

Energy Assessments
Department of Planning & Environment
Locked Bag 5022
PARRAMATTA NSW 2124

Attention: Javier Canon

SSD-29508870 for Birriwa Solar Farm at Barneys Reef Road and Birriwa Bus Route South, Birriwa. (various land parcels)

9 November 2022

Dear Javier,

Thank you for referring the abovementioned application via the NSW Major Projects Planning Portal dated 12 October 2022 inviting further comment from Transport for NSW (TfNSW).

TfNSW's primary interests are in the road network, traffic and broader transport issues. In particular, the efficiency and safety of the classified road network, the security of property assets and the integration of land use and transport.

Castlereagh Highway (HW18) is a classified (State) road and an approved B-Double (26m) route with a sign-posted speed of 100km/h. Council is the roads authority for this road and other public roads in the area, in accordance with Section 7 of the *Roads Act 1993* (Roads Act). Warrumbungle Shire Council is the roads authority for a portion of the Castlereagh Highway, and Mid-Western Regional Council is the roads authority for

TfNSW understands that the proposal seeks approval for the construction, operation and decommissioning of a 600MWh Solar Farm comprising a 600MWh (2 hour duration, 1,200 MWh) battery energy storage system (BESS) and supporting ancillary infrastructure, to be constructed over approximately 28 months with a peak workforce of 800 workers.

In addition, the proposal seeks to include an upgrade to the existing intersection of the Castlereagh Highway & Barneys Reef Road, consisting of a Channelised Right turn (CHR) and an Auxiliary Left turn (AUL), through which all project construction and operational traffic are proposed to access the project site.

TfNSW has reviewed the information provided, including a Traffic Impact Assessment (TIA) (dated July 2022) and the Environmental Impact Assessment (EIS) (dated September 2022), both prepared by EMM Consulting P/L, and is not satisfied that the proposed development has adequately addressed the anticipated construction traffic impacts. Accordingly, TfNSW does not support the application as proposed.

TfNSW recommends that the Consent Authority ensure that the following matters are addressed should any further submissions be made for comment:

1. The proposed CHR & AUL turn treatments and associated upgrade works within the road reserve of Castlereagh Highway, a classified (State) road, will require TfNSW concurrence (with the Roads Authority, Warrumbungle Shire Council) under Section 138 of the Roads Act 1993. Further to this, the developer will be required to enter into a 'Works Authorisation Deed' (WAD) with Transport for NSW, or other suitable arrangement as agreed to by TfNSW.

Appendix C to the EIS provides a *Concept Design of the Barneys Reef Road Upgrade*, however this document does not include the abovementioned proposed upgrade works at the key intersection of Castlereagh Highway and Barneys Reef Road. TfNSW require additional information regarding the proposed intersection upgrade works, to ensure that any impacts of the works on the classified road network and associated environmental approvals are identified & addressed prior to determination.

TfNSW highlights that in determining the application under Part 4 of the *Environmental Planning & Assessment Act, 1979* it is the consent authority's responsibility to consider the environmental impacts of any road works which are ancillary to the development, such as (inter alia) removal of trees, relocation of utilities, stormwater management, etc.

It is recommended that the Consent Authority request the applicant to provide a scaled strategic design of the proposed access addressing the below points for consideration, showing:

- Plans, cross sections & long sections, demonstrating the full scope of works required for any upgrade to the Castlereagh Highway and Barneys Reef Road intersection. Including but not limited to provision of:
 - The intersection upgrade included the identified CHR and AUL turn treatments, designed and constructed in accordance with the relevant *Austrroads Guidelines*, *Australian Standards* and related *TfNSW Supplements*, with 3.5m lane widths, 1m wide centre line, 2m sealed shoulders (addition to turning lanes), 1m verge & 6:1 or flatter batters.
 - Extent of the existing and / or proposed sealed road surface along Barneys Reef Road from the intersection connection.
 - removal of trees, relocation of utilities, stormwater management, etc.
- Safe Intersection Sight Distance (SISD) requirements in accordance *Austrroads Guide to Road Design Part 4A* with for a design speed of 110km/h are achieved in both directions at the intersection with Castlereagh Highway.
- Swept path diagrams, demonstrating that all required design vehicles (including Over Sized Over Mass (OSOM)) will be able to safely and efficiently arrive and depart the key intersection in both directions to access the site, travelling wholly within the required travel lanes and no additional works will be required to accommodate those vehicles.
- Note: The design needs to comply with *TfNSW Strategic design requirements for DAs*. To assist you in preparing the designs, please refer to link below:

<https://roads-waterways.transport.nsw.gov.au/business-industry/partners-suppliers/documents/planning-principles/strategic-design-fact-sheet-02-2022.pdf>

2. Sections 4.4 & 4.5 address Cumulative Impacts, in particular the background cumulative traffic passing through the key intersection. It is noted that Tallawang Solar Farm & Barneys Reef Wind Farm have been considered, however a number of other large scale / renewable developments within close proximity to the project site either recently approved or in planning stages, have not been considered in the assessment and may have overlapping construction timeframes with Birriwa Solar Farm. Further assessment is required to demonstrate the extent of the investigations undertaken.

