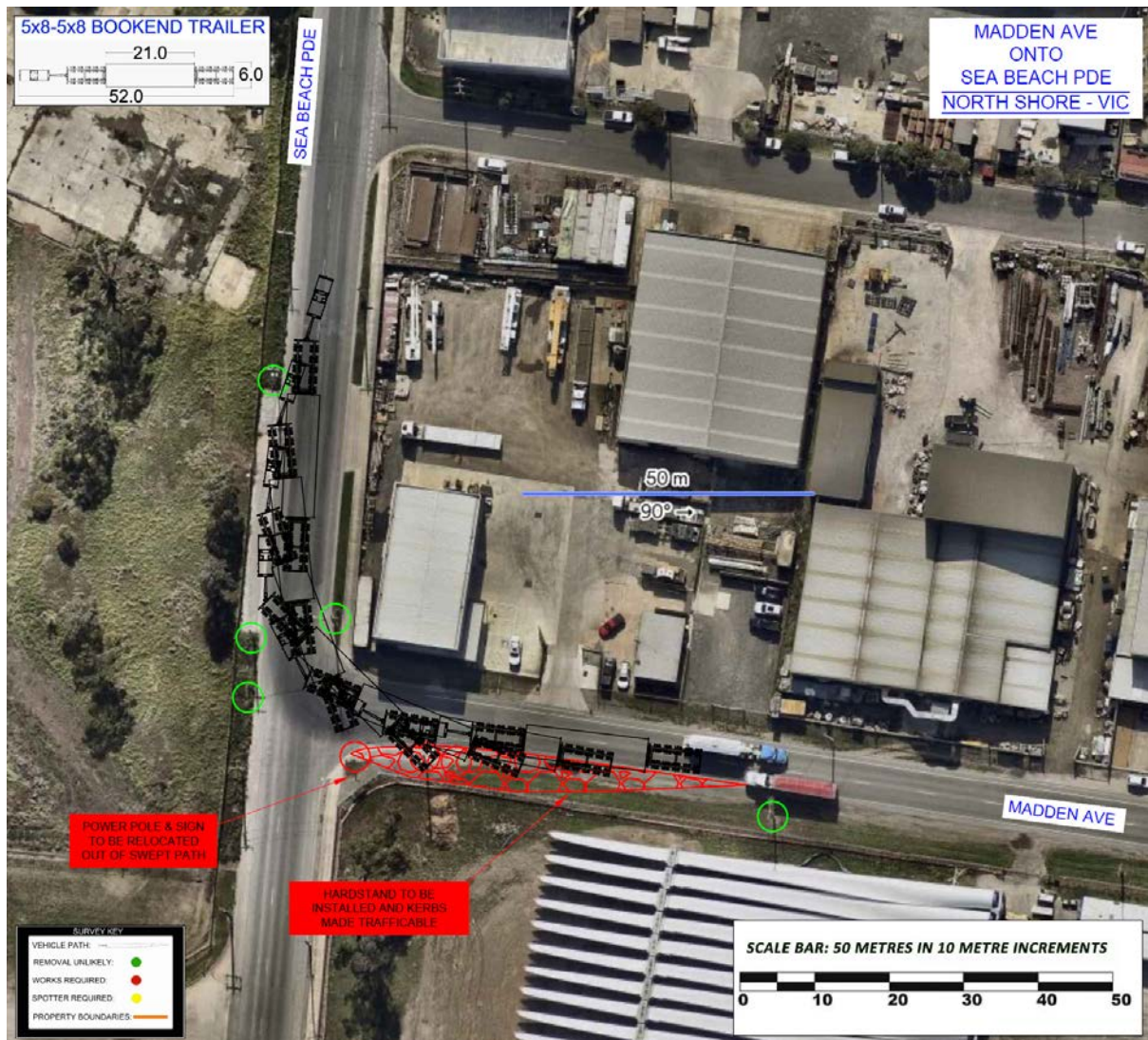


Figure 20 - Madden Rd onto Seabeach Pde

GPS LINK: <https://maps.app.goo.gl/MubM5YK8cJk6NDxX9>

PROCEDURE: Right hand turn

ROAD MODIFICATIONS: Power pole and signs to be relocated out of swept path.
Hardstand to be installed and kerbs made trafficable.

1.1 Km's: Seabeach Parade onto St Georges Road

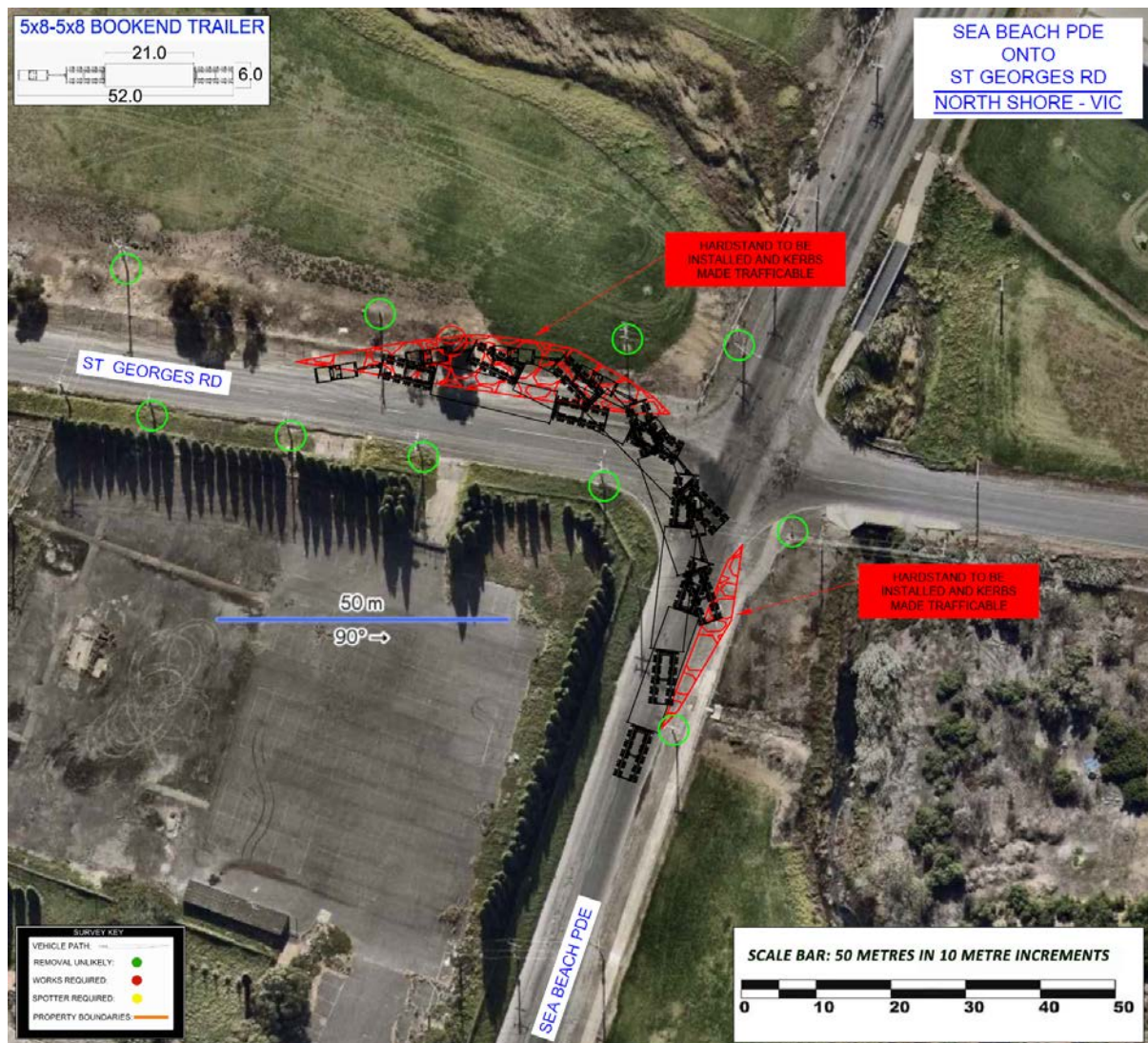


Figure 21- Seabeach Pde onto St Georges Rd

GPS LINK: <https://maps.app.goo.gl/KEAY6PtJ3DwPcpjq5>

PROCEDURE: Left hand turn

ROAD MODIFICATIONS: Hardstand to be installed on outside of corner and kerbs made trafficable.

1.5 Km's: Roundabout on St Georges Road



Figure 16 - Roundabout on St Georges Rd

GPS LINK: <https://maps.app.goo.gl/uGarakxQR9kWvybb8>

PROCEDURE: Travel directly ahead

ROAD MODIFICATIONS: Island on entry to be made trafficable/replaced with painted lines. Existing roundabout made trafficable for previous project.

4.4 Km's: Cox Road onto Anakie Road



Figure 23 - Cox Rd onto Anakie Rd

GPS LINK: <https://maps.app.goo.gl/zoaW9BzDbY7cqmsB9>

PROCEDURE: Left hand turn

ROAD MODIFICATIONS: Hardstand to be installed on island and roundabout and kerbs made trafficable.

6.3 Km's: Roundabout on Anakie Road

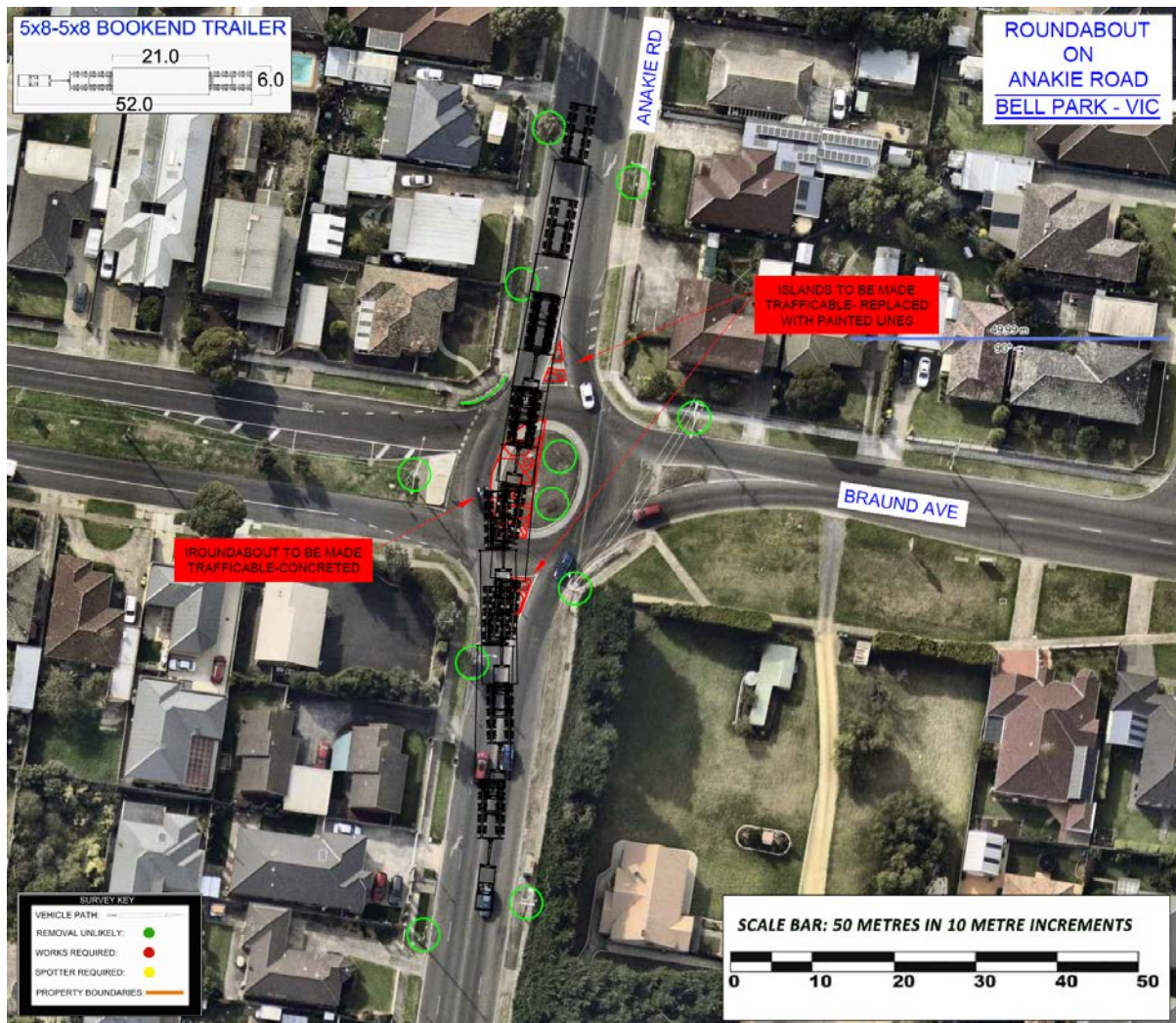


Figure 24 - Roundabout on Anakie Rd

GPS LINK: <https://maps.app.goo.gl/FGrTD5CdPv7Aphdp9>

PROCEDURE: Travel directly ahead on incorrect side of roundabout.

ROAD MODIFICATIONS: Roundabout to be made trafficable/concreted. Islands to be made trafficable/replaced with painted lines.

