

23 May 2024

Enquiries: Brett Maynard
Project No: 300304168

The Trustee for Equis Energy (Australia) Ngumi 4 Holding Trust
Ground Floor, 36 Esplanade Brighton
MELBOURNE VIC 3186

Attention: Gerrit Prent

Dear Gerrit

**RE: Calala Battery Energy Storage System
Response to Submissions and Request for Further Information**

1. Introduction

A State Significant Development Application (SSD-52786213) was submitted for the proposed battery energy storage system (BESS) development located at 474 Calala Lane, Calala, which is legally described as lot 17 in DP 629969. The proposal includes a large-scale BESS together with ancillary elements, as per the site plan prepared by Equis.

Following exhibition of the BESS, and in response to submissions received, Equis has amended the proposal to reduce the environmental impacts associated with the project. The amended BESS will be positioned on the same land parcel and generally within the same footprint, however the BESS will be smaller in size and will operate at a reduced output capacity. This letter provides an assessment of the changes made to the development to assist the relevant authorities in their consideration of the suitability of the development.

This letter also details our response to the comments received from Tamworth Regional Council and Transport for NSW, as they relate to matters specific to traffic and parking. Correspondence received includes the following:

- Transport for NSW letter to Council, reference WST23/00182/01 | SF2023/217600, dated 14 December 2023
- Tamworth Regional Council letter to Department of Planning and Environment, dated 4 January 2024.

The project team has also engaged with Council and TfNSW to discuss the above comments, as well as additional comments and queries not specifically outlined in the above correspondence. These additional comments and queries are also discussed throughout the following sections. In specifically addressing construction heavy vehicle routes to/from the site:

- A meeting was held with Tamworth Regional Council on 23 April 2024, with subsequent email correspondence and confirmation that there are no in-principle issues with the revised arrangements proposed.
- A meeting was held with Transport for NSW on 19 April 2024, with no concerns raised regarding the revised arrangements proposed. Comments regarding assessing intersection turning treatments and clearly identifying the maximum construction vehicle size (26-metre B-double) have been addressed in this letter.

This letter is set out as follows:

- Revised Site Layout Design and Information
- Revised Construction Traffic Appraisal
- Stakeholder Comments
- Attachment A – Additional OSOM swept path assessment for Calala Lane
- Attachment B – Heavy Vehicle Route Assessment via Nundle Road
- Attachment C – Council Consultation (7 May 2024)

This letter should also be read in conjunction with the Transport Impact Assessment (Transport Assessment) prepared by Stantec, dated 2 November 2023¹, which was the original transport assessment submitted with the EIS.

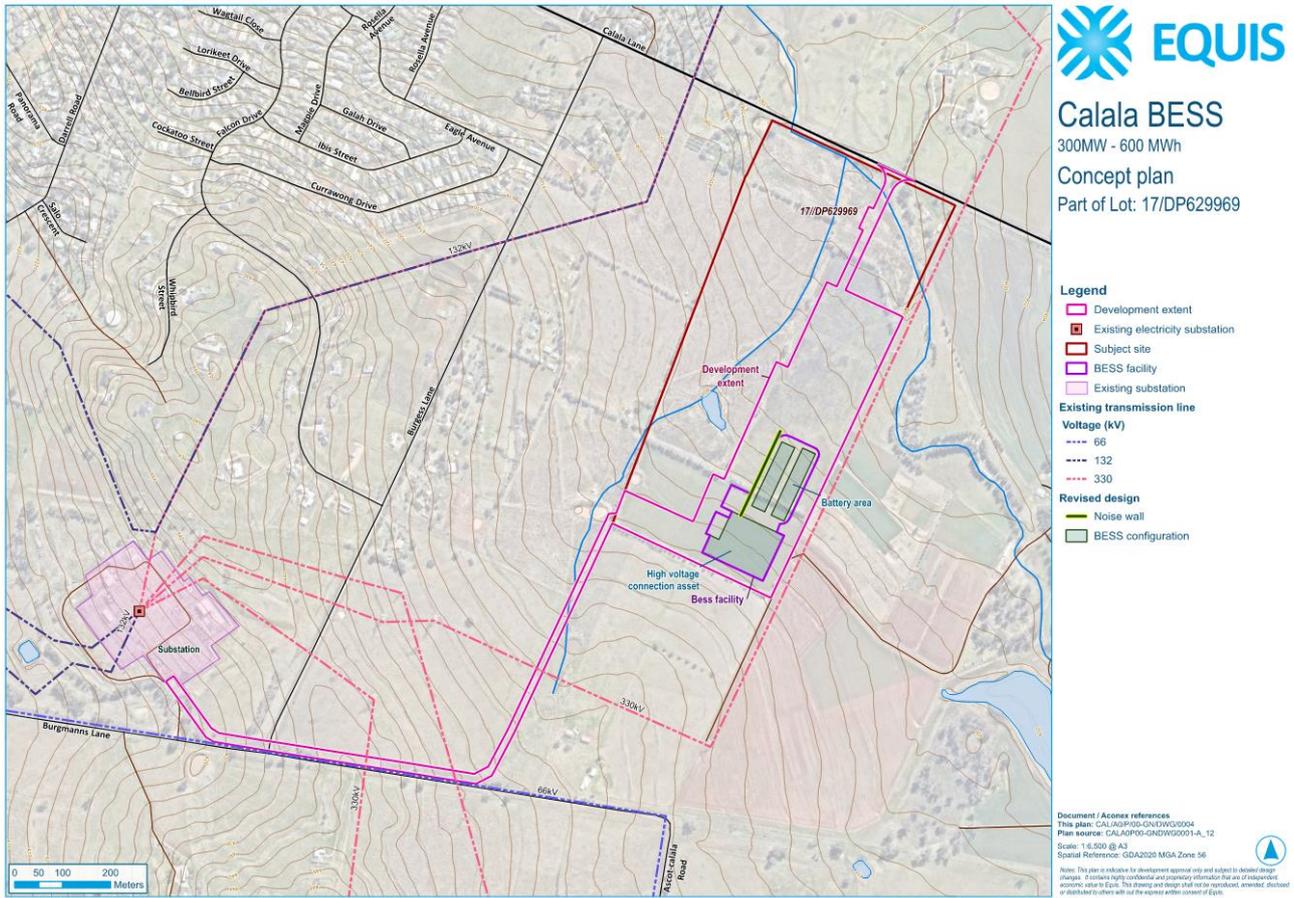
¹ 57 Burgess Lane, Calala also known as 474 Calala Lane, Calala, State Significant Development Application, Transport Impact Assessment, Stantec, 2 November 2023

2. Revised Site Layout Design and Information

2.1 Overview

The revised site layout is illustrated in Figure 2.1.

Figure 2.1 – Revised Site Layout



Source: Calala BESS Concept Plan, Equis, exported 28 March 2024

2.2 Parking and Transport Impact Appraisal

As it relates to transport, the primary change to the proposal involves the relocation of the vehicular site access around 15 metres to the east, as well as the internal road network layout. Internal roads and on-site car parking will be designed in accordance with the relevant Work Specification, Industry Standards, Safety in Design (SID) and the Australian Standards to the extent they are relevant to the nature of the project.

As documented in the Transport Assessment, the recommended Safe Intersection Sight Distance (Austroads, 2023) at an unsignalised intersection based on a driver reaction time of 2.0 seconds is 248 metres and the AS2890.2 desirable and minimum sight distances for a typical driveway along Calala Lane are 139 metres and 222 metres, respectively. The revised site access driveway is in a good location with respect to road safety, with Calala Lane sight lines in both directions that continue to exceed all relevant Austroads and Australian Standards requirements. As such, the revised site access arrangements are considered suitable as part of the proposed development.

No change is proposed to the operation of the BESS and hence the traffic and parking impacts are consistent with those documented in the Transport Assessment.

3. Revised Construction Traffic Appraisal

Key modifications to the construction traffic methodology of the development, compared to that documented in the Transport Assessment, include:

- expected duration of the works is approximately 18 months
- revised construction traffic volume estimates
- revised construction vehicle approach and departure routes using O’Briens Lane, Nundle Road and the New England Highway (a revised route as requested by Tamworth Council).

3.1 Background

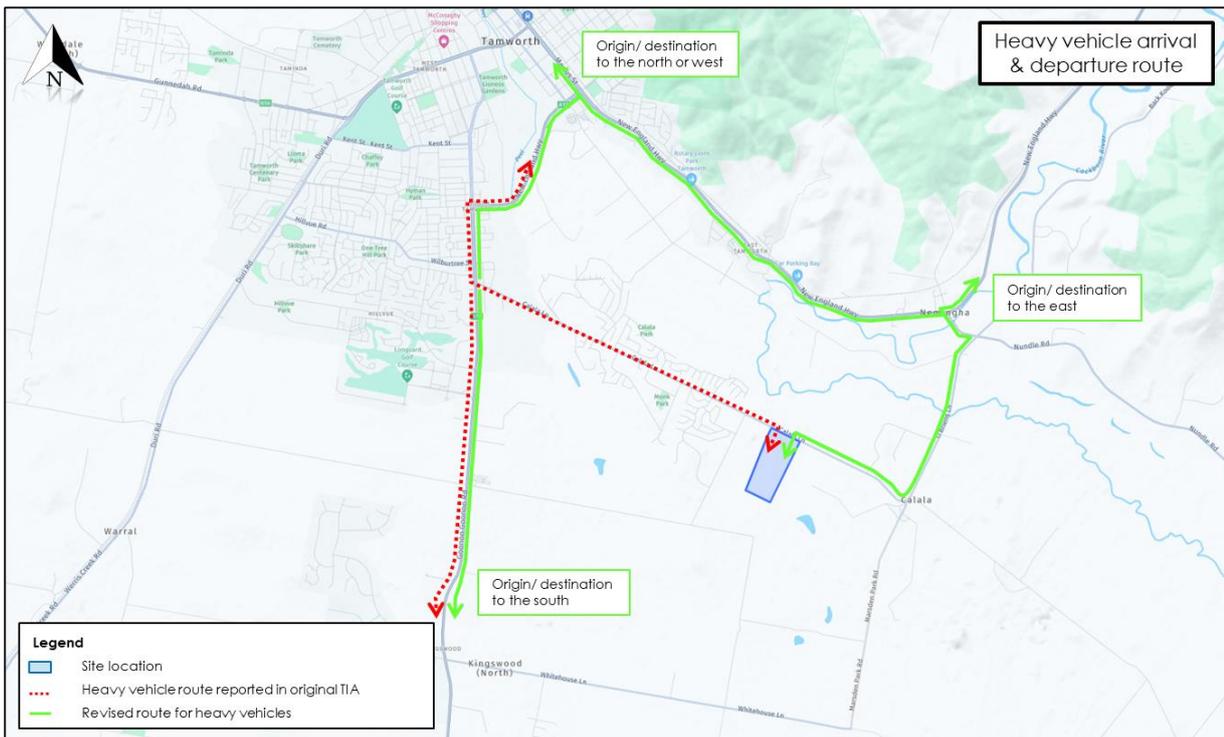
By way of background, Stantec and Equis have investigated alternate approach and departure routes for OSOM and heavy vehicles during the construction stage in response to Council’s submission comments.

