

15 April 2020

Rob Beckett
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Dear Rob

Re: Wellington North Solar Farm SSD-8895 – Request for Information (RFI) 17-382

NGH have prepared responses to the RFI for Wellington North Solar Farm SSD-8895 on behalf of Wellington North Solar Farm Pty Ltd (“the proponent”), as discussed in consultation with AGL and DPIE. Points have been grouped together where the requests were of a similar theme. Each information request from DPIE is provided in **bold italicised** text, above the proponent’s response.

Traffic

Provide an assessment of construction traffic associated with the transmission line, including:

- ***traffic numbers associated with construction of the transmission line;***
- ***clarification of the proposed route for construction traffic associated with the transmission line easement; and***
- ***clarification regarding how construction traffic will access the transmission line easement.***

Table 3-31 in the Amendment Report references section 7.9 of the EIS and says:

“The proposed transmission line route would be accessed via Goolma Road and Twelve Mile Road.”

Clarification of the exact locations is provided in the Constraints map provided in Table 4 below and aligns with the points at which the transmission line route crosses Goolma Rd and Twelve Mile Rd.

The original calculation of construction vehicles in the Traffic assessment included vehicles for the original transmission line option (a total of 138 (two way) vehicle movements per day for heavy vehicles), refer to Figure 1 below.

Table 3-1 Peak daily trip generation (two-way)

Vehicle Type	Number of Trips (two-way)
Semi Trailers	82
Light Vehicles	34
Buses	20
Single-unit truck	2
Total	138

Figure 1 Peak daily trips (two way) for Wellington North Solar Plant (GHD, 2018)

The estimate of the heavy vehicle traffic for the construction of the transmission line is approximately 40 truck movements, over a period of approximately 10 weeks, to construct approximately 20 transmission poles along the route, plus associated light vehicle movements.

The information provided above about the construction of the transmission line confirms the RMS assessment of the Amendment Report (dated 4 October 2019) that stated:

From review of the Amendment Report, Roads and Maritime notes that:

- *It was noted that the construction of the transmission line would result in less traffic along Goolma Road and Twelve Mile Road than originally proposed*

Confirm the maximum daily traffic volumes of both light and heavy vehicles likely to be generated by the project during operation.

Operational traffic numbers were not specified in the Traffic Report (GHD 2018 – Appendix K of EIS). The Noise Assessment (Renzo Tonin & Associates, 2019 – Amendment Report) has considered up to 4 light vehicles (two-way movements) during operation. Heavy vehicle movements were noted to be infrequent and few for maintenance, water delivery, service vehicles (toilets) etc. Based on other solar farm proposed operation estimates (i.e. Maryvale Solar Farm) a maximum of 6 (two way movements) for heavy vehicles would be enough to manage heavy vehicles which during operations can be planned well in advance (excluding emergency maintenance).

Clarify whether the predicted traffic volumes during construction and operation include vehicles used for the proposed transportation of water.

Yes. The construction and operation vehicle numbers discussed above include the proposed transportation of water.

Provide a figure demonstrating the proposed transportation route, and identifying the zone of potential cumulative traffic impacts with Maryvale Solar Farm.

The proposed transportation (haulage) route is provided in Figure 2 below. The area of highest potential cumulative traffic impacts for heavy traffic has been identified as a short section of Cobbora Road (highlighted as the potential common haulage route on Figure 2 below) located between Maryvale Road and Campbells Lane. It is noted that only the transmission line heavy vehicles may have a potential common haulage route between Campbells Lane and Bella Vista Lane/Mitchell Highway. The cumulative impacts would also depend on construction timing for the proposed and all surrounding developments and direction of travel for heavy vehicles for the transmission line which may take an alternate route of Campbells Lane to Goolma Road therefore avoiding potential conflicts between Campbells Lane and Bella Vista Lane/Mitchell Highway.