0.75 Km's: Anakie Road onto Midland Highway

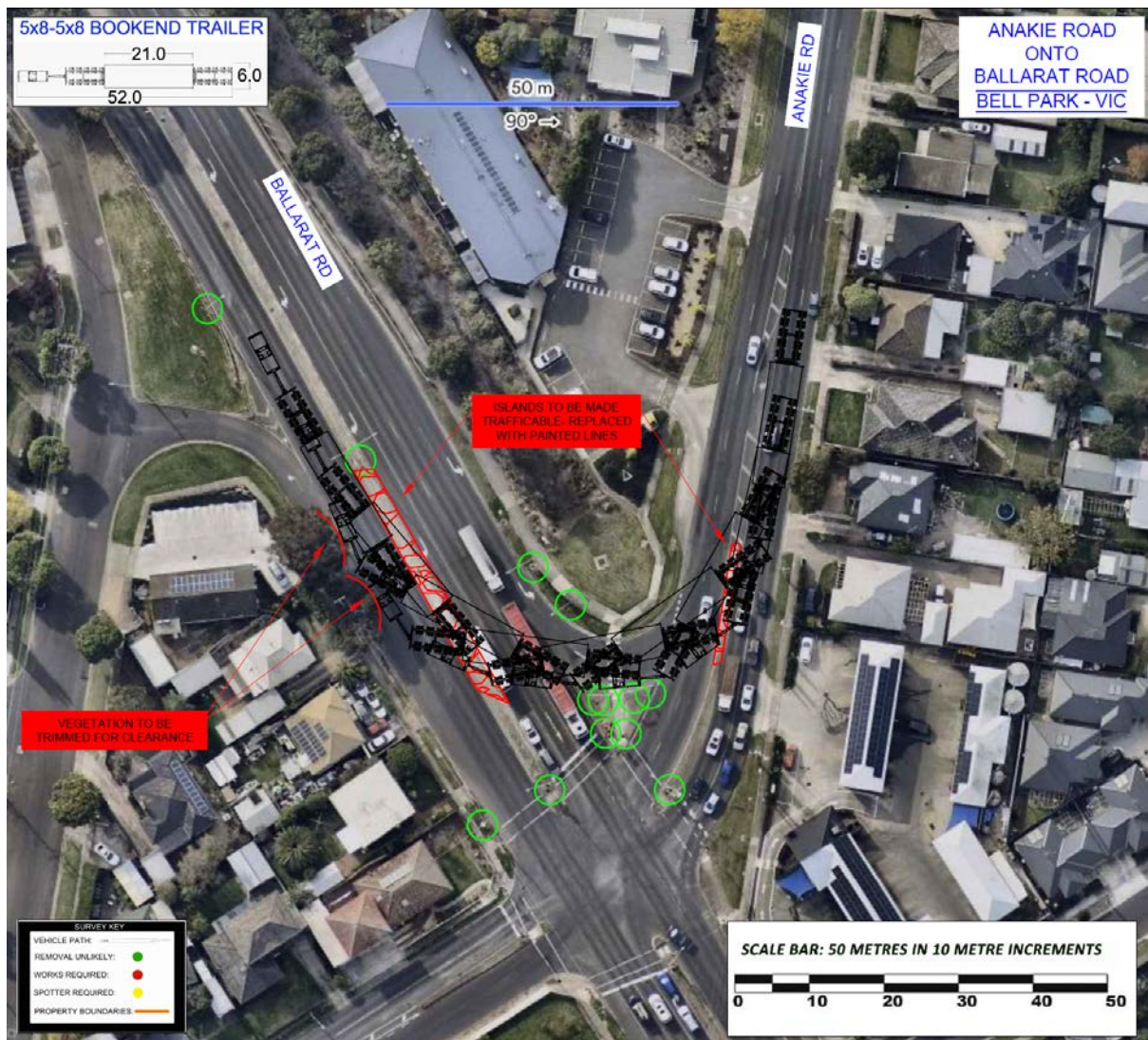


Figure 25 - Anakie Rd onto Midland Hwy

GPS LINK: <https://maps.app.goo.gl/qqr7RxoikysmPpDT8>

PROCEDURE: Right hand turn using slip lane on incorrect side of road.

ROAD MODIFICATIONS: Traffic islands to be made trafficable/replaced with painted lines. Vegetation to be trimmed for clearance.

9.7 Km's: Midland Highway onto Princes Highway

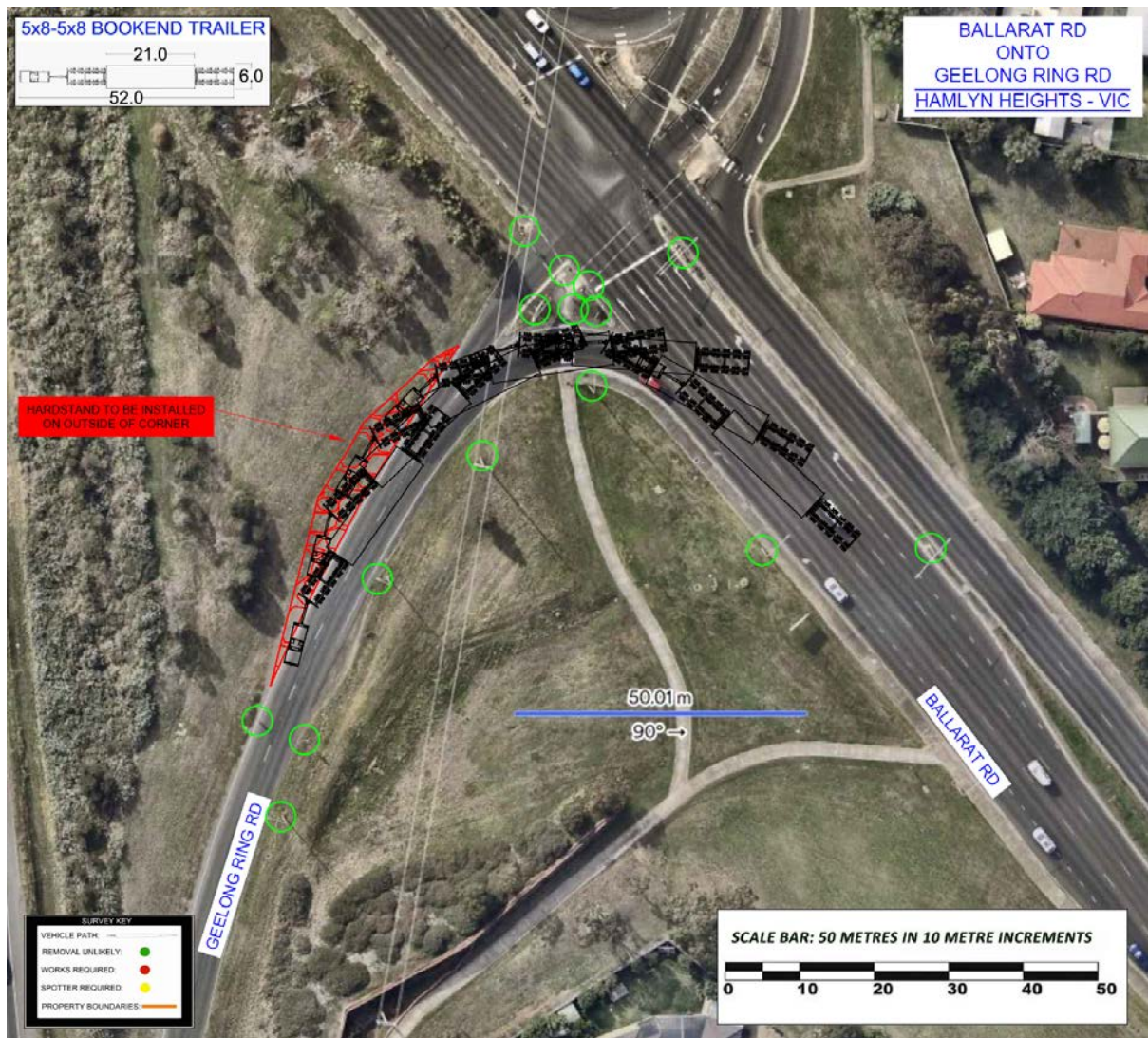


Figure 26 - Midland Hwy onto Princes Hwy

GPS LINK: <https://maps.app.goo.gl/Q5egb54ZZtKkt2UMA>

PROCEDURE: Left hand turn

ROAD MODIFICATIONS: Hardstand to be installed on outside of corner.

14.7 Km's: Princes Highway onto Hamilton Highway

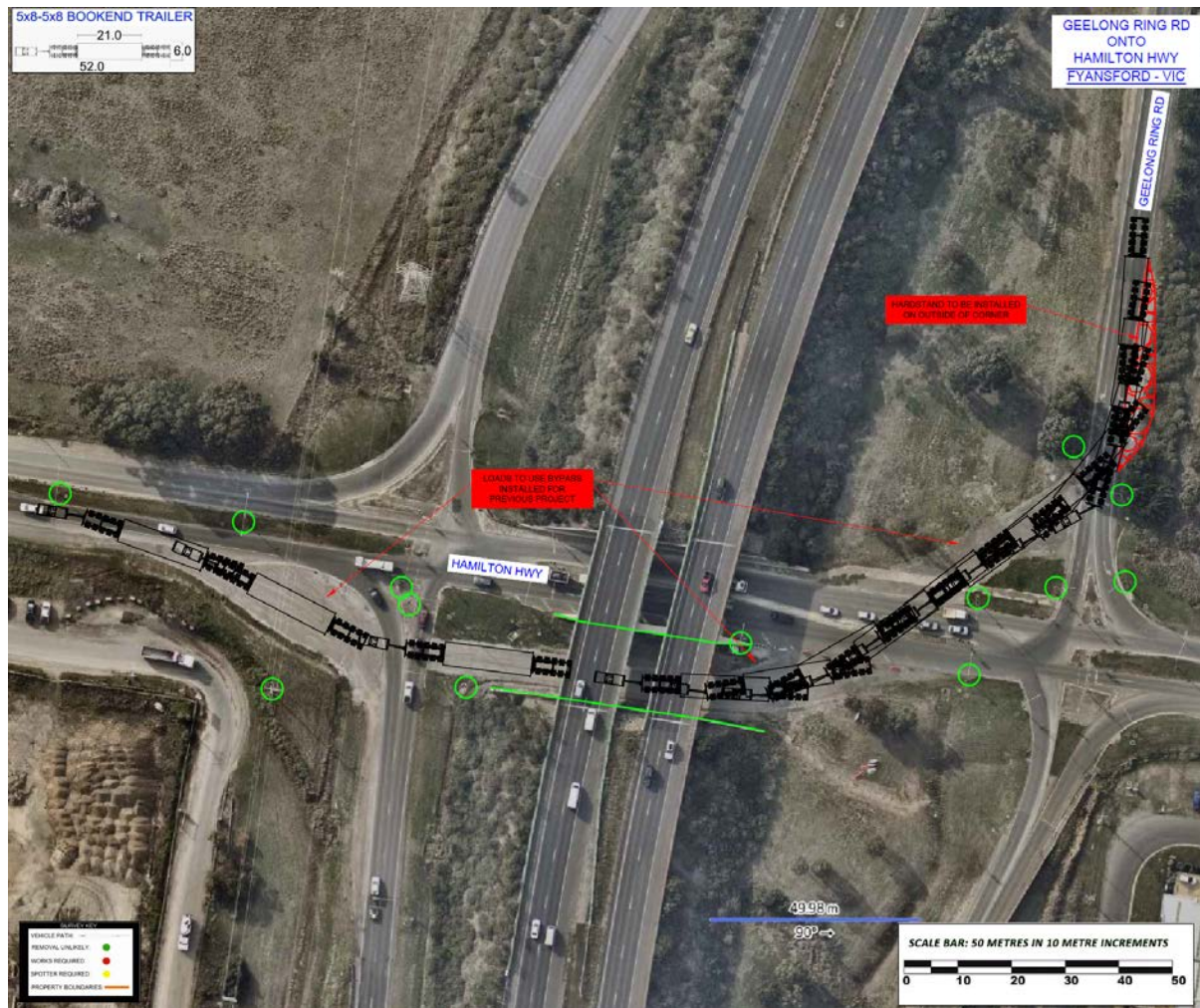


Figure 27 - Princes Hwy onto Hamilton Hwy

GPS LINK: <https://maps.app.goo.gl/VKtUBZFPFs25WzFVA>

PROCEDURE: Right hand turn

ROAD MODIFICATIONS: Hardstand to be installed on outside of corner on entry.
Loads to use bypass installed for previous project.

Discussions with asset owners/regulators required to secure use of bypass installed for current project.

75.1 Km's: Hamilton Highway onto Colac-Ballararat Road

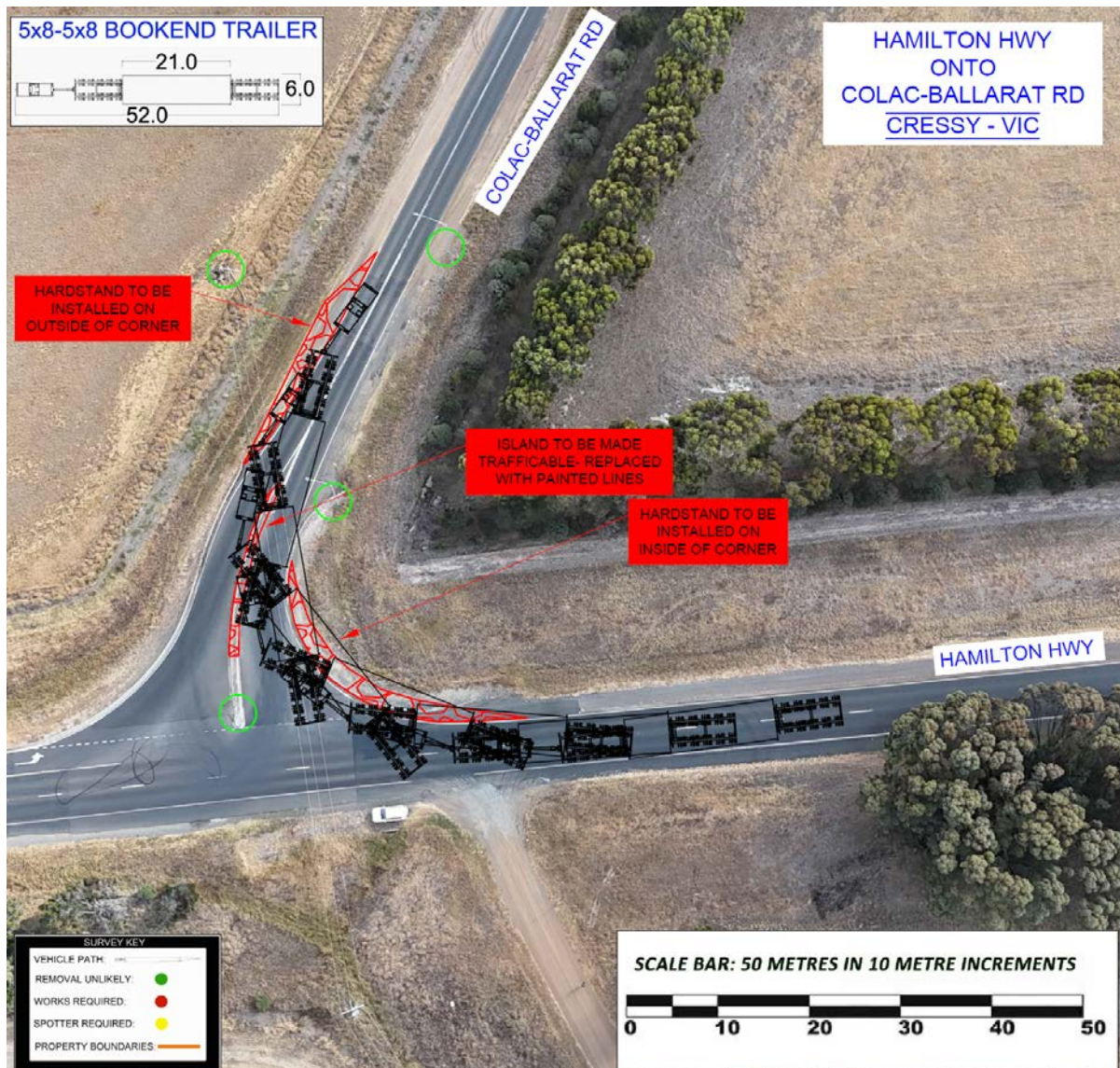


Figure 28- Hamilton Hwy onto Colac-Ballararat Rd

GPS LINK: <https://maps.app.goo.gl/21mVPYQKRosR7SVh6>

PROCEDURE: Right hand turn

ROAD MODIFICATIONS: Hardstand to be installed on inside and outside of corner. Island to be made trafficable/replaced with painted lines.