As suggested by Council, the route between Goonoo Goonoo Road and the site has been explored, comprising Whitehouse Lane, Ascot-Calala Road, Burgmanns Lane, Burgess Lane and Calala Lane. However, based on a site visit and associated observations, sections of the route contain unsealed/ gravel roads and in the sections that are sealed, there are multiple instances of rutting and potholes. As a result, this route is generally not ideal for heavy vehicle and OSOM use due to the existing road pavement condition.

An alternate route with greater ability to accommodate heavy vehicles has been identified and it is proposed to use this route as the heavy vehicle route to/from the site. This route generally begins from the State road network at New England Highway north of the site, and then consists of Nundle Road, O’Briens Lane and Calala Lane (all local roads). The original and revised heavy vehicle routes are shown in Figure 3.1. Given the concern with using Calala Lane related to heavy vehicle volumes and noise through the Calala township (discussed further in Section 3.3.1), it is proposed that during construction:

- Light vehicles would continue to use Calala Lane (shown in red in Figure 3.1) from Goonoo Goonoo Road, having a negligible impact on amenity
- Heavy vehicles would use Nundle Road, O’Briens Lane and Calala Lane (shown in green in Figure 3.1), avoiding the Calala township
- OSOM (escorted) vehicles would continue to use Calala Lane (shown in red in Figure 3.1) as the most direct route, given there is only a small number of such vehicles.

Figure 3.1 – Comparison between original and proposed heavy vehicle routes



Base image source: Nearthmap

3.2 Existing Traffic Volumes

Further existing traffic volume data for the revised heavy vehicle route has been sourced from the *Traffic Impact Assessment for Dungowan Dam and Pipeline EIS* (EMM, 2022). Intersection traffic movement data was collected on Wednesday 17 June 2020 between 6:00am and 9:00am, and 3:00pm and 6:00pm at the following intersections:

- New England Highway/ Nundle Road/ Railway Street
- Nundle Road/ O'Briens Lane/ Back Kootingal Road.

The AM and PM hours were found to be 7:45am – 8:45am and 3:15pm – 4:15pm respectively. The peak hour volumes at these intersections are summarised in Figure 3.2 and Figure 3.3.

Figure 3.2 – Existing AM peak hour intersection volumes

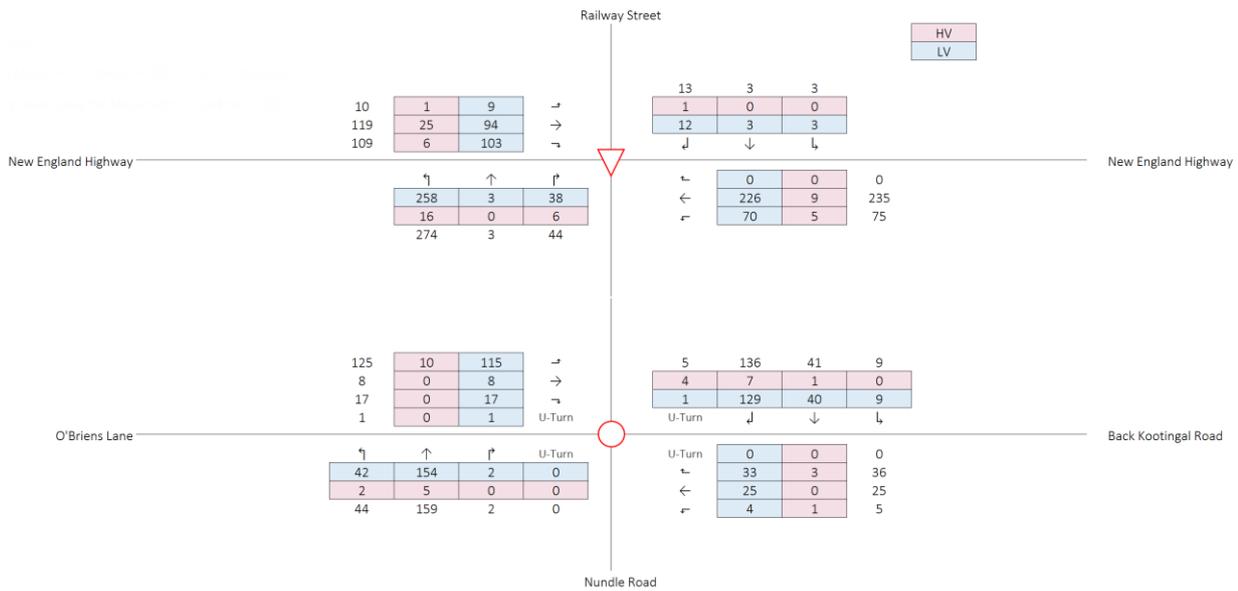
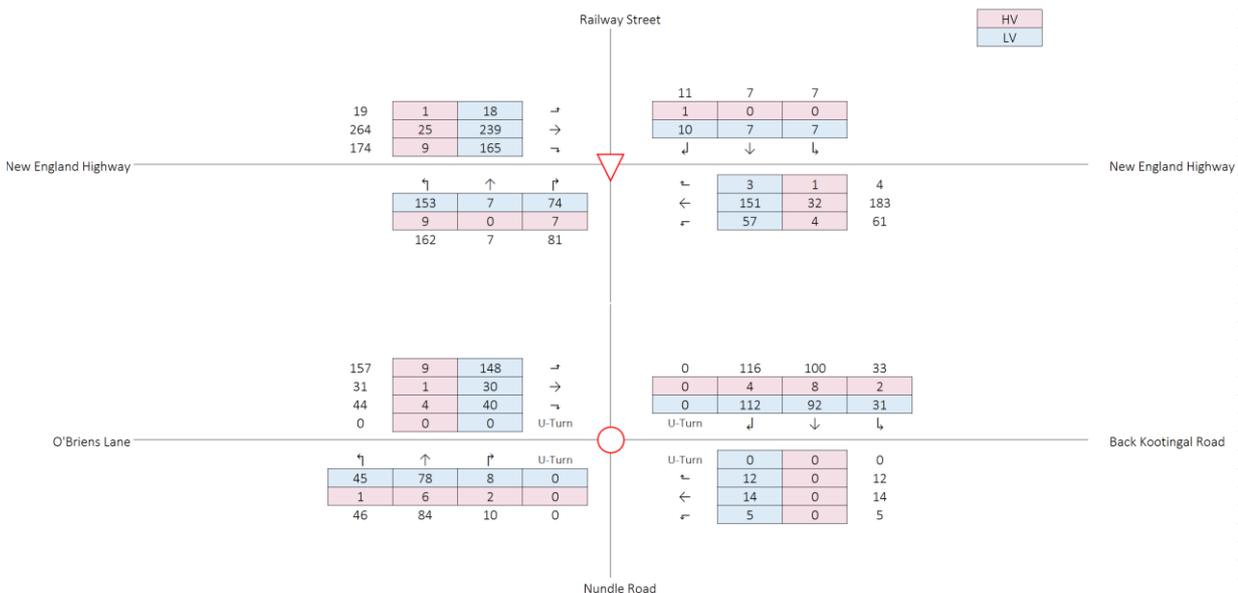


Figure 3.3 – Existing PM peak hour intersection volumes



The midblock peak hour traffic volumes for New England Highway, Nundle Road and O'Briens Lane have been extrapolated from this intersection movement data and the TfNSW Traffic Volume Viewer, and are shown in Table 3.1. To indicatively estimate the midblock daily traffic volumes, it has been assumed that peak hour volumes are 10% of the daily traffic volumes.

For consistency with the project’s Transport Impact Assessment (Stantec, 2023), a conservative growth rate of one percent per annum has been applied.

Table 3.1: Peak hour and daily midblock traffic volumes

Road	Peak hour volume (vph)	Heavy vehicle percentage	Data source and year	Estimated daily volume (vpd)	2024 peak hour volume (vph)	2024 daily volume (vpd)
New England Highway (west of Nundle Road)	813	8.6%	EMM (2020)	8,130 ¹	846	8,460
New England Highway (east of Goonoo Goonoo Road)	1,041	3.6%	TfNSW Traffic Volume Viewer (2011)	12,799 ²	1,176	14,463
Nundle Road (west of O’Briens Lane)	511	5.9%	EMM (2020)	5,110 ¹	531	5,310
O’Briens Lane (south of Nundle Road)	408	5.0%	EMM (2020)	4,080 ¹	424	4,240

¹ Peak hour assumed to be 10% of the daily traffic volume
² Daily volume sourced from TfNSW Traffic Volume Viewer

3.3 Construction Traffic

A breakdown of the anticipated construction traffic generation estimates by type of vehicle is provided in Table 3.2.

Table 3.2: Revised daily construction traffic volumes

Type of Vehicle	Average traffic generation (vehicles per day)		Peak Traffic Generation (vehicles per day)	Average traffic generation (vehicles per day)
	Initial 10 to 12 month period (Civil Works)	2 month period (during Civil Works)	2 month period (during Civil Works)	Remaining duration of the project (around 4 to 6 months)
Light Vehicles	70		100	70
Heavy Vehicles	80		120	50
Total Vehicles	150		220	120

Previously, up to 465 vehicles were expected to be generated per day during the peak construction period. With that in mind, the revised construction traffic estimates represent an improvement to the construction traffic impact as assessed in the Transport Assessment.

3.3.1 Heavy Vehicles

Following discussion with Tamworth Regional Council as documented in Section 4.2 (and Council’s submission dated 4 January 2024), the proposed heavy vehicle access route to site has been revised to exclude the Calala township located west of Burgess Lane. An alternate route with greater ability to accommodate heavy vehicles has been identified and it is proposed to use this route as the heavy vehicle route to/from the site. This route generally begins from the State road network at New England Highway north of the site, and then consists of Nundle Road, O’Briens Lane and Calala Lane (all local roads). The original and revised heavy vehicle routes are shown in Figure 3.1. Given the concern with using Calala Lane related to heavy vehicle volumes and noise through the Calala township (discussed further in Section 3.3.1), it is proposed that during construction:

- Light vehicles would continue to use Calala Lane (shown in red in Figure 3.1) from Goonoo Goonoo Road, having a negligible impact on amenity
- Heavy vehicles would use Nundle Road, O’Briens Lane and Calala Lane (shown in green in Figure 3.1), avoiding the Calala township
- OSOM (escorted) vehicles would continue to use Calala Lane (shown in red in Figure 3.1) as the most direct route, given there is only a small number of such vehicles.

Figure 3.1. In summary, the proposed route will be via New England Highway, Nundle Road, O’Briens Lane and Calala Lane.

