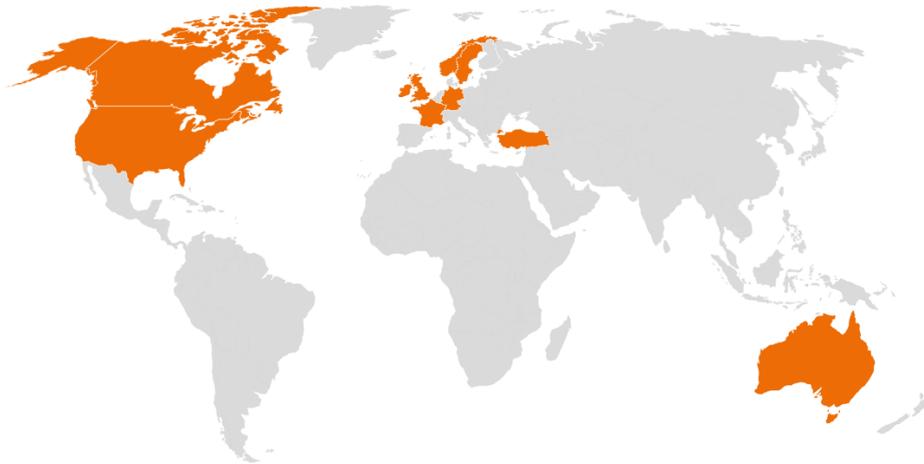


SPRINGDALE SOLAR FARM

Further Request for Information (RFI) Report



Author	Steven Reid
Date	1 st October 2020
Ref	04317-1602908

This document (the “Report”) has been prepared by RES Australia Pty Ltd (“RES”). RES shall not be deemed to make any representation regarding the accuracy, completeness, methodology, reliability or current status of any material contained in this Report, nor does RES assume any liability with respect to any matter or information referred to or contained in the Report, except to the extent specified in (and subject to the terms and conditions of) any contract to which RES is party that relates to the Report (a “Contract”). Any person relying on the Report (a “Recipient”) does so at their own risk, and neither the Recipient nor any person to whom the Recipient provides the Report or any matter or information derived from it shall have any right or claim against RES or any of its affiliated companies in respect thereof, but without prejudice to the terms of any Contract to which the Recipient is party. This Report is confidential and shall only be disclosed to duly authorised Recipients.

Revision History

Issue	Date	Name	Latest changes
01	01/10/2020	Steven Reid	First Created
02			

Contents

1	Introduction	4
1.1	Background	4
2	Project Further Information	5
2.1	RFI & proponent response	5
3	Annexures	i
3.1	Annexure A - Noise Addendum Report	i
3.2	Annexure B - Viewsheds.....	ii
3.3	Annexure c - Constraints & Layout Plan	iii
3.4	Annexure D - BDAR Addendum Report & BCD Letter.....	iv
3.5	Annexure E - Subdivision Plan.....	v

1 Introduction

1.1 Background

RES Australia Pty Ltd (the proponent) is proposing the construction, operation and decommissioning of the Springdale Solar Farm near Sutton, NSW (the Project). RES, the world's largest independent renewable energy company, announced its acquisition of the Springdale Solar Farm from Renew Estate (the former proponent) in April 2020.,

The project is classified as State Significant Development (SSD) under the State Environmental Planning Policy (State and Regional Development) 2011 and requires development consent under Part 4 of the Environmental Planning and Assessment Act 1979 (EP&A Act). An Environmental Impact Statement (EIS) was prepared by AECOM Australia Pty Ltd (AECOM) to support the development application and assessed the environmental and social issues associated with the Project. The EIS was submitted to the DPIE and placed on public exhibition from 18 July 2018 to 29 August 2018. During the exhibition period, the public and government agencies were invited to make submissions. Following the close of the exhibition period, the proponent was required to submit a report detailing responses to issues raised in the received submissions, as well as provide additional information to support their assessment of the Project.

A Response to Submissions (RtS) was submitted on 31 May 2020. The report sought to address the requirement that all submissions received are appropriately considered. This RFI report is a record of the further request for information made by the DPIE following the receipt of the RtS. The report sets out the further information requested by DPIE, with the proponent's response and amended project documents, where necessary.



2 Project Further Information

2.1 RFI & proponent response

DPIE RFI	Proponent Response
<p>Assessment of noise and visual impacts on the newly erected building/dwelling located to the north of the project, as well as evidence of consultation undertaken with the landowner;</p>	<p>The proponent has met with the current owner of the new property located near the project's northern boundary. We have assigned this receiver with the next 'R' number from the noise assessment; R35. The noise assessment carried out by AECOM, as part of the original EIS, did not include this noise receiver for the obvious reason, it did not exist. The land on which R35 is located has since been subdivided by the former landowner and sold to a new owner, during the period the Springdale Solar Farm has been live in the State Significant Development process. All relevant information on the project's layout and noise impacts have been available to the general public.</p> <p>The proponent has updated the noise assessment with an addendum report See Annexure A. A different inverter and revised inverter location was adopted to mitigate the potential noise impacts at R35. The noise threshold of 35bd(A) is no longer exceeded for operational noise.</p>

<p>Provide viewsheds from R1, R2, R5 and new dwelling, and confirmation that the Visual Envelope Map in the LVIA is modelled based on topography alone, and not taking intervening vegetation into consideration;</p>	<p>AECOM have confirmed that Figure 2 (Visual envelope map) within the Landscape and Visual Addendum is a zone of theoretical visibility (ZTV) of the project taken at 1.7 metre eye height, with a 2 km range from the perimeter of the solar farm applied. That is, areas that are not shaded on the map are either outside the 2 km buffer or have their view of the solar farm obstructed by the natural topography (from an eye height of 1.7 m). Screening by intervening vegetation was not considered when preparing this map.</p> <p>Viewsheds have been provided for all 4 requested receptors and are included at Annexure B</p>
<p>Updates to the Main Constraints map:</p>	
<p>Label residences as per Noise Impact Assessment numbering (eg Gillett is R1, Hassall is R2 etc);</p>	<p>Completed, see revised Constraints plan at Annexure C.</p>
<p>Add security fencing layer;</p>	<p>Completed, see revised Constraints plan at Annexure C.</p>
<p>Remove 1 in 100 year flood profile layer;</p>	<p>Completed, see revised Constraints plan at Annexure C.</p>
<p>Correct the stream orders and confirm adequate buffer distance on the map (can be done via a text box if easier than in the Legend): Back Creek is 4th order stream; and the unnamed creek is 3rd order stream;</p>	<p>Completed, see revised Constraints plan at Annexure C. The amended stream orders is consistent with Water Management (General) Regulation 2018 Hydro Line spatial data, which is used to determine the Strahler stream order.</p> <p>The Project has been developed with a view to maintaining appropriate buffers to all relevant environmental constraints, including waterways. It is noted that, as the Project is SSD, the requirement for an activity approval under section 91 of the Water Management Act 2000 does not apply. This is by virtue of section 4.41 of the Environmental Planning and Assessment Act 1979, which specifies certain authorisations which do not apply to SSD. Following this the Natural Resources Access Regulator's Guidelines for controlled activities on waterfront land also does not apply. Despite this, the proponent has worked to avoid sensitive riparian areas, particularly those associated with potential threatened species habitat, such as Striped Legless Lizard Habitat within the southern portion of the site.</p>

<p>Confirm how the SE array section would connect to the substation;</p>	<p>The SE array will utilise directional drilling or an OHL avoiding the SLL habitat. This has been updated on the final layout plan at Annexure C.</p>
<p>Confirm the size of the final development footprint;</p>	<p>Final development footprint, including Development Area, tracks, control room and substation is 185Ha.</p> <p>The current optimised layout is based upon 257,634 modules. This is an approximation and the final detailed design will confirm the number of panels to be used.</p>
<p>Clarify traffic movements of OMOD, heavy and light vehicles during construction, and heavy and light vehicles during operation. Noting that a traffic movement is considered entering and exiting; and</p>	<p>The EIS states the following:</p> <p>Construction: 75 daily heavy vehicle movements, 400 daily light vehicle movements and approximately 16 oversized vehicles. It also notes these numbers are based on a single vehicle movement either entering or exiting the site. Considering this, we continue to support the proposed heavy vehicle and light vehicle numbers for the construction period. Converted to the anticipated definition of 1 vehicle movement equating to the vehicle entering and existing site. The numbers would be defined as; 38 daily heavy vehicles movements and 200 daily light vehicle movements. We consider the oversized vehicle movements to be overstated and would propose a change to 3 oversized vehicle movements during construction.</p> <p>Operations: 10 daily light vehicles movements during the first 2 years. Water trucks will be required for panel cleaning when there is less rainfall. This could equate to between 2-3 water trucks per week over the course of a year.</p>
<p>Provide details on the proposed Community Enhancement Fund.</p>	<p>The proponent has followed up on the previous proponent's engagement with Yass Valley Council (YVC). A VPA was proposed by the former proponent. RES is also in favour of a VPA to direct how community funds can be utilised. However, the principle scope of that VPA remains not agreed with YVC. The proponent is keen to see a majority of any earmarked community funds directed to the community in the immediate vicinity of the project and not diluted over the wider community >20k radius.</p> <p>Th proponent has made two offers to YVC for a community benefit fund. The key information for each has been noted below. Please note neither has been accepted by YVC and the proponent will</p>

