Tenterfield Shire Council

PO Box 214

Tenterfield NSW 2372

Via email: council@tenterfield.nsw.gov.au

2 September 2019

Dear Tamai,

Re. Development Application 2019.059
Tenterfield Solar Farm
Information re. submissions

Thank you for providing copies of all submissions associated with this Development Application (DA). We have reviewed all submissions received, and each of the issues raised in the submissions have been categorised and tabulated below so they can be appropriately considered and addressed.

The following responses are provided for Tenterfield Shire Council and JRPP regarding the comments and/or questions raised in submissions for the proposed development of a solar farm at Old Racecourse Road, Tenterfield (DA 2019.59).

In each case, we believe that the issues raised have been previously identified and responded to within the current DA. As such, we do not propose any further changes to the DA based on these submissions. Notwithstanding this, Enerparc remains committed to meeting community expectations in regard to the construction and operation of the proposed development. Please do not hesitate to contact us if your assessment identifies any specific questions or concerns.

Submission Issue	**Response**
Access and traffic	All traffic impacts associated with the Tenterfield Solar Farm will be temporary, manageable and monitored by the proponent. Due to the nature of the development, surrounding landholders would only be impacted by increased traffic during the construction phase. Once operational, minimal vehicles would access the site for security purposes and routine maintenance only. A road condition survey pre and post construction, along with a commitment by the proponent to make good any damage to the road network attributed to the solar farm construction can be undertaken which will ensure Council's road assets are not degraded, and that the safety and efficiency of the public road network is maintained throughout the different phases of the development. A Traffic Management Plan (TMP) would be prepared as a component of the Construction Environmental Management Plan (CEMP) and

	submitted to the consent authority (Council) prior to works commencing at the site. This would include measures taken by the proponent to ensure there are minimal impacts during the construction phase and may include temporary traffic controls, community consultation, scheduling of movements for convoys and over-sized vehicles as well as a code of conduct that addressed travelling speeds and procedures for drivers. Subject to seeking the appropriate approvals from RMS, construction traffic would utilise a specific route from the New England Highway to the site and avoid all residential streets where possible. Construction traffic is not proposed to use Martin Street at any stage and to ensure this, the TMP will require all vehicles associated with the development, including staff, contractors and suppliers, to utilise a single pre-determined route not including local suburban streets.
Risk of contamination by chemicals and heavy metals after closure of the facility	The solar farm will be required to be decommissioned after the life of the facility, all infrastructure (including underground cabling) above 0.5 m below the surface would be dismantled and removed off site so there was no potential for soil contamination or residual materials to be left in the upper soil profile. Decommissioning would entail removing the grid connection infrastructure, including cabling and other equipment so the land could be continued to be utilised for its current use (agriculture). With the emergence of solar technology, it is anticipated there will also be new opportunities for recycling materials associated with solar farms. Any materials that were not able to be recycled will be disposed off-site in accordance with the relevant legislative requirements at an approved waste management facility.
Visual Amenity Glint & Glare	Visual impact from solar farms is generally considered to be subjective however it has been identified the proposed development may have adverse visual impacts to a small number of neighbouring landholders. To lessen the impacts to visual amenity from the development, the proponent has allowed for buffers around the development site including landscaping and generous setbacks. Landscaping, including planting of native species, is proposed at various locations around the development site to provide a buffer and help lessen any adverse impacts to visual amenity. Targeted plantings of native species would be undertaken where receptors may be impacted by the development. Solar PV panels are specifically designed to absorb, not reflect solar energy and comparatively, solar panels have significantly lower levels of glare than many other materials typical in a rural or urban environment. Further to this, the solar PV panels are fitted to fixed frames (i.e. non-tracking) which would be orientated so the panels face upwards at approximately 25 to 30 degrees in the northerly direction, which is towards Pitkin Swamp Creek and would be orientated away from the public road reserve and surrounding receptors.