79.6 Km's: Colac-Ballarat Road onto Pitfield-Cressy Road

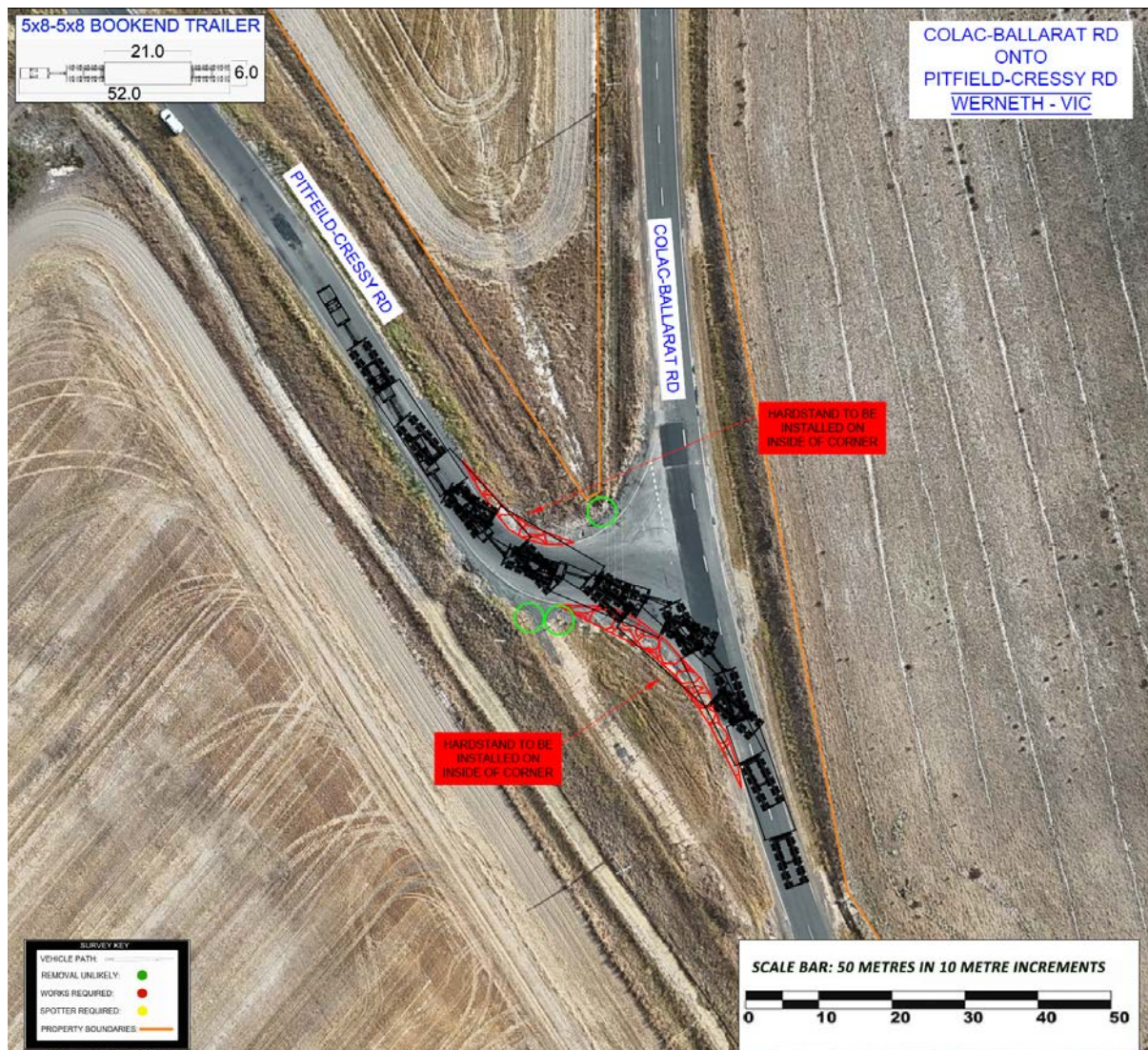


Figure 29 - Colac-Ballarat Rd onto Pitfield-Cressy Rd

GPS LINK: <https://maps.app.goo.gl/o27474J8X3mAyySYA>

PROCEDURE: Left hand turn

ROAD MODIFICATIONS: Hardstand to be installed on inside and outside of corner.

101.0 Km's: Pitfield-Cressy Road onto Rokewood-Skipton Rd

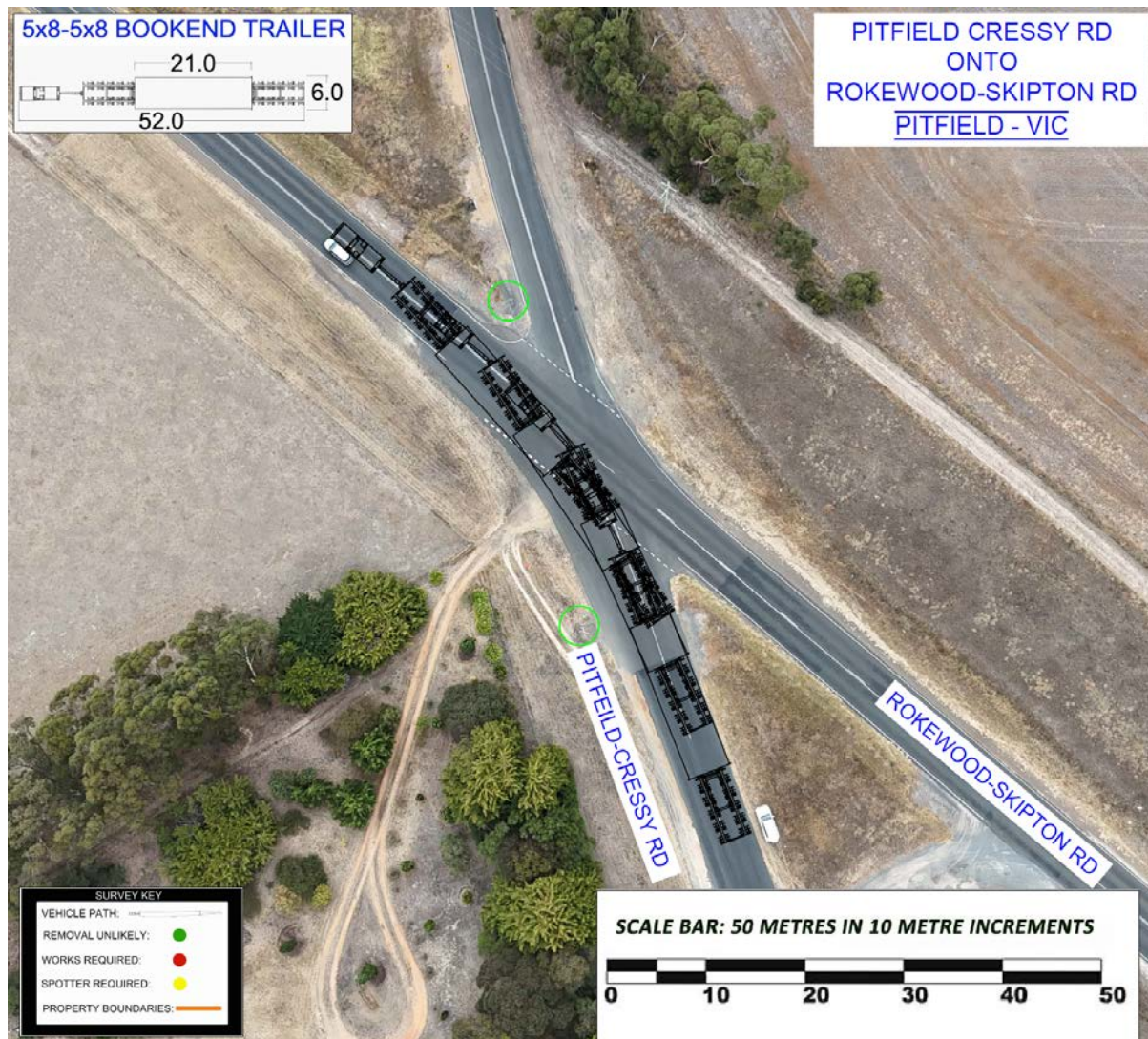


Figure 30 - Pitfield-Cressy Rd onto Rokewood-Skipton Rd

GPS LINK: <https://maps.app.goo.gl/N6L7v2qpYDXr336ZA>

PROCEDURE: Left hand turn

ROAD MODIFICATIONS: Nil.

127.0 Km's: Rokewood-Skipton Road onto Glenelg Highway

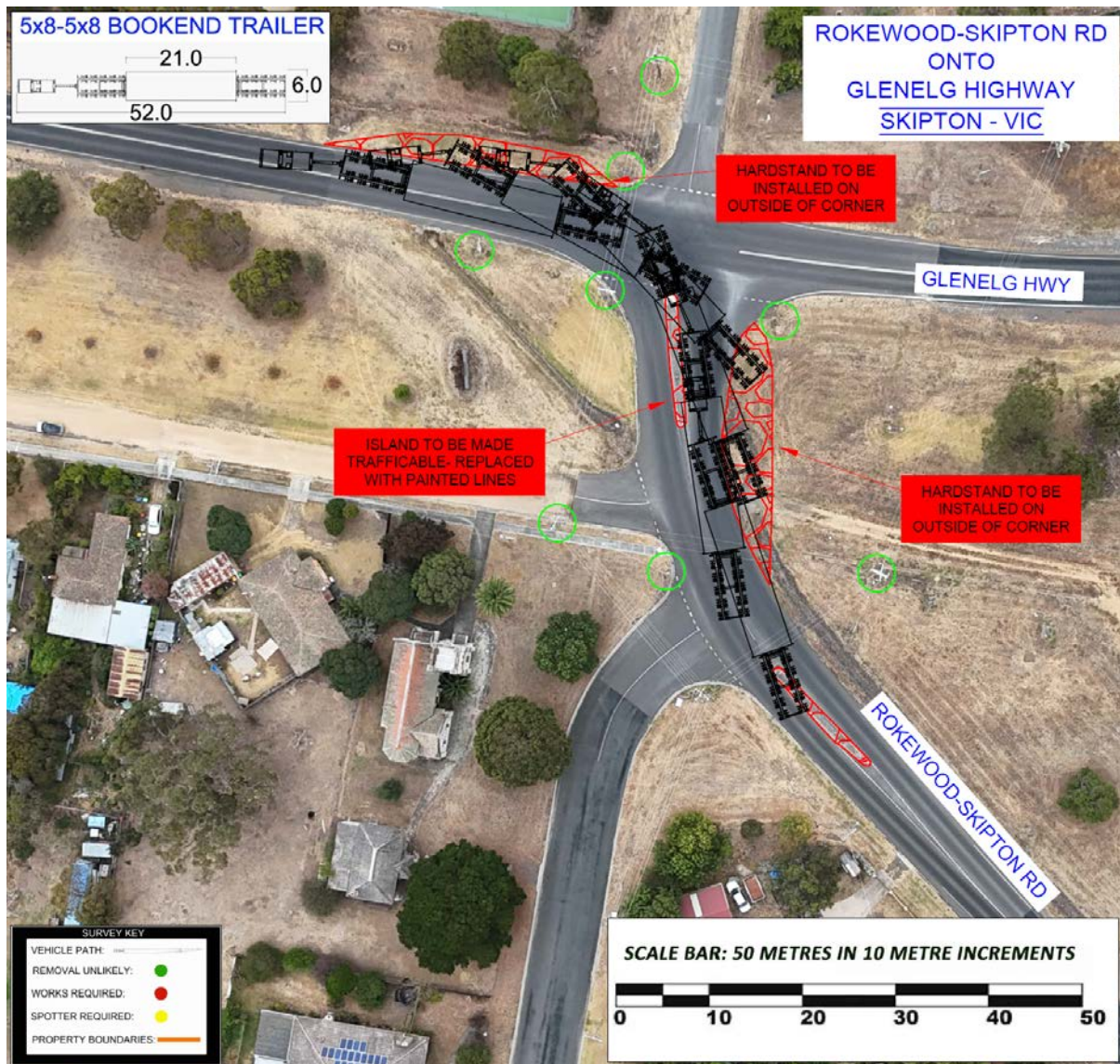


Figure 31 - Rokewood-Skipton Rd onto Glenelg Hwy

GPS LINK: <https://maps.app.goo.gl/REoS4HQ9M4i774gWA>

PROCEDURE: Left hand turn

ROAD MODIFICATIONS: Hardstand to be installed on outside of corner. Island to be made trafficable/replaced with painted lines.