	<p>continue to discuss the community benefit fund with YVC to achieve the best outcome for the local community.</p> <p>Option 1: Three categories of payment to be managed within the VPA.</p> <ul style="list-style-type: none"> • Road upgrade funds - \$500k to be paid at construction commencement for road sealing on Tallagandra Lane. • Local Community fund - \$100k to be paid at construction commencement for community projects within 10km of the solar farm. • Ongoing Community fund - \$10k pa (indexed to cpi) for the 30 year life of the project, from construction commencement for community projects within 20km of the solar farm. <p>Or</p> <p>Option 2: One annual payment to be managed within the VPA.</p> <ul style="list-style-type: none"> • \$40k pa (indexed to cpi) for the life of the 30 year project, from construction commencement for community projects within 20km of the solar farm. (\$500k to be provisioned for road sealing on Tallagandra Lane)
<p>BCD's Comments on the BDAR submitted with the RTS (see BCD letter). If you could please ensure comments on the BDAR are also addressed in your response.</p>	<p>Further discussions between Niche/AECOM and BCD have taken place to clarify the requests made by BCD. The outcome of those discussions has resulted in a BDAR Addendum being provided to reflect the updates and clarifications BCD were seeking. Some of the changes required have been due to the passage of time since the original BDAR was drafted, with changes, during that time, to the definition of habitat as defined by the "Threatened Biodiversity Data Collection". A copy of the BDAR Addendum is attached at Annexure D. BCD's original letter has also been included at Annexure D.</p>
<p>Provide a figure showing the proposed subdivision to cater for the substation/switchyard on Lot 209 for inclusion in the development consent;</p>	<p>A revised figure has been drafted to reflect the change in the substation location. The updated subdivision plan now shows the subdivision area as the substation and Asset Protection Zone around the substation in the revised location. The revised plan is attached at Annexure E</p>

<p>Explanation as to why the Road Traffic Noise assessment does not include Sutton Road, Bywong Street, Victoria Street and East Tallagandra Lane; and</p>	<p>The noise assessment has been revised to include the construction traffic noise assessment for the entire proposed heavy vehicle construction route. This revised assessment has confirmed no exceedances of the noise thresholds. The addendum to the noise assessment has been attached at Annexure A.</p>
<p>Updated constraints/layout map. In the most recent drawing 04317-RES-SOL-DR-PT-002, the APA gas pipeline easement does not align with the gap between the proposed arrays;</p>	<p>Drawing 04317-RES-SOL-DR-PT-002 has been corrected to show the gas pipe within the gas pipeline easement. This drawing is attached at Annexure C.</p>
<p>Yass Valley Council advised that rather than grading Tallagandra Lane, gravel re-sheeting from the end of the seal to the access locations should occur. Please see if you can resolve this with Council in your discussions next week.</p>	<p>The proponent has agreed to the gravel re-sheeting of the section of Tallagandra Lane from the end of seal to the project access prior to commencement of the construction of the main solar farm.</p>



3 Annexures

3.1 Annexure A - Noise Addendum Report

24 August 2020

Steven Reid
RES-group
Level 6, 165 Walker Street
North Sydney NSW 2060

Dear Steven,

Springdale Solar Farm - Updated Noise Impact Assessment

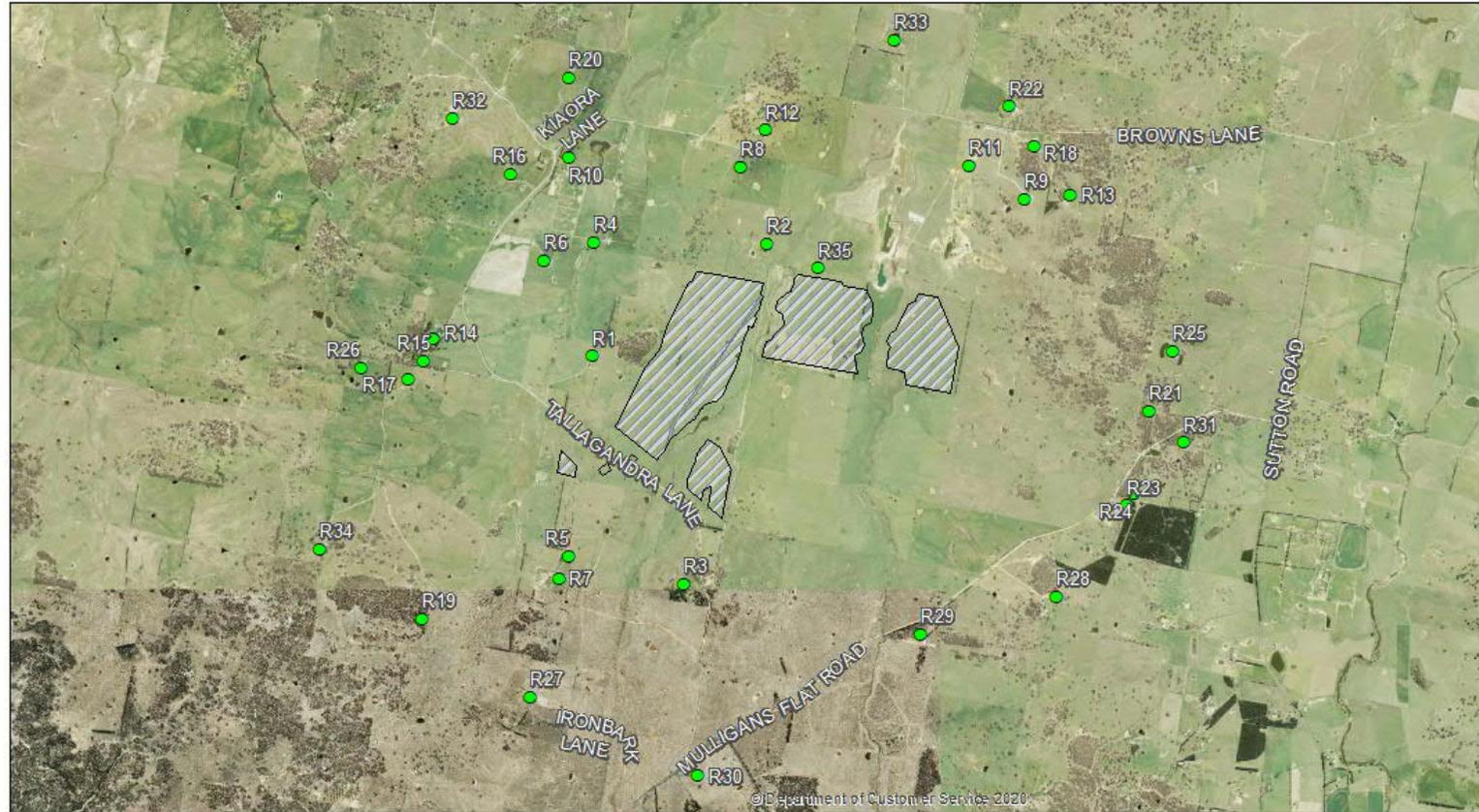
1.0 Introduction

AECOM Australia Pty Ltd (AECOM) has been commissioned by RES Australia Pty Ltd (RES) to undertake a noise impact assessment of the proposed Springdale Solar Farm (The Project), located in Sutton, NSW.

AECOM has previously undertaken a noise and vibration assessment of the Solar Farm which considered both operational and construction noise (February 2018). Since this assessment some changes have been proposed to the Project and an additional residential receiver has been constructed. This letter provides an update to the operational noise impact assessment and considers the following:

- New inverters and associated sound power level information
- Updated inverter locations
- Additional residential receiver located at 42 Tintinhull Road, Sutton (R35 in Figure 1 below).

Additional information is also provided for the construction road traffic noise assessment.



Springdale Solar Farm

- Receivers
- Solar field area



Copyright: Copyright information relating to the materials contained on this page is owned under a Creative Commons Attribution 3.0 Australia License & Department of Planning, Services & Infrastructure (DPSI). Digital Content Database and/or Digital Topographic Database.