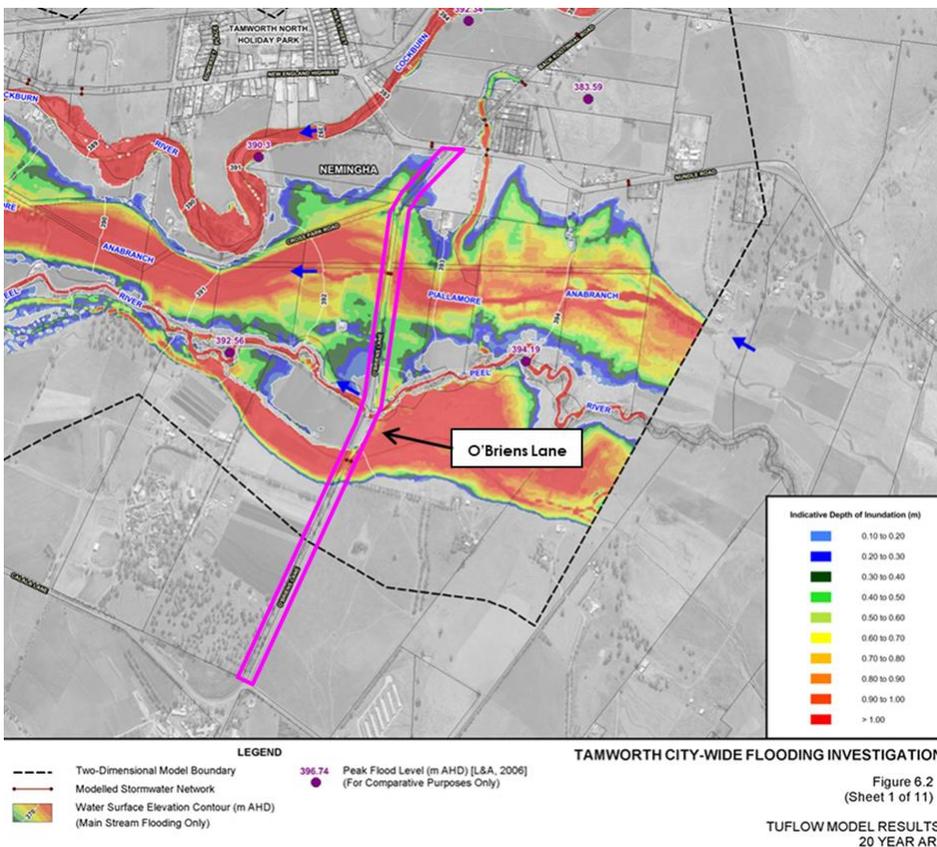
The use of a dedicated heavy vehicle construction route to the north assists in minimising the traffic impact of the development to the Calala township, noting that light vehicles associated with construction (including staff) will continue to be permitted to travel along Calala Lane directly to/from Goonoo Goonoo Road. With that in mind, significantly less vehicles will be using Calala Lane west of Burgess Lane as already assessed in the Transport Assessment.

The largest heavy vehicle during construction is anticipated to be a 26 metre B-Double. The Transport Assessment shows that New England Highway, Nundle Road and O'Briens Lane are all approved routes for 26 metre B-Doubles, and Attachment B confirms that the existing intersections can accommodate the swept path of a 26 metre B-Double vehicle.

It is also noted that a permit is required from Tamworth Council to travel on O'Briens Lane. Following consultation with Council, it is understood that this road may be subject to flooding during periods of heavy rainfall. Figure 3.4 shows the extent of a 1-in-20-year flooding event in relation to the proposed heavy vehicle route along O'Briens Lane.

As Tamworth is located near the top of the catchment area, the duration of inundation is anticipated to be less than one day, or between 1-2 days during a major rain event. If any of the heavy vehicle access route was impacted by flooding of the Peel River, it is likely that Goonoo Goonoo Creek would also flood and prevent travel along Calala Lane and Whitehouse Lane. Therefore, if flooding occurred on any of the heavy vehicle route roads, heavy vehicle access would naturally be postponed until the roads became useable again.

Figure 3.4 – Tamworth city-wide flooding investigation 20-year ARI (Lyll & Associates, 2019)



Base image source: The Tamworth City-wide flood Investigation Volume 2 May 2019

As shown in Attachment C Council have confirmed in-principle that heavy vehicles with loads over 25 tonnes can be considered on O'Briens Lane, subject to dry weather, dilapidation assessment and any necessary corrective works during the BESS establishment phase.

Based on the updated construction volume estimates, around nine to 22 heavy vehicle movements per hour (assuming an 11-hour working day, and two movements per vehicle) would be expected to travel along the revised heavy vehicle route. This is equivalent to one heavy vehicle every three to seven minutes. These values are modest and not expected to impact the operation of the proposed heavy vehicle route. A channelised right turn lane and short auxiliary left turn lane are provided on New England Highway at the Nundle Road intersection, minimising the interference of heavy vehicle turning movements with through traffic on New England Highway.

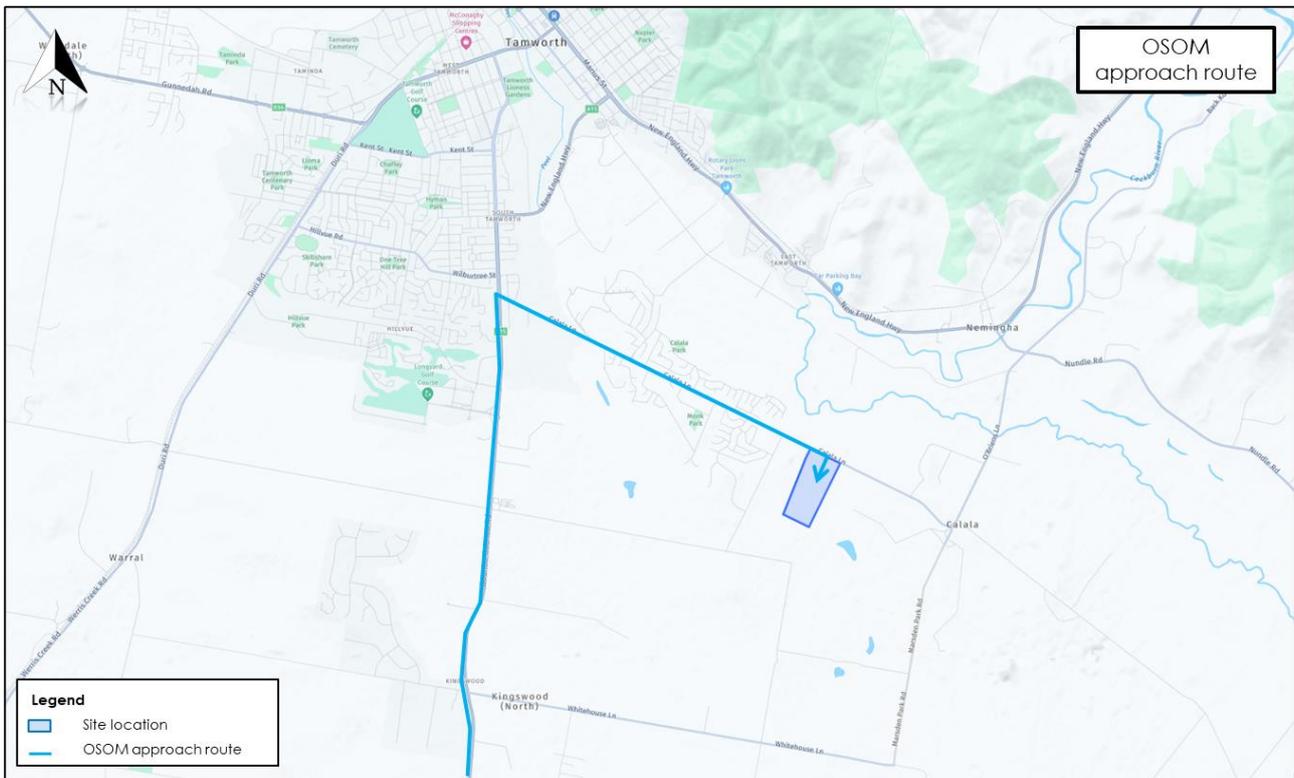
3.3.2 Over Size Over Mass Vehicles

In total there will be seven Over Size Over Mass (OSOM) vehicles, comprising two Power Transformers, two Switchgear Buildings, one Control Building (For DNA/TG Side), one ASB Building and one O&M Building. This represents an increase of three OSOM vehicle movements compared to that assessed as part of the Transport Assessment. This increase and the total number of OSOM vehicles is minor and not considered significant in the context of typical OSOM vehicle movements generated by other renewable projects such as wind farms, as well as noting OSOM vehicle movements occur outside of peak road network periods to reduce any associated impacts to road network operation and safety.

The OSOM vehicles are proposed to use the same route via Calala Lane and Goonoo Goonoo Road as assessed in the Transport Assessment, given this is the most direct route. This route is reproduced in Figure 3.5. Given there is only a total of seven OSOM deliveries over the entire construction period with deliveries occurring overnight in accordance with NHVR requirements, the impact to residents is anticipated to be minimal. As such, this route is still considered suitable for OSOM deliveries.

As shown in Attachment A , contraflow traffic management will be required for OSOM vehicles to navigate the roundabouts on Calala Lane, noting this is a typical arrangement for such deliveries under traffic control.

Figure 3.5 – Over Size Over Mass vehicle route – Goonoo Goonoo Road to site



Source: Nearmap

3.4 Traffic Impact

3.4.1 Heavy Vehicle Traffic Generation

The additional heavy vehicle traffic generated during the construction period will generally be relatively minor compared to the existing daily traffic volumes along Nundle Road, O'Briens Lane and New England Highway. The highest average increase in daily traffic volume is estimated to be 4-6% on O'Briens Lane.

The construction heavy vehicle traffic volumes are not anticipated to have an adverse impact on the safety or function of the road network.

Table 3.3: Anticipated average increase in daily traffic volumes on the surrounding roads

Road	Estimated daily traffic volumes ¹	Anticipated average increase	
		Typical average traffic generation (two-way movements) ²	Peak traffic generation (two-way movements) ²
New England Highway (west of Nundle Road)	8,130	160 (2% increase)	240 (3% increase)
New England Highway (east of Goonoo Goonoo Road)	12,799	160 (1% increase)	240 (2% increase)
Nundle Road (west of O'Briens Lane)	5,110	160 (3% increase)	240 (5% increase)
O'Briens Lane (south of Nundle Road)	4,080	160 (4% increase)	240 (6% increase)

¹ Existing traffic volumes from Table 3.1

² Average vehicles per day multiplied by two to consider two-way trips

3.4.2 Road Capacity

Analysis of midblock level of service for New England Highway, Nundle Road and O'Briens Lane has been conducted based on criteria set in Transport for NSW Guide to Traffic Generating Development 2002. Table 4.5 of Guide to Traffic Generating Developments (RTA 2002) provides an assessment of level of service based on terrain and peak hour flow.

A comparison between the capacity of each road based on peak hour volumes both with and without the development heavy vehicle construction traffic are provided in Table 3.4. The assessment considers the peak traffic generation period of the project which is estimated to generate up to 22 heavy vehicle movements in the peak hour.