128.0 Km's: Glenelg Highway onto Beaufort Road

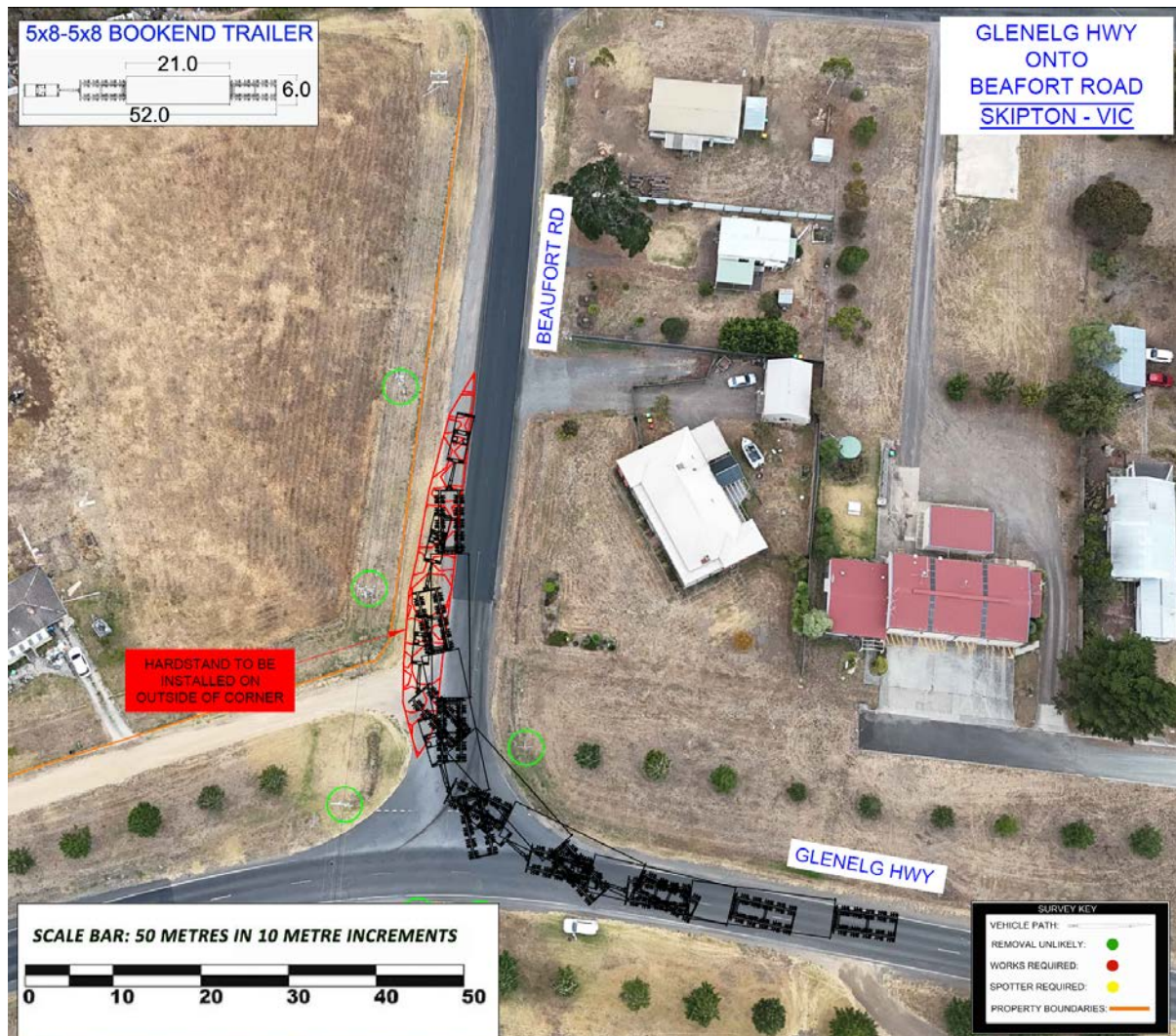


Figure 32 - Glenelg Hwy onto Beaufort Rd

GPS LINK: <https://maps.app.goo.gl/yJMrXzxNcSMfJBZt5>

PROCEDURE: Right hand turn

ROAD MODIFICATIONS: Hardstand to be installed on outside of corner.

183.0 Km's: Williamson Street onto Sunraysia Highway

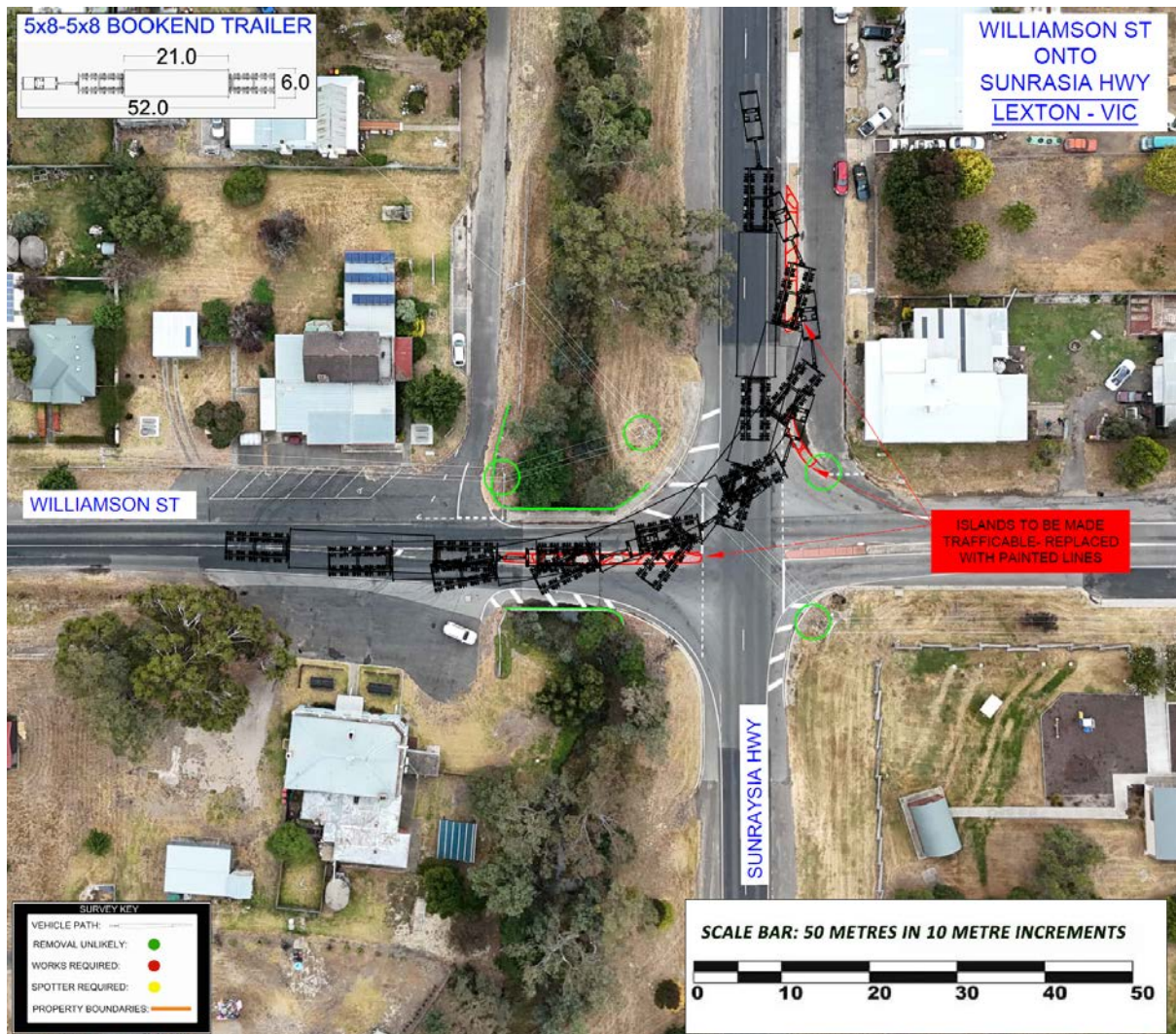


Figure 33 - Williamson St onto Sunraysia Hwy

GPS LINK: <https://maps.app.goo.gl/zwZAHjxEdnAz73o56>

PROCEDURE: Left hand turn

ROAD MODIFICATIONS: Traffic islands to be made trafficable/replaced with painted lines.

267.0 Km's: Sunraysia Highway onto Wimmera Highway

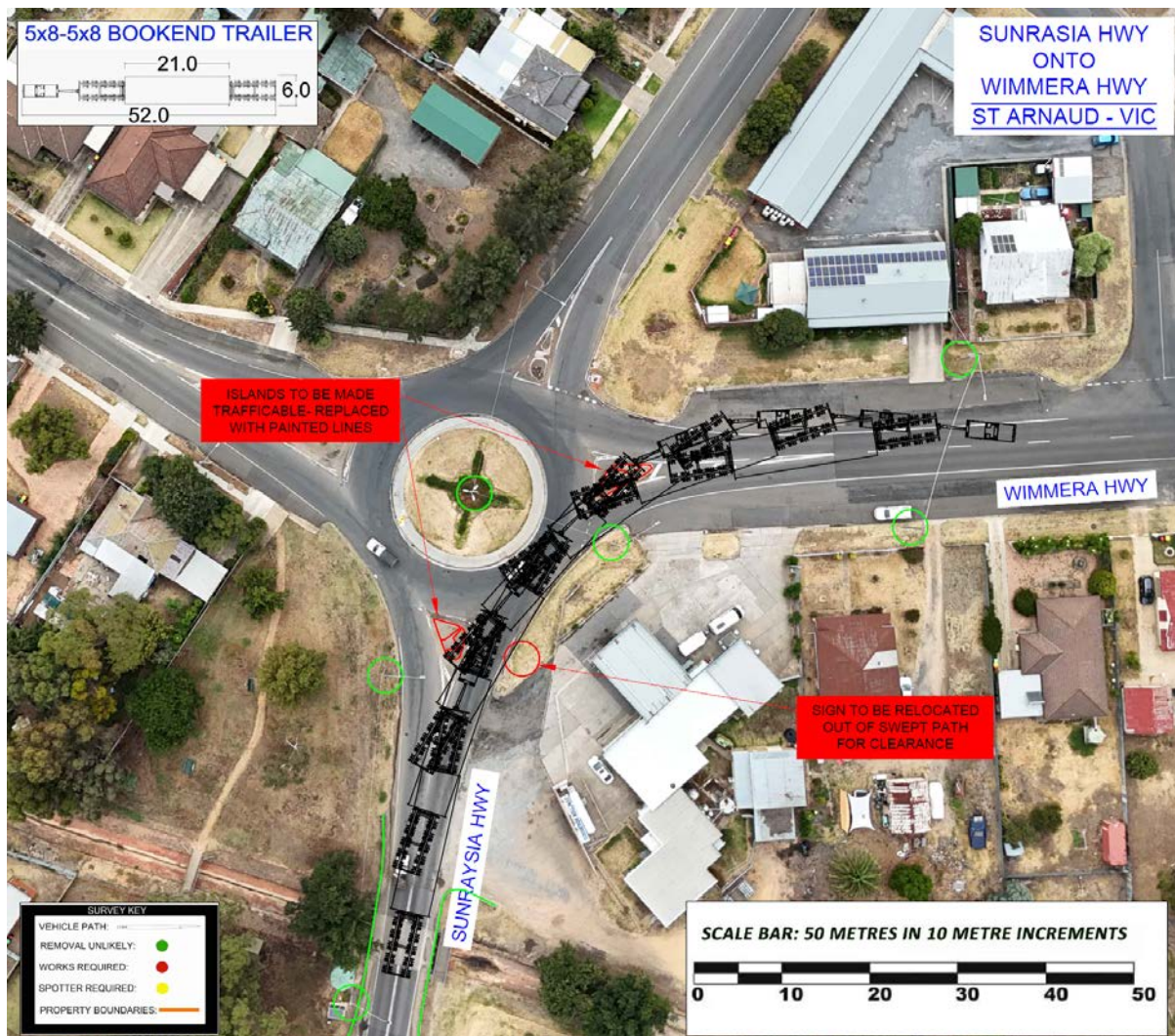


Figure 34 - Sunraysia Hwy onto Wimmera Hwy

GPS LINK: <https://maps.app.goo.gl/PujrA8GQ2R91cjJq7>

PROCEDURE: Right hand turn

ROAD MODIFICATIONS: Islands to be made trafficable/replaced with painted lines.
Signs relocated out of swept path.

327.0 Km's: Turn on Wimmera Highway Tarnagulla

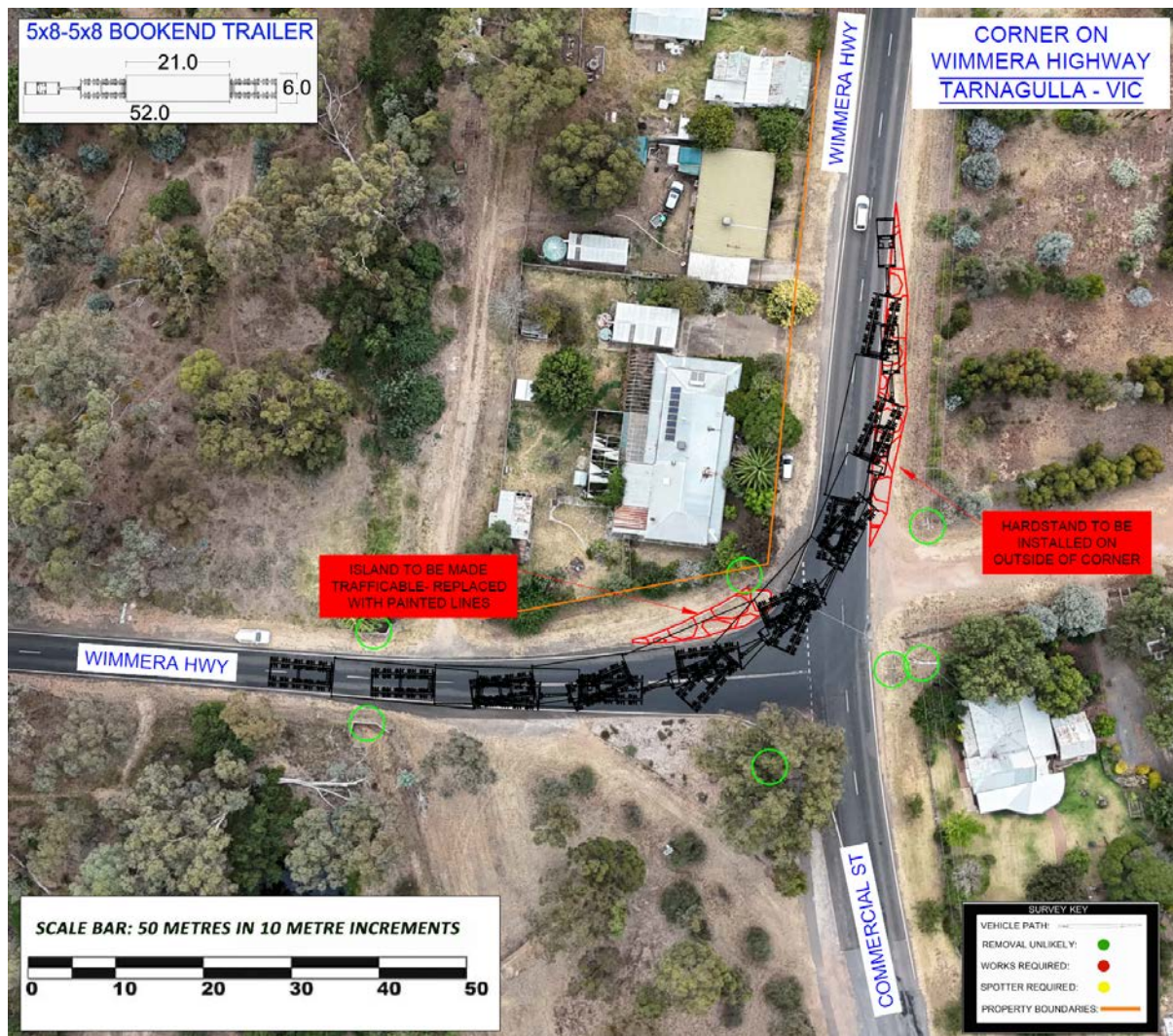


Figure 35 - Turn on Wimmera Hwy Tarnagulla

GPS LINK: <https://maps.app.goo.gl/6ipjTKdwZApGzCq67>

PROCEDURE: Left hand turn

ROAD MODIFICATIONS: Island to be made trafficable/replaced with painted lines.
Hardstand to be installed on outside of corner.