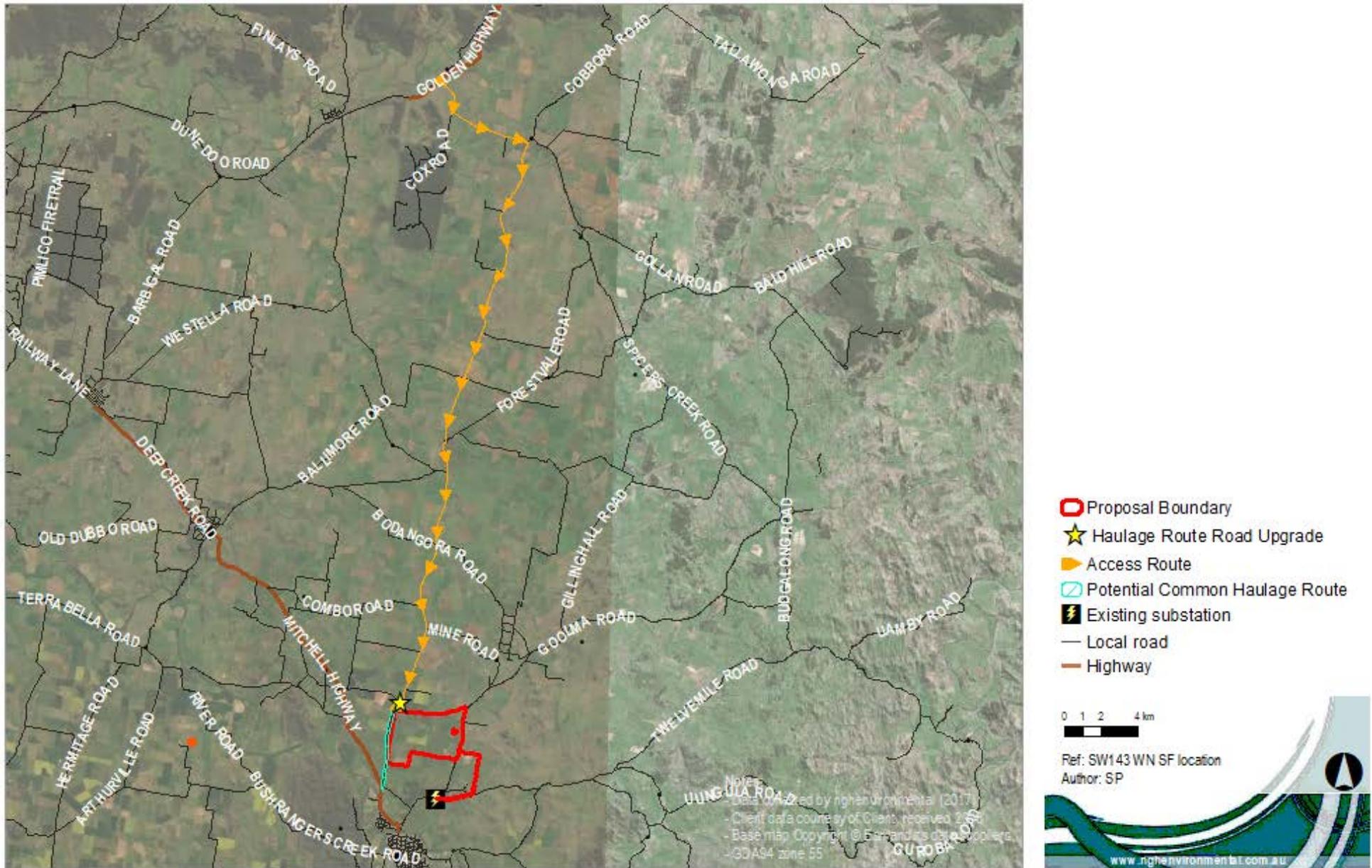


Figure 2 Haulage Route as described in the Traffic Assessment for Wellington North Solar Plant

Provide an assessment of the construction workforce accommodation, including consideration of cumulative accommodation requirements for surrounding developments.

Pitt and Sherry (2018) for the Maryvale Solar Farm EIS undertook an assessment of accommodation availability in Wellington and Dubbo, which indicated there is likely to be sufficient accommodation to house workers during the construction period, even if multiple solar farm projects are constructed in the region concurrently.

A basic review of accommodation websites was undertaken to confirm the data used in the Maryvale Solar Farm EIS, including DestinationNSW (NSW Govt, 2020) and abs statistics were found from 2016 for the Dubbo LGA and lists 33 accommodation providers with 1007 rooms with an occupancy rate of 58.1% showing there is capacity in the area based on the 2016 data.

A review of current accommodation listed on visitnsw.com (www.visitnsw.com, accessed April 2020) for the Dubbo area listed significantly more accommodation than identified in the 2016 data. It listed 73 separate accommodation providers, 10 of which are caravan parks, 2 of these are located in Wellington and the remainder in surrounding areas including the city of Dubbo. The 73 providers do not include additional accommodation providers that are likely to be listed on accommodation websites such as Stayz or Airbnb.

The proponent as stated in previous responses will meet the conditions of TfNSW and Council about provision of an accommodation plan. This would be prepared in the form of:

- An Accommodation and Employment Strategy (A&ES) prior to the commencement of construction. It would include, but not be limited to:
 - Identification of a strategy to facilitate accommodation of the workforce associated with the concurrent construction of other State Significant developments and during peak tourism times.
 - Development of a program to monitor and review the effectiveness of the strategy over the construction period.
 - Identification of a strategy to prioritise employment of local workers.

Water

Confirm that any additional water can be sourced from an appropriated authorised and reliable supply. If town water is relied upon as a water source, confirmation from Council is required that sufficient water can be supplied given current drought conditions.

TBA, waiting on a response from Dubbo Regional Council.

Assess the project's potential impact on groundwater and groundwater dependent ecosystems, noting that up to 55 ML per annum is proposed to be accessed via on-site bores.