	Specific glint and glare assessment has been undertaken at the request of a property located north of Pitkin Swamp Creek. These studies indicate no likely glare impacts. Despite this, the proponent continues to liaise with the landholder to identify mutually acceptable outcomes in regard to visual impacts.
Viability of screening vegetation (water supply, species selection, etc)	The proponent commits to partnering with local nurseries and Landcare groups to find the best species for vegetation screening that will support local wildlife and ensure the success of the plantings. Specifications and performance criteria for this screening will be developed as part of the CEMP and its ongoing maintenance guided through commitments in the Operational Environmental Management Plan (OEMP). Both documents are subject to Agency review and approval prior to commencement of the project and provide a safeguard to ensure that effective visual buffers are a key component of the proposed development. It is acknowledged that current climatic conditions can present challenges in tree establishment. However, the site for the proposed vegetative screens is well suited to this undertaking, being mid-slope, well drained and sunny locations. Furthermore, both CEMP and OEMP will include performance indicators to assess the ongoing success of the plantings throughout the life of the facility. The proponent also agrees not to utilise groundwater sources within the development site to establish the proposed vegetation screening.
Loss of agricultural land and impacts to future development	The use of approximately 30 ha for a solar farm and associated infrastructure does not compromise or diminish the availability of land for primary production in the area and wider region. Nor does it compromise the capacity for neighbours to continue existing or proposed primary production land uses. Land adjacent to the site is not likely to be subject to re-zoning or intensification during the life of the solar farm and therefore the facility is not likely to impede future development. Furthermore, the proponent would consider periodic grazing by sheep, subject to suitability and in accordance with insurance requirements, within the development site. Thus, supporting ongoing agricultural activities within the Site.
Construction Noise	Elevated noise levels during the construction phase are to be monitored and controlled via the implementation of the CEMP (referred to above). The benefit of a CEMP is that environmental procedures and controls are documented throughout the construction phase and monitored for the benefit of Council and nearby receptors, including impacts from construction noise during development. Nominated hours of operation in accordance with the Australian Standards have been nominated in the SEE, however, where possible other mitigation measures are nominated to lessen the impact from construction noise outside these hours and engage with nearby receptors

	that may be impacted during the construction phase (approximately 7 months).
Indirect Impacts (personal liability insurance)	The site design allows for generous setbacks and cleared sections (including internal roads) around the solar farm panels and associated infrastructure to reduce the risk of threat from bushfire. In the case of a fire emergency resulting in damage of solar PV panels or associated infrastructure the site would subject to an emergency management plan under NSW Work Health Safety standards and appropriate insurances in place to protect against loss. Based on this, there would likely be no impact to surrounding landholder's insurance premiums for personal liability insurance as a result of the solar farm being developed at the site.
Property Values	Under the provisions of the *Environmental Planning & Assessment Act* impacts from the proposed development on adjoining land values is not a matter for consideration in the assessment of the proposal. Despite this, in the longer term it is considered there would be negligible impact to surrounding landholder's ability to continue agricultural practices. This is reiterated by one objector in the submissions received by Council. Potential impacts to visual amenity are recognised as subjective, and hence, potential impacts on property desirability and value are difficult to predict. Nonetheless, likely impacts associated with the proposal have been minimised and will lessen through time as vegetation screening and other mitigation strategies develop and community perceptions evolve.
Weather & climate	Whilst solar PV panels are designed to capture the energy of sunlight and transform it into electricity, they do not utilise heat as part of the electricity generation process. PV arrays generally possess a low thermal mass. Studies have shown that large-scale solar farm installations (>100 MW) may exhibit a temporary diurnal increase of between 1 - 5°C immediately above the PV array. (Baron-Gafford *et al*., 2016; Fthenakis & Yu, 2013). This Photo-Voltaic Heat Island (PVHI) effect is climate dependent, being more pronounced in arid regions compared to the temperate conditions associated with the current development, and is further reduced by the level of groundcover vegetation directly underneath the solar panels. PVHI is not expected to have any impact of nearby landholdings as potential heat increases seen in these systems do not persist beyond 30 m from panel arrays and are not maintained in the material overnight.
Site Suitability	The development site was specifically selected based on inherent suitability of the current proposal in comparison to other options including other sites in closer proximity to the Tenterfield local substation. Additional development of solar farms in the vicinity of the proposal is considered unlikely as the power generated will be consumed within the local network and not conveyed within transmission lines. Furthermore, the proposed