331.0 Km's: Wimmera Highway onto Bridgewater-Dunolly Rd

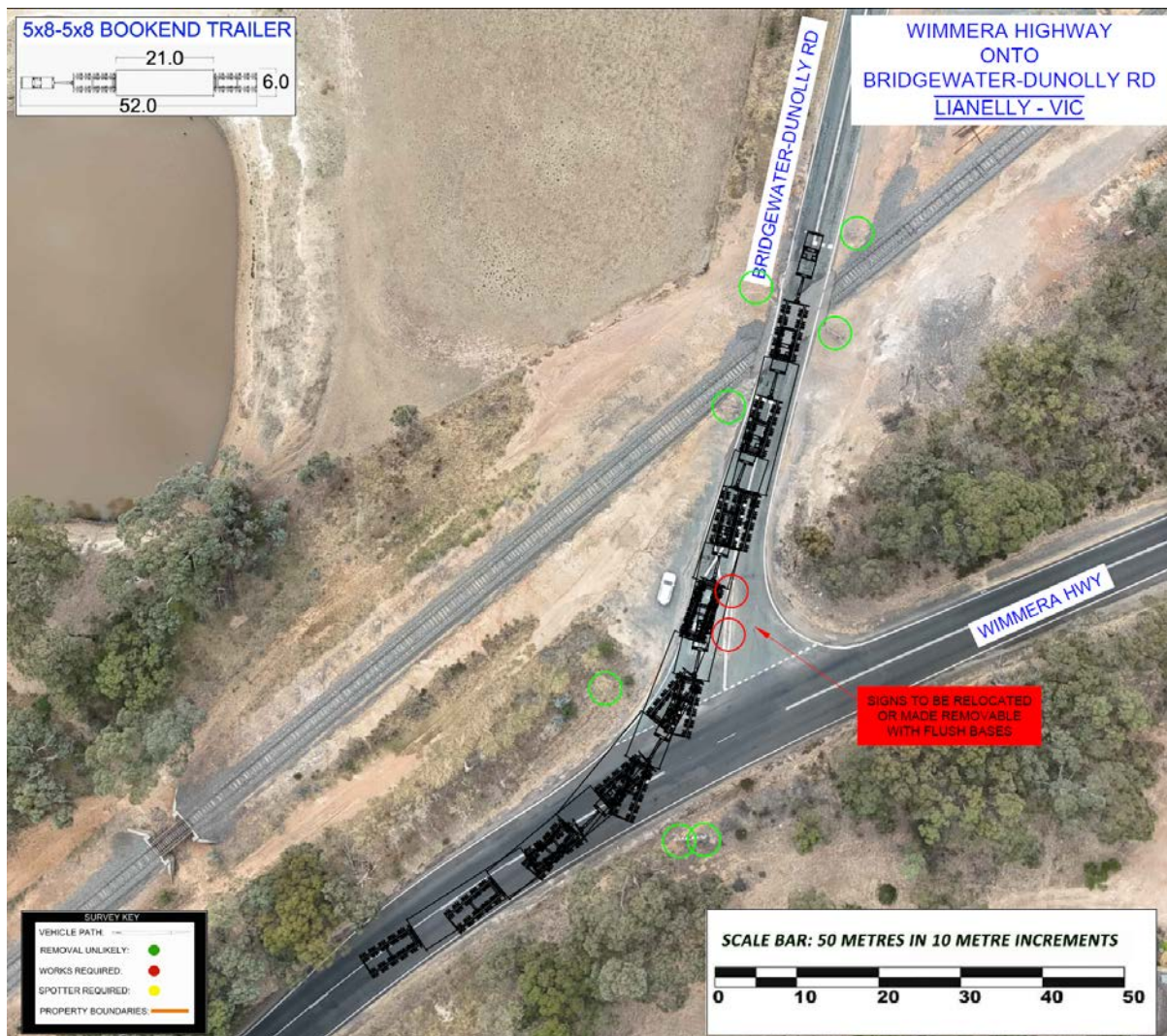


Figure 36 - Wimmera Hwy onto Bridgewater-Dunolly Rd

GPS LINK: <https://maps.app.goo.gl/ZkjRc1fqj8M65MU9>

PROCEDURE: Left hand turn

ROAD MODIFICATIONS: Signs to be relocated or made removable.

370.0 Km's: River Road onto Loddon Valley Highway

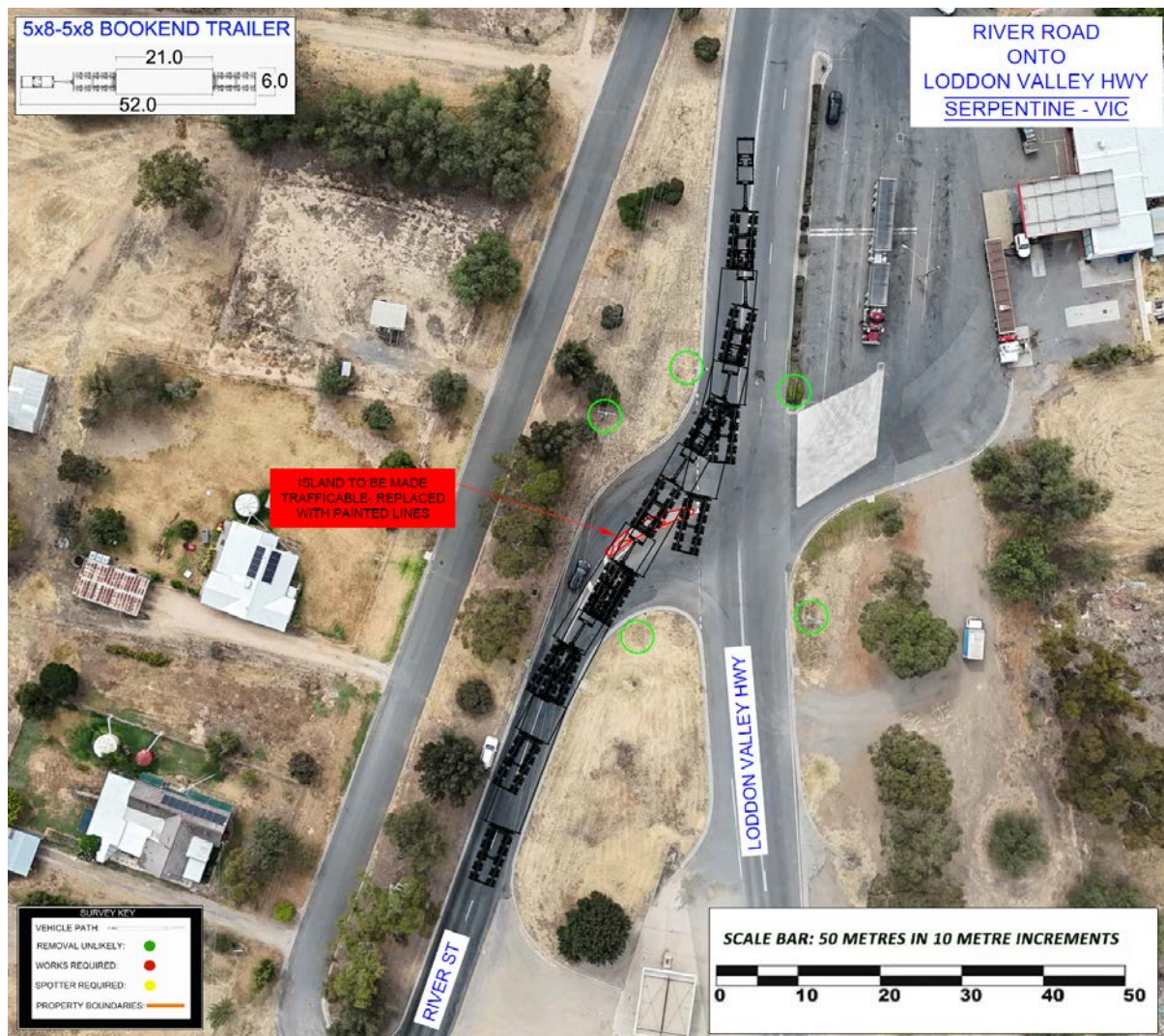


Figure 37 - River Rd onto Loddon Valley Hwy

GPS LINK: <https://maps.app.goo.gl/CpqqgW7i8g1Sbuf4A>

PROCEDURE: Left hand turn

ROAD MODIFICATIONS: Island to be made trafficable/replaced with painted lines.

393.0 Km's: Loddon Valley Highway onto Boort-Mitiamo Road

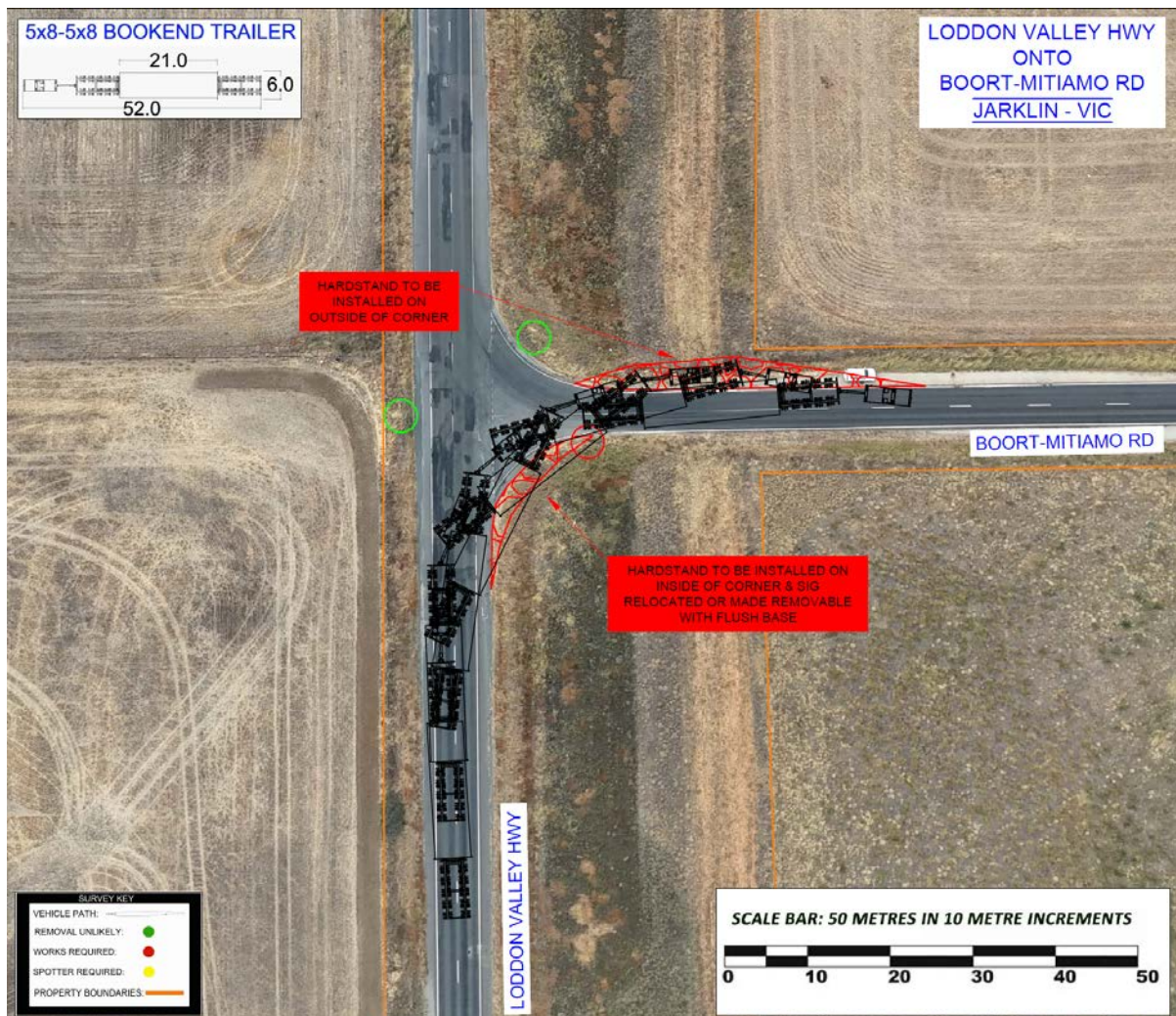


Figure 38 - Loddon Valley Hwy onto Boort-Mitiamo Rd

GPS LINK: <https://maps.app.goo.gl/cp6cYSbyXdc1vGEL6>

PROCEDURE: Right hand turn

ROAD MODIFICATIONS: Hardstand to be installed on inside and outside of corner and signs relocated or made removable.

408.0 Km's: Boort-Mitiamo Road onto Pyramid-Yarraberb Road onto Bendigo-Pyramid Road

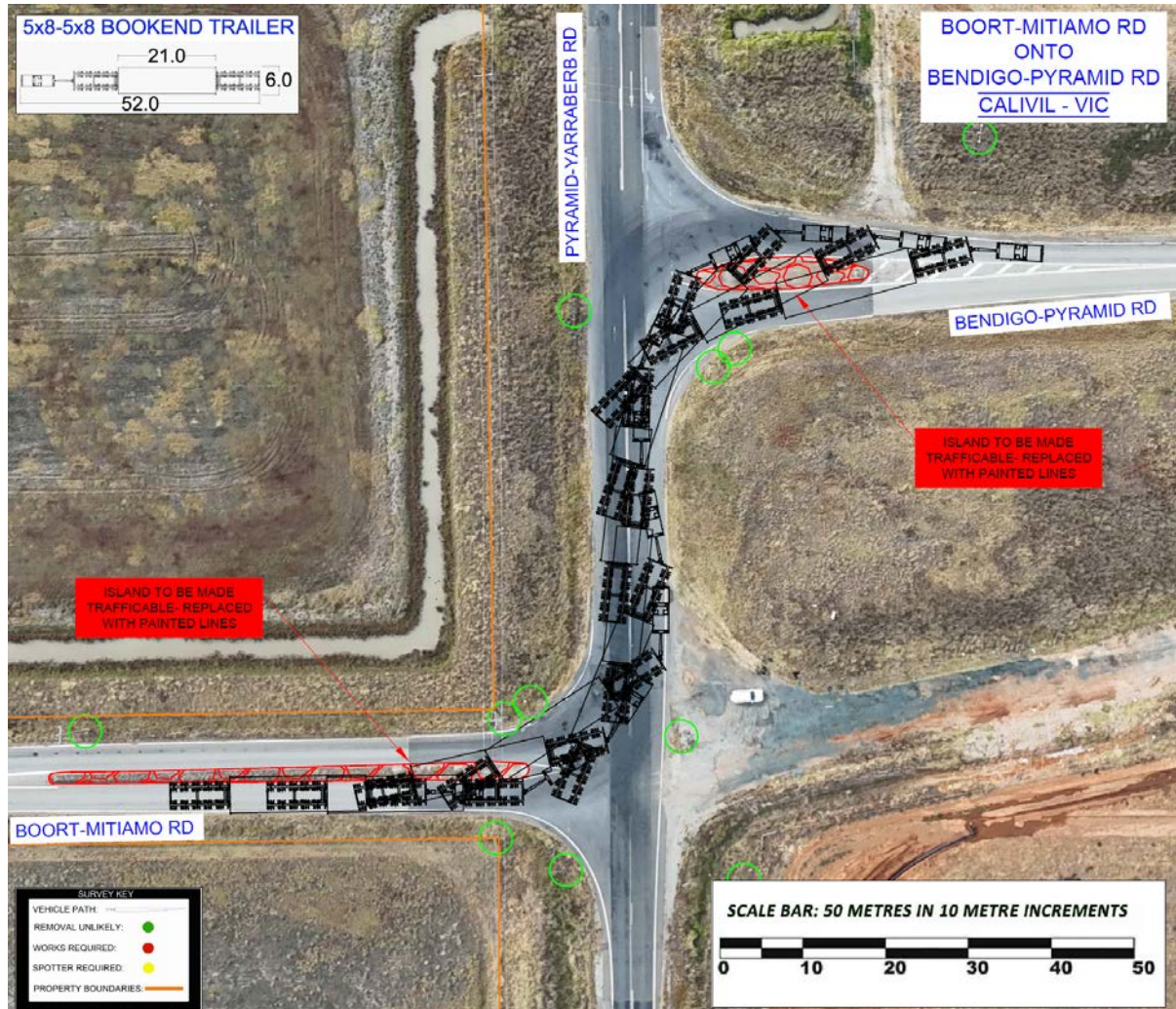


Figure 39 - Boort-Mitiamo Rd onto Pyramid-Yarraberb Rd onto Bendigo-Pyramid Rd.