The assessment undertaken primarily focuses on the traffic impacts of cumulative traffic passing the key intersection, however further assessment is required to consider Spatial, Temporal and Linked cumulative impacts, including but not limited to addressing the impacts on accommodation availability, infrastructure, services, worker transportation (shuttle buses) and the cumulative traffic along the identified Heavy Vehicle & OSOM transport routes.

3. Executive Summary (ES3) and Appendix A identify the Castlereagh Highway and Intersection Traffic Counts which were undertaken over a limited period (3 days), for only two hours in each the AM and PM periods. TfNSW note, this can only be considered as supplementary data and should not be used as the sole source of the background traffic data for which the traffic calculations, SIDRA analysis and turn warrant assessments are based on, as the collection is considered incomplete and does not demonstrate the overall traffic behaviour of that location or demonstrate where changes in trends may occur.

TfNSW's own recorded data for the Castlereagh Highway (HW18), 700m South of the intersection with the Golden Highway (approximately 6kms north of the key intersection), demonstrates a daily traffic volume of 766 vpd which includes a much higher percentage of heavy vehicles, at 18.2% than the 12% stated throughout the TIA (in reference to peak hour traffic counts).

Further assessment is required by the applicant, using reliable traffic data to inform the background traffic, heavy vehicle percentages and outputs of the traffic calculations, SIDRA analysis and turn warrant assessments. The TfNSW traffic surveys can be provided for reference, if required.

Transport for NSW

4. TfNSW understand through phone and email correspondence with EMM Consultants (Rachel Dodd) on 9 November 2022, the stated maximum estimated length of the OSOM vehicles being 120m, in Section 3.4.1 of the EIS is an error and that it has now been confirmed that it is, "up to 25m in length".

Notwithstanding this clarification, further information is required regarding the OSOM vehicles and the equipment they are proposed to transport to site (transformers, prefabricated buildings etc).

- Footnote #2 at the bottom of Page 22 of the TIA, refers to Exempt OSOM vehicles being classified as Heavy Vehicles within the traffic assessment rather than OSOM vehicles. However, as the specific loads and associated vehicles types of the OSOM activities is not clarified, it is unclear what traffic impacts this reference may have. Further details are required to clarify the vehicle types and associated loads (dimensions, mass etc) this refers to, including which transport route they are proposed to take.
 - *Figure 3.5* in the TIA demonstrates two potential transport routes from the ports of Botany Bay & Newcastle. *Section 6.4* of the EIS indicates that majority (75%) of the Heavy Vehicles will arrive to site from the Newcastle Port and via the Golden Highway route, with the remaining (25%) proposed to travel to site from the Sydney region, via the Great Western Highway route. However, the route for the OSOM vehicles is not yet confirmed. Until this can be confirmed, the Swept paths and relevant traffic impacts associated with the OSOM movements along both transport routes, must be addressed.
5. TfNSW note, that all project traffic is proposed to access the site via Barneys Reef Road and the key intersection. However it is noted other local access roads (in particular Birriwa Bus Route South) also connect to the site access corridor from the classified road network. It is further noted that the TIA identifies ongoing consultation being undertaken with Central West Cycle Trail Inc. to identify the impacts of the proposed development on the trail & it's users.

In addition to the proposed commitments of inclusion in the CTMP, TfNSW recommend that the CTMP further identifies the access restrictions and requirements to all staff, contractors and visitors, and directly addresses the consultation, impacts to and management of the project traffic in relation to the Central West Cycle Trail. TfNSW acknowledges and further recommends that the CTMP be developed in consultation with TfNSW, Mid-Western Regional Council, Warrumbungle Shire Council and be approved by the Consent Authority. It is further recommended that the applicant undertake consultation with TfNSW with sufficient lead time to ensure any recommended changes or additions can be implemented prior to construction works commencing.

6. TfNSW note, there is a level crossing for the Gwabegar railway line along the southern classified road transport route on the Castlereagh Highway, near Birriwa. ARTC are the Rail Infrastructure Manager (RIM) at this location. The Consent Authority should ensure ARTC has had the opportunity to review and provide comment regarding rail related matters.

If you wish to discuss this matter further, please contact the undersigned on ph. 0429 270 678 or via development.west@transport.nsw.gov.au

Yours faithfully,



Katrina Wade

A/ Team Leader Development Services (Renewables)
West Region | Community and Place
Regional and Outer Metropolitan