	Tenterfield Solar Farm, when connected at the proposed voltage, would generate enough power to maximise the capacity of the local substation.
Community Consultation Process	The consultation process was initiated promptly following pre-development engagement with Tenterfield Shire Council in order to maximise opportunities for community involvement. As a consultation principle, the proponent endeavoured to maintain an honest relationship with all of its neighbours, addressing each of their concerns transparently and inclusively where applicable. From October 2018, the proponent had mailed most-impacted residents four newsletter updates, including invitations to directly address their questions over two open-house community information sessions held locally on 6/12/18 and 13/06/19. Both community open days recorded attendances of up to 20 local residents. The proponent also maintained active engagement with many residents over this period who continued to directly communicate over the phone, via email, through the Tenterfield Solar Farm website or in person meetings at their residence. Following a 7/11/18 meeting as requested by Bellevue Rd residents, the proponent incorporated local feedback by shifting solar modules easterly within the development footprint and away from Bellevue Rd. In addition, green zone buffers which were also discussed are incorporated into the development footprint as to further mitigate any remaining visual amenity. The proponent has also made great effort in consulting a resident approximately 850m north of the development footprint once identified as a most-impacted receiver by visual impact modelling. Having met with this landowner twice at their residence, the proponent commissioned a glint and glare assessment in addition to assembling photos for a visual montage at their request. Following ongoing discussions, a letter of commitment on terms as accepted by both parties (including allowance for individualised vegetative screening) was signed by the proponent with the intention to justly compensate the affected landowner given drought conditions. The broader community were informed of the solar farm project and its progress via the Tenterfield Solar Farm website as well as through articles published by the Tenterfield Star local news, to whom the proponent provided information. Moving forward, the proponent strives to be seen as a member of the local community and will ensure opportunities for open communication are available throughout the project lifetime.

References

- Barron-Gafford, G. A. *et al*. (2016). The Photovoltaic Heat Island Effect: Larger solar power plants increase local temperatures. *Sci. Rep*. **6**, 35070
- Fthenakis, V. & Yu, Y. (2013). Analysis of the potential for a heat island effect in large solar farms. 2013 IEEE 39th Photovoltaic Specialists Conference 3362–3366

Conclusion

The proponent is committed to ongoing and honest consultation with the Council and surrounding landholders throughout the assessment process. As mentioned previously the development has been designed and managed so there would be minimal adverse impacts to nearby receptors however should there be any ongoing issues associated with the development, a procedure will be established for receiving, investigating and reporting any complaints received.

Should you have any questions about any aspect of this advice or for further information regarding the development please do not hesitate to contact me on (02) 8311 1338.

Yours sincerely,

Benjamin Hannig
Managing Director

Natural Resources Access Regulator

General Terms of Approval

for proposed development requiring approval under s89, 90 or 91 of the Water Management Act 2000

Reference Number:	IDAS1116740
Issue date of GTA:	01 November 2019
Type of Approval:	Controlled Activity
Description:	Solar Far Electricity generating works comprising 25MW AC Solar Farm
Location of work/activity:	Old Racecourse Road TENTERFIELD
DA Number:	DA2019/059
LGA:	Tenterfield Shire Council
Water Sharing Plan Area:	Nsw Border Rivers Unregulated and Alluvial Water Sources

The GTA issued by NRAR do not constitute an approval under the *Water Management Act 2000*. The development consent holder must apply to NRAR for the relevant approval **after development consent** has been issued by Council **and before** the commencement of any work or activity.