The terms of Creative Commons Attribution 3.0 Australia License are available from: <http://creativecommons.org/licenses/by/3.0/au/faq/#cc-by>

Neither AECOM Australia Pty Ltd nor AECOM nor the Department of Planning, Services & Infrastructure make any representation or warranty of any kind about the accuracy, reliability, completeness, or suitability for any purpose of information contained in or accessible through any of the Copyright License. AECOM has prepared this document for the exclusive use of the Client based on the Client's description of its requirements (as set out in the scope of work and other documents set out in this report including page 3).
Source

Figure 1 Site Map and receivers

2.0 Operational noise

2.1 Operational noise trigger levels

The operational noise trigger levels were presented in the previous AECOM report of February 2018. A summary of the noise trigger levels for the Project is presented in Table 1. Given the nature of the operation of a solar farm, only the day and evening time noise criteria are applicable. Equipment would not be in use during the night-time period, therefore the evening period is considered to represent the worst case operational noise scenario.

Table 1 Project specific noise levels, dB(A)

Receiver area	Period ¹	RBL (L _{A90} , 15 min)	Intrusive criterion (L _{Aeq} , 15 min)	Amenity criterion (L _{Aeq} , Period)	Project noise trigger levels, (L _{Aeq}) ²
All nearby residential receivers	Day	35	40	50	40
	Evening	30	35	45	35
	Night	30	35	40	35

Notes:

- Day is defined as 7:00 am to 6:00 pm, Monday to Saturday and 8:00 am to 6:00 pm Sundays & Public Holidays. Evening is defined as 6:00 pm to 10:00 pm, Monday to Sunday & Public Holidays. Night is defined as 10:00 pm to 7:00 am, Monday to Saturday and 10:00 pm to 8:00 am Sundays & Public Holidays.
- Project specific noise levels determined as the lowest of the intrusive and amenity criteria.

2.2 Operational noise assessment

2.2.1 Noise sources

A list of operational noise sources is presented in Table 2 below. RES has advised that the Project would be operational during the daytime, every day of the year and is anticipated to be manned from 7am to 6pm on these days. Operational and maintenance activities may occasionally occur beyond daylight hours for minor corrective and preventative maintenance activities.

The assessed items of equipment are presumed to be steady noise sources, as such the L_{Aeq} and L_{A1} noise levels are assumed to be equivalent.

Table 2 Springdale Solar Farm operational noise sources

Equipment	SWL, dB(A)	Quantity	Description
Inverter/transformer	DC side - 88 ¹ AC side - 98 ¹	~20 x 2	<ul style="list-style-type: none"> • 2 inverters units per power station container. • The operating capacity of the inverter is likely to vary during the day with maximum capacity occurring during the day • Inverter noise is directional with the AC side being 10 dB louder than the DC side.¹
Trackers	78	~3,000	<ul style="list-style-type: none"> • Assumed to operate no more than 1 minute out of every 15 minutes
Internal light vehicle movements	90	~2 per day	<ul style="list-style-type: none"> • It is assumed the site would be checked daily by a two person crew.
Substation	75	1	-

Notes:

1. Sound power level as per sound pressure measurements of a HEMK inverter unit as detailed in the Technical Report – Sound Pressure Level in FREEMAQ PCSK/FREESUN HEMK Inverters, April 2020.

2.2.2 Noise modelling methodology

Noise levels due to the equipment shown in Table 2 have been predicted at nearby noise sensitive receivers using SoundPLAN 8.0 (industry standard) noise modelling software. The CONCAWE method was used for the operational noise modelling.

2.2.3 Operational modelling assumptions

The following assumptions have been made in modelling all operational noise scenarios:

- All equipment would be operating simultaneously
- Adverse weather conditions
- Equipment locations are as shown in the site layout plan in the Appendix
- 2 metre high “horse-shoe” shaped noise walls around specific inverter units as indicated in the layout plan.

2.2.4 Predicted operational noise levels

Predicted noise levels at nearby noise sensitive receivers are presented in Table 3. The predicted noise levels are assessed against the more stringent evening time trigger level. It is noted that although the sound power spectrum of the inverters is tonal, the predicted sound spectrum at the nearest receivers is not tonal; therefore no modifying factor has been applied.

Operational noise contours calculated at 1.5 m above ground are provided in the Appendix. These contours are indicative only and should not be referred to for noise levels at specific receiver locations. Operational noise levels and contours which are presented have been calculated under adverse weather conditions.

Any significant variations to the above modelling assumptions will require a reassessment.

Table 3 Predicted operational noise levels under adverse weather conditions (evening)

Receiver	Predicted L _{Aeq} noise levels, dB(A)	Operational noise trigger level, L _{Aeq} dB(A)	Exceedance, dB(A)
R1	31	35	-
R2	32	35	-
R3	28	35	-
R4	22	35	-
R5	26	35	-
R6	21	35	-
R7	18	35	-
R8	25	35	-
R9	24	35	-
R10	20	35	-
R11	24	35	-
R12	20	35	-
R13	22	35	-
R14	20	35	-
R15	20	35	-
R16	19	35	-
R17	20	35	-
R18	21	35	-
R19	17	35	-
R20	17	35	-
R21	27	35	-
R22	20	35	-
R23	27	35	-
R24	27	35	-
R25	13	35	-
R26	17	35	-
R27	18	35	-
R28	14	35	-
R29	28	35	-
R30	20	35	-
R31	21	35	-
R32	7	35	-
R33	19	35	-
R34	15	35	-
R35	35	35	-

Notes:

- Day is defined as 7:00 am to 6:00 pm, Monday to Saturday and 8:00 am to 6:00 pm Sundays & Public Holidays. Evening is defined as 6:00 pm to 10:00 pm, Monday to Sunday & Public Holidays. Night is defined as 10:00 pm to 7:00 am, Monday to Saturday and 10:00 pm to 8:00 am Sundays & Public Holidays.

2.2.5 Discussion of results

Results show predicted operational noise emissions from the Project comply with the most stringent (evening time) operational noise trigger levels at all locations. It is expected that the inverters (which

are the dominant noise sources), would operate at a reduced load in the evening compared to during the daytime and as such the noise emission levels would also be reduced further from the modelled results presented here.

It is recommended that the trackers are properly maintained by the solar farm operator to ensure that the noise emission of the trackers is not adversely affected by wear.

3.0 Construction road traffic noise

3.1 Road traffic noise criteria

Noise from construction traffic on public roads is not covered by the Interim Construction Noise Guideline (ICNG). However, the ICNG does refer to the Environmental Criteria for Road Traffic Noise (ECRTN), now superseded by the Road Noise Policy (RNP), for the assessment of noise arising from construction traffic on public roads.

In accordance with the RNP, to assess noise impacts from construction traffic, an initial screening test should be undertaken by evaluating whether existing road traffic noise levels will increase by more than 2 dB(A). Where the predicted noise increase is 2 dB(A) or less, then no further assessment is required. However, where the predicted noise level increase is greater than 2 dB(A), and the predicted road traffic noise level exceeds the road category specific criterion then noise mitigation should be considered for those receivers affected. The road category specific criteria are presented in Table 4 below. The RNP does not require assessment of noise impact to commercial or industrial receivers.

Table 4 Road traffic noise assessment criteria

Road category	Type of land use	Assessment criteria, dB(A)	
		Day (7 am – 10 pm)	Night (10 pm – 7 am)
Freeway/arterial/sub-arterial roads	Existing residences affected by additional traffic on existing freeways/arterial/sub-arterial roads generated by land use developments	L _{Aeq} (15 hour) 60 dB(A)	L _{Aeq} (9 hour) 55 dB(A)
Local roads	Existing residences affected by additional traffic on existing local roads generated by land use developments	L _{Aeq} (1 hour) 55 dB(A)	L _{Aeq} (1 hour) 50 dB(A)

3.2 Construction road traffic noise assessment

The construction traffic route is as follows after leaving the Federal Highway:

- Sutton Road (Arterial Road)
- Bywong Street (Arterial Road)
- Victoria Street (Arterial Road)
- Camp Street (Arterial Road)
- Leaving the Sutton township on Sutton Road (Arterial Road)
- East Tallagandra Lane (Sub-arterial Road)
- Mulligans Flat Road (Sub-arterial Road)
- Tallagandra Lane (Local Road).

As part of its Asset Management Program Yass Valley Council conducts traffic counts around the Yass Valley Local Government Area and these data have been used to provide an analysis of existing traffic volumes for roads proposed to be used by construction traffic.

Construction traffic is expected to comprise the following number and type of vehicle movements:

- Light vehicles: up to approximately 400 light vehicle movements per day during peak construction (~5 month period)
- Heavy vehicles: up to approximately 30 heavy vehicle movements per day during the peak delivery period (~2 month period).

The previous noise impact assessment assessed construction traffic noise on Mulligans Flat Road and Tallagandra Lane. Table 5 below presents details of the other roads forming the construction traffic routes. It is noted that these roads are all classified as arterial/sub-arterial and therefore a $L_{Aeq,15hr}$ criterion applies (Table 4).