Refer to section 8 of the EIS, this section discusses the project's potential impact on groundwater and groundwater dependent ecosystems including the use of bore water for dust suppression during construction (55ML per annum). A minor error is noted in the EIS as it states that no water would be extracted (as this comment related to operation), however, the EIS then goes on to state what is actually proposed, that water would be drawn from the bore during construction only.

The EIS, paragraph 3 page 232 (NGH 2018 v2.2) is therefore corrected as follows:

- *Terrestrial GDEs are known to occur within the solar plant site, as detailed in Section 8.1.1. Impacts to GDE's within the solar plant site would not occur as a result of impacts to groundwater supplies, as groundwater supplies would not be affected. No groundwater is anticipated to be intercepted, and no groundwater would be extracted.* would be used minimally (as described in the potential impacts for water use). However, the GDE vegetation communities would be directly impacted through vegetation removal. Impacts associated with vegetation removal are considered in Section 7.1 of this EIS.

It is considered that no further changes are required and the potential impacts to WATER USE (groundwater and GDE's) are addressed in the EIS.

The Department's Water Division confirms that a 4th order stream dissects the site, as per the attached diagram. Confirm that the project will allow for appropriate setbacks from this watercourse in accordance with the Guidelines for Controlled Activities on Waterfront Land (NRAR, 2018).

There is a difference of professional opinion with respect to the stream order, between the Department's Water Division and the Hydrologist engaged to assess the project. Regardless of this difference of opinion of stream order, NGH believe the setbacks proposed are appropriate for the watercourse in accordance with the **Guidelines for Controlled Activities on Waterfront Land (NRAR, 2018)**. The 30m buffer was proposed based on expert assessment from the hydrologist and included a site specific assessment of hydrology of the site. If DPIE's assessment of the application deems the proposed setback inappropriate, then the proponent is willing to consider alternative solutions.

In relation to the proposed setback, as stated in the Submissions Report:

A hydrologist was engaged to prepare the Hydrological and Hydraulic Analysis Report as well as provide input into the proposal's impact on waterways and mitigation of impacts. Figure 10 of the Hydrological and Hydraulic Analysis Report and Figure 8-1 of the EIS (as seen below) show the classification of watercourses both across the site and from the contributing catchment based on the Strahler system in accordance with the Guidelines for Riparian Corridors on Waterfront Land (DPI Water, 2012). Our classification shows that the highest order stream present on the Proposal site is a 3rd order stream. The waterway cannot be a 4th order stream order as a 4th order classification can only occur upon the confluence of two 3rd order stream orders as per the Strahler system. The 30m buffer is appropriate to 3rd order streams as per the Guidelines for Controlled Activities on Waterfront Land (DPI Water, 2012).

NGH also note the Guidelines for Controlled Activities on Waterfront Land (NRAR, 2018) state:

- *Where applications are presented in accordance with the riparian corridor matrix (Table 2) and other Office of Water controlled activity guidelines, they will be assessed under a streamlined process. This may decrease the amount of time it takes the Office of Water to make a determination, saving applicants time and money.*
- *Applications that do not conform to the matrix and/or relevant Office of Water controlled activity guidelines will continue to be subject to merit assessment to ensure that the proposals meet the requirements of the WM Act. All applications will still need to demonstrate that minimal harm will occur to waterfront land before a controlled activity approval will be issued.*

The hydrologist's advice, ecologists assessment (BDAR) and EIS commitments (safeguards and mitigation measures, specifically those listed below) demonstrate that the project has appropriate setbacks for the subject watercourse, that minimal harm would occur to waterfront land and the project would comply with the objectives for riparian corridor management of the Guidelines and water management principles of the WM Act in relation to controlled activities. Therefore, it is considered that the project does not require a setback greater than the 30m proposed, the setbacks are appropriate for the stream and the assessment of the project's merits should be able to proceed.

The proposal is considered to improve the protection of the riparian corridor and associated habitat and includes the following commitments within the EIS to protect the riparian corridor:

- *Temporary fencing to protect significant environmental features such as riparian zones:*
 - *Prior to construction commencing, exclusion fencing and signage would be installed around habitat to be retained.*
- *Design waterway crossings and services crossing in accordance with the publications:*
 - *Why do fish need to cross the road? Fish Passage Requirements for Waterway Crossings (Fairfull & Witheridge, 2003).*
 - *Policy and Guidelines for Fish Friendly Waterway Crossings (NSW DPI, 2003).*
 - *Guidelines for Watercourse Crossings on Waterfront Land (NSW DPI, 2012).*
 - *Guidelines for Laying Pipes and Cable in Watercourses on Waterfront Land (NSW DPI, 2012).*
- *The design of buildings, equipment foundations and footings for electrical componentry and panel mounts would be designed to avoid the 1% AEP flood level to minimise impacts from potential flooding including:*
 - *The solar array mounting piers are designed to withstand the forces of floodwater (including any potential debris loading) up to the 1% AEP flood event, giving regard to the depth and velocity of floodwaters.*