Table 3.4: Midblock Capacity LOS

Road	Terrain ¹	2024 peak hour volume (no development) ²	Heavy vehicle percentage (no development) ²	Level of Service	2024 peak hour volume (with development)	Heavy vehicle percentage (with development)	Level of Service
New England Highway (west of Nundle Road)	Level	846	8.6% (rounded to 10%)	B	868	10.3% (rounded to 10%)	B
New England Highway (east of Goonoo Goonoo Road)	Level	1,176	3.6% (rounded to 5%)	C	1,198	4.8% (rounded to 5%)	C
Nundle Road (west of O'Briens Lane)	Level	531	5.9% (rounded to 10%)	A	553	9.4% (rounded to 10%)	A
O'Briens Lane (south of Nundle Road)	Rolling	424	5.0% (rounded to 10%)	B	446	9.2% (rounded to 10%)	B

¹ Assumed terrain based on high-level desktop assessment

² Existing traffic volumes and percentages from Table 3.1

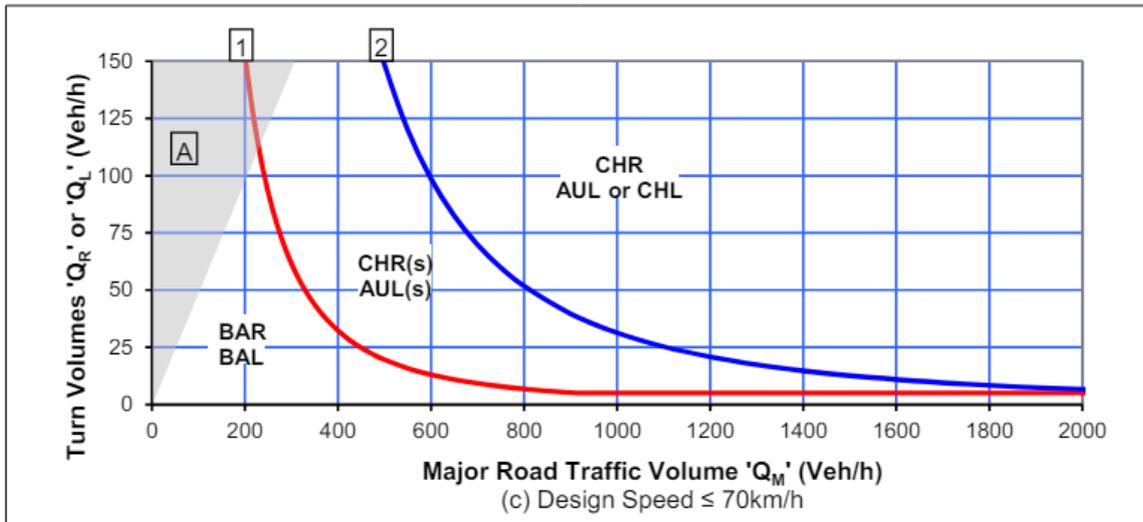
Table 3.4 shows that there is no anticipated impact to the existing road capacity and midblock level of service of each road during the peak traffic generation period of the project.

3.4.3 Turn Warrant Assessment

Based on the heavy vehicle traffic generation and proposed route for heavy vehicles, the New England Highway/ Nundle Road intersection has been further considered with respect to its existing arrangement and turning lanes.

Reference has been made to the Austroads Guide to Traffic Management Part 6: Intersections, Interchanges and Crossing Management, which outlines the intersection turning warrants for intersection treatments. The New England Highway/ Nundle Road intersection operates within a 60km/h speed zone and hence a design speed of 70km/h. The corresponding turning warrant criteria is shown in Figure 3.6.

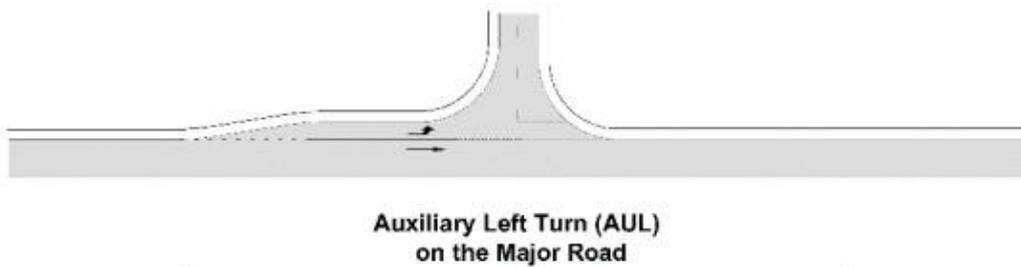
Figure 3.6 – Austroads Turn Warrant Criteria



Source: Austroads Guide to Traffic Management Part 6

The intersection of the New England Highway/ Nundle Road/ Railway Street is signposted as a give-way priority controlled intersection, and is currently constructed with an AUL(s) and CHR treatment. The general arrangement for an Auxiliary Left (AUL) turn treatment and Channelised Right (CHR) turn treatment are shown below.

Figure 3.7 – General AUL treatment



Source: Austroads Guide to Traffic Management Part 6

Figure 3.8 – General CHR treatment



Source: Austroads Guide to Traffic Management Part 6

The key movements at this intersection associated with the heavy vehicle traffic generation are the left and right turns on the eastern and western approaches of New England Highway.

As previously identified in Table 3.2, the project is estimated to add up to 120 inbound heavy vehicle movements per day (i.e. total of 240 heavy vehicle movements), assumed to be split evenly across an 11-hour working day. Based on the peak traffic generation period of the project, 11 inbound heavy vehicles per hour would turn left or right from New England Highway into Nundle Road. For the purposes of a conservative assessment, all 11 inbound heavy vehicles have been assumed to originate from the east for the left turn assessment, and similarly all heavy vehicles are assumed to originate from the west for the right turn assessment.

A summary of each turn warrant assessment is presented in Table 3.5.

Table 3.5: Turn treatment warrant assessment

Turn Movement	Scenario	Major traffic volumes (Veh/hr)		Turning volume (Veh/hr)		Turn treatment
		AM	PM	AM	PM	
Right turn	Existing	429	508	109	174	CHR
	Proposed	429	508	120	185	CHR
Left turn	Existing	235	183	75	61	AUL(s)
	Proposed	235	183	86	72	AUL (s)

Austrroads Guide to Design Part 4A Unsignalised and Signalised Intersections (Austrroads 2023) indicates that a 101m long right turn lane is required, considering a 75m deceleration length for a 70km/h design speed road and storage length of 26m for a B-Double vehicle. For a AUL(s) treatment on a road with a design speed of 70km/h, a deceleration left turn lane length of 35m is required.

The intersection currently provides a 110m right turn lane and 60m left turn lane which is in compliance with the guidelines set out in Austrroads and as such, no road upgrades or modifications are required to accommodate the heavy vehicle construction volumes associated with the project.

3.5 Summary

Having regard to the above, the revised design of the site layout will suitably support the access needs of the BESS. The revised construction methodology, including revised construction vehicle estimates and heavy vehicle/ OSOM vehicle travel routes, represents an improvement to the methodology and mitigation measures submitted with the SSDA and are recommended for approval.

4. Stakeholder Comments

4.1 Transport for NSW Comments

TfNSW Feedback

TfNSW provides the following comments for further consideration below:

1. The TIA identifies that the final details on the proposed OSOM movements will be provided in the Traffic Management Plan (TMP). If road infrastructure such as medians, road widening or any other road upgrades are required to the classified road network which are identified Post-Consent within the TMP, then a modification will be required to obtain development consent for the additional scope of work required for the OSOM road infrastructure upgrades. TfNSW advises the review of the road infrastructure upgrades required for the OSOM movements occurs as a part of the EIS to avoid the requirement for a modification.

Following discussion with Tamworth Regional Council, there is no proposed change to the OSOM route assessment that was originally assessed, with OSOM vehicles to use Calala Lane from Goonoo Goonoo Road. Details of the known road network modifications and works needed to accommodate OSOM vehicle movements are detailed in the original TIA submitted with the initial EIS submission. Additional OSOM vehicle paths on Calala Lane are included in Attachment A

2. In relation to Point 1, the Bell Street overbridge and medians will potentially be impacted and will need to be reviewed to ensure structures are able to accommodate the OSOM vehicle movements for the Calala BESS.

It is understood that from a preliminary assessment of the Bell Street overbridge, OSOM vehicles are expected to be able to traverse the Bell Street overbridge, subject to the following conditions:

- Vehicle to travel at 10km/h with no sudden breaking or acceleration
- Vehicle to travel central on the bridge with no other vehicles allowed
- Operator to ensure load passes over barriers.

Following development approval, an application will be submitted by the appointed transport contractor to NVHR for formal assessment and approval (which is not possible at this time).

3. The parking provision of 60 formal spaces for workers is below the maximum number of workers that is expected during peak construction. TfNSW notes that informal parking will be available and recommends discussing the proposed parking provision with Council.

For majority of the construction program (16 of 18 months), the on-site provision of 60 parking spaces will exceed the expected daily number of on-site construction workers. During peak workforce construction period (2 of 18 months), between 68 and 85 construction workers are expected on site. With this in mind, up to 25 construction workers (30 per cent of staff) would be required to car pool with another construction worker to travel to site.

Equis is committed to encouraging workers to carpool at all times to limit both vehicle movements and on-site parking demand where practical. Equis will prepare a detailed workforce accommodation strategy post approval of the development to address Council's concern around cumulative impacts on accommodation. This strategy will detail the intention to co-locate some staff accommodation, and hence carpooling can easily be coordinated if and as required. A drop-off and storage facility will be provided on-site for larger tools and equipment, hence staff will not be reliant on their personal vehicle for storage. Some trades will naturally also already carpool to site, such as electricians arriving in vans.

The site also has capacity to accommodate additional informal worker parking should it be required. No staff would be permitted to park on public roads at any time and any non-compliances would easily be noticed by the contractor and managed accordingly.

Council have also raised no concerns around construction worker parking during preparation and post submission of the application. With regards to the above, on-site supply of 60 parking spaces during construction works is considered suitable and parking impacts associated with construction workers will be negligible.

4.2 Council Comments

Traffic Impacts

TRC has reviewed the Traffic Impact Assessment (TIA) for this development noting that there was limited consultation with TRC officers prior to this TIA being available.

The proposed access route from Newcastle in the south, are primarily via the State Road network. However, the "last mile" portion of the access route will impact on local roads that are managed by TRC.

The TIA has concluded that the existing road network has the capacity to cater for the projected project traffic without the need for any other upgrades, save for provision of a suitable crossover and access leg into the site from Calala Lane. The nominated route utilises the eastern portion of Calala Lane, from Goonoo Goonoo Road, via the urbanised and constrained centre of Calala. Given the intensity of abutting development and the constrained nature of the road carriageway, in so far as heavy transport and OSOM access is concerned, TRC does not support the route selection though the suburb of Calala. Instead, it is recommended that the site be accessed via Whitehouse Lane, Ascot-Calala Road and / or Burgmanns Lane. We note that this is the same route that has been discussed with the proponents of two other nearby BESS proposals.

Council were consulted on the new proposed heavy vehicle route on 23 April 2024, and as shown in Attachment C written correspondence was received from Council confirming support of the revised transport strategy. As discussed, the proposed heavy vehicle route has been revised between the State road network and the site in the Tamworth Local Government Area. Details of the necessary modifications and works needed to accommodate heavy vehicle movements are detailed with the revised heavy vehicle route assessment included in Attachment B.

TRC notes the potential for the battery cells and associated infrastructure to be transported by rail i.e., via the Rail Intermodal Site at the Tamworth Global Gateway Park. If this is an option, most of the transport burden will be removed from the State Road network, but it will be necessary to provide detail in respect of the road transport options between the intermodal and the development site.

Equis has reviewed the potential for using rail and note this is not economically feasible due to the significant additional cost resulting from container size limitations and increased occasions for loading and unloading, as well as the lack of economies of scale given this is a one-off project at this location (compared to say, using rail for transport of mining materials across the lifetime operation of that project).

Cumulative Construction Traffic Impacts

Council have expressed concern around the cumulative impact of development within the Tamworth Local Government Area, particularly as it relates to availability of accommodation and increase of construction vehicle activity generally and during major recreational/ tourist events.

With this in mind, Table 4.1 has been prepared to detail various major projects in the local government area and immediate surroundings.