Table 5 Construction traffic noise levels

Road	Speed limit, km/h	Existing daytime (15 hr) traffic flow ^{1, 2}		Relative noise increase, dB(A)	Distance to nearest residential receiver from road, m	Indicative traffic noise level at nearest receiver, dB(A)
		Light vehicles	Heavy vehicles			
Sutton Road	100	2,392	268	0.6	180	$L_{Aeq,15hr}$ 50
Bywong Street ³	50	2,204	166	0.7	20	$L_{Aeq,15hr}$ 58
East Tallagandra Lane	50 ⁴	326	57	2.5	45	$L_{Aeq,15hr}$ 49

Notes:

1. Based on traffic counts presented in the Traffic and Transport chapter of the Environmental Impact Statement dated 29 June 2018 completed by Yass Valley Council.
2. Assumes 88% of the daily 24 hour traffic volume occurs during the 15 hour day (7 am to 10 pm) and traffic is evenly spread throughout the day.
3. This assessment is considered to be representative of construction road traffic noise levels on Bywong Street, Victoria Street and Camp Street.
4. Nearest house on East Tallagandra Lane is in an area where the speed limit is 50 km/h close to Camp Street.

It can be seen that the likely noise increase on Sutton Road and Bywong Street is less than 2 dB(A). The noise increase on East Tallagandra Lane is likely to be more than 2 dB(A) during the peak construction periods. However L_{Aeq} road traffic noise level is less than the RNP daytime criterion of 60 dB(A) presented in Table 4. Therefore, no further consideration of construction road traffic noise is required, in accordance with the RNP.

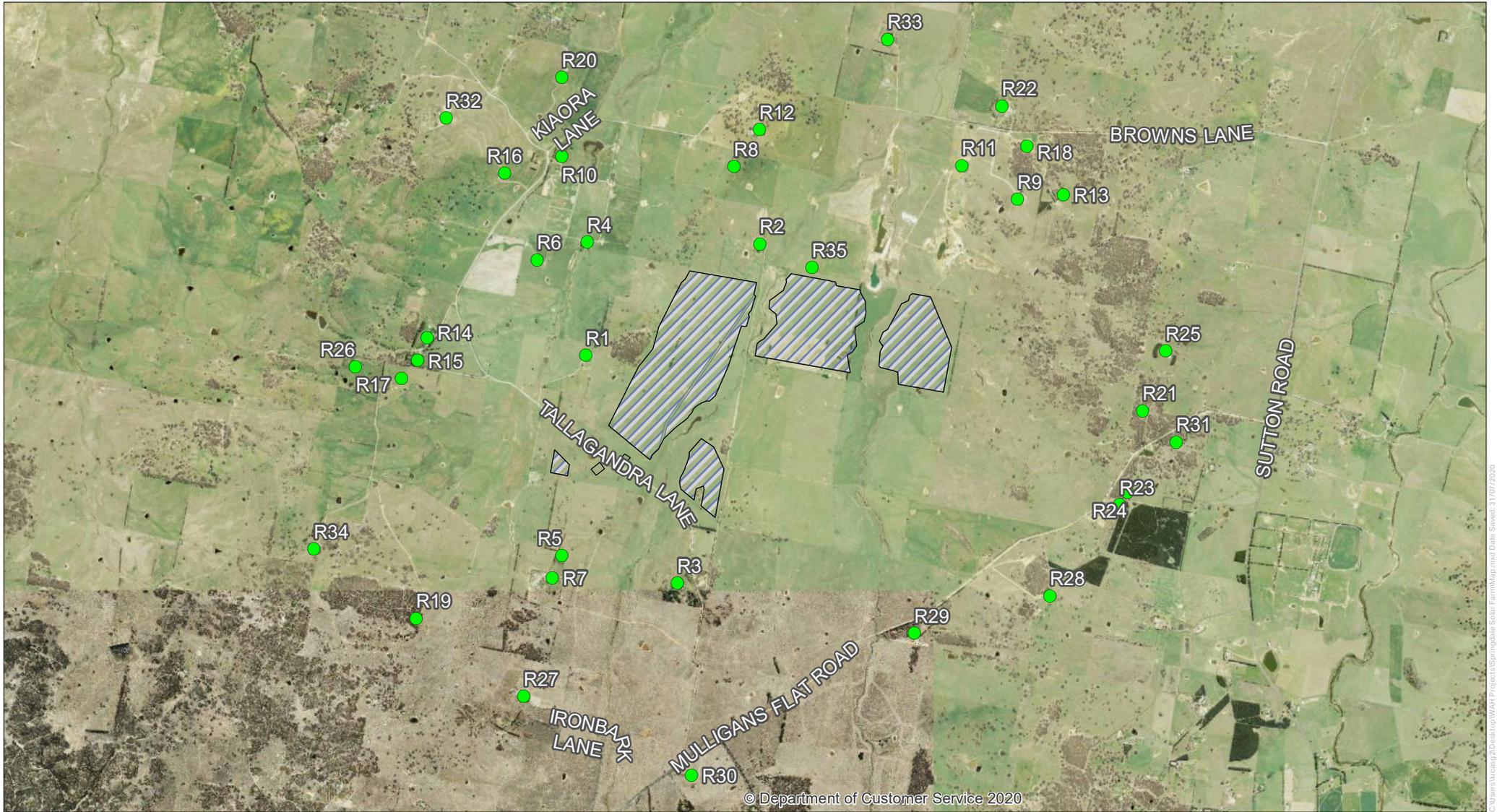
Yours faithfully



Gayle Greer
Technical Director/NSW Acoustic Manager
gayle.greer@aecom.com

Mobile: +61 425 274 829
Direct Dial: +61 2 8934 1011
Direct Fax: +61 2 8934 0001

Appendix



Springdale Solar Farm



- Receivers
- Fence
- Solar field area

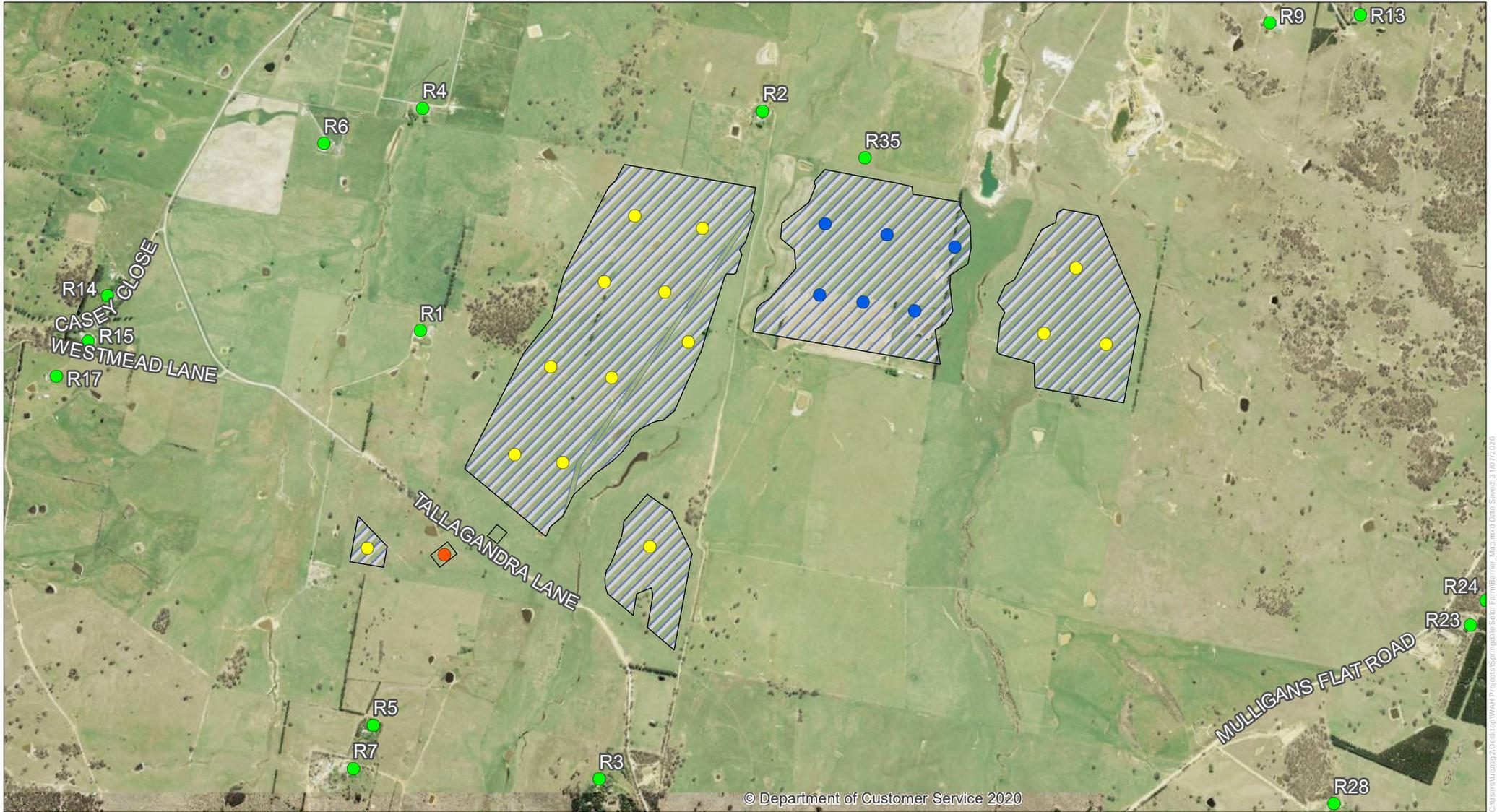
Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 Australia licence © Department of Finance, Services & Innovation 2017. (Digital Cadastral Database and/or Digital Topographic Database).

