



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	<p>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.</p> <p>A Traffic Management Plan (TMP) would be prepared as a component of the Construction Environmental Management Plan (CEMP) and</p>

	<p>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.</p>
Risk of contamination by chemicals and heavy metals after closure of the facility	<p>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).</p> <p>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.</p>
Visual Amenity	<p>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.</p> <p>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.</p> <p>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.</p>
Glint & Glare	<p>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.</p> <p>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.</p>

	<p>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.</p>
<p>Viability of screening vegetation (water supply, species selection, etc)</p>	<p>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.</p> <p>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.</p> <p>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.</p>
<p>Loss of agricultural land and impacts to future development</p>	<p>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.</p> <p>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.</p>
<p>Construction Noise</p>	<p>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.</p> <p>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</p>

		that may be impacted during the construction phase (approximately 7 months).
Indirect (personal insurance)	Impacts liability	<p>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.</p> <p>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.</p>
Property Values		<p>Under the provisions of the <i>Environmental Planning & Assessment Act</i> impacts from the proposed development on adjoining land values is not a matter for consideration in the assessment of the proposal.</p> <p>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.</p> <p>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.</p>
Weather & climate		<p>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 <i>et al.</i>, 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.</p>
Site Suitability		<p>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</p>

	Tenterfield Solar Farm, when connected at the proposed voltage, would generate enough power to maximise the capacity of the local substation.
Community Consultation Process	<p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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.</p>

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