Table 4.1: Cumulative Developments

Project	Status	Description	Cumulative Impact
Kingswood BESS	Prepare EIS	Scoping report indicates construction is expected to commence in Q4 2024 for 30 months over two stages (Arcadis, October 2023). No further information at this stage.	Site located just south along Burgmanns Lane. Construction period could overlap, although given status of application, construction expected to overlap at the tail end of construction for the BESS and therefore the cumulative impact of works are expected to be minimal.
Tamworth BESS	Prepare EIS	Scoping Report indicates construction could generate around 45 vehicles per day (Accent Environmental, July 2021). Updated SEARS issued August 2023, indicating project re-commencing.	Site located just south of site along Burgmanns Lane. Construction period could overlap, although given status of application, construction expected to overlap at the tail end of construction for the BESS and therefore the cumulative impact of works are expected to be minimal.
Nottingham Park Solar Farm	Prepare EIS	Scoping Report notes works to commence Q1 2024 for 12-18 months (NGH, May 2023).	Site located 15 kilometres west of Tamworth. Construction period could overlap, although given status of application, construction expected to overlap at the tail end of construction for the BESS and therefore the cumulative impact of works are expected to be minimal.
Tangaratta Feedmill	Prepare EIS	No further information available since January 2023.	Site located north-west of Tamworth. Construction period could overlap, although given status of application, construction expected to overlap at the tail end of construction for the BESS and therefore the cumulative impact of works are expected to be minimal.
Thunderbolt Wind Farm	Assessment	Construction expected to commence Q1 2024 for 18-24 months. Up to around 75 vehicle movements expected per day (Transport Impact Assessment, Umwelt, December 2021).	Site located 47 kilometres north-east of Tamworth. As such, only minimal traffic movements expected to overlap with site generated traffic.
Bendemeer Solar Farm	Response to Submission	Construction expected to commence Q2 2024 for 18 months. Construction is expected to take 18 months. Average of 62 and peak of 110 vehicles movements expected per day (Amber, July 2023)	Site located around 30 kilometres north-east of Tamworth. As such, only minimal traffic movements expected to overlap with site generated traffic.
Middlebrook Solar Farm	Response to Submissions	Construction expected to commence Q2-Q3 2024 for 21-30 months. Average of 82 and peak of 166 vehicle movements expected per day (Transport Impact Assessment, Amber, May 2023).	Site located around 20 kilometres south, near the southern extent of TRC area, however majority of construction vehicles expected to travel to / from the north. Project has been subject to significant community opposition, hence actual construction dates likely to be delayed. Construction period could overlap.
Hills of Gold Wind Farm	Recommendation	Recommended for approval December 2023. Construction expected to take 13 to 18 months. Average of 210 and peak of 400 vehicle movements expected per day (TTPP, November 2020 and February 2023).	Site located around 55 kilometres south, outside of the TRC area. Construction period could overlap.

Project	Status	Description	Cumulative Impact
Tamworth Solar Farm	Approved	Construction expected to be completed within a 9-12 month timeframe. Around 90 vehicles per day expected, or 180 vehicle movements (SECA, October 2019 and March 2020). All traffic to travel through Tamworth Town Centre.	Site located west of Tamworth Town Centre. Project approved 2020, however no evidence found of construction commencing. Construction period could overlap.
Rushes Creek Poultry Farm (Modification)	Approved	50 months construction period, expected to complete in 2025 (CTMP, SLR, June 2021), including construction of MOD 4 approved in September 2023. Expected to generate up to 71 vehicles per day (EIS Appendix G, Table 5, SLR, May 2023).	Site located 40 kilometres north-west of Tamworth. Construction commenced and hence is expected to overlap in late 2024/ early 2025. Notwithstanding, trucks travelling south-east will likely travel via Gunnedah rather than through Tamworth town centre / Goonoo Goonoo Road, given the route through Gunnedah is subject to less traffic control. As such, limited overlap of construction traffic movements expected.
Baiada Poultry	Approved	Stage 1 constructed. Stage 2 construction unknown as per page 15 of the Compliance Report (DA53/97)	Site located north-west of Tamworth. Construction of stage 2 could overlap, however as noted, construction timeframe unknown.
Keepit Dam Upgrade Peel Valley Tamworth Abattoir	Approved	Complete	N/a
Tamworth Hospital Redevelopment	Approved	Complete	N/a
Tamworth Hospital – Cancer Centre	Approved	Complete	N/a
Manilla Hospital	Approved	Complete	N/a
Chaffey Dam Upgrade	Approved	Complete	N/a
Chaffey Dam Pipeline Project	Withdrawn	N/a	N/a
Dungowan Dam	Withdrawn	N/a	N/a
Woolbrook Wind Farm	Withdrawn	N/a	N/a
Tamworth Grain Refinery	Withdrawn	N/a	N/a

The above assessment indicates that several projects are expected to generate additional vehicle movements within the local government area. Notwithstanding, a number of these developments are less progressed in their planning stages and hence while the construction period could overlap, this is expected at the tail end of construction for the BESS and therefore the cumulative impact of works are expected to be minimal. Critically, this includes the Kingswood and Tamworth BESS located just south of site. Further, a review of development locations indicates an up to 55 kilometre spread in all directions around Tamworth city centre. As such, the associated vehicle movements would be distributed on the road network, travelling via other regional centres including Gunnedah, Bendemeer and Armidale, and are ultimately expected to have a minimal cumulative impact particularly along Goonoo Goonoo Road, being a primary arterial road connection for the development.

It will naturally be critical that the appointed construction contractor engages with all relevant stakeholders, including the contractors for the proposed BESS facilities south of the site, to understand whether there will be any overlap in construction programme and if so, to ensure appropriate coordination of construction activities/ routes and to maintain safety for all users of the road network at all times.

Further, the appointed construction contractor will engage with Council to understand any required changes to construction vehicle routes during tourist events to ensure continued safe functioning and operation of the road network.

I trust the above suitably addresses the SSDA submissions received and matters raised by Tamworth Regional Council more generally. Should you have any questions, please do not hesitate to contact me directly.

Yours sincerely

Stantec Australia Pty Ltd



Brett Maynard
Business Leader – Transport Planning & Advisory

Encl.

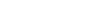
Attachment A – Additional OSOM swept path assessment for Calala Lane

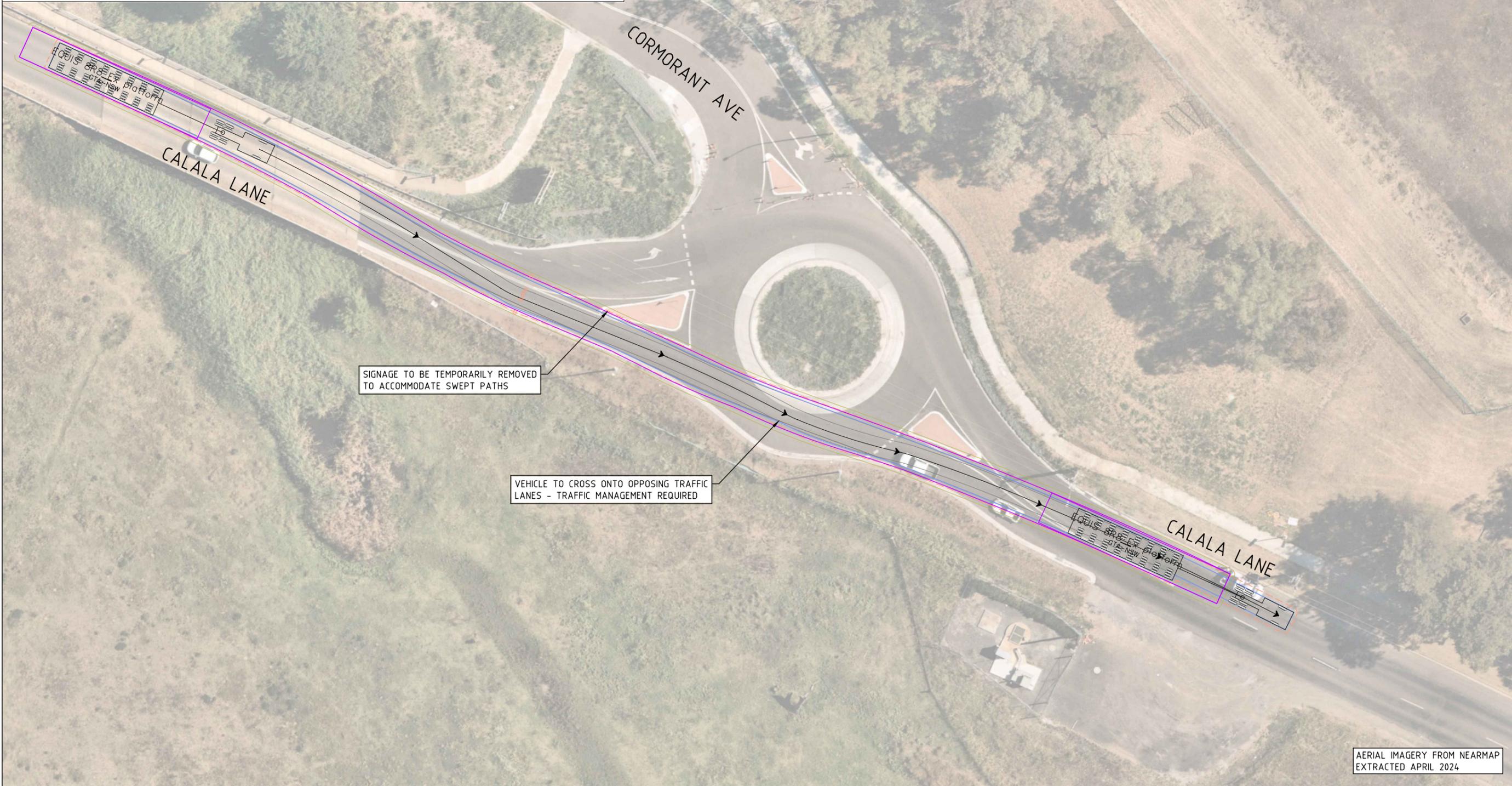
Attachment B – Heavy Vehicle Route Assessment via Nundle Road

Attachment C – Council Consultation (7 May 2024)

Attachment A Additional OSOM swept path
assessment for Calala Lane

SWEPT PATH KEY

-  VEHICLE CENTRE LINE
 -  VEHICLE TYRE PATH
 -  VEHICLE BODY PATH
 -  500mm CLEARANCE FROM VEHICLE BODY
 -  LOAD PATH
 -  500mm CLEARANCE FROM LOAD
- ASSUMED SPEED 10km/h