- *The mounting height of the solar module frames would be designed such that the lower edge of the module is clear of the predicted 1% AEP flood level.*
- *All electrical infrastructure, including inverters, would be located above the 1% AEP flood level.*
- *Where electrical cabling is required to be constructed below the 1% AEP flood level it would be capable of continuous submergence in water.*
- *The proposed perimeter security fencing would be constructed in a manner which does not adversely affect the flow of floodwater and should be designed to withstand the forces of floodwater, or collapse in a controlled manner to prevent impediment to floodwater.*
- *All fuels, chemicals, and liquids would be stored at least 40m from any waterways or drainage lines, not on sloping land and would be stored in an impervious bunded area.*
- *The refuelling of plant and maintenance would be undertaken in impervious bunded areas on hardstand areas only.*
- *All potential pollutants stored on-site would be stored in accordance with HAZMAT requirements and bunded.*
- *Roads and other maintenance access tracks would incorporate appropriate water quality treatment measures such as vegetated swales to minimise the opportunity of dirty water leaving the site or entering the waterways.*
- *A WAL would be obtained, should onsite ground water sources be used.*

Heritage

Adequately address comments from DPC Heritage regarding the inadequacies associated with the Historic Archaeological Assessment.

NGH's heritage team has requested feedback directly from the relevant officer who provided the comments and no feedback has been forthcoming. DPIE has advised they would follow up on this for NGH. NGH's response to DPC Heritage can be provided to DPIE if required.

Bush fire

Confirm the area in hectares of bushfire-prone land within the eastern portion of the site?

~21 ha

Biodiversity

Provide a figure identifying the areas of proposed vegetation clearance.

It is understood that DPIE is satisfied that the mapping provided in BDAR v2.3 (NGH, 2019), specifically figure 3-2 and 3-3 showing the proposed areas of clearing, and that no additional maps are required.

Clarify the constraints that prevented surveys of those species assumed to be present on site.

Refer to Table 4-5 of the BDAR – Timing is the major constraint. Note that the timing of the transmission line survey was outside of the defined time for those species assumed to be present on site and prevented the surveys.

Advise if AGL may consider undertaking additional surveys for species assumed to be present on site, following the Department's decision on the project.

No additional surveys are proposed at this time.

Other

Provide landholder's consent from the relevant roads authority for the transmission line to traverse Twelve Mile Road.

Twelve mile road is a Council road. Landowner consent has been provided by Council, refer to the documentation attached.

Clarify whether TransGrid has confirmed that the network has enough capacity to accommodate the project.

Yes, TransGrid have confirmed this.

Receiver considerations

Confirm the height of the onsite O&M building(s)

The height of the O&M buildings was not stated in the EIS but would have a height between 4-5.5m in height depending on use (office compared to large rural style machinery/equipment storage). This height range is based on typical details for single storey site office buildings and rural sheds.

The assessment of operational cumulative noise predicts an exceedance of night-time the noise criterion of 35dB(A) at receiver R14. Confirm that sources of noise used in the assessment would be operational during night-time hours.

Section 5.6 of the Noise assessment (Renzo Tonin & Associates 2019) addresses operational noise sources and 5.6 provides further discussion about cumulative impacts and considers the noise levels of the solar farm to the south (Wellington Solar Farm). The noise assessment provides a worst case scenario where all of the equipment is operational all of the time. Using this method, the proponent has demonstrated that any noise exceedance is negligible (2dB(A) @ R14) in accordance with the NSW Noise Policy for Industry. A solar farm is not operational at night and noise from solar inverters is significantly reduced when not under load. Therefore, it is expected that there would be no noise exceedance at night at Receiver R14. Additional modelling from Renzo Tonin & Associates can be provided if required to confirm this outcome.

Confirm that the project complies with the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines for electric, magnetic and electromagnetic fields.

Although the line configuration has been amended from the original EIS, the project is compliant and the statements made in section 8.4 ELECTROMAGNETIC FIELDS of the EIS remain true and correct, specifically, the following statement is relevant for the new eastern transmission line '*The existing and proposed overhead powerlines are less than the recommended 5kV/m and 10kV/m limits*' (pg 245. NGH, 2018 v2.2).

Identify the visual impact rating at nearby sensitive receivers, both before and after proposed mitigation measures

See tables 1, 2 (assessing the solar plant site infrastructure) and 3 (assessing the transmission line) below:

Table 1 Visual impact assessment table from the VIA report prepared for the Wellington North Solar Plant and receiver list