GPS LINK: <https://maps.app.goo.gl/nGS8iEWvyAKsEvpi7>

PROCEDURE: Left then right hand turn

ROAD MODIFICATIONS: Islands to be made trafficable/replaced with painted lines.

465.0 Km's: Echuca-Mitiamo Road onto Northern Highway

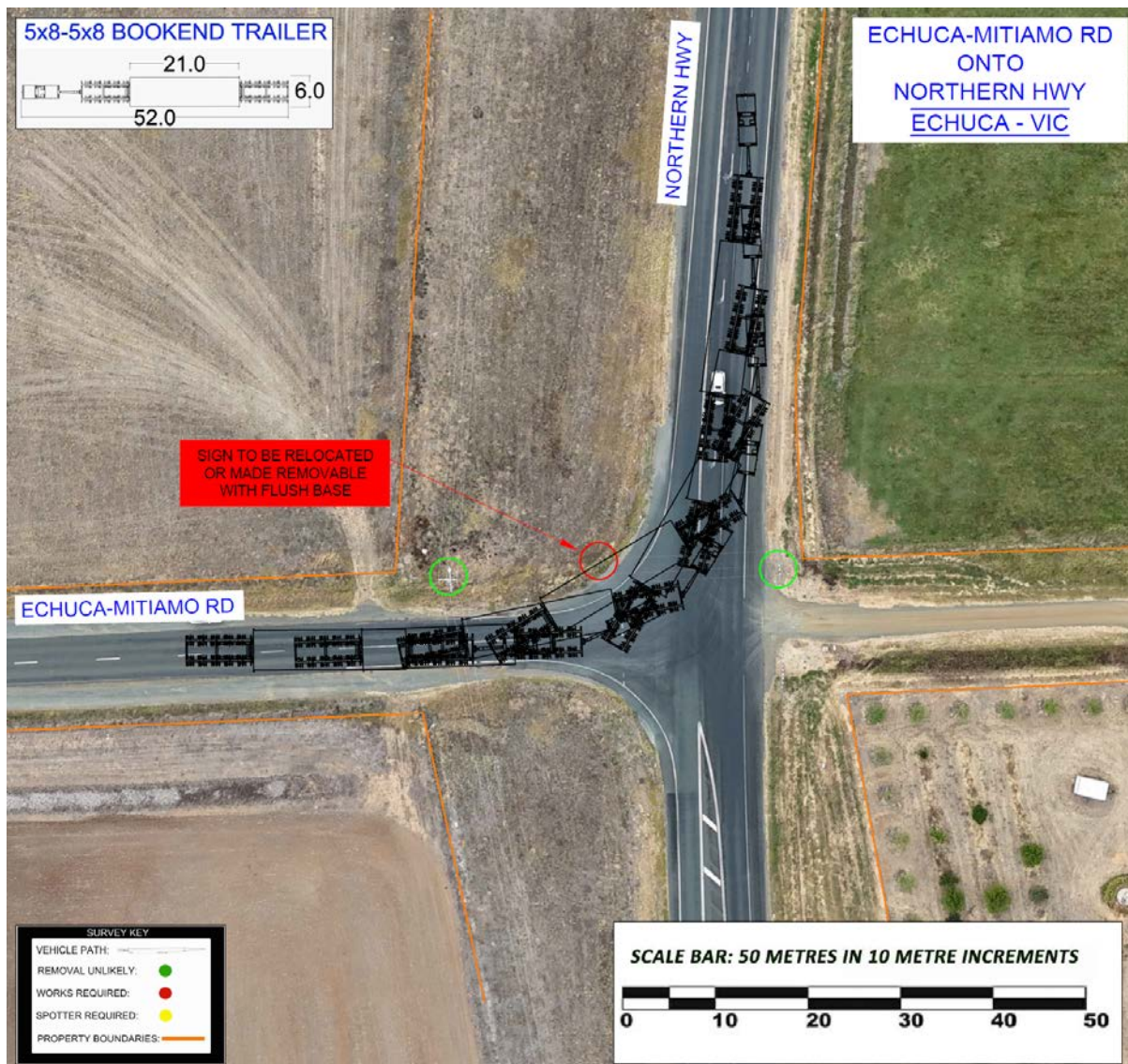


Figure 40 - Echuca-Mitiamo Rd onto Northern Hwy

GPS LINK: <https://maps.app.goo.gl/yCwEYwzuCpmaBKoG8>

PROCEDURE: Left hand turn

ROAD MODIFICATIONS: Sign to be relocated or made removable.

469.0 Km's: Northern Highway onto Murray Valley Highway

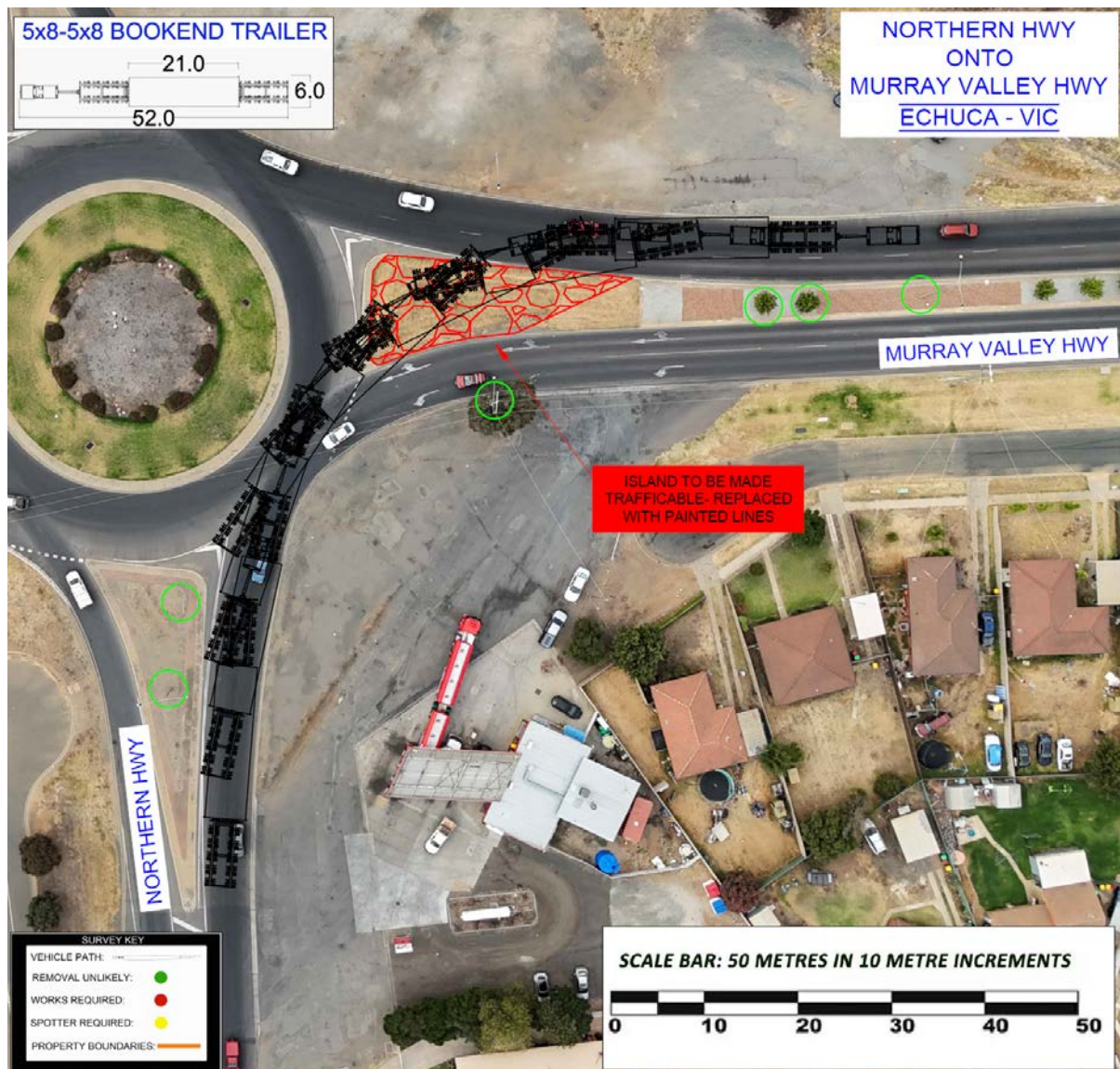


Figure 41 - Northern Hwy onto Murray Valley Hwy

GPS LINK: <https://maps.app.goo.gl/DJwCkwzFyHtnuso58>

PROCEDURE: Right hand turn using incorrect side of roundabout

ROAD MODIFICATIONS: Island to be made trafficable/replaced with painted lines and signs relocated.

527.0 Km's: Roundabout on Murray Valley Highway

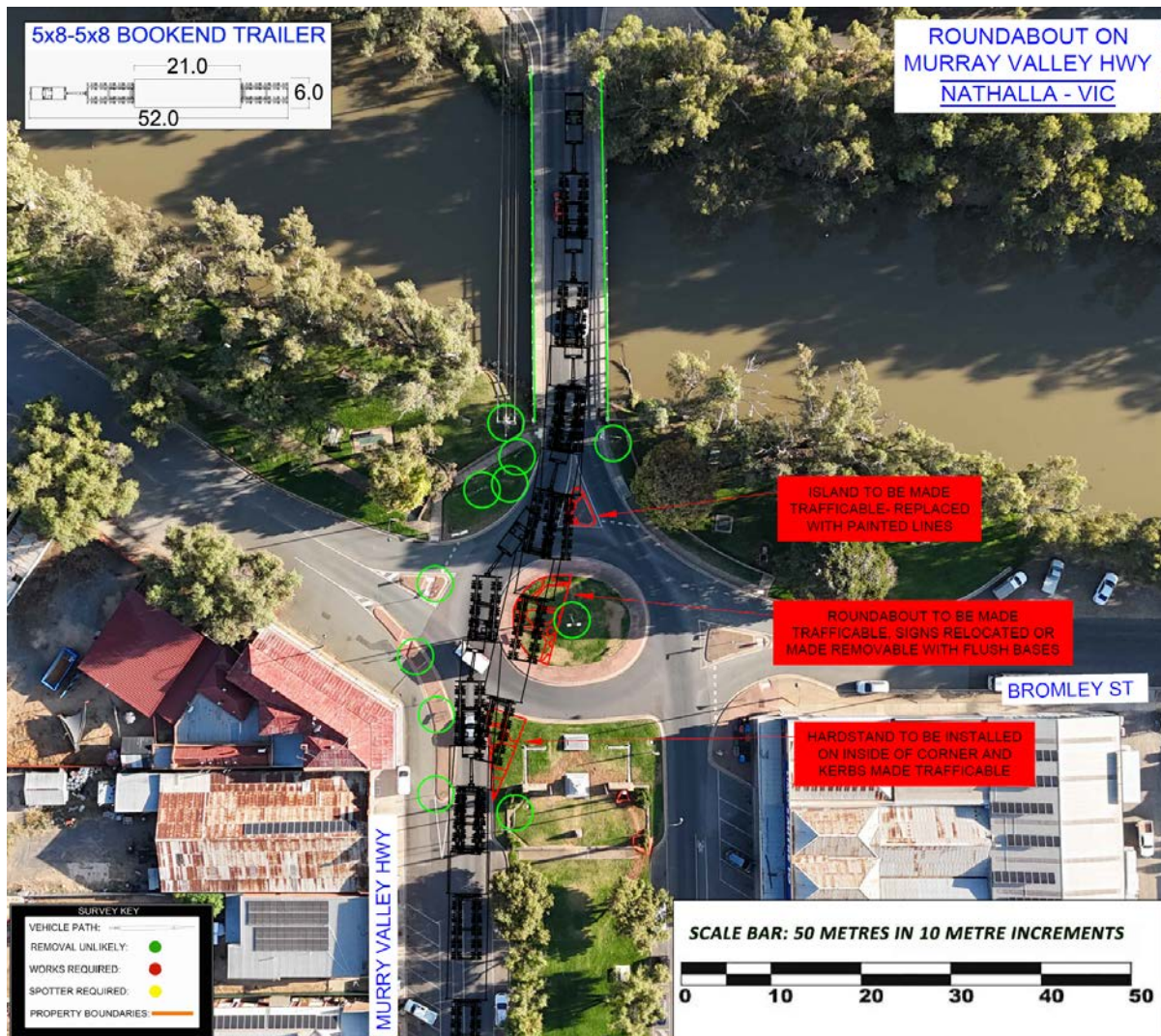


Figure 42 - Roundabout on Murray Valley Hwy

GPS LINK: <https://maps.app.goo.gl/Yz8nkeS7TTDigaGb9>

PROCEDURE: Travel directly ahead

ROAD MODIFICATIONS: Hardstand to be installed and kerbs made trafficable on entry. Roundabout to be made trafficable and signs relocated. Island on exit made trafficable/replaced with painted lines.

575.0 Km's: Murray Valley Highway onto Goulburn Valley Highway



Figure 43 - Murray Valley Hwy onto Goulburn Valley Hwy

GPS LINK: <https://maps.app.goo.gl/p83QsH37xfqNr517>

PROCEDURE: Left hand turn

ROAD MODIFICATIONS: Sign to relocated or made removable and handstand installed on inside of corner.