Condition Number	Details
	Design of works and structures
GT0009-00010	Before commencing any proposed controlled activity on waterfront land, an application must be submitted to Natural Resources Access Regulator, and obtained, for a controlled activity approval under the Water Management Act 2000.
	Erosion and sediment controls
GT0006-00001	The following plan(s): - Erosion and Sediment Controls Plan must be: A. prepared in accordance with Managing Urban Stormwater: Soils and Construction, Volume 1 (Landcom, 2004), as amended or replaced from time to time, and B. submitted with an application for a controlled activity approval.
GT0014-00012	A. The consent holder must ensure that any proposed materials or cleared vegetation, which may: i. obstruct water flow, or ii. wash into the water body, or iii. cause damage to river banks, are not stored on waterfront land, unless in accordance with a plan held by Natural Resources Access Regulator as part of a controlled activity approval. B. When the carry out of the controlled activity has been completed, surplus materials must be removed from waterfront land.
GT0021-00001	The proposed erosion and sediment control works must be inspected and maintained throughout the carried out; construction or operation period of the controlled activity and must not be removed until the site is fully stabilised.
GT0021-00004	The proposed erosion and sediment control works must be inspected and maintained throughout the construction or operation period of the controlled activity and must not be removed until the site is fully stabilised.
GT0022-00001	During the time the proposed controlled activity is taking place or being constructed, restrictions must be imposed by DPI Water, such as: A. machinery must not enter the water course at anytime, B. there must be a minimum flow in the water course.
	Plans, standards and guidelines
GT0001-00001	A. The application for a controlled activity approval must include the document(s) listed in Schedule 1. B. The document(s) must be prepared by a suitably qualified person.

Natural Resources Access Regulator

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Rehabilitation and maintenance

GT0023-00001	Vegetation clearance associated with the proposed controlled activity must be limited to where the controlled activity is to be carried out, as shown on the approved plan(s).

Reporting requirements

GT0016-00003	The consent holder must inform Natural Resources Access Regulator in writing when any proposed controlled activity carried out under a controlled activity approval has been completed.

SCHEDULE 1

The plans and associated documentation listed in this schedule are referred to in general terms of approval (GTA) issued by NRAR for integrated development associated with DA2019/059 as provided by Council:

- SEE

5 June 2020

File No: NTH18/00146/05
Your Ref: DA2019.059

General Manager
Tenterfield Shire Council
PO Box 214
TENTERFIELD NSW 2372

Attention: Tamai Davidson

Dear Sir / Madam,

RE: Development Application 2019.059 – Tenterfield Solar Farm – Construction Traffic Management Plan. Lots 85, 87, 89 & 90 DP 751540 Old Racecourse Road Tenterfield.

I refer to your email of 13 May 2020 requesting comment from Transport for NSW (TfNSW) in relation to the abovementioned Construction Traffic Management Plan (CTMP).

Roles and Responsibilities

The key interests for TfNSW are the safety and efficiency of the transport network, the integrity of State infrastructure and the integration of land use and transport in accordance with *Future Transport Strategy 2056.*

The New England [HW9] and Bruxner Highways [HW16] are classified (State) roads (highways) under the *Roads Act 1993*. Bellevue Road and Old Racecourse Road are public (local) roads. Tenterfield Shire Council is the Roads Authority for all public roads (other than freeways or Crown roads) in the local government area pursuant to Section 7 of the Roads Act. TfNSW is the Roads Authority for freeways and can exercise Roads Authority functions for classified roads in accordance with the Roads Act. Any proposed road works on a classified (State) road require the consent of TfNSW and consent is provided under the terms of a Works Authorisation Deed (WAD).

Transport for NSW (TfNSW) Response

TfNSW has reviewed the additional information and provides the following comments to assist the Consent Authority in making a determination:

1. The applicant's submission proposes that the transport-related impacts of the proposed development can be managed under a Construction Traffic Management Plan (CTMP). The draft CTMP included in the applicant's submission identifies a limited range of measures to mitigate impacts on the safety and efficiency of the identified transport route during the construction phase of the development.

   TfNSW considers the draft CTMP does **not** sufficiently address the impacts on the safety and efficiency of the affected road network over the life of the development.

2. Details contained in the development application and supporting draft CTMP confirm that intersections and road formations along the identified transport route do not meet minimum contemporary design requirements for two-way traffic supporting heavy vehicle movements in accordance with the applicable guidelines, standards and supplements.