The terms of Creative Commons Attribution 3.0 Australia License are available from <https://creativecommons.org/licenses/by/3.0/au/legalcode> (Copyright Licence)

Neither AECOM Australia Pty Ltd (AECOM) nor the Department of Finance, Services & Innovation make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright Licence). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report, including page 2.

Source:

C:\Users\Lucy\p20\Desktop\WAH Projects\Springdale Solar Farm\Map.mxd Date Saved: 31/07/2020



© Department of Customer Service 2020

C:\Users\Lucas\p2\Desktop\WASH Projects\Springdale Solar Farm\Banner_Amp.mxd Data Saved: 31/07/2020

Springdale Solar Farm

- Substation
- Receivers
- Inverters - No Noise Wall
- Inverters - Noise Wall
- Fence
- Solar field area

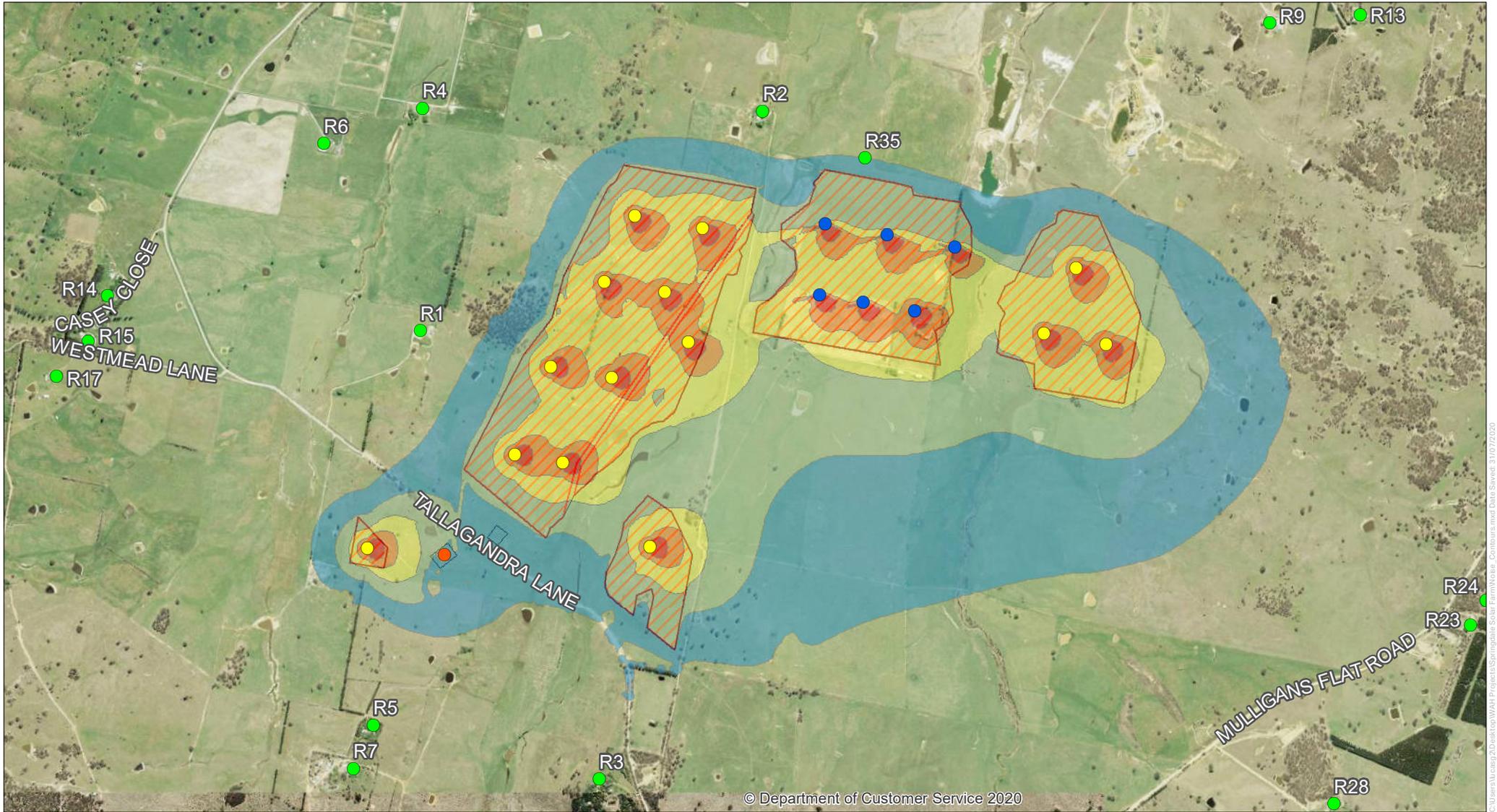


Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 Australia licence © Department of Finance, Services & Innovation 2017. (Digital Cadastral Database and/or Digital Topographic Database).

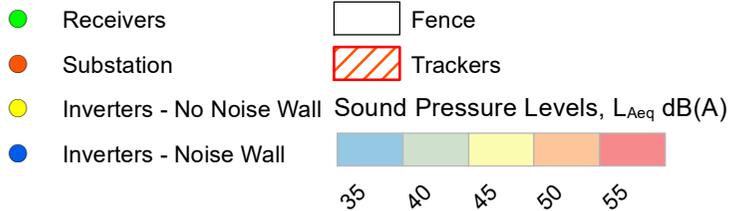
The terms of Creative Commons Attribution 3.0 Australia License are available from <https://creativecommons.org/licenses/by/3.0/au/legalcode> (Copyright Licence)

Neither AECOM Australia Pty Ltd (AECOM) nor the Department of Finance, Services & Innovation make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright Licence). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report, including page 2.

Source:



Springdale Solar Farm - Operational Noise Contour Map



AECOM

Copyright: Copyright in material relating to the base layers (contextual information) on this page is licensed under a Creative Commons Attribution 3.0 Australia licence © Department of Finance, Services & Innovation 2017. (Digital Cadastral Database and/or Digital Topographic Database).

The terms of Creative Commons Attribution 3.0 Australia License are available from <https://creativecommons.org/licenses/by/3.0/au/legalcode> (Copyright Licence)

Neither AECOM Australia Pty Ltd (AECOM) nor the Department of Finance, Services & Innovation make any representations or warranties of any kind, about the accuracy, reliability, completeness or suitability or fitness for purpose in relation to the content (in accordance with clause 5 of the Copyright Licence). AECOM has prepared this document for the sole use of its Client based on the Client's description of its requirements having regard to the assumptions and other limitations set out in this report, including page 2.

Source:

C:\Users\Lucas\p2\Desktop\W&E\Projects\Springdale Solar Farm\Noise - Combours.mxd Date Saved: 31/07/2020

3.2 Annexure B - Viewsheds



SPRINGDALE SOLAR FARM

VISUAL RECEPTOR VIEWSHED

SOURCE DATA © NEW SOUTH WALES
CROWN (SPATIAL SERVICES)

LEGEND

- HOUSE
- ZONE OF THEORETICAL VISIBILITY*
- SOLAR FIELD AREA INCLUDING INTERNAL ROADS
- CONTROL BUILDING AREA
- SUBSTATION AREA
- SITE BOUNDARY

NOTES:

- ZONE OF THEORETICAL VISIBILITY (ZTV) GENERATED BY THE VIEWSHED TOOL IN ESRI ARCGIS SUITE USING NSW GOVERNMENT SPATIAL SERVICES DIGITAL ELEVATION MODEL DATA;
- AREAS SHOWN ARE THE MAXIMUM THEORETICAL VISIBILITY OF A 2m HIGH VIEWER OF AN ASSUMED HEIGHT OF INFRASTRUCTURE OF 4m WITH ONLY TOPOLOGY TAKEN INTO ACCOUNT;
- THE MODEL DOES NOT TAKE INTO ACCOUNT VEGETATION AND THEREFORE GIVES A WORSE CASE EXTENT OF VISIBILITY. THE ACTUAL EXTENT OF VISIBILITY ON THE GROUND WILL BE LESS THAN THAT SHOWN ON THIS PLAN;