589.5 Km's: Roundabout on Newell Highway at Tocumwal

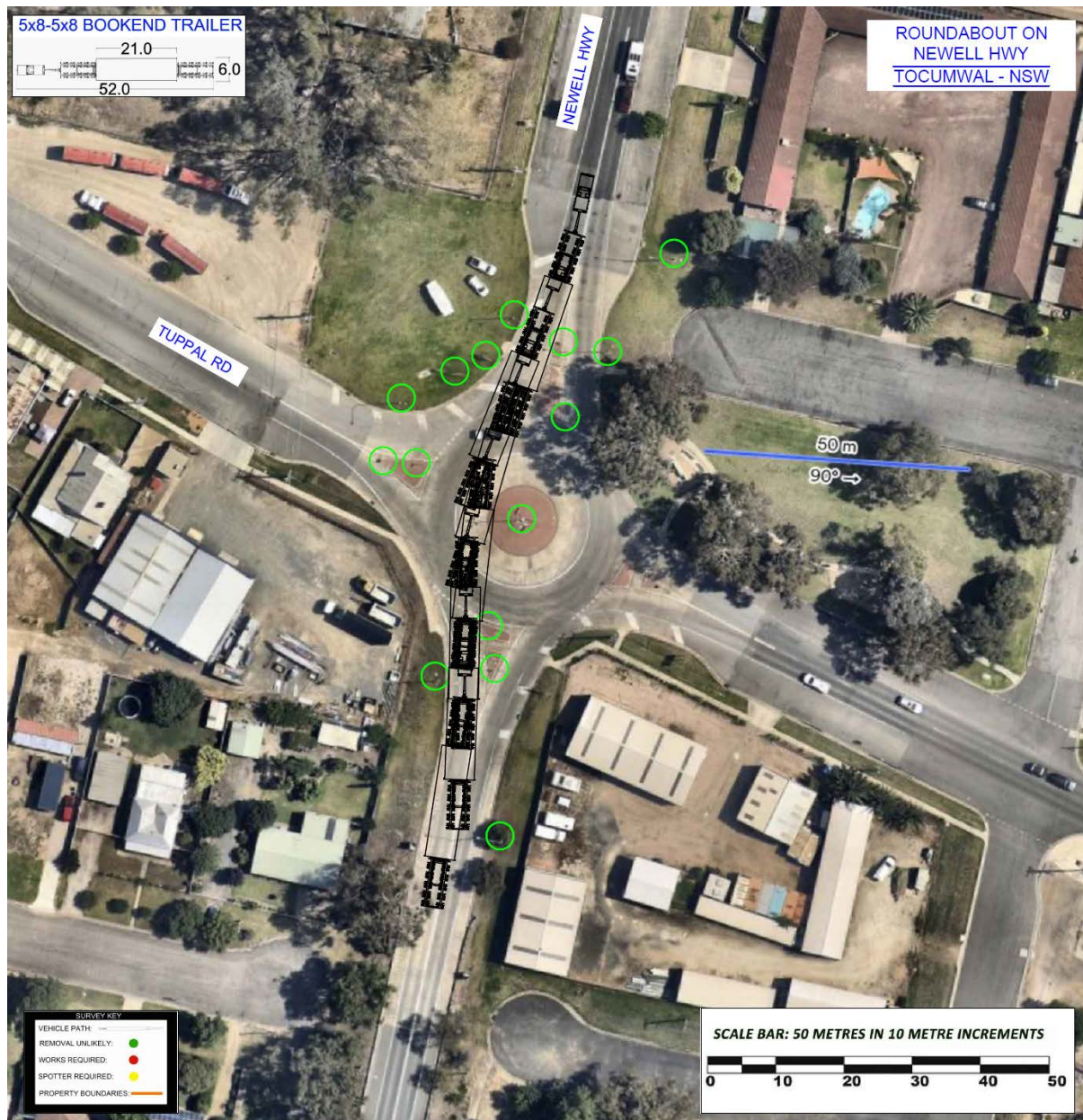


Figure 44 - Roundabout on Newell Hwy at Tocumwal

GPS LINK: <https://maps.app.goo.gl/q12L5wxnrNi5KJZDA>

PROCEDURE: Travel directly ahead

ROAD MODIFICATIONS: Nil.

645.4 Km's: Corner on Newell Highway at Conargo Road

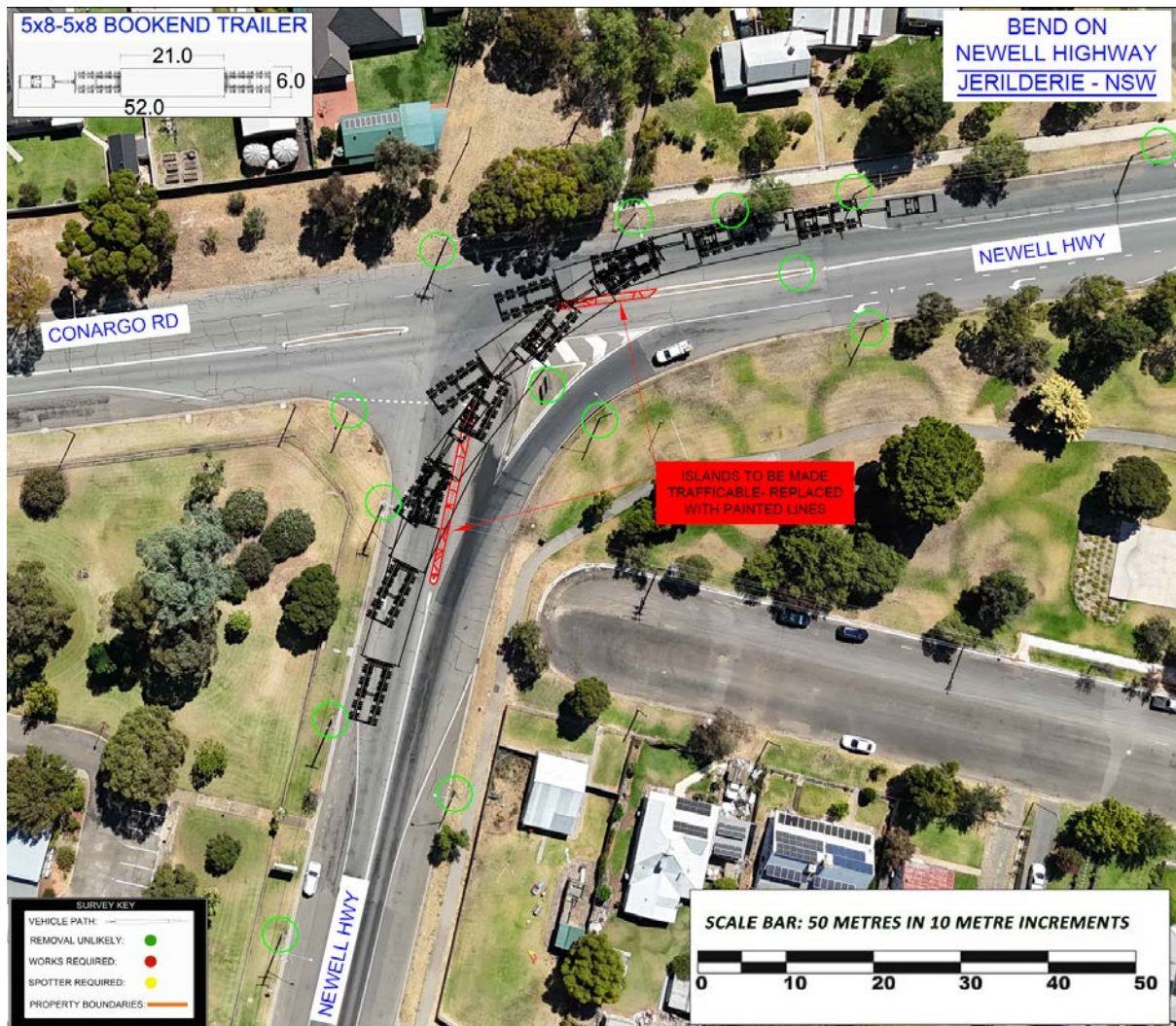


Figure 45 - Corner on Newell Hwy at Conargo Rd

GPS LINK: <https://maps.app.goo.gl/MVKR6CBKobGqH1UC6>

PROCEDURE: Right hand turn

ROAD MODIFICATIONS: Islands to be made trafficable/replaced with painted lines.

660.0 Km's: Newell Highway onto Kidman Way

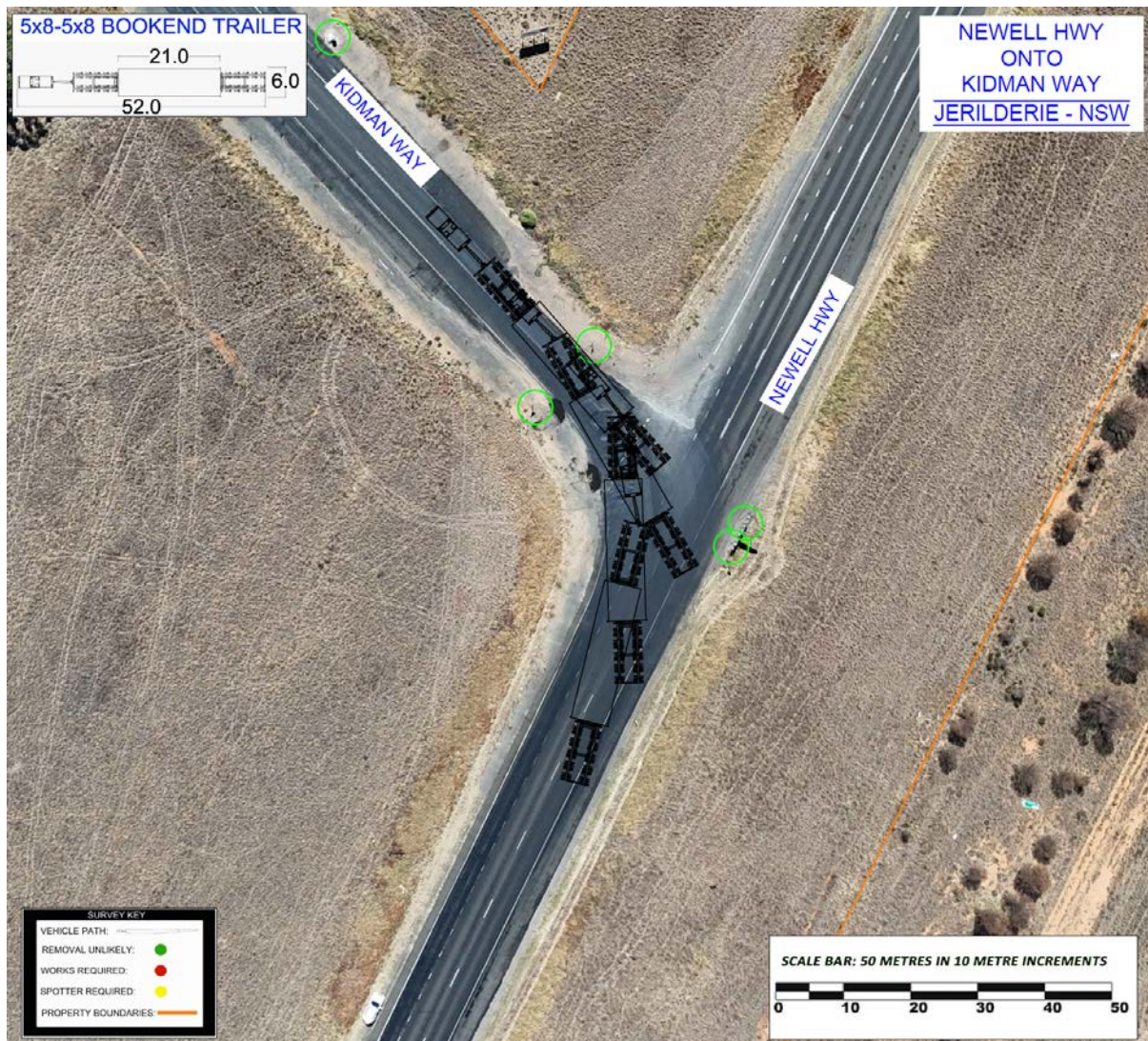


Figure 46 - Newell Hwy onto Kidman Way

GPS LINK: <https://maps.app.goo.gl/qje8RHzyEcknG28>

PROCEDURE: Left hand turn

ROAD MODIFICATIONS: Hardstand to be installed on inside of corner and sign relocated or made removable.

690.0 Km's: Kidman Way onto McLennons Bore Road

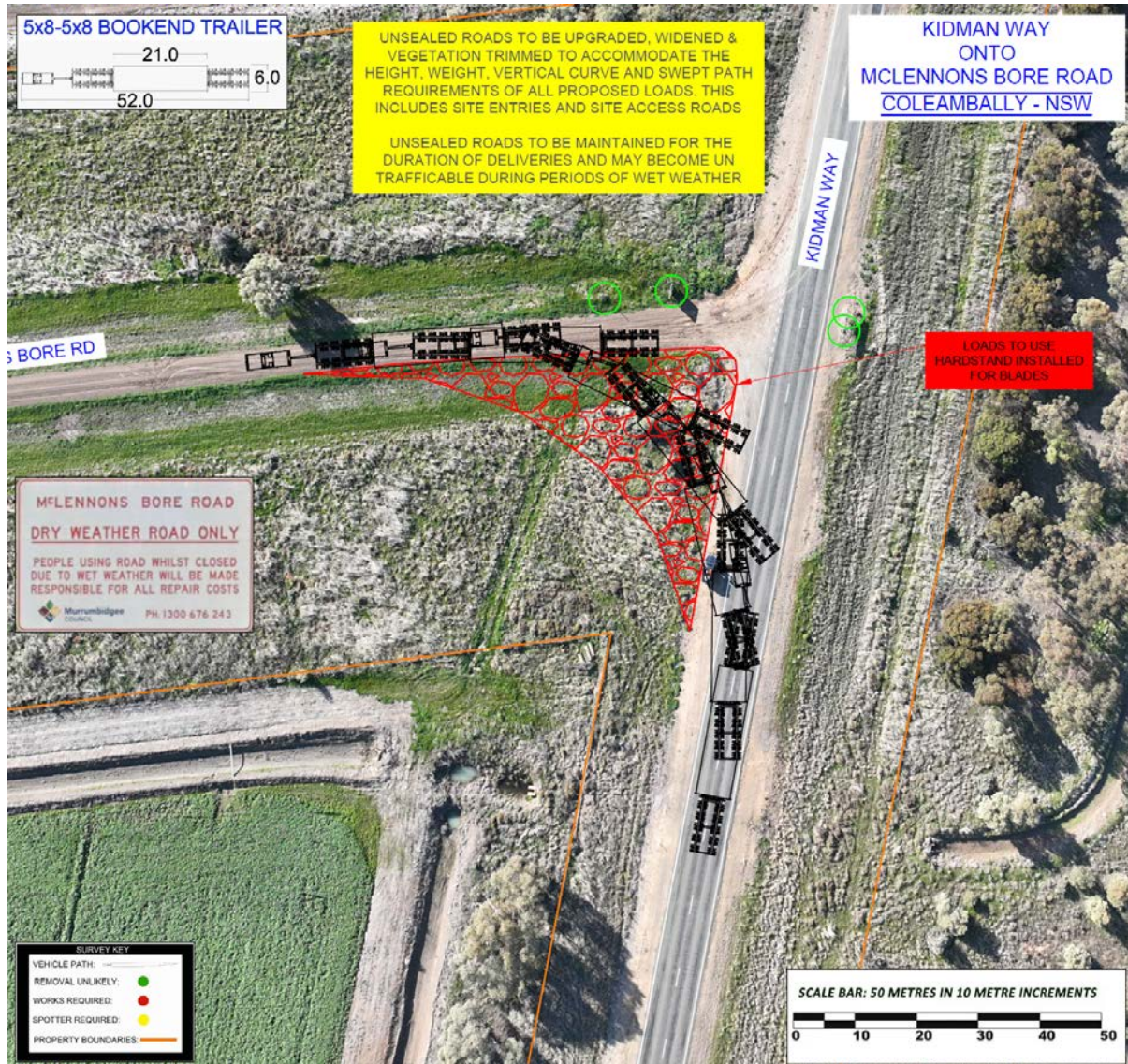


Figure 47 - Kidman Way onto McLennons Bore Road

GPS LINK: <https://maps.app.goo.gl/2qzv3nwccZbg1i1NA>

PROCEDURE: Left hand turn

ROAD MODIFICATIONS: Signs to be relocated and hardstand installed on inside of corner. Dry weather road only. Modifications made for blades are adequate for tower loads.