Transport for NSW
76 Victoria Street, Grafton, NSW 2460 | PO Box 576, Grafton NSW 2460
W transport.nsw.gov.au

The identified measures are note proposed to address operational traffic using the identified transport route over the life of the development and further consideration must be given to any upgrades required to manage the interaction of background and development traffic following the construction phase.

At a minimum, TfNSW recommends that road works are required at key intersections to meet the minimum Austroads turn treatments to mitigate impacts during the operational phase of the development and alleviate the need for ongoing traffic control measures. Furthermore Council should consider any improvements required to local road formations to support two-way traffic flows. The environmental impacts of any physical works on public roads are a matter for the Consent Authority's consideration and should be identified prior to a determination.

3. Articulated vehicles (19m semi-trailers) are proposed to service the development and the swept path analysis included in the draft CTMP demonstrates that the design vehicle will obstruct opposing traffic when travelling through the existing intersections of the New England Highway and Bruxner Highway, the Bruxner Highway and Bellevue Road, and Bellevue Road and Old Racecourse Road.

   The Draft CTMP proposes that Traffic Control Plans (TCPs) will be implemented to enable heavy vehicle movements through the New England Highway and Bruxner Highway intersection. TfNSW considers that this approach should also be adopted for heavy vehicle movement through the other affected intersections.

   TfNSW recommends that any final CTMP include a schedule of daily heavy vehicle movements through the affected intersection and details of the proposed TCP arrangements to be implemented at all times whilst heavy vehicles are travelling through the intersection.

   All TCPs are to be prepared and implemented by suitably qualified persons in accordance with the current Traffic Control at Worksites Manual. A Road Occupancy Licence (ROL) is to be obtained from TfNSW https://myrta.com/oplinc2 website prior to the implementation of any TCP on a classified (State) road.

4. Where a requirement for a CTMP is also included as a condition of development consent, then TfNSW recommends the final CTMP be further expanded to address construction, operational and decommission phases of the development. Any CTMP should be prepared in consultation with the relevant road authorities and approved by the Consent Authority prior to the commencement of construction-related traffic. Relevant consideration for any CTMP was outlined in our response to Council dated 10 July 2019.

5. The Bruxner Highway and Bellevue Road intersection and the Bellevue Road and Old Racecourse Road intersection are located in 100km/h speed environments. These are public road intersections and trips generated by the proposed development will interact with background traffic. Whilst temporary speed zone authorisations may be obtained for road works, it is generally not acceptable or feasible to rely on such measures over the life of the development, and a permanent speed zone change is not supported under the NSW Speed Zoning Guidelines.

   The proposed installation of T2-25 Truck signs on each approach to these intersections is a complimentary measure that should support suitable intersection treatments.

   TfNSW reiterate the recommendation that the Consent Authority obtain;

   - An assessment of the Austroads warrants under the Austroads Guide to Traffic Management Part 6 and Austroads Guide to Road Design Part 4A to demonstrate turn treatments to accommodate the combined background and development-related traffic flows. Note that BAR treatments may not be appropriate for cross-road junctions and higher order treatments are typically warranted to address opposing right-turn conflicts.

   - Strategic (2D) design drawings of each intersection demonstrating the existing intersection geometry and the extent of works required to achieve the minimum and/or warranted Austroads turn treatments. Such drawings are to identify the available sight distances on all approaches to each intersection and any deficiency for the posted speed environment. The plans may identify any proposed adjustments required to property boundaries, drainage, culverts and/or vegetation.

The requested drawings are required to inform the Consent Authority of the scope, estimated cost and constructability for any works required to be included as conditions of consent and will inform environmental approval for works within public road reserves.

TfNSW recommends that the Consent Authority clearly identify the required minimum intersection treatments prior to granting an approval to the development and include such requirements as a condition of consent. At a minimum, the Austroads Guidelines reflect that the Bellevue Road and Bruxner Highway intersection should provide a basic left-turn (BAL) treatment and opposing shortened channelised right-turn (CHR-S) treatments to manage the interaction of background traffic and development-related trips over the life of the proposed development.

