



Stringybark Solar Farm

Traffic and Transport Assessment

Response to Submissions: Appendix D

Prepared for
Stringybark Solar Farm Pty Ltd

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Report prepared by Constructive Solutions Pty Ltd

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Table 1 - Response to Submissions

| Issue (Sub issue) | Response |
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| Dust impact The issue of dust generation as a consequence of the Proposal has been raised in a number of submissions. | |
| | The management of dust generated by the Development will be the responsibility of the Proponent using either water or recycled water (at the cost of the Development). It is assumed that this will be a condition of consent with details to be included in the Traffic Management Plan (TMP). Provision of Code of Conduct for construction vehicles within the TMP could include a temporary reduced speed to mitigate the generation of dust. The introduction of a Code of Conduct for construction vehicles is common practice for numerous resource industry developments and would not be out of place for this type of Proposal. |
| Assessment of Gara Rd A number of submissions have raised concerns with regards to the methodology used to assess Gara road. These issues include: | |
| <ul style="list-style-type: none"> Critique of methodology used to generate current traffic data. | Average Annual Daily Traffic (AADT) values are typically unavailable on low volume unsealed roads like Gara Rd. As such Austroads guidelines have been used to assist in determining traffic volumes along Gara Road. This is standard practice for low volume roads. The results of this assessment establish that existing daily traffic volumes on Gara road are low (less than 50vpd) and this is consistent with conditions observed on several site visits. This assessment is also consistent with the Council's maintenance programme – Gara Road is a low priority maintenance road which requires only two maintenance grades per year. It is assumed that this regime would have been determined as part of Council's asset management plans with the number of maintenance grades driven by, although not limited to, daily traffic volumes and the type of traffic. It should be noted that even if the volumes were determined to be in the order of 200 to 300 vehicles per day for Gara Road, the analysis and outcomes of the traffic assessment would be the same as the current report. |
| <ul style="list-style-type: none"> The increase in traffic volumes as a consequence of the Proposal has been underestimated by the Proponent. | <p>Traffic analysis was undertaken as per Austroads requirements and is based on average daily traffic volumes generated by a Proposal, as opposed to the total traffic volume over a specified period. However, it is recognised that there may be days where there will be more traffic than other days depending in the nature of the work at the time. This is an industry standard assessment methodology.</p> <p>In addition, in relation to the calculation of traffic volumes some submissions have noted that the Traffic and Transport Assessment only considers inward movements. The report clearly states that it uses one way inward movements. The reason for this is that these numbers are used for the intersection analysis as required by Austroads.</p> <p>In conclusion, the traffic volume numbers generated for the traffic assessment are in line with Austroads requirements and are consistent with industry practice.</p> |
| Capacity of Gara Rd A number of submissions have raised concerns with regards to the capacity of Gara road to support additional traffic as a consequence of the Proposal. These issues include: | |
| <ul style="list-style-type: none"> Increased impact during construction due to the number of construction workers | Workers will predominately travel to Site daily in 3 mini buses during the construction phase. Allowance has also been made for an additional average of 8 Light Vehicles travelling to site with workers. The assessment concludes that this volume of Light Vehicles is low. The use of mini buses to transport workers is a common practice around the state for resource industry development and would greatly reduce construction related Light Vehicles accessing the Project site. |
| <ul style="list-style-type: none"> The road is already rough and dusty and has potholes in parts. This will be exacerbated by the Proposal, particularly during construction | The presence of corrugations, loose gravel, and pot holes on unsealed roads is not uncommon, however the degree and frequency can be very different for different roads. Based on the experience of the road engineers engaged to complete the road safety audit and traffic assessment, the condition of Gara Road during the inspections and subsequent visit was considered to be good. Based on this assessment it is considered that Gara Rd has the capacity to accommodate the additional traffic volumes associated with the Proposal however it is recognised that mitigation measures may be required during the construction phase (for example: dust suppression measures as required and an additional maintenance grade). |
| <ul style="list-style-type: none"> Current state of Gara Road should be taken into account | The current state of Gara Road has been considered as part of the Traffic and Transport Assessment. |
| <ul style="list-style-type: none"> Rural roads cannot handle the expected traffic | The Traffic and Transport Assessment demonstrates that the low levels of traffic that would be generated by the Proposal during construction and operation can be accommodated on Gara Road. |
| <ul style="list-style-type: none"> A number of submissions state that the Proposal will use Silverton Road for access | It is not proposed to use Silverton Road to access the Project Site. |
| <ul style="list-style-type: none"> Gara Road is a low priority maintenance Road, being graded twice a year, this is already too little as the road gets dangerous quickly. This will be exacerbated by project traffic. | There will be a dilapidation survey protocol and a repair survey protocol as part of the TNP. This would normally be part of any condition for approval. It is understood that the Proponent is responsible for the repair of any damage caused by construction traffic. |