Receiver	VIEWPOINT	VISUAL SENSITIVITY	VISUAL EFFECT	POTENTIAL VISUAL IMPACT	PHOTO MONTAGES
Road traffic	VP01	MODERATE	LOW	LOW	-
Road Traffic	VP02	MODERATE	LOW	LOW	-
Road Traffic	VP03	MODERATE	LOW	LOW	-
Receiver R8, R9	VP04	MODERATE	NIL	NIL	-
Receiver R8	VP05	MODERATE	MODERATE	MODERATE	PM01
Road Traffic	VP06	MODERATE	HIGH	HIGH	-
Receiver R6, R7	VP07	MODERATE	HIGH	HIGH	PM02
Road Traffic	VP08	MODERATE	MODERATE	MODERATE	-
Receiver R4	VP09	LOW	HIGH	MODERATE	
Road Traffic	VP10	LOW	HIGH	MODERATE	-
Road Traffic	VP11	MODERATE	MODERATE	MODERATE	
Receiver R3	VP12	MODERATE	MODERATE	MODERATE	PM03
Receiver R2	VP13	MODERATE	MODERATE	MODERATE	PM04
Receiver R1	VP14	MODERATE	LOW	LOW	-

Table 2 Residual impact of the Wellington North Solar Plant after proposed mitigation

Viewpoint	Mitigated residual impact
Road traffic (VP01)	No mitigation measures required. No change, remains Low.
Road traffic (VP02)	No mitigation measures required. No change, remains Low.
Road traffic (VP03)	No mitigation measures required. No change, remains Low.
Receiver R8, R9 (VP04)	No mitigation measures required. No change. Remains as negligible.
Receiver R8 (VP05)	No mitigation measures are required. The proponent, however, has committed to the planting of vegetation along the boundary to provide filtering of views. Visual effect, therefore, could be reduced to Low resulting in a Low residual impact.
Road traffic (VP06)	Due to the High potential visual impact the proponent committed to the planting of vegetation along the boundary to provide filtering of views. Visual effect, therefore, could be reduced to Moderate resulting in a Moderate residual impact.
Receiver R6, R7 (VP07)	Moderate residual impact, as per VP06.
Road traffic (VP08)	No mitigation measures are required. The proponent, however, has committed to the planting of vegetation along the boundary to provide filtering of views. Visual effect, therefore, could be reduced to Low resulting in a Low residual impact.
Receiver R4 (VP09)	No mitigation measures are required. The proponent, however, has committed to the planting of vegetation along the boundary to provide filtering of views. Visual effect, therefore, could be reduced to Moderate resulting in a Low residual impact.
Road traffic (VP10)	No mitigation measures are required. The proponent, however, has committed to the planting of vegetation along the boundary to provide filtering of views. Visual effect, therefore, could be reduced to Moderate resulting in a Low residual impact.
Road traffic (VP11)	No mitigation measures required. No change, remains Moderate.
Receiver R4 (VP12)	No mitigation measures are required. The proponent, however, has committed to the planting of vegetation along the boundary to provide filtering of views. Visual effect, therefore, could be reduced to Low resulting in a Low residual impact.

Viewpoint	Mitigated residual impact
Receiver R2 (VP13)	No mitigation measures are required. The proponent, however, has committed to the planting of vegetation along the boundary to provide filtering of views. Visual effect, therefore, could be reduced to Low resulting in a Low residual impact.
Receiver R1 (VP14)	No mitigation measures required. No change, remains Low.

Table 3 Residual impact after proposed mitigation – Transmission Line

Viewpoint	Visual Sensitivity	Visual Effect	Potential Visual impact	Mitigated residual impact
Receiver R22 and R21 VP south eastern corner of R5 zoned land	Moderate	Low	Moderate	View direction generally north and east. Distance to site between ~100m to 250m. Land use dwellings. Elevation of ~380-400m. No mitigation measures are required. The proponent, however has, during consultation with the landowners (of dwelling houses that back onto the land with the transmission line), agreed to the planting of vegetation to provide filtering of views (refer to commitments in the Amendment Report). Visual sensitivity, therefore, could be reduced to Moderate resulting in a Low residual impact.
Receiver R8 VP north east corner near correctional facilities	Low	Low	Low	View direction generally north and west. Distance to site ~200-250m. Land use Correctional facility. Elevation of ~380m. No mitigation measures required. No change, remains Low.
R14, 17, 18, 19, 20 VP Twelve Mile Road	Moderate	Low	Moderate	View direction generally north and south. Distance to site ~500m. Land use dwellings. Elevation of ~360m. No mitigation measures required. No change, remains Moderate.

As the representative viewpoint for R4, provide a photomontage of the visual impact of solar farm infrastructure from VP09:



Figure 3 Montage Location for VP09 (MIOR Landscape Architects, 2018) – VP09 is located in the inset on right – refer to N11

Figure 3 above has been provided to show the location of the montage for VP09. The montage from N11 is provided at Figure 4 below. Figure 5 shows the impact from the road is the greater impact.



