

21 April 2016

SWT14/00073
SF2014/060432
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The Manager
Department of Planning & Environment
GPO Box 39
SYDNEY NSW 2001

Attention: Diana Charteris

SSD-6604 – PROPOSED SOLAR FARM - REVISED, LOTS 59 60 62 81 & 82 DP751728, HAMILTON ROAD & IRRIGATION WAY (MR80), YOOGALI.

I refer to your correspondence regarding the subject application which was referred to the Roads and Maritime Services for assessment and comment.

Roads and Maritime Services has reviewed the Environmental Impact Statement (EIS) dated March 2016 prepared by NGH Environmental for the Griffith Solar project. The submitted EIS assesses the impacts of the establishment of a photovoltaic (PV) commercial scale solar station with a proposed operating capacity of 53 MVA or 60 MW on the subject site. The site has frontage to Irrigation Way (MR80), which is a classified road, within a 100 km/h speed zone.

The submitted documentation indicates that the Solar Farm will comprise of a series of mounted photovoltaic modules (approximately 200,000 solar panels) erected in arrays. From the information provided it is understood that panel structures would be 1.5 to 2.3 metres high however the mounting system and panel orientation will depend on the panel technology adopted. Generally the panel orientation would predominantly be northerly however the documentation refers to the potential for the orientation of the panels in an easterly direction.

Due to the characteristics of the project the development should be considered as 2 distinct stages, the Construction phases (about 9 months) and Operational phase. This is considered appropriate as the significant proportion of traffic generation and the transportation of the large components will occur during the construction (and decommissioning) stage of the development. It is anticipated that the operational phase of the development will generate limited traffic.

Section 7.4 of the EIS considers the vehicle traffic generation for construction of the facility. The submitted reports defines the preferred haulage routes for the components to the site, however the source of other products, such as gravel is yet to be finalised. Whilst the transportation of the components may be addressed, it's the frequency and volumes of the other material and the smaller construction and worker vehicles that can represent issues for the road network. These issues need to be finalised to allow for the proper assessment of the impacts on the road network. Section 7.4.3 and 8.2 of the EIS outline safe guards and mitigation measures for traffic generation including works to the intersection of Irrigation Way with Hamilton Road and a Haulage Plan and Traffic Management Plan to be developed with input from the relevant roads authorities.

The submitted documentation indicates that the preferred access route to the development site for both construction and worker traffic is from the west along Irrigation Way and Hamilton Road. The proposal includes the construction of an Auxiliary Left Turn (AUL) treatment for the left movement from Irrigation Way to Hamilton Road to accommodate the traffic volumes and address the staking distance between the carriageway of Irrigation Way and the railway level crossing on Hamilton Road. Roads and Maritime Services would not object to this intersection treatment subject to its constructability and appropriate design to store the turning traffic outside the existing travel lanes of Irrigation Way. It appears that the existing carriageway of Irrigation Way is located close to the property boundary between the road reserve and the parallel railway corridor and to build an Auxiliary Left Turn (AUL) may encroach into this corridor. A detailed survey of the carriageway and the property boundaries would clarify this. The submitted reports also indicate that a dedicated left turn lane back onto Irrigation Way from Hamilton Road may also be required.

It is noted that a detailed haulage program for the movement of components to the site has not yet been developed however the documentation indicates the components would be delivered by road from Sydney or Adelaide. From Sydney, the route would likely include the Hume Highway and Burley Griffin Way. From Adelaide, the route would likely include the Mallee Highway, the Sturt Highway and Kidman Way.

The submitted documentation indicates that a draft Traffic Management Plan will be completed in liaison with road authorities to ensure traffic is appropriately managed. Given the intersection treatment proposed this plan is to include a requirement that all traffic to the development access the intersection of Hamilton road with Irrigation from the west along Irrigation Way. As the proposal relies on access via the classified and local road network the plan should be finalised in consultation with the relevant road authorities, in this case being both the Roads and Maritime Services and Council.

Roads and Maritime Services has adopted a procedure for the assessment of railway Level Crossings on public roads to address the requirements of the NSW Railway Safety Act 2008. As part of this development it is considered that a safety management plan should be developed for the railway crossing on Hamilton Road. These plans should set out the risks identified at the railway crossing, the measures taken to manage those risks and the responsibilities for the management of those risks. Given the proximity of the railway crossing to Irrigation Way and the generation of additional vehicular traffic across the railway as a result of the solar farm development it is considered appropriate that such a plan be developed as part of the proposed development prior to any works commencing onsite.