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S.ARALAR

DESIGN CHECK
H.OBERMAIER

APPROVED BY
H.OBERMAIER

DATE ISSUED
7 MAY 2024

SCALE
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CALALA BESS
CALALA LANE/CORMORANT AVENUE, CALALA

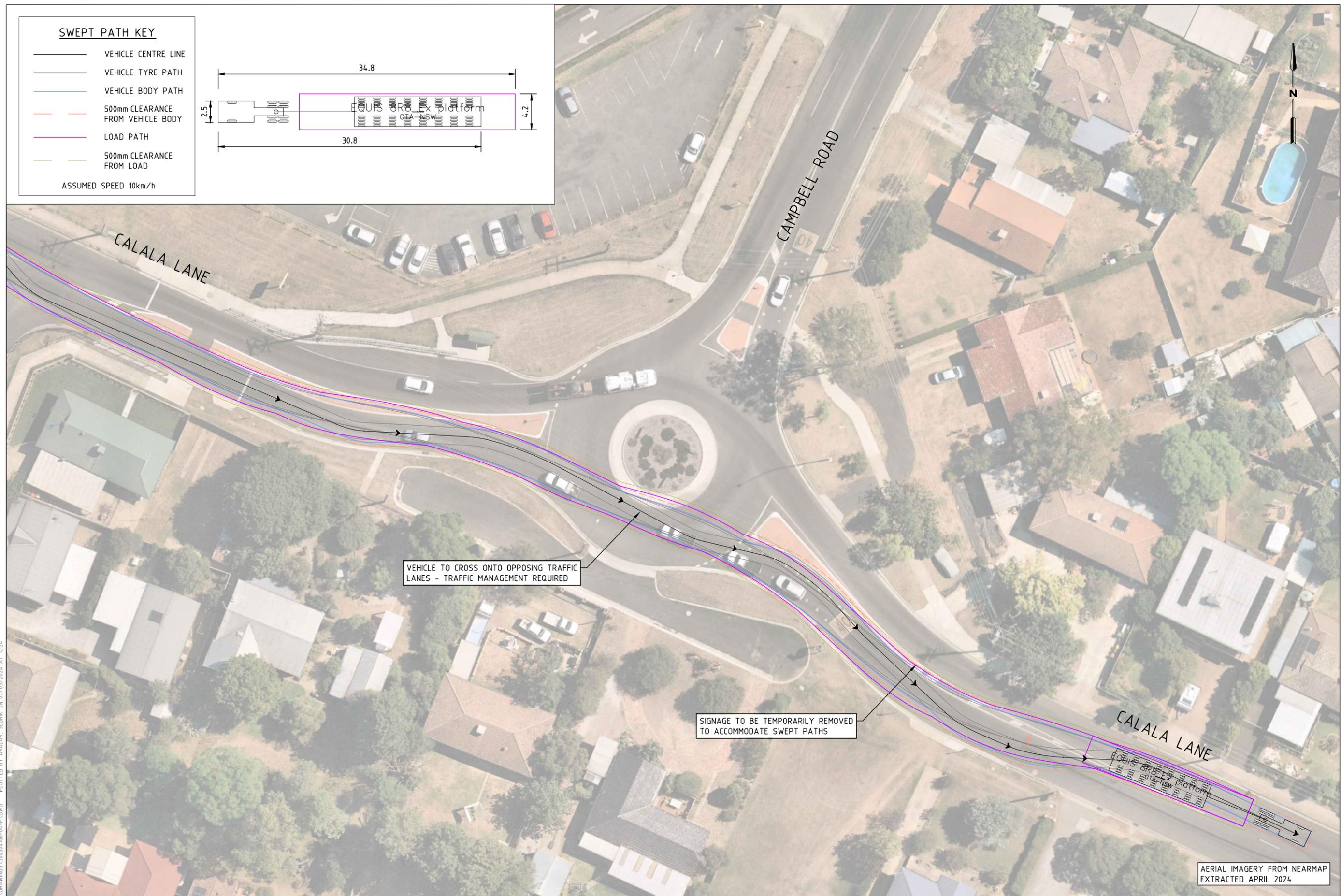
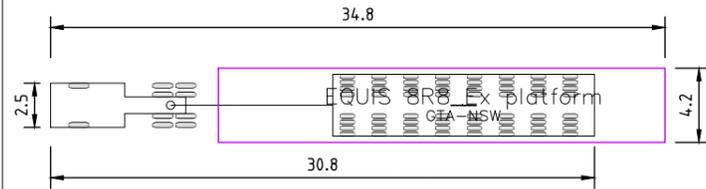
VEHICLE SWEEP PATH ASSESSMENT

DRAWING NO. 300304168-04-01 SHEET 01 OF 05

ISSUE P1

SWEPT PATH KEY

-  VEHICLE CENTRE LINE
 -  VEHICLE TYRE PATH
 -  VEHICLE BODY PATH
 -  500mm CLEARANCE FROM VEHICLE BODY
 -  LOAD PATH
 -  500mm CLEARANCE FROM LOAD
- ASSUMED SPEED 10km/h



VEHICLE TO CROSS ONTO OPPOSING TRAFFIC LANES - TRAFFIC MANAGEMENT REQUIRED

SIGNAGE TO BE TEMPORARILY REMOVED TO ACCOMMODATE SWEEP PATHS

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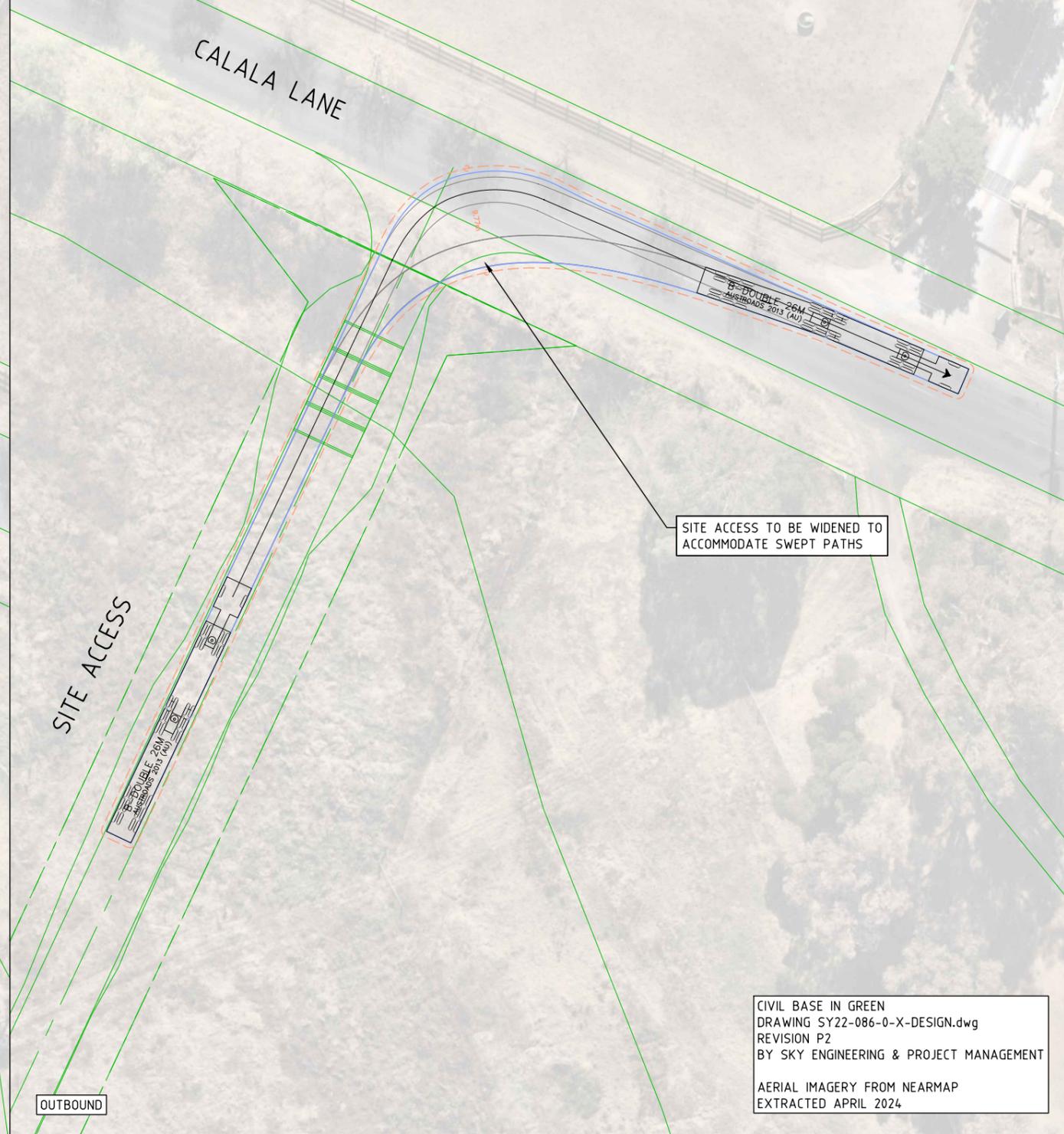
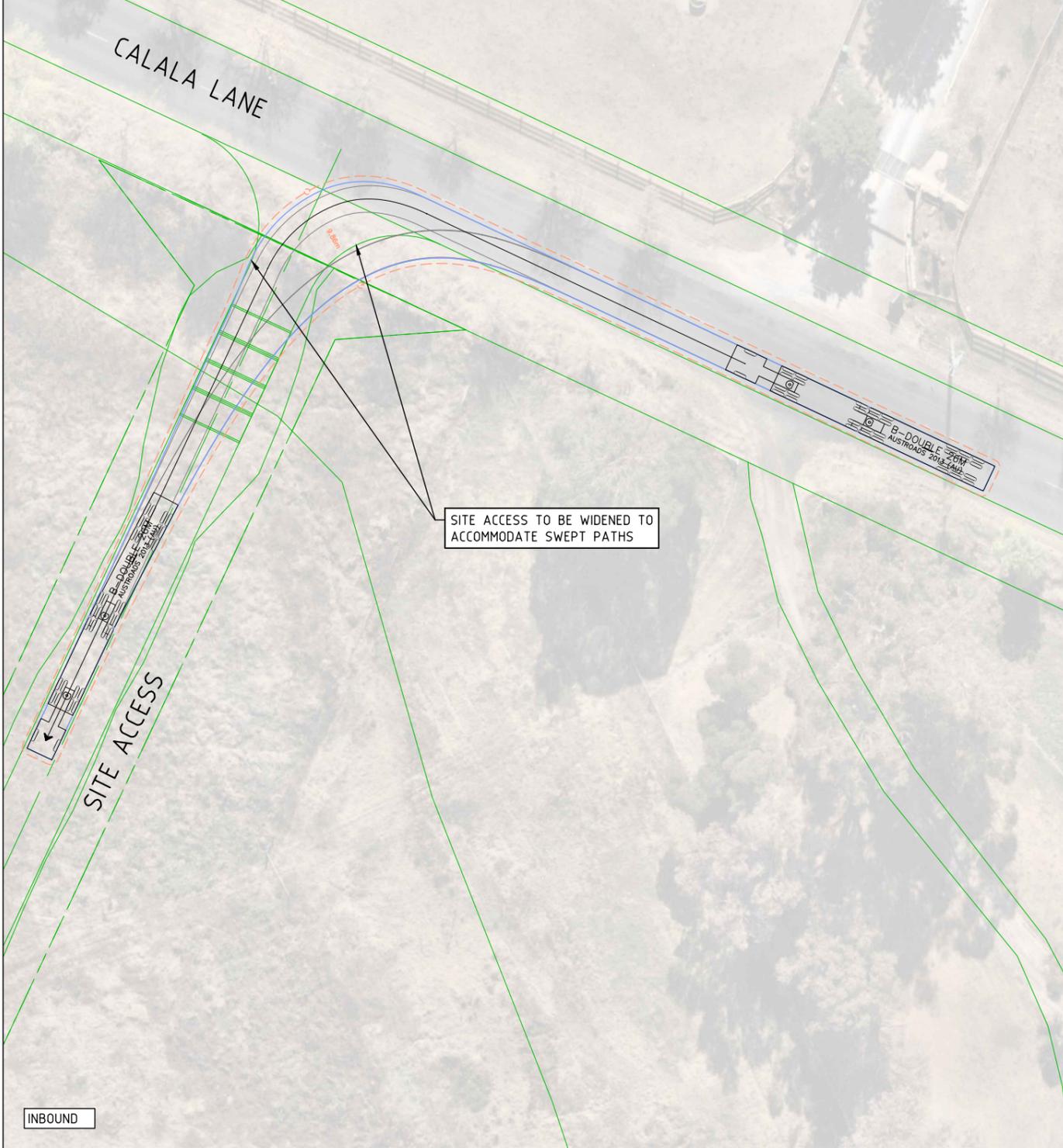
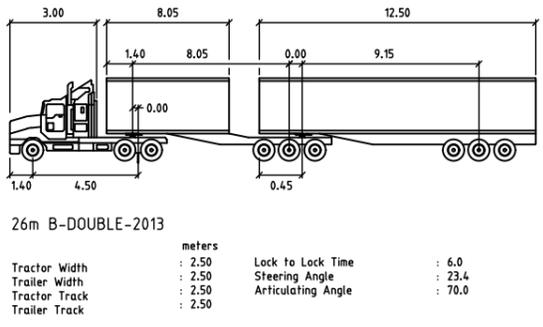
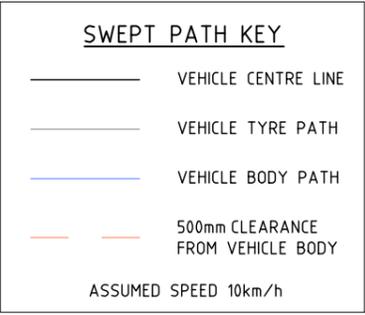
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CALALA BESS
CALALA LANE/CAMPBELL ROAD, CALALA