| Issue (Sub issue) | Response |
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| <ul style="list-style-type: none"> Gara Road should not be further degraded at the expense of the project (for example corrugations) | <p>There will be a dilapidation survey protocol and a repair survey protocol as part of the TNP. This would typically be part of any condition for approval. It is understood that the Proponent is responsible for the repair of any damage caused by construction traffic.</p> |
| <ul style="list-style-type: none"> Distance from Waterfall Way to Project should be sealed | <p>The Traffic and Transport Assessment notes that as <i>'daily traffic volumes are low even beyond the 10 year horizon following commencement of the operations of the solar farm, it is therefore considered that the upgrading and sealing of Gara Road is not considered necessary as a result of the Project'</i>. Furthermore, in the context of a nine month construction period, traffic levels will soon return to near pre-development levels for the operational period.</p> |
| <ul style="list-style-type: none"> Contest that the quality of the road is 'good'. | <p>Based on the experience of the road engineers engaged to complete the road safety audit and traffic assessment, the condition of Gara Road during the inspections and subsequent visit was considered to be good.</p> |
| <ul style="list-style-type: none"> The approaches to Burying Ground Creek and the Burying Ground Creek Causeway itself, are inadequate to accommodate oversize & over-mass heavy vehicles in its designed present form. | <p>Oversize and over-mass vehicles are only associated with substation work. The substation is access via Waterfall Way and as such there will be no requirements for oversize and mass heavy vehicles on Gara Rd.</p> |
| <ul style="list-style-type: none"> The Applicant has not considered flooding of Burying Ground Creek Causeway | <p>Given the potential for Gara Road to flood, an additional condition of consent for the development may include restricting or limiting the use of heavy vehicles during the construction phase during and for a period following a flood event. A joint inspection may then be undertaken by the Proponent and Council prior to reopening the road to all project vehicles, including heavy vehicles.</p> |
| <p>Road Safety</p> <p>A number of respondents have raised issues relating to road safety as a result of the increase in traffic that would be generated by the Proposal.</p> | |
| <ul style="list-style-type: none"> Concern that increased traffic will impact road safety on a road that is already deficient – lose dirt, tight corners, narrow road, a number of causeways and a high number of residents. | <p>The Traffic and Transport Assessment concludes that Gara road is of a suitable quality to support the low level of construction traffic generated as a consequence of the development, however <i>'a number of deficiencies have been identified from the Traffic Safety Audit as detailed in Section 2.4 [of the Traffic and Transport Assessment]. Whilst these are existing deficiencies for all road users and their rectification is the responsibility of the Armidale Regional Council, an interim measure during the construction phase that could be adopted, particularly at locations where the road has a narrow formation, tight radius bend, and single lane causeway, is the provision of giveaway signage in one direction to ensure that HV passing manoeuvrers at these locations are mitigated'</i>. During the construction phase a Driver's Code of Conduct would be implemented which would outline the rules to be followed by constructions workers on the road network. The Code, which would form part of the TNP, would include the following protocols to:</p> <ul style="list-style-type: none"> ensure that driver behaviour is maintained to a safe level; ensure that drivers account for local conditions when driving on Gara Road (for instance a temporary reduced speed to mitigate the generation of dust as well as promoting improved road safety awareness); ensure that drivers respect the rights of others to use the road space, including pedestrian users; encourage driving in a considerate manner at all times; and control the timing of project related traffic movements. <p>A copy of the Code will be provided to drivers during their work place induction.</p> |
| <ul style="list-style-type: none"> Thinning of road surface creates a safety concern such as dangerous slick clay in wet weather, this will get worse with increased traffic volumes. | <p>There will be a dilapidation survey protocol and a repair survey protocol as part of the TNP. This would normally be part of any condition for approval. It is understood that the Proponent is responsible for the repair of any damage caused by construction traffic. Protocols listed in The Driver's Code of Conduct, as above, will further mitigate this issue.</p> |
| <ul style="list-style-type: none"> Impact on road safety due to increased volumes of heavy vehicles on Gara Rd | <p>Gara Road has been assessed as suitable to support the low level of construction traffic generated as a consequence of the development including 5 daily HVs movements, however <i>'a number of deficiencies have been identified from the Traffic Safety Audit as detailed in Section 2.4 [of the Traffic and Transport Assessment]. Whilst these are existing deficiencies for all road users and their rectification is the responsibility of the Armidale Regional Council, an interim measure during the construction phase that could be adopted, particularly at locations where the road has a narrow formation, tight radius bend, and single lane causeway, is the provision of giveaway signage in one direction to ensure that HV passing manoeuvrers at these locations are mitigated'</i>. During the construction phase a Driver's Code of Conduct would be implemented which would outline the rules to be followed by constructions workers on the road network. The Code, which would form part of the TNP, would include the following protocols to:</p> <ul style="list-style-type: none"> ensure that driver behaviour is maintained to a safe level; ensure that drivers account for local conditions when driving on Gara Road (for instance a temporary reduced speed to mitigate the generation of dust as well as promoting improved road safety awareness); ensure that drivers respect the rights of others to use the road space, including pedestrian users; encourage driving in a considerate manner at all times; and control the timing of project related traffic movements. <p>A copy of the Code will be provided to drivers during their work place induction.</p> |