6. Old Racecourse Road is noted as narrow, unsealed for most of its length and has no formed shoulders or delineation. Council should consider any improvements required to address the impacts of the development on local roads. The site access, internal manoeuvring, parking and servicing areas should be designed in accordance with the relevant parts of AS2890 and Council's specifications. The proposed access should be constructed to cater for the swept paths of relevant design vehicles in all weather conditions.
7. Limited detail has been provided of any consultation undertaken between the applicant and local bus service providers operating on the identified transport route. TfNSW recommends that details of any existing bus routes and facilities be included in any final CTMP and be informed by consultation with the relevant service providers.

Advice to the Consent Authority

Any future roadwork on the classified (State) road will need to be designed and constructed in accordance with the current Austroads Guidelines, Australian Standards and TfNSW Supplements.

The developer will be required to enter into a Works Authorisation Deed (WAD) with TfNSW for any roadwork deemed necessary on the classified (State) road. The developer will be responsible for all costs associated with the road works and administration for the WAD. It is recommended that developers familiarise themselves with the requirements of the WAD process. Further information can be accessed using the following link.

TfNSW highlights that in determining the application under the *Environmental Planning and 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. This includes any works which form part of the proposal and/or any works which are deemed necessary to include as requirements in the conditions of project approval.

Upon determination of the application it would be appreciated if Council could forward a copy of the approval for our records. If you have any further enquiries regarding the above comments please do not hesitate to contact the undersigned on (02) 6640 1362 or via email at: development.northern@rms.nsw.gov.au

Yours faithfully,

Matt Adams
Manager Land Use Assessment, Northern

3 September 2020

TfNSW Ref: NTH18/00146/07
Council Ref: DA2019.059

General Manager
Tenterfield Shire Council
PO Box 214
TENTERFIELD NSW 2372

Attention: Tamai Davidson

Dear Sir / Madam,

RE: DA2019.059 – Tenterfield Solar Farm – Further Response to Submissions
Lots 85, 87, 89 & 90 DP 751540 Old Racecourse Road Tenterfield

I refer to the applicant's submission of 10 August 2020 forwarded to Transport for NSW and Tenterfield Shire Council in relation to the abovementioned development application.

The key interests for TfNSW are the safety and efficiency of the transport network, the integrity of State infrastructure and the integration of land use and transport in accordance with *Future Transport Strategy 2056*.

TfNSW previous responses of 10 July 2019, 13 November 2019 and 5 June 2020 identified the role and responsibilities of TfNSW with respect to the subject development application. TfNSW provided clarification of our response of 5 June 2020 in an email to the applicant and the Consent Authority date 23 July 2020.

Transport for NSW Response

TfNSW understands that the Consent Authority requested that the applicant provide further information to address TfNSW response of 5 June 2020.

It is highlighted that TfNSW does not require a response from the applicant and comment is provided for the Consent Authority's consideration. It is emphasised that TfNSW does not specify requirements for the assessment or determine the adequacy of the assessment. TfNSW comment aims to highlight potential gaps in the assessment in accordance with adopted NSW policies and guidelines, and our recommendations are intended to assist the Consent Authority in addressing such gaps.

TfNSW has reviewed the letter and updated Traffic Management Plan (TMP) prepared by the applicant's consultant and dated 10 August 2020. Comments and recommendations are provided in **Attachment A.**

Whilst a number of the proposed physical mitigation measures are acknowledged as appropriate, they focus primarily on the temporary management of heavy vehicle movements during the peak construction phase only. Additionally, the adoption of behavioural measures, such as a Driver Code of Conduct, under a TMP is also supported, however TfNSW maintains the advice that the TMP needs to be further expanded to provide greater detail prior to construction commencing.

A number of impacts identified in the supporting technical assessments remain unresolved with the suggestion that mitigation is reliant on the intervention of relevant roads authorities prior to the introduction of development traffic. The assessment conclusions appear to have been based on a premise that the applicant will not provide upgrades at key intersections and consequently warranted treatments to address existing deficiencies have not been considered.