VEHICLE SWEEP PATH ASSESSMENT

DRAWING NO. 300304168-04-02 SHEET 02 OF 05 ISSUE P1

Attachment B Heavy Vehicle Route
Assessment via Nundle Road



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INBOUND

OUTBOUND

CIVIL BASE IN GREEN
 DRAWING SY22-086-0-X-DESIGN.dwg
 REVISION P2
 BY SKY ENGINEERING & PROJECT MANAGEMENT
 AERIAL IMAGERY FROM NEARMAP
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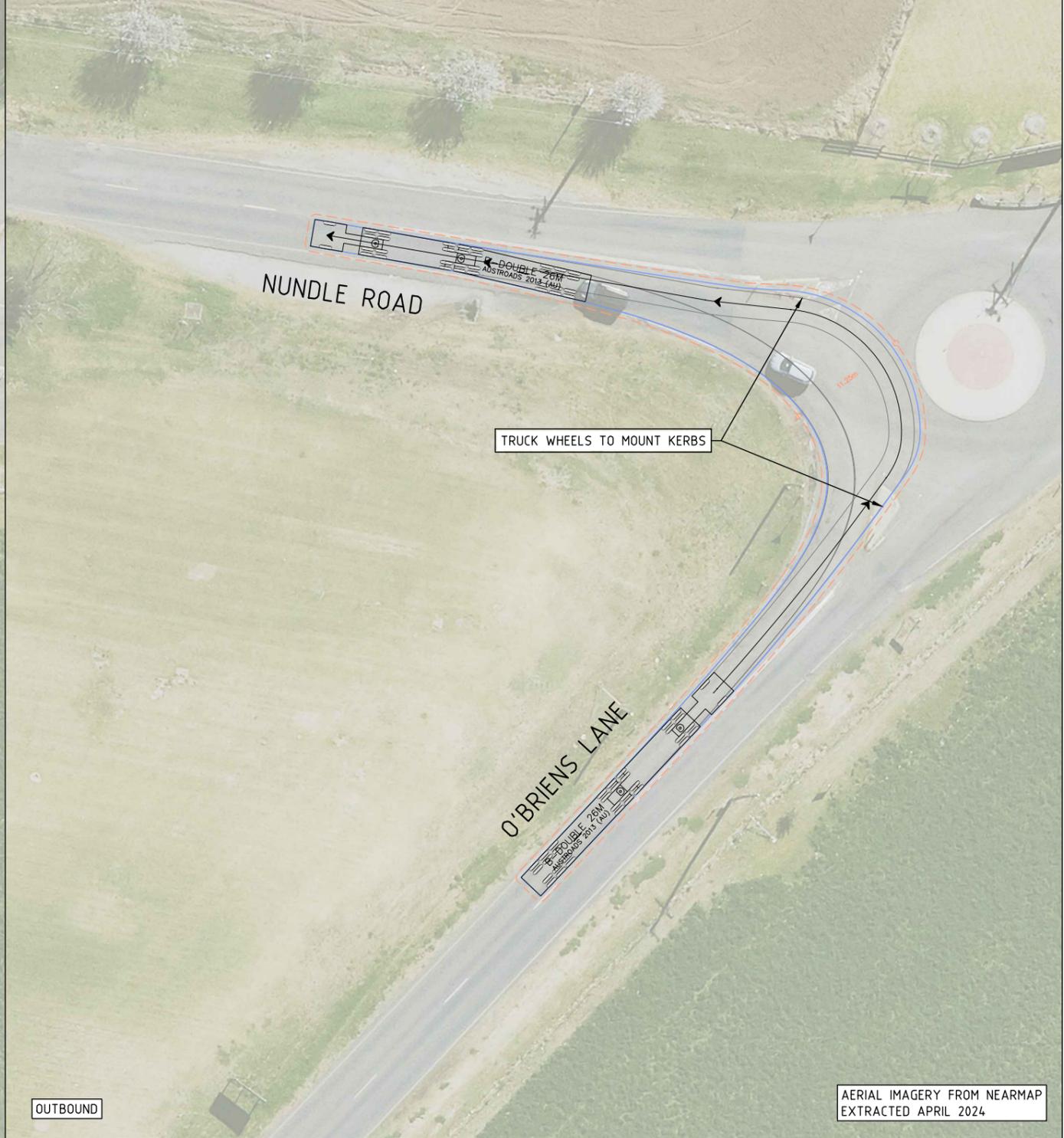
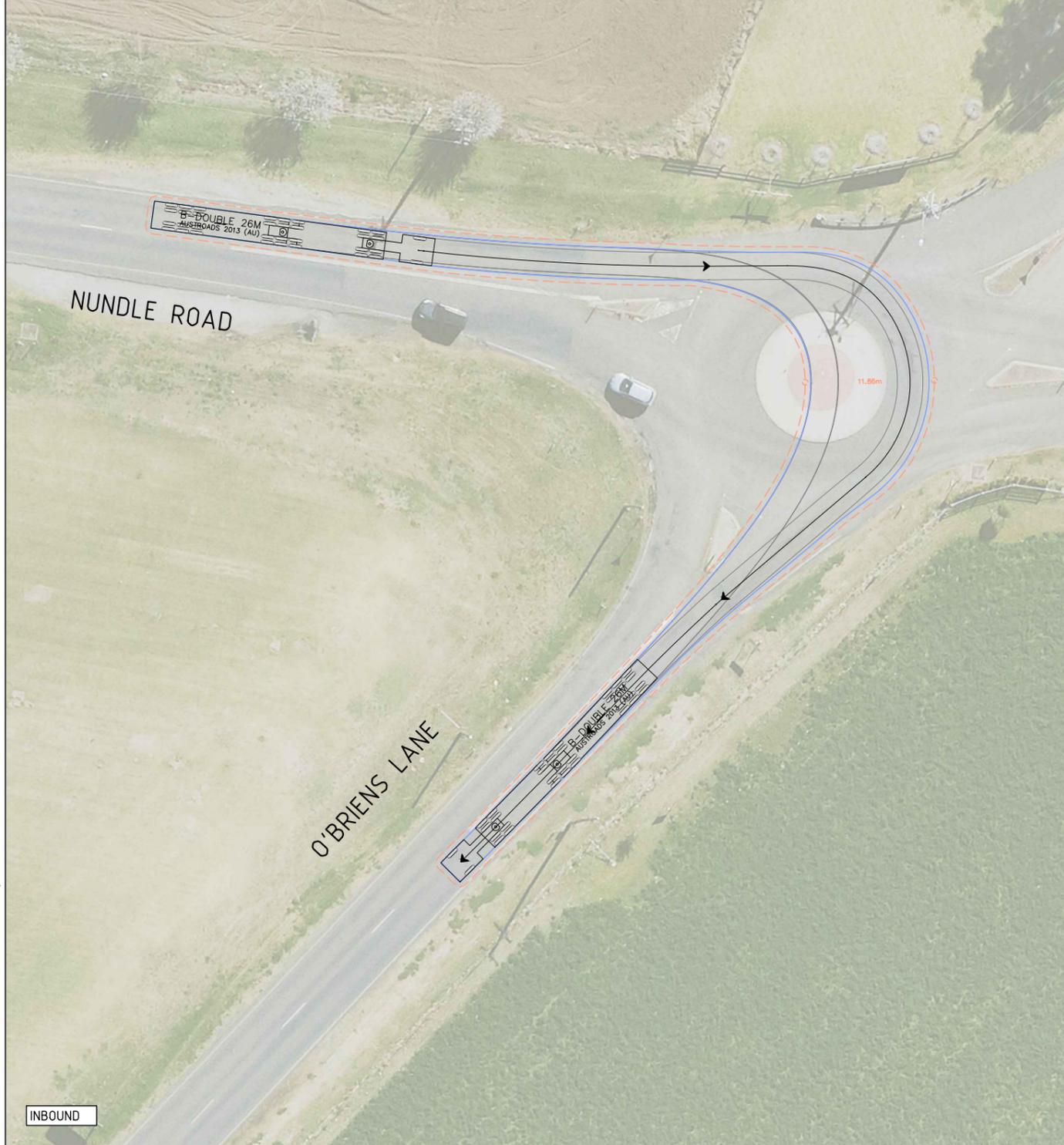
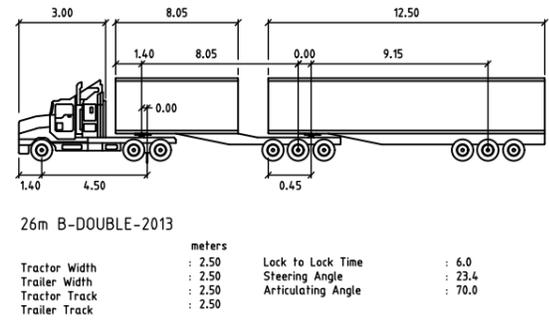
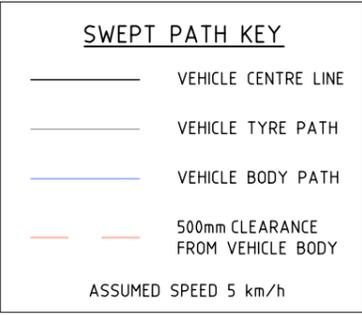
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CALALA BESS
 CALALA LANE/SITE ACCESS, CALALA
VEHICLE SWEPT PATH ASSESSMENT
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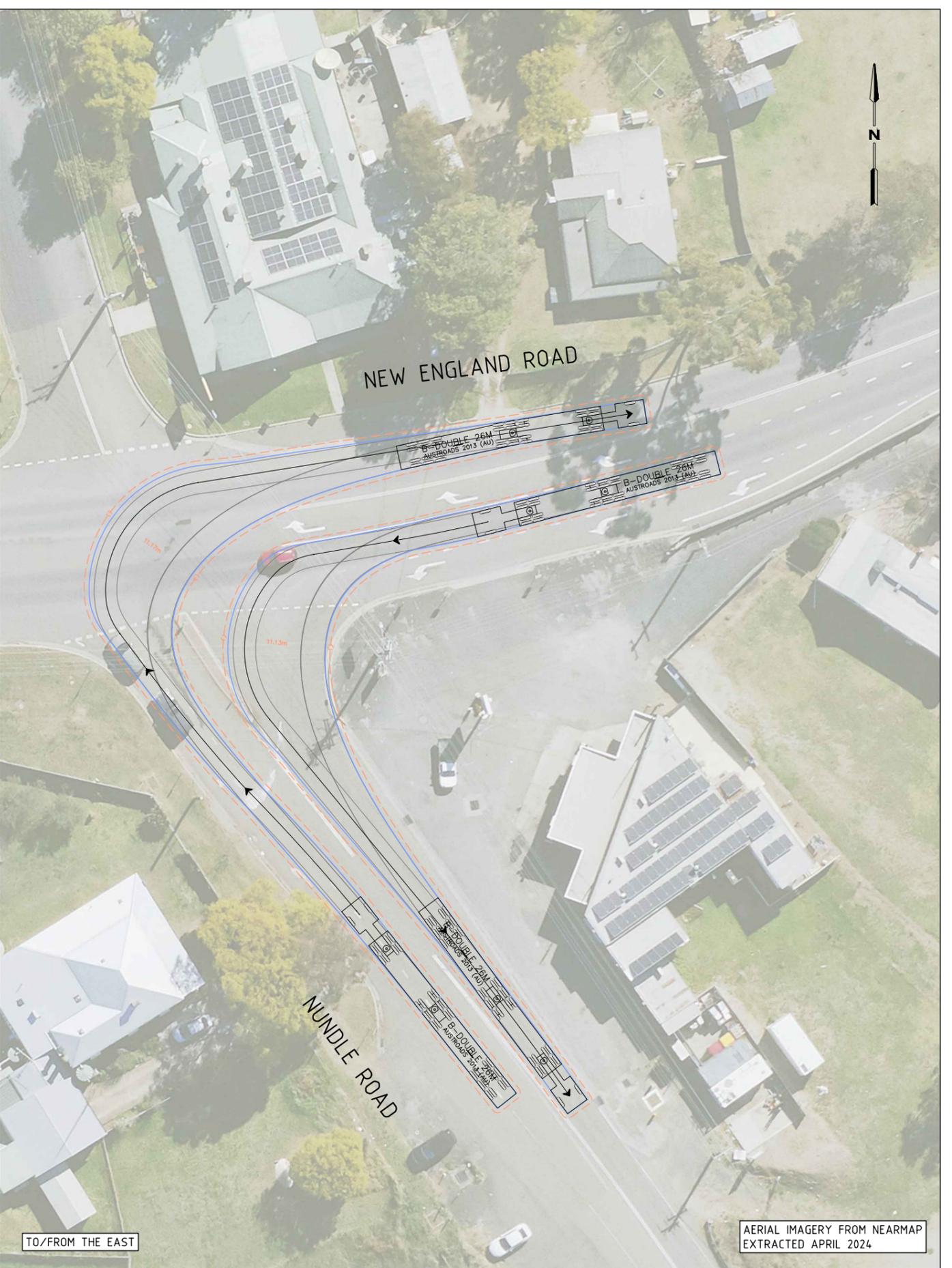
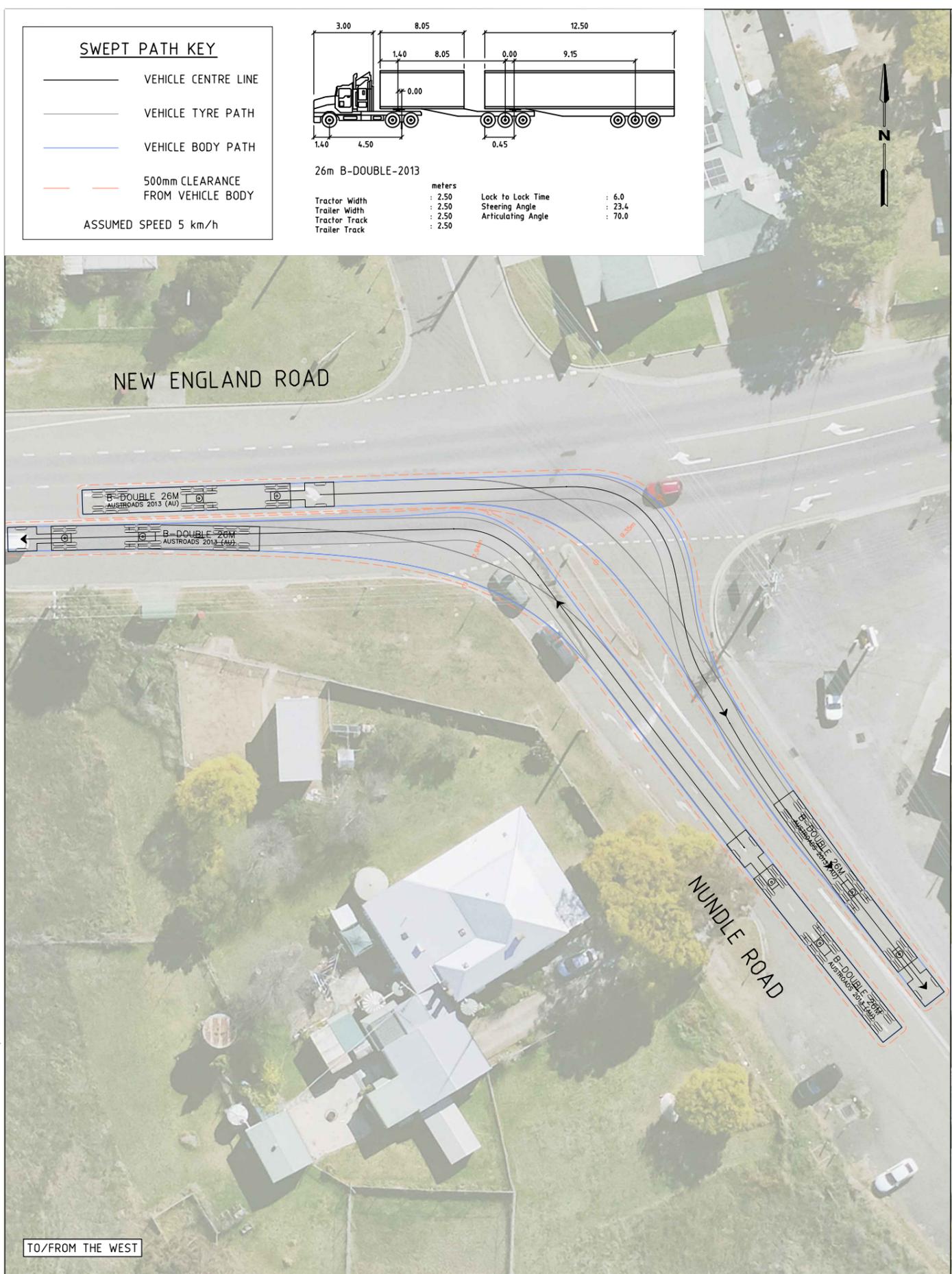
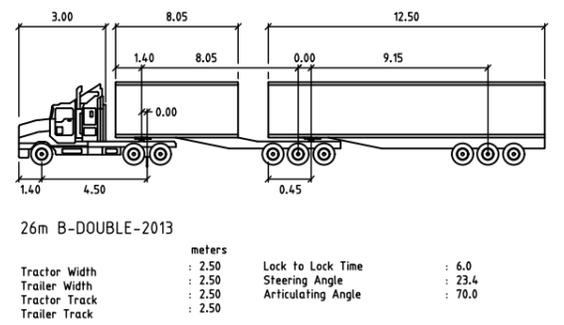
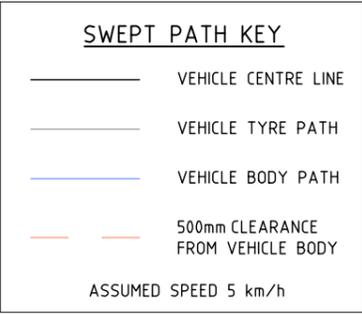
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CALALA BESS
O'BRIENS LANE/NUNDE ROAD, NEMINGHA