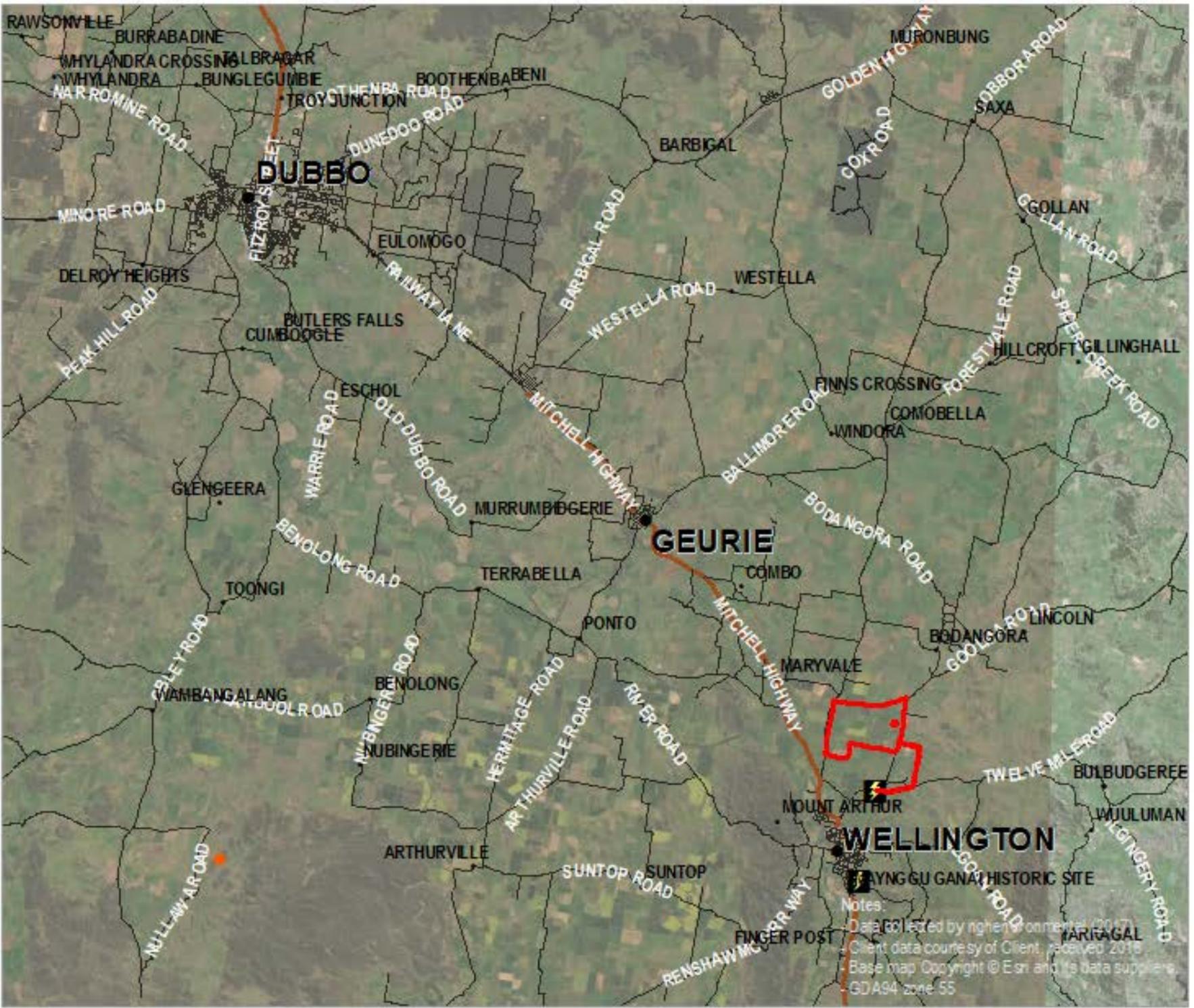
Figure 4 View from N11 representing VP09 (MIOR Landscape Architects, 2018)