712.0 Km's: McLennons Bore Road onto Wilson Road

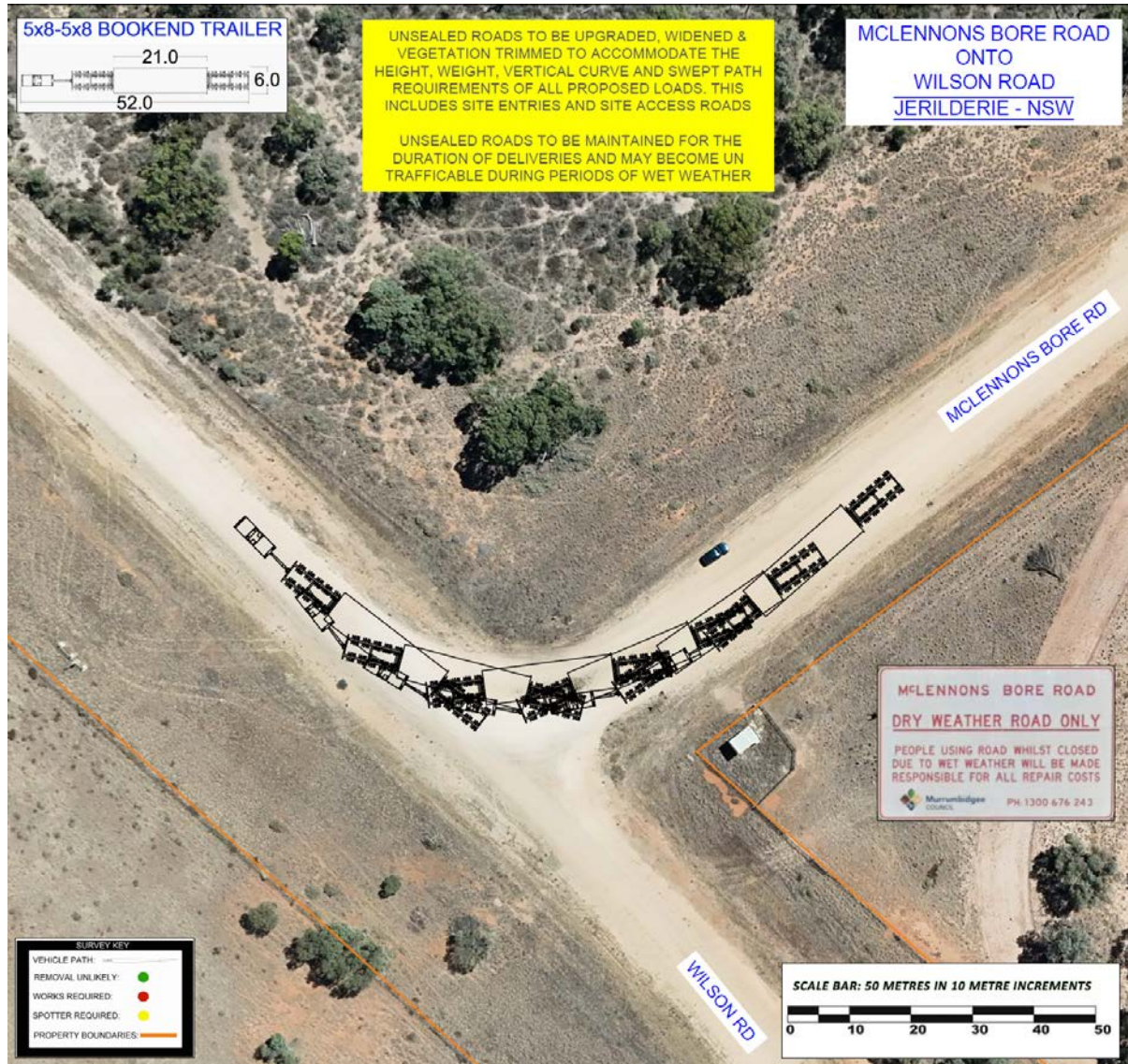


Figure 48 McLennons Bore Road onto Wilson Road – Towers

GPS LINK: <https://maps.app.goo.gl/dXaMk55ffhDEdtDE6>

PROCEDURE: Left and Right hand turns

ROAD MODIFICATIONS: Hardstand to be installed on inside and outside of corner. Modifications made for blades are adequate for tower loads.

10.0 Route 2: Conclusion

After reviewing all options and undertaking a route study, the route in its current condition will require a large amount of upgrading before it could be deemed suitable for transporting the proposed components.

After reviewing all options and undertaking a route study, the report found that the route in its current condition will require a large amount of upgrading before it could be deemed suitable for transporting the proposed components.

The following are the key points that need to be taken into consideration, if the project moves forward with this route.

SWEPT PATH:

- There are numerous sections along the route that will require upgrading in order to accommodate the proposed tower size.
- The corners that have been identified in the report as requiring significant work should be investigated early in the planning stages to avoid delays or rejections.
- The modifications on several corners made for blades are adequate for tower loads.

OVERHEAD STRUCTURES: (6.5m Maximum loaded height)

- The lowest structure on the route is the Princess Freeway overpass on the Hamilton Highway. A bypass has been installed for a current project utilising the unused overpass lanes that is capable of accommodating a 6.5m loaded height.
- Discussions with asset owners/regulators should be undertaken to ensure continued use of this temporary bypass for the proposed project.

OVERHEAD UTILITIES: (6.8m Maximum loaded height)

- Although the lowest structure has a maximum clearance of 6.5 metres the travel height of the towers along rural roads would need to be set higher once the loads are clear of the bridge structures. We would recommend a travel height of up to 6.8 metres.
- This route will need to be checked by an authorised scoping company for a loaded height of 6.8 metres.
- Given the length of the route and large tower size there will likely be a significant amount of overhead utility lifting/relocation required.

BRIDGES:

- Bridge assessments will be required for the entire route.
- There are numerous bridges that may have restrictions placed upon them, therefore, discussions with asset owners and bridge assessments if required should be conducted as soon as possible to confirm the suitability of the route.

RAIL ASSETS:

- There are a number of rail overbridges and crossings on route that will require approval from authorities before loads can access the routes.

VEGETATION:

- The route requires a moderate amount of vegetation clearing at several intersection upgrades.
- This route will need to have a height survey undertaken for vegetation that is below the maximum loaded height of 6.8 metres. During the scope there were a moderate number of locations that would require vegetation trimming but not removal for overhead vegetation.

PAVEMENT:

- Pavement on the route is of highway standard up to the start of routes A, B & C. Bypasses or modifications will be required at several corners and are to be constructed to suitable standards and maintained for the duration of deliveries if not sealed.
- McLennons Bore road is a dry weather road only. People using the road whilst closed due to wet weather will be made responsible for all repair costs.
- Site entries, access roads and unsealed roads to be upgraded, widened & vegetation trimmed to accommodate the height, weight, vertical curve and swept path requirements of all proposed loads.
- Unsealed roads to be maintained for the duration of deliveries and may become un trafficable during periods of wet weather.

ROADWORKS:

- The project will need to start discussions with government authorities at least 18 months prior to turbine transport to understand if the project would conflict with any upcoming roadworks. Once a Transport Management Plan "TMP" has been approved for the transport of the turbines, then the exact movement dates need to be communicated with all relevant authorities to make all road stakeholders are aware of the scheduled movements for each day
- The project will need to regularly check on any new upgrades not listed in the report. If upgrades have taken place on a section of route after this report has

been completed, then a swept path study would need to be undertaken on that section of road to confirm that it can still be used.

SITE ACCESS ROADS:

- All site access roads to be constructed to appropriate standards in order to accommodate the height, weight, vertical curves and swept path of all proposed roads.
- Roads to be made all weather and maintained for the duration of deliveries.

11.0 Transport approvals required

Approvals will need to be sought from the following departments.

- DTP (Victoria)
- TfNSW (NSW)
- NHVR
- Shire approvals
- ARTC (rail)
- V-Line (rail)
- Powercor (Overhead infrastructure)
- Essential energy (Overhead infrastructure)
- Telstra (Overhead infrastructure)

		Lead time	Cost	Risk
A	DTP Victoria Road modifications	12 Months	\$TBC Above \$500k	HIGH
B	TfNSW WAD Road modifications	12 Months	\$TBC Above \$500k	HIGH
C	TMP approval	9 Months	\$10k	MEDIUM
D	NHVR Permit approval	3 Month	\$100 per permit	MEDIUM
E	ARTC	6 Month	\$10k	MEDIUM
F	V-Line	6 Month	\$10k	MEDIUM
G	Shire approvals	9 Months	\$TBC Above \$100k	HIGH
H	Powercor	18 Month	\$TBC Above \$500k	HIGH
I	Essential energy	18 Month	\$TBC Above \$500k	HIGH
J	Telstra	1 Month	Nil	LOW

12.0 References

Rex J Andrews P/L Drawings
Rex J Andrews P/L Route Study 505REV01
Vestas
Origin Energy Ltd
Google Earth/Maps
Nearmaps
NHVR (OSOM)
NHVAS Maintenance Management (NHVAS21193)
NHVAS Basic Fatigue Management (NHVAS21193)
Australian Load Restraint Guide

Disclaimer: This route study is provided on the basis of information only purposes and is to be used strictly as a guide only; Government approvals would be required before these routes could be deemed suitable for transporting the components over the listed routes.

Any, and all parties using information contained this submission do so at own risk.

RJA accepts no responsibility for the use of any information contained within this report.

Actual approved routes may differ from those surveyed.

Proposed routes may change subject to approvals from authorities.

This study was undertaken using data supplied by Rex J Andrews P/L. Equipment and swept paths might vary if using transport methodology other than the data supplied by Rex J Andrews.

13.0 Appendix 1 –Transport Combinations

172 TURBINE:

Blades (85.0l x 4.4w x 3.2h x 32T)

Configuration. Prime mover with 3x8-3x8 Blade trailer

Overall dimensions: 97.0l x 4.5w x 5.2h x 95.5T

Nacelles (12.7l x 4.0 w x 3.75h x 54.0T)

Configuration. Prime mover with 5x8 Low loader

Overall dimensions: 26.0l x 4.3w x 4.9h x 99.5T

Nacelle side ship container (12.2l x 2.5 w x 2.9h x 23.2T)

Configuration. Prime mover with 3x4 Semi

Overall dimensions: 19.0l x 2.5w x 4.6h x 42.5T

Power Trains (8.1l x 3.1w x 3.5h x 105.2T)

Configuration. Prime mover with 10x8 Platform with block truck

Overall dimensions with block truck: 39.9l x 4.3w x 4.9h x 190.5T

Hubs (4.8l x 4.35w x 4.05h x 64.9T)

Configuration. Prime mover with 2x8 5x8 dolly low loader

Overall dimensions: 29.9l x 4.5w x 5.2 x 100.5T

150 METRE TOWER

Base Towers (15.7l x 5.90 x 5.50 x 89T)

Configuration. Prime mover with 5x8-5x8 Bookend.

Overall dimension: 47.0l x 6.0w x 6.5h x 167.5T

Section 2 Towers (20.0l x 5.50 x 5.50 x 89T)

Configuration. Prime mover with 4x8-5x8 Extending platform trailer.

Overall dimension: 32.0l x 5.5w x 6.6h x 144.5T

Section 3 Towers (24.5l x 5.50 x 5.50 x 91T)

Configuration. Prime mover with 4x8-5x8 Extending platform trailer.

Overall dimension: 36.0l x 5.5w x 6.6h x 146.5T

Section 4 Towers (25.0l x 5.50 x 4.65 x 81T)

Configuration. Prime mover with 4x8-4x8 Extending platform trailer.

Overall dimension: 36.0l x 5.5w x 6.6h x 133.5T

Section 5 Towers (31.0l x 4.65 x 4.15 x 89.2T)

Configuration. Prime mover with 4x8-5x8 Extending platform trailer.

Overall dimension: 40.0l x 4.7w x 5.9h x 144.5T

Top Towers (31.0l x 4.15w x 3.6h x 80.3T)

Configuration. Prime mover with 4x8-4x8 Extending platform trailer.

Overall dimension: 40.0l x 4.3w x 5.5h x 133.5T

14.0 Appendix 2 –Transport Drawings

Australia

SYDNEY

Level 10 201 Pacific Highway
St Leonards NSW 2065
T 02 9493 9500

NEWCASTLE

Level 3 175 Scott Street
Newcastle NSW 2300
T 02 4907 4800

BRISBANE

Level 2 95 North Quay
Brisbane QLD 4000
T 07 3648 1200

CANBERRA

Suite 2.04 Level 2
15 London Circuit
Canberra City ACT 2601

ADELAIDE

Level 4 74 Pirie Street
Adelaide SA 5000
T 08 8232 2253

MELBOURNE

Suite 9.01 Level 9
454 Collins Street
Melbourne VIC 3000
T 03 9993 1900

PERTH

Suite 3.03
111 St Georges Terrace
Perth WA 6000
T 08 6430 4800

Canada

TORONTO

2345 Yonge Street Suite 300
Toronto ON M4P 2E5
T 647 467 1605

VANCOUVER

2015 Main Street
Vancouver BC V5T 3C2
T 604 999 8297

CALGARY

700 2nd Street SW Floor 19
Calgary AB T2P 2W2



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