VEHICLE SWEEP PATH ASSESSMENT
DRAWING NO. 300304168-04-04 SHEET 04 OF 05 ISSUE P1



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CALALA BESS
NEW ENGLAND ROAD/NUNDLE ROAD, NEMINGHA

VEHICLE SWEEP PATH ASSESSMENT

DRAWING NO. 300304168-04-05 SHEET 05 OF 05 ISSUE P1

Attachment C Council Consultation (7 May 2024)

White, Chris (Sydney)

From: Brake, Steve <s.brake@tamworth.nsw.gov.au>

Sent: Tuesday, May 7, 2024 3:57 PM

To: White, Chris (Sydney) <chris.white@stantec.com>

Cc: Elizabeth Zorondo <Elizabeth.Zorondo@equis.com>; Gannon Cuneo <gcuneo@mecone.com.au>; Elsley, Alice <a.elsley@tamworth.nsw.gov.au>; Maynard, Brett <brett.maynard@stantec.com>; Gerrit Prent <Gerrit.Prent@equis.com>

Subject: RE: Calala BESS project update

G'day Chris,

I can confirm that Council is supportive of the revised transport strategy for the proposed Calala BESS. Feedback from our asset owners and network managers included the following comments, which are generally in line with our discussions:

OSOM on Calala Lane: Supported provided that we cap the OSOM delivery amount each night (as required) and the timeframe in which they are able to use Calala Lane (e.g. 9pm – 5am). An assessment of all structures located along the proposed haulage routes will also be required to determine their suitability to cope with the transported loads.

Use of O'Brien's Lane: O'Brien's Lane has a 25t load limit generally, however loads above this can be considered. There will likely be conditions around dry weather access only, and a bond / strategy around corrective works to any significant damage that needs to be addressed as a matter of urgency during the BESS establishment phase (in addition to of the usual dilapidation conditions).

Regards

Steve Brake

Manager Development Engineering

P 02 6767 5109 | **M** 0436 929 247 | **E** s.brake@tamworth.nsw.gov.au

474 Peel Street

PO Box 555 Tamworth NSW 2340

www.tamworth.nsw.gov.au

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(NB: your email will be sent to a Council group development email Inbox. Please include as much information as necessary such as Application Numbers, Relevant Council Officer Names or nature of email in Subject Line and Message Section of the email to ensure your email is allocated to the right officer).



Tamworth Regional Council acknowledges the Gamilaroi/Kamilaroi people, who are the Traditional Custodians of this land. We would like to pay respect to Elders past and present, and extend that respect to other Aboriginal and Torres Strait Islander peoples living in and visiting our Region.