It is noted that the development proposes a number of mitigating measures to be undertaken to address any perceived impact on visual amenity. This includes the establishment of a landscape screen along Irrigation Way and the Yanco and Griffith freight/passenger rail line. This is proposed to minimise distraction of the motorist on Irrigation Way. The submitted report identifies that vegetation screening is to be established along Ross Road and Irrigation Way (in line with the RMS requirement) to maintain a 10 m buffer between roads and vegetation. Roads and Maritime would recommend a vegetated buffer at least 10 metres wide and planted with a variety of endemic species and growing to a mature height ranging up to at least 5 metres be established and maintained within the subject site.

A second application (SSD-7482) for a solar farm proposed to be located on land adjoining the site of the subject solar farm (SSD-6604). It is noted that the preferred access arrangements for the other solar farm is via the intersection of Ross Road with the Burley Griffin Way however Council has concerns regarding the impacts of the generated traffic on Ross Road. The cumulative traffic impact needs to be considered should both the Riverina and Griffith Solar farms be constructed simultaneously. However based on the information provided a number of unanswered variables exist, such as timing of construction, transportation routes, transportation of construction materials/pad formation materials, etc. that require clarification. It is considered appropriate that the assessment of both of these applications conditions the need for discussions with the relevant road

authorities (in the case Roads and Maritime Services and Council) and railway authority to formulate appropriate traffic management processes and road upgrades.

Roads and Maritime is mainly concerned with the provision of safe access between the subject site and the public road network and the impact of the development on the safety and efficiency of the road network. Roads and Maritime emphasises the need, particularly in the construction phase of this development, to minimise the impacts on the existing road network and maintain the safety, efficiency and standard of maintenance along the existing road network and to minimise the impact and distraction to the road user. As the subject site is to be accessed via the intersection of Hamilton Road with Irrigation Way which is located within a 100 km/h speed zone the following conditions are proposed for road safety reasons.

Roads and Maritime Services has assessed the Development Application based on the documentation provided and would raise no objection to the development proposal subject to the Consent Authority ensuring that the development is undertaken in accordance with the information submitted as amended by the inclusion of the following as conditions of consent (if approved):-

1. A Traffic Management Plan shall be prepared in consultation with the relevant road authorities (Council and Roads and Maritime Services) and rail authorities to outline measures to manage traffic related issues associated with the development, particularly during the construction or decommission process. The appointed transport contractor shall be involved in the preparation of this plan. The plan shall address all light and heavy traffic generation to the development site and detail the potential impacts associated with the development, the mitigation measures to be implemented, and the procedures to monitor and ensure compliance. This plan shall address, but not necessarily be limited to;
 - i) Require that all vehicular access to the site be via the approved access route.
 - ii) details of traffic routes to be used by heavy and light vehicles, and any associated impacts and any road-specific mitigation measures.
 - iii) Details of measures to minimise the potential for interaction of vehicular traffic with train schedule through the rail level crossing on Hamilton Road, eg timing of movement of vehicles outside of train schedules.
 - iv) Details of measures to be employed to ensure safety of road users and minimise potential conflict with project generated traffic,
 - v) Proposed hours for construction activities, as night time construction presents additional traffic related issues to be considered.
 - vi) The management and coordination of the movement of vehicles for construction and worker related access to the site and to limit disruption to other motorists, emergency vehicles, school bus timetables and school zone operating times,
 - vii) loads, weights and lengths of haulage and construction related vehicles and the number of movements of such vehicles,
 - viii) procedures for informing the public where any road access will be restricted as a result of the project,
 - ix) any proposed precautionary measures such as signage to warn road users such as motorists about the construction activities for the project,
 - x) a Driver Code of Conduct to address such items as; appropriate driver behaviour including adherence to all traffic regulations and speed limits, safe overtaking and maintaining appropriate distances between vehicles, etc and appropriate penalties for infringements of the Code,
 - xi) details of procedures for receiving and addressing complaints from the community concerning traffic issues associated with truck movements to and from the mine,
2. A Safety Management Plan is to be prepared for the railway level crossing on Hamilton Road prior to the commencement of works on the development site and the preparation of the Traffic Management Plan. The plan shall be consistent with the requirements of the NSW Railway Safety Act, 2008. As a minimum this plan shall set out the risks identified at the railway crossing, the measures taken to manage those risks and the responsibilities for the management of those risks.