Whilst the supporting Traffic Impact Assessment, Road Safety Audit and Traffic Management have identified the construction and operational impacts of the proposed development, such impacts have not been clearly demonstrated within the context of existing road network. A key concern for TfNSW is the correct interpretation of minimum treatments for intersections within State roads. Apparent errors in the assessment raise doubts as to the reliability of the consultant's conclusions. Consequently, TfNSW considers the development application does not provide a robust, reliable and complete assessment.

Whilst TfNSW does not object to the development application and is supportive of the proposed Solar Farm, it is requested that the Consent Authority consider the recommendations in **Attachment A** and consider requiring a mix of temporary and permanent mitigation measures to enable the safe interaction of background and development traffic throughout each phase of the development. The recommendations are provided on the basis of adopted NSW policy and will improve safety for all road users. TfNSW can provide further feedback to the Consent Authority where required.

General Advice to the Consent Authority

TfNSW highlights that in determining the application under the *Environmental Planning and Assessment Act 1979*, it is the Consent Authority's responsibility to consider the environmental impacts of any roadworks which are ancillary to the development. This includes any works which form part of the proposal and/or any works which are deemed necessary to include as requirements in the conditions of project approval.

Any roadwork on classified (State) road/s is to be designed and constructed in accordance with the current Austroads Guidelines, Australian Standards and TfNSW Supplements.

The developer will be required to enter into a Works Authorisation Deed (WAD) with TfNSW for any roadwork deemed necessary by the Consent Authority on the classified (State) road. Any WAD shall be executed with TfNSW and the Consent Authority notified of the practical completion of works prior to the commencement of construction related traffic. The developer will be responsible for all costs associated with the roadwork and administration for the WAD. It is recommended the developer familiarise themselves with the requirements of the WAD process and further details can be obtained from the TfNSW website.

If you have any further enquiries regarding the above comments please do not hesitate to contact the undersigned on (02) 6640 1362 or via email at: development.northern@rms.nsw.gov.au

Yours faithfully,

Matt Adams
Manager Land Use Assessment Northern
Regional NSW and Outer Metropolitan
Transport for NSW

Enc. Attachment A – Comment on Traffic Management Plan

ATTACHMENT A – Comment on the Updated Traffic Management Plan

For context, this attachment must be read with TfNSW letter of 3 September 2020.

New England Highway and Bruxner Highway intersection

TfNSW considers that the proposed intersection is appropriately treated for light vehicle movements and supports the use of Traffic Control Plans as a temporary measure to accommodate all heavy vehicle movements during the construction phase. It is recommended that the same temporary management measures are adopted for any truck movements required during the operational and decommissioning phases. All temporary management measures are to be documented in an approved TMP.

Bruxner Highway and Bellevue Road intersection

TfNSW considers that the updated assessment (TMP) does not provide an accurate assessment of the Bruxner Highway and Bellevue Road intersection. Section 5.2 of the TMP suggest that the intersection provides the Austroads Basic left turn (BAL) and basic right-turn (BAR) treatment to mitigate the impacts of turning vehicles on the safety and efficiency of the Bruxner Highway. The assessment makes reference to a RPDM Supplement of relevance to the Queensland jurisdiction. The TMP is not informed by the requested strategic design drawings and the Austroads turn treatment warrants are not demonstrated for peak hourly traffic movements, inclusive of background and development traffic. Appendix B of the TMP includes a swept path analysis demonstrating the relevant design vehicle crossing the centreline of the side road when entering Bellevue Road.