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| <ul style="list-style-type: none"> The Applicant's methodology with respect to accident data for Gara Road | <p>No accident data was available for Gara Road from the usual sources (See Appendix A of the Road Safety Audit). It is acknowledged that there may have been accidents as indicated in a submission to this application, however the circumstances and cause of these accidents has not been officially investigated and may have resulted from a range of factors e.g. road user behaviour or vehicle condition, and may not necessarily be as a result of the condition of Gara Road. If a pattern of accidents is identified by road authorities, action can then be undertaken to rectify any deficiencies in the design of the road. To date there have been no identified reoccurring accident patterns that require Council to consider any road improvements.</p> |
| <ul style="list-style-type: none"> Regular use of Gara Road by pedestrians, joggers, cyclists, dog walkers, donkey walkers and horse riders. | <p>It is advised that a number of inspections were undertaken as part of the preparation of the road safety audit and the traffic impact assessment as requested by the Proponent to confirm outcomes or assumptions. This included inspections during the morning and afternoon peak periods. During the inspections there was no evidence of other road users as described in this submission.</p> <p>Notwithstanding this, it is acknowledged that there may be other users using the road formation as pedestrian facilities on rural unsealed roads are not typically provided by road authorities given the low volumes, as is the case on Gara Road. It is recognised however that the vast majority of drivers on unsealed roads drive to the conditions and extend a courtesy to other users by slowing down or moving across the pavement away from them. It is considered that this same courtesy would be provided by construction vehicles associated with the development and mandated in a construction vehicle Code of Conduct.</p> <p>The Code, which would form part of the TNP, would include the following protocols to:</p> <ul style="list-style-type: none"> ensure that driver behaviour is maintained to a safe level; ensure that drivers account for local conditions when driving on Gara Road (for instance a temporary reduced speed to mitigate the generation of dust as well as promoting improved road safety awareness); ensure that drivers respect the rights of others to use the road space, including pedestrian users; encourage driving in a considerate manner at all times; and control the timing of project related traffic movements. <p>A copy of the Code will be provided to drivers during their work place induction.</p> |
| <ul style="list-style-type: none"> The additional traffic at the intersection of Gara Rd and Waterfall Way will increase an already unsafe situation. | <p>There has been no accident history identified at the intersection of Gara Rd and Waterfall Way.</p> <p>Safe Intersection Sight Distance in both directions along Waterfall Way is within acceptable limits for a 100km/hr speed zone as per Austroads Guides.</p> <p>The Intersection is the responsibility of RMS. Therefore, any permanent upgrades to the intersection or provision of temporary measures during the construction phase (for example: temporary reduced speed zone along Waterfall Way in the vicinity of the intersection) will be determined by RMS and will be included as a condition of consent for the development.</p> |
| <ul style="list-style-type: none"> The use of signage and driver inductions will not change driver behaviours or replace the real need to replace the road to an appropriate standard. | <p>The use of signage and the introduction of a Code of Conduct for construction traffic is common practice for numerous resource industry developments, would not be out of place for this type of development, and is deemed to be effective mitigation for identified road safety issues.</p> |
| <ul style="list-style-type: none"> Insufficient safe site distance on Gara road for a proposed new entrance at the subject property | <p>Austroads Guide to Road Design Part 4A Table 3.6 lists the minimum gap sight distance for a 5 second gap at a 100km/hr speed zone at 139m, which is satisfied at the proposed location.</p> |
| <p>Noise</p> <p>Concern with unacceptable noise levels associated with the increase in traffic that would be generated by the Proposal has been raised.</p> | |
| | <p>Section 7.1 in the Acoustic Assessment supporting the Proposal states that it is not expected that there will be any adverse noise impacts as a result of construction related traffic.</p> |

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