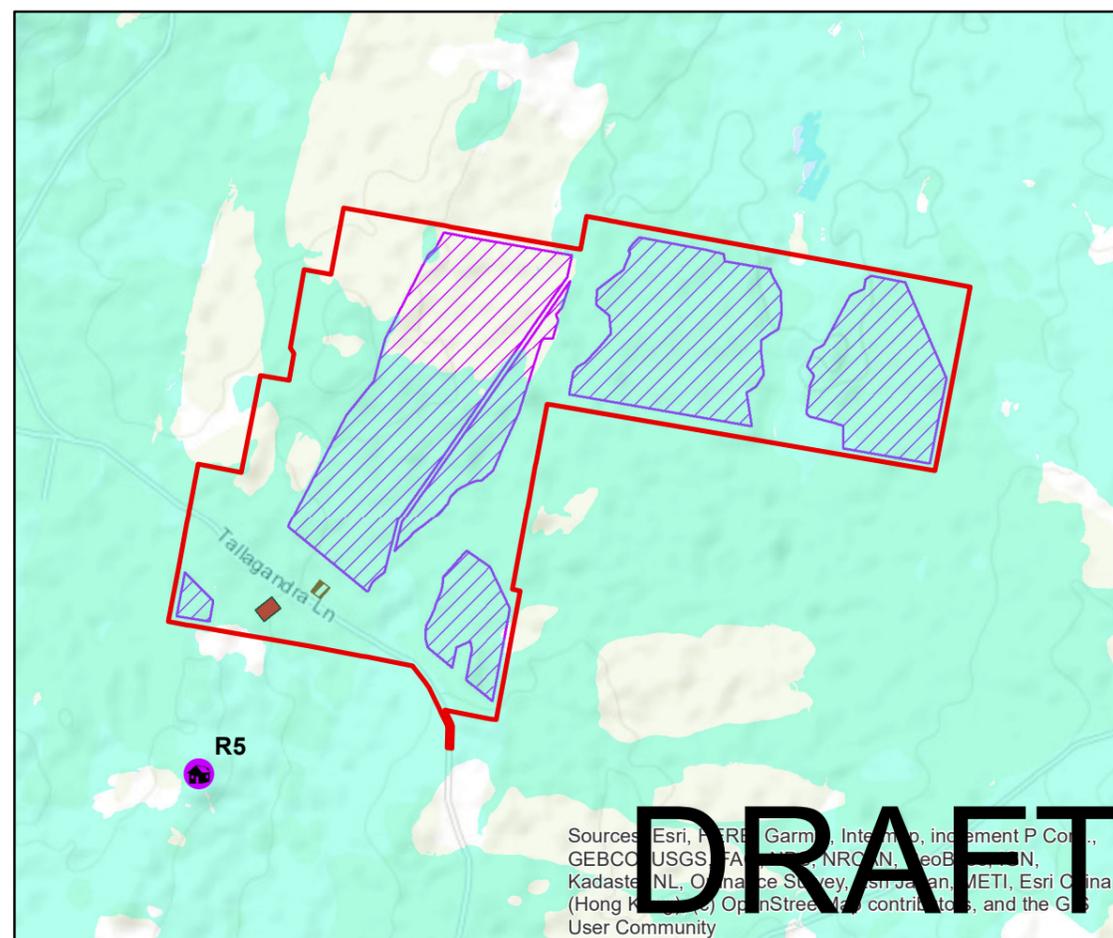
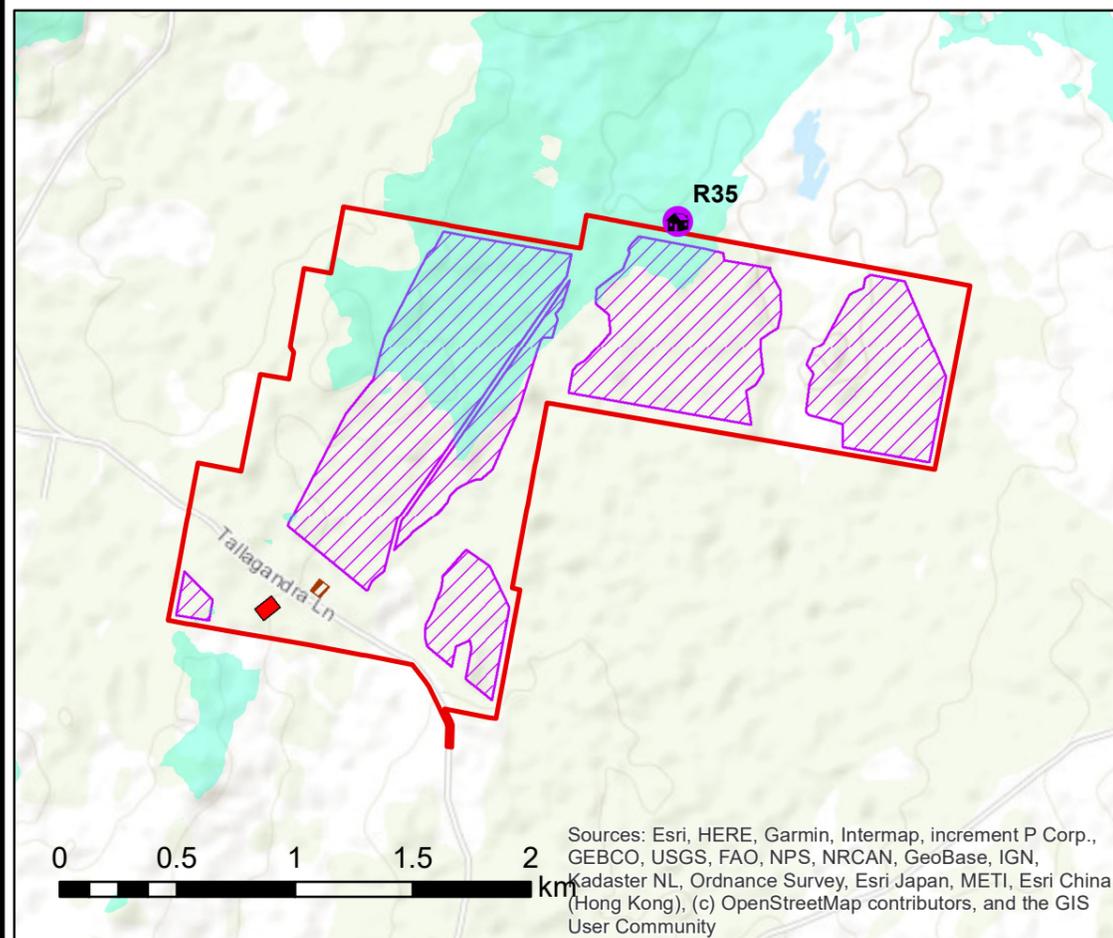
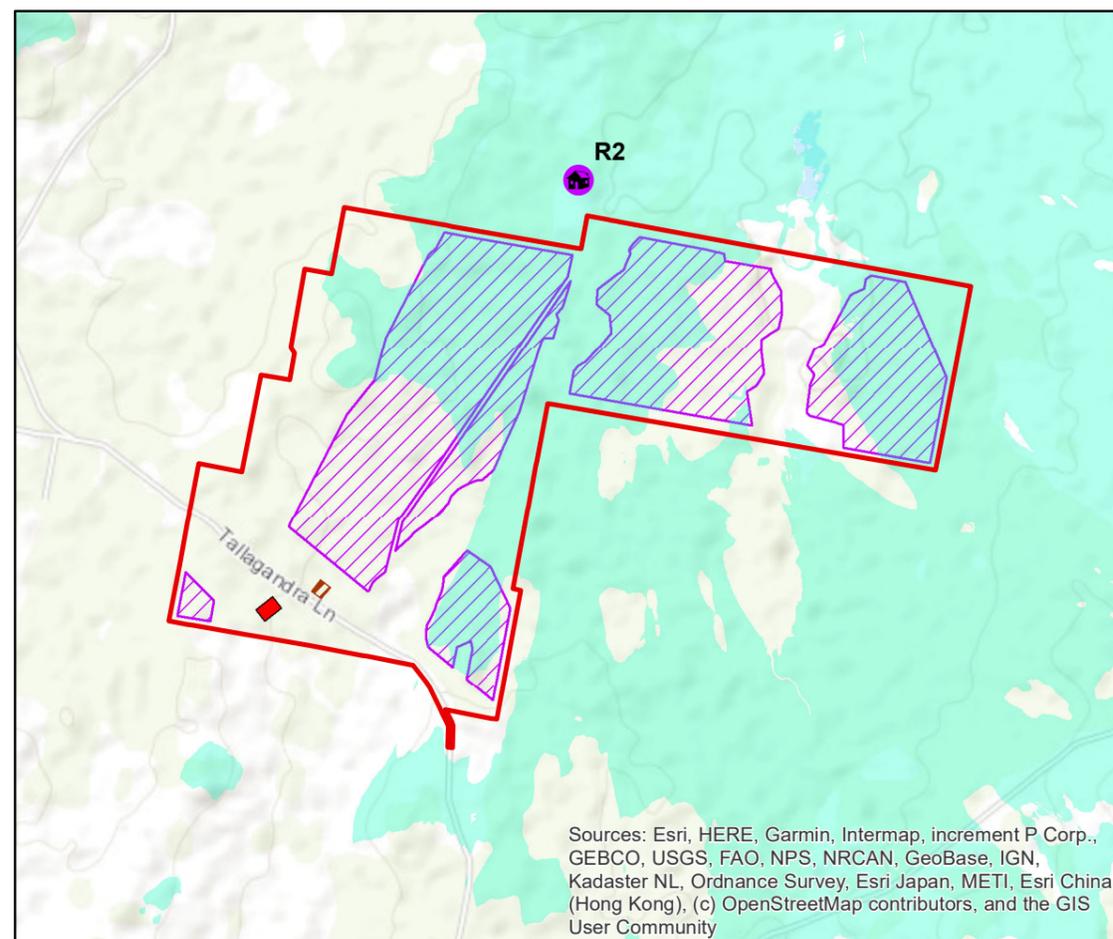
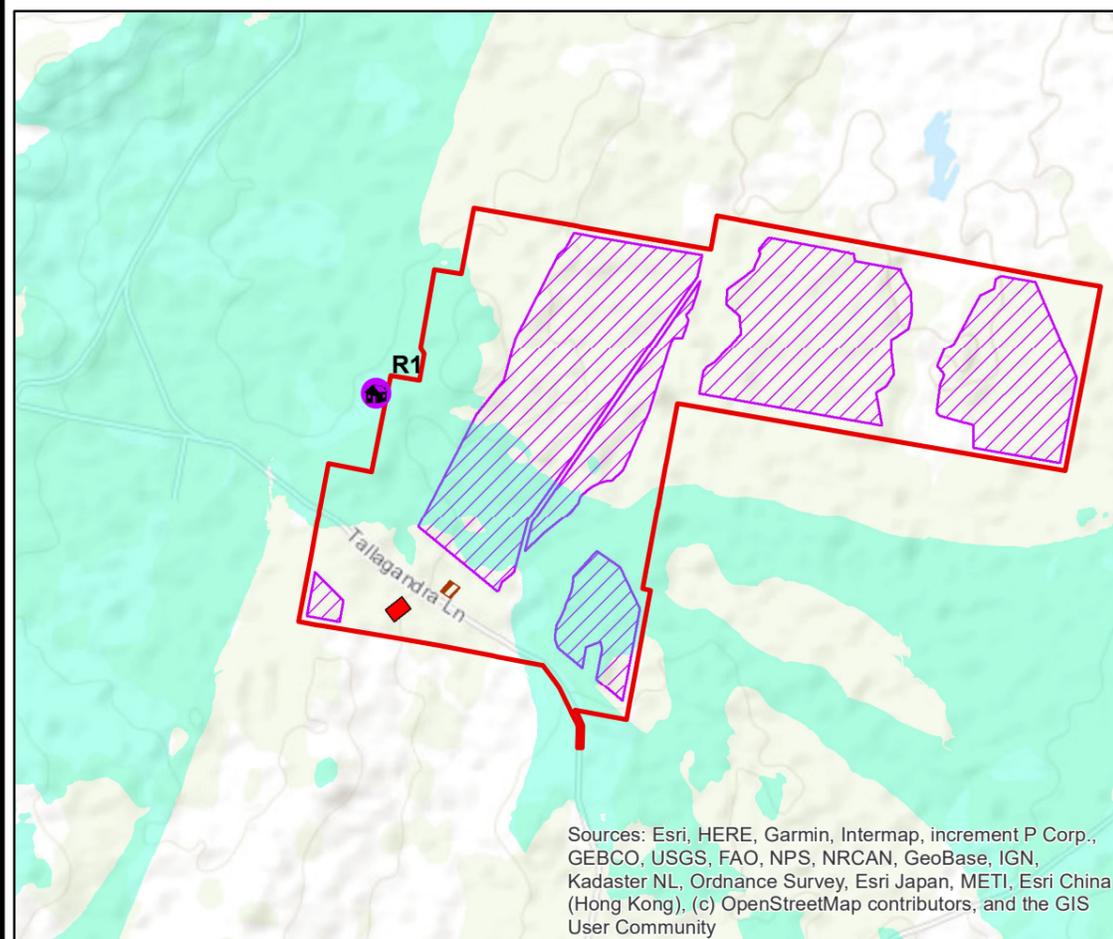
LAYOUT DWG: N/A T-LAYOUT NO.: N/A