3. The Proponent must engage an appropriately qualified person to prepare a Road Dilapidation Report for all road routes to be used during the construction (and decommissioning) activities, in consultation with the relevant road authority (Roads and Maritime Services and Council). This report is to address all road related infrastructure. Reports must be prepared prior commencement of, and after completion of, construction (and decommissioning). Any damage resulting from the construction (or decommissioning) traffic, except that resulting from normal wear and tear, must be repaired at the Proponent's cost. The applicant is accountable for this process, rather than the proposed haulage contractor. Such work shall be undertaken at a time as agreed upon between the Proponent and relevant road authorities.
4. Prior to the commencement of construction on-site, the proponent must undertake all works to upgrade any road, its associated road reserve and any public infrastructure to a standard suitable for use by heavy vehicles to meet any reasonable requirements that may be specified by the relevant roads authority. The design and specifications, and construction, of these works must be completed and certified by an appropriately qualified person to be to a standard to accommodate the traffic generating requirements of the project. On Classified Roads the geometric road design and pavement design must be to the satisfaction of the Roads and Maritime Services.
5. As a minimum the intersection of Irrigation Way and Hamilton Road is to be constructed and the roadside maintained so as to provide the required Safe Intersection Sight Distance (SISD) in either direction in accordance with the Austroads Publications as amended by the supplements adopted by Roads and Maritime Services for the posted speed limit. Compliance with this requirement is to be certified by an appropriately qualified person prior to construction of the vehicular access.
6. As a minimum the intersection of Irrigation Way and Hamilton Road is to be constructed as a public road intersection with an Auxiliary Left Turn (AUL) intersection treatment in accordance with the Austroads Guide to Road Design as amended by the supplements adopted by Roads and Maritime Services for the prevailing speed zone on the Burley Griffin Way. The intersection is to be constructed with a minimum width to accommodate general access vehicles.
7. As a minimum Hamilton Road is to be constructed to provide for 2 way movement and be sealed to the railway level crossing from its intersection with Irrigation Way to the satisfaction of Council. The intersection of Irrigation Way and Hamilton Road shall be designed and constructed so that vehicles turning between Irrigation Way and Hamilton Road are not required to cross to the opposing travel lane in order to perform a turn manoeuvre. The intersection shall be line marked in accordance with Australian standards.
8. A management plan to provide measures to suppress dust generation from the development site and the transportation route shall be prepared and implemented to the satisfaction of Council and Roads and Maritime Services.
9. No external lighting of any infrastructure associated with the project is permitted at night that may cause distraction to road users other than low intensity security lighting.
10. Reflection of sunlight from the solar panels (glare) shall not cause a nuisance, disturbance or hazard to the travelling public. In the event of glare from the solar plant being evident from a public road, the proponent shall immediately implement glare mitigation measures such as construction of a barrier (e.g. fence) or other approved device to remove any nuisance, distraction and/or hazard caused as a result of glare from the solar panels.
11. A vegetated landscaped buffer, at least 10 metres wide and planted with a variety of endemic species and growing to a mature height ranging up to at least 5 metres in height shall be established within the development site along its boundary facing Irrigation Way prior to commencement of construction. The vegetated buffer shall be maintained for the lifetime of the development.

12. The intersection of Irrigation Way and Hamilton Road is to be designed and constructed so as not to interfere with the capacity of the current roadside drainage network and to prevent water from proceeding onto, or ponding within, the carriageway of Irrigation Way. If a culvert is to be installed and is to be located within the clear zone of the highway for the prevailing speed zone it is to be constructed with a traversable type headwall.
13. Any damage or disturbance to the road reserve of Irrigation Way is to be restored to match surrounding landform in accordance with Council requirements.
14. Irrigation Way is part of the State Road network. For works on the State Road network the developer is required to enter into a Works Authorisation Deed (WAD) with Roads and Maritime Services before finalising the design or undertaking any construction work within or connecting to the road reserve. The Works Authorisation Deed documentation is to be submitted for each specific change to the state road network for assessment and approval by Roads and Maritime Services prior to commencement of any works within the road reserve. The applicant is to contact the Land Use Manager for the South West Region on Ph. 02 69371611 for further detail.
15. Any works within the road reserve of the Burley Griffin Way requires approval under Section 138 of the Roads Act, 1993 from the road authority (Council) and concurrence from Roads and Maritime Services prior to commencement of any such works. The developer is responsible for all public utility adjustment/relocation works, necessitated by the development and as required by the various public utility authorities and/or their agents.
16. All works associated with the project shall be at no cost to the Roads and Maritime Services.

Under the provisions of the Environmental Planning & Assessment Act, the Consent Authority, is responsible to consider any likely impacts on the natural or built environment. Depending on the level of environmental assessment undertaken to date and nature of the works, it may be necessary for the developer to undertake further environmental assessment for any ancillary road works required as a condition on the development.

Any enquiries regarding this correspondence may be referred to the Manager, Land Use for Roads and Maritime Services (South West Region), Maurice Morgan, phone (02) 69371611.

Please forward a copy of the Notice of Determination for this Development Application to the Roads and Maritime Services at the same time as advising the applicant.

Yours faithfully



Per:
Mr Lindsay Tanner
Regional Manager
South West Region