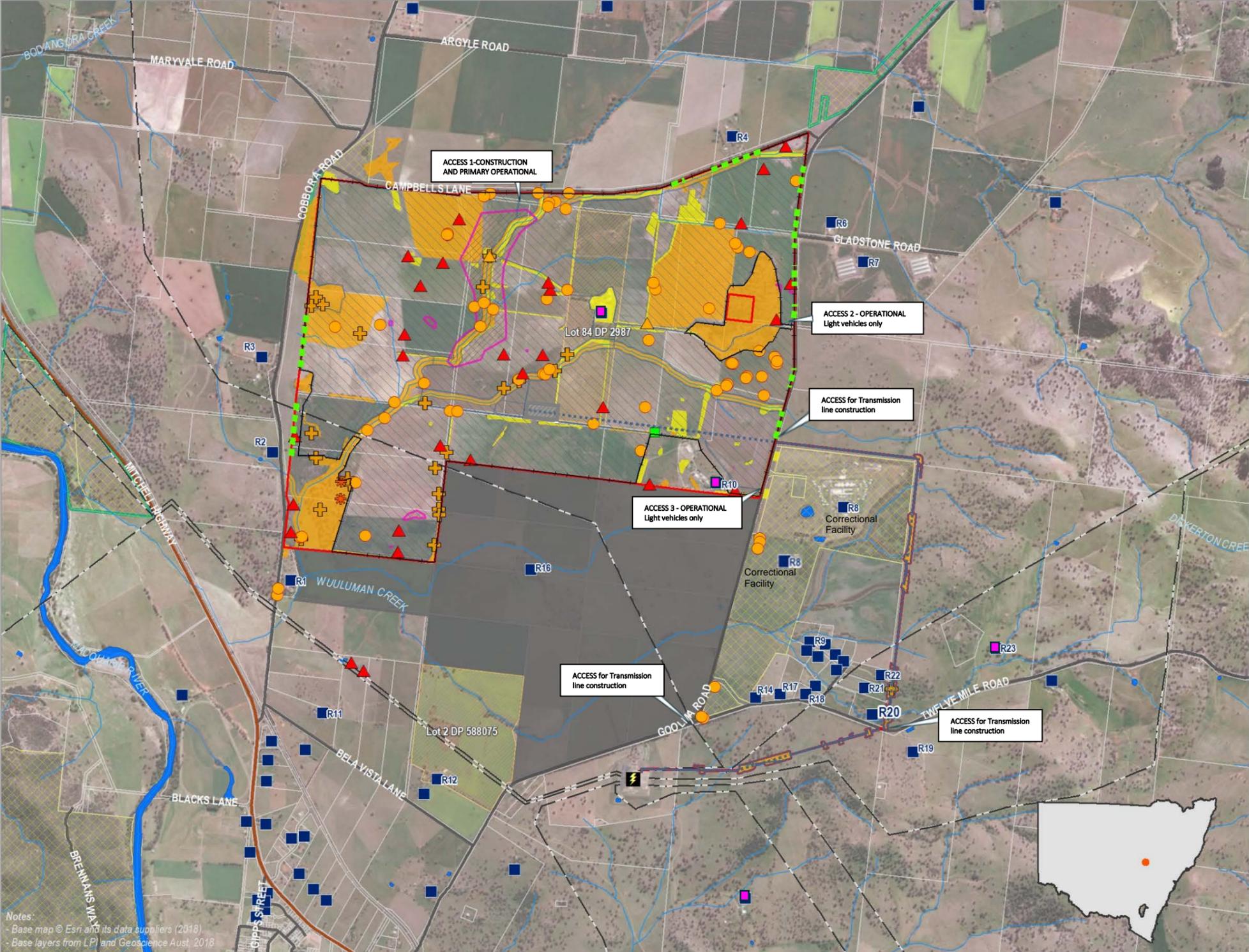


Figure 5 View from N03 representing VP09 - access to property (MIOR Landscape Architects, 2018)

Mapping/Diagrams – Amendments were requested to the following diagrams:

Table 4 Updated maps for the Wellington Solar Farm

Changes requested	Response
<ul style="list-style-type: none"> • Adjust scale to area shown in yellow • Include following features: <ul style="list-style-type: none"> ○ Road names ○ Transmission lines ○ LGA boundaries • Remove “constraints” text in top right of diagram. 	<p>Updated map below.</p>  <p>Legend:</p> <ul style="list-style-type: none"> □ Proposal Boundary ⚡ Existing substation — Local road — Highway <p>Scale: 0 1 2 4 km</p> <p>Ref: SW143 WN SF location Author: SP</p> <p>Notes: Data collected by client on 15/01/2017. Client data courtesy of Client, received 2016. Base map Copyright © Esri and its data suppliers. GDA94 zone 55</p> <p>www.environmental.com.au</p>