DRAWING NUMBER
04317-RES-IMP-DR-PT-001

SCALE - 1:30,000 @ A3

PLANNING PERMIT APPLICATION

THIS DRAWING IS THE PROPERTY OF RENEWABLE ENERGY SYSTEMS LTD. AND NO REPRODUCTION MAY BE MADE IN WHOLE OR IN PART WITHOUT PERMISSION



DRAFT

3.3 Annexure c - Constraints & Layout Plans



SPRINGDALE

CONSTRAINTS AND LAYOUT PLAN - AMENDMENTS

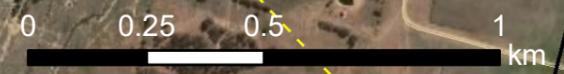
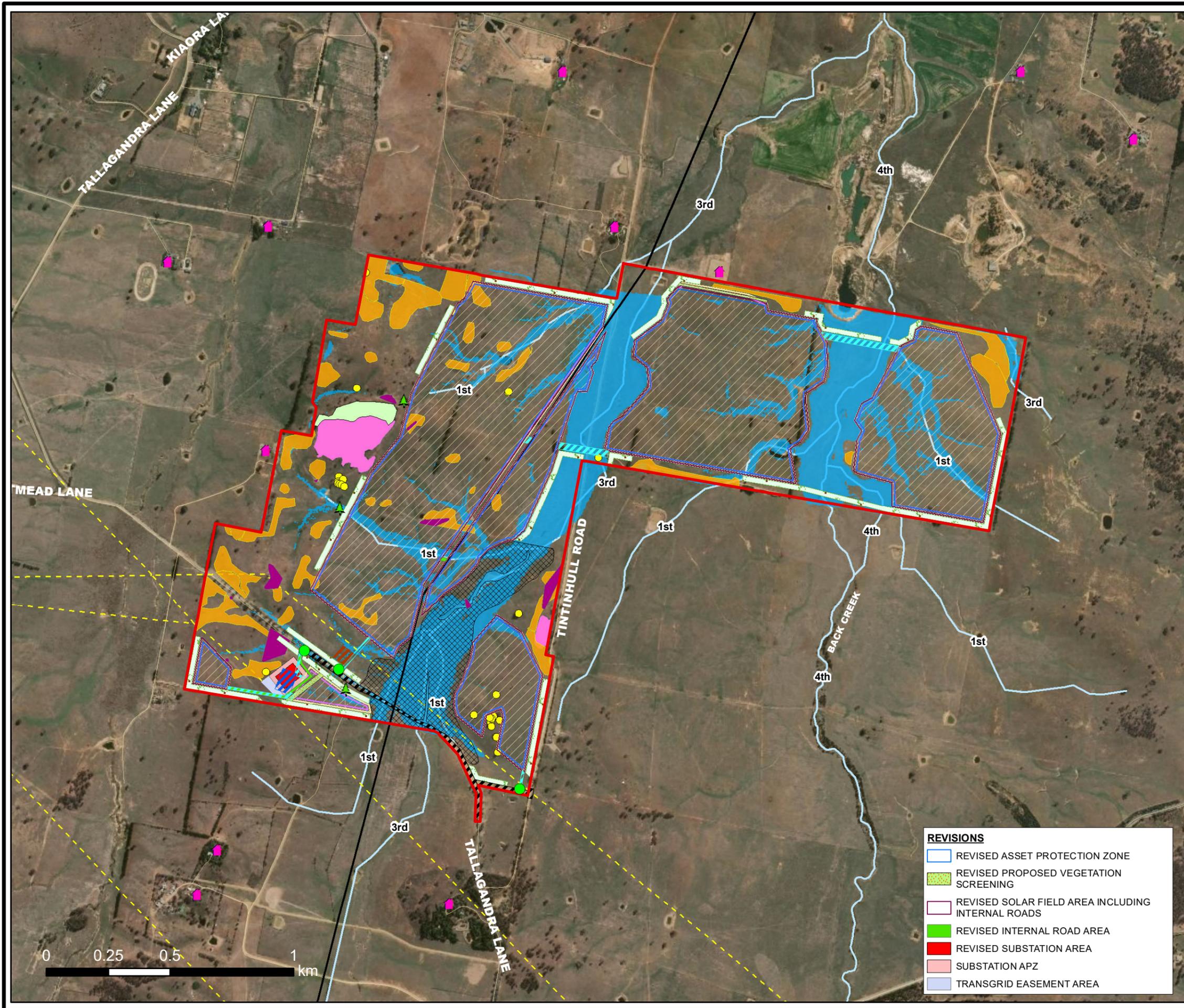
SOURCE DATA © NEW SOUTH WALES CROWN (SPATIAL SERVICES)