TfNSW notes that the crossroad intersection is located in a rural, 100km/h speed environment and has a 65km/h advisory speed sign on the western approach informing drivers of a horizontal and vertical curve in the highway alignment at the intersection. The existing formation does not provide the required lane width and sealed shoulder for the BAL treatment (6m over a distance of 25m) and provides limited visibility of the treatment for drivers approaching the intersection. This means vehicles are unable to transition to the left prior to reaching the intersection, must slow in the travel lane before turning and if not aware of the intersection location may be travelling too quickly. These factors impact on through traffic movements and increase the likelihood of a rear-end crash. The BAL treatment must enable the relevant design vehicle (19m articulated vehicle) to turn left without crossing the centreline of the highway and the centreline of the side road, which minimises the potential for conflict between turning vehicles and the likelihood of a rear-end impact where a vehicle unable to enter the side road is exposed to through traffic.

The Austroads Guide to Traffic Management Part 6 identifies BAR treatments as suitable for basic T-intersections and that channelisation is appropriate at crossroad intersections. The CHR (or CHR-S) treatments can be applied to existing crossroads where there is a need to shelter turning vehicles on the major road and the risk associated with crossing traffic is considered to be low (e.g. no crashes recorded, very low approach speeds, negligible traffic crossing). Notwithstanding this, TfNSW considers the available pavement width does not meet the required geometry for a BAR treatment supporting the relevant design vehicle. Vehicles turning right from the highway into the side road must give way to left turning vehicles and through traffic. The proposed development will increase the demand for turning traffic over all phases of the proposed development and the minimum geometry identified in the guidelines should be provided to maintain the safety and efficiency of the highway.

The swept path analysis in Appendix B of the assessment demonstrates various design vehicles turning

between the Bruxner Highway and Bellevue Road. Whilst heavy vehicle movements generated by the development are proposed to be managed under temporary traffic control at all times, background traffic movements do include heavy vehicles and it is likely that development-related light vehicle trips will interact with heavy vehicles at this intersection, particularly given it is a rural locality and the intersection is a signposted route to the local saleyards. Typically, the basic turn treatments enable the relevant design vehicles to simultaneously perform opposing turns, which should be demonstrated in any swept path analysis.

Given the significant number of heavy vehicle movements proposed during the construction phase, consideration must be given to the likely impacts on road pavement and shoulders at the intersection, particularly where available geometry for relevant design vehicles is constrained.

TfNSW recommends the Consent Authority require an upgrade of the abovementioned intersection to improve safety for through and turning traffic over the operational life of the development. The upgrade should include formalisation of the BAL treatment to provide the required pavement for vehicles turning into Bellevue Road and opposing CHR-S treatments to separate through and turning traffic on the highway. The Consent Authority may wish to obtain strategic (2D) drawings based on survey to demonstrate that the intersection improvements can be achieved.

It is further recommended that any conditioned road works be completed prior to the commencement of on-site construction to assist in mitigating the impact of light vehicle movements generated during the construction phase, which will occur outside of TCP measures proposed for heavy vehicles.

Bellevue and Old Racecourse Roads

Tenterfield Shire Council, as Roads Authority for these roads should be satisfied that impacts on the safety and efficiency of these roads have been satisfactorily addressed.

Traffic Management Plan

TfNSW prior responses to the Consent Authority have outlined the relevant considerations for any conditioned TMP. TfNSW recommends a final TMP be further expanded to detail proposed procedures to be implemented during the construction, operational and decommission phases of the development. The TMP should be prepared in consultation with the relevant road authorities and approved by the Consent Authority prior to the commencement of each phase of the development.

TfNSW notes that Traffic Control Plans (TCPs) reflecting the final approved development will be prepared, certified and implemented by suitably qualified persons in accordance with the current Traffic Control at Worksites Manual. A Road Occupancy Licence is to be obtained from the relevant Roads Authority prior to the implementation of any TCP on a public road.

TfNSW supports the range of measures and initiatives proposed by the updated TMP and should the development be approved, TfNSW recommends that a final TMP be required as a condition of Consent and approved by the Consent Authority prior to the commencement of construction.

Consultation with Public Transport Providers

The updated assessment did not include details of any consultation undertaken with relevant bus service providers, particular for school bus service operating in the locality and along the identified transport route. The Consent Authority may wish to require evidence of consultation with relevant providers and that any issues identified during such consultation are suitably addressed prior to the commencement of construction-related traffic.