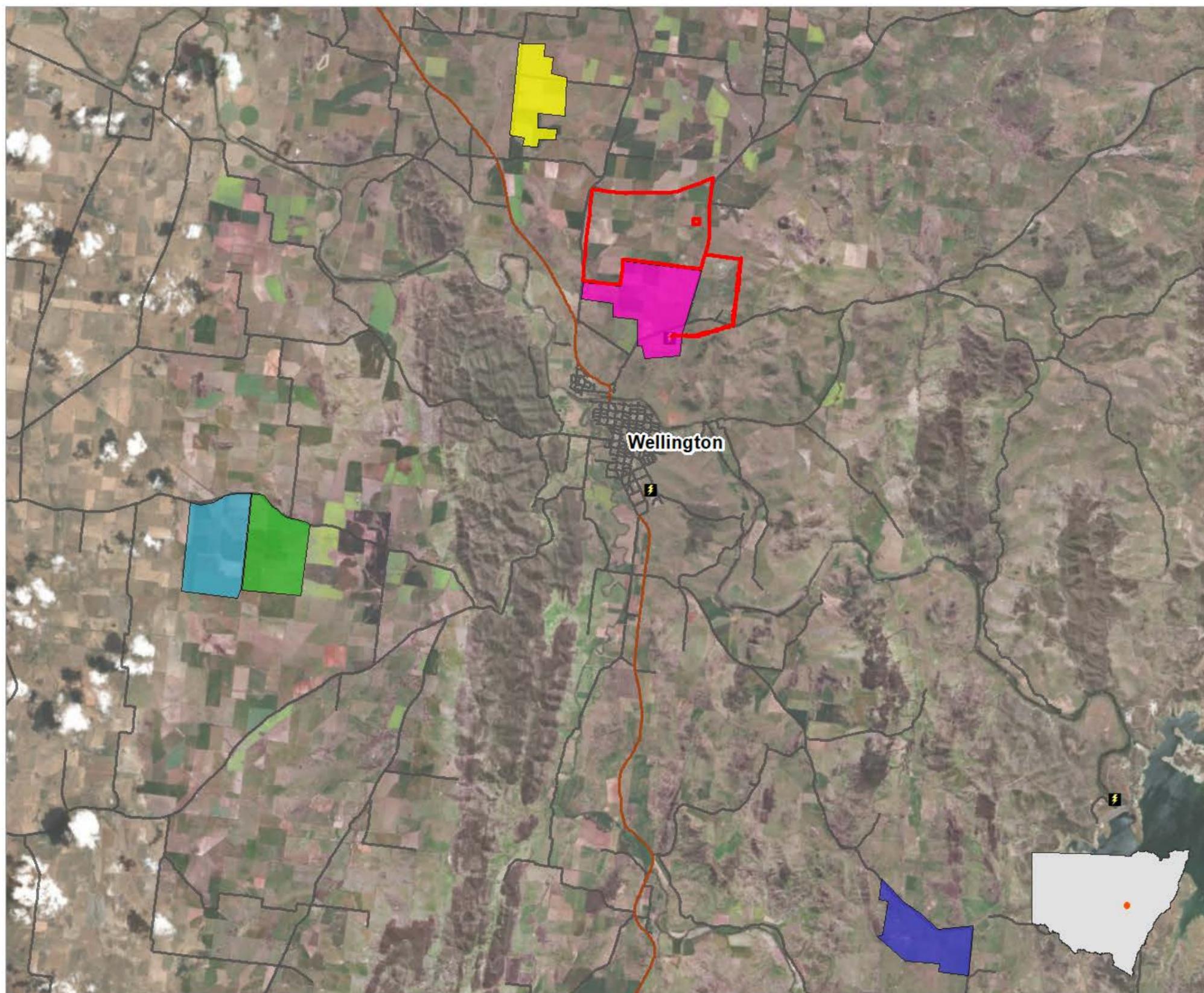
Changes requested	Response
<ul style="list-style-type: none"> Adjust scale to approximate area shown in yellow Include proposed infrastructure including the substation and O&M buildings. Show both correctional facilities on the map. Differentiate associated and non-associated receivers <p>Provide a map identifying receivers within 2 km of the project site.</p> <ul style="list-style-type: none"> Update all figures to clarify associated and non-associated receivers. Confirmation of the number of residences within 2 km of the site. 	<p>Updated map below. This map represents all receivers within 2km. O&M building location and annotation for correctional facilities added. Associated receivers have been differentiated from non-associated.</p>  <p>Legend:</p> <ul style="list-style-type: none"> O and M office and parking Development site Substation Local road Highway Existing transmission lines Drainage feature Farm dam / other water body Railway Travelling stock reserve Cadastre Wellington Solar Farm <p>Constraints:</p> <ul style="list-style-type: none"> Paddock tree: Class 2 or 3 (high) Receiver Non-Associated Historic heritage item (high) European survey marker tree Isolated find Possible scarred tree Artefact scatter Rocky outcrop (high) Drainage line buffer (high) Historic heritage item (high) Crown land (moderate) Vegetation constraints (high) Vegetation constraints (moderate) <p>Proposed infrastructure:</p> <ul style="list-style-type: none"> Fence Proposed landscaping Transmission line Development footprint Receiver Associated <p>Scale: 0 100 200 400 m A3 @ 1:31792 Ref: SW143 WNSF 20190722 Author: SP Date: 22/07/2019 www.nghenvironmental.com.au</p>
<ul style="list-style-type: none"> Update the viewshed mapping to show the amended transmission line easement 	<p>It was agreed with DPIE (during the discussion held on 06/03/2020) that the viewshed map does not need to be updated at this time due to it being intended to be a tool only for use to determine if NGH could undertake the VIA. From this map, NGH determined that a specialist was required, as such this map was not used for the preparation of the VIA. It is also noted, for general information, that viewsheds would not typically include the transmission line (as is the case with the referenced map) as it is designed to show the impact of the solar plant and determine the level of study required.</p>

Changes requested

Response

- Adjust scale to approximate area shown in yellow
- Label Wellington town centre on map
- Lighten the base layer of the map, to improve the visibility of the figure.

Updated map below.



Surrounding Solar Farms
Wellington North Solar Plant

- Development site
- Approximate solar farm locations
- Wellington South
- Maryvale
- Mum bil
- Suntop
- Suntop 2
- Substation
- Local road
- Highway



A3 @ 1:112801
Ref: SW143 Wellington North SF
Author: VK. Date: 13/03/2020



We trust the responses above, addresses all DPIE RFI requests and will allow completion of the assessment.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Johanna Duck', followed by a period.

Johanna Duck
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NGH