- ASSET PROTECTION ZONE
- SITE BOUNDARY
- SITE ENTRANCE
- CONTROL BUILDING AREA
- POTENTIAL ROAD SEALING / MAINTENANCE AREA
- INTERNAL ROAD AREA
- SOLAR FIELD AREA INCLUDING INTERNAL ROADS
- SUBSTATION AREA
- PROPOSED VEGETATION SCREENING
- ABORIGINAL SITE BOUNDARY
- SCARRED TREE
- HOLLOW-BEARING TREE
- GOLDEN SUN MOTH HABITAT
- INTACT WOODLAND
- CRITICALLY ENDANGERED ECOLOGICAL COMMUNITY
- POTENTIAL STRIPED LEGLESS LIZARD HABITAT
- NON-ASSOCIATED RESIDENCE
- ELECTRICITY TRANSMISSION LINE
- GAS PIPELINE
- 1 IN 100 YEAR FLOOD PROFILE
- WATERWAYS



REVISIONS

- REVISED ASSET PROTECTION ZONE
- REVISED PROPOSED VEGETATION SCREENING
- REVISED SOLAR FIELD AREA INCLUDING INTERNAL ROADS
- REVISED INTERNAL ROAD AREA
- REVISED SUBSTATION AREA
- SUBSTATION APZ
- TRANSGRID EASEMENT AREA



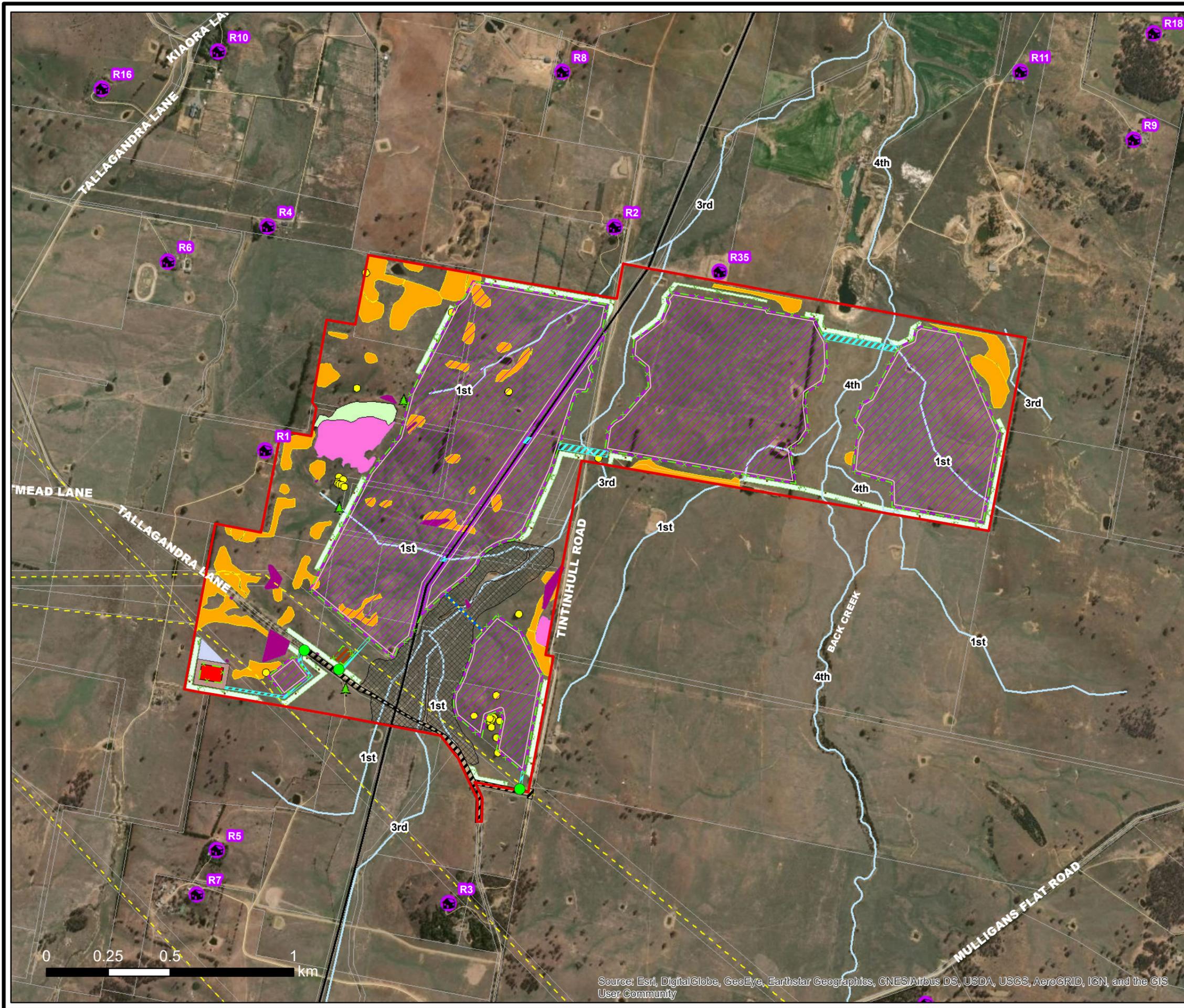
LAYOUT DWG: N/A LAYOUT NO.: N/A

DRAWING NUMBER: **04317-RES-SOL-DR-PT-001**

SCALE - 1:15,000 @ A3

PLANNING PERMIT APPLICATION

THIS DRAWING IS THE PROPERTY OF RENEWABLE ENERGY SYSTEMS LTD. AND NO REPRODUCTION MAY BE MADE IN WHOLE OR IN PART WITHOUT PERMISSION



SPRINGDALE SOLAR FARM

CONSTRAINTS AND LAYOUT PLAN - FINAL

SOURCE DATA © NEW SOUTH WALES
CROWN (SPATIAL SERVICES)

- SOLAR FIELD AREA INCLUDING INTERNAL ROADS
- ASSET PROTECTION ZONE
- SITE ENTRANCE
- SECURITY FENCE
- INDICATIVE ROUTE OF ELECTRICAL CONNECTION (OHL OR UNDERBORE)
- INTERNAL ROAD AREA
- CONTROL BUILDING AREA
- POTENTIAL ROAD SEALING / MAINTENANCE AREA
- SUBSTATION
- SUBSTATION APZ
- TRANSGRID EASEMENT AREA
- PROPOSED VEGETATION SCREENING
- ABORIGINAL SITE BOUNDARY
- SCARRED TREE
- HOLLOW-BEARING TREE
- GOLDEN SUN MOTH HABITAT
- POTENTIAL STRIPED LEGLESS LIZARD HABITAT
- INTACT WOODLAND
- CRITICALLY ENDANGERED ECOLOGICAL COMMUNITY
- NON-ASSOCIATED RESIDENCES
- ELECTRICITY TRANSMISSION LINE (SIXMAPS)
- GAS PIPELINE (SIXMAPS)
- WATERWAYS
- SITE BOUNDARY



LAYOUT DWG: N/A LAYOUT NO.: N/A

DRAWING NUMBER
04317-RES-SOL-DR-PT-002

SCALE - 1:15,000 @ A3

PLANNING PERMIT APPLICATION

THIS DRAWING IS THE PROPERTY OF RENEWABLE ENERGY SYSTEMS LTD. AND NO REPRODUCTION MAY BE MADE IN WHOLE OR IN PART WITHOUT PERMISSION



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

3.4 Annexure D - BDAR Addendum Report & BCD Letter

3 August 2020

Natasha Homsey
Department of Planning, Infrastructure and Environment
4 Parramatta Square,
12 Darcy St,
Parramatta
NSW 2150

Dear Natasha,

Response to BCD request for further information

RES Australia Pty Ltd (RES) propose to construct the Springdale Solar Farm in Sutton, NSW. The EIS for this development was submitted in 2018, with the Response to Submissions (RtS) report following after an extended delay in June 2020. In early July 2020 the Biodiversity Conservation Division (BCD) of Department of Planning, Infrastructure and Environment (DPIE) provided comments back to RES regarding specific detail of the Biodiversity Development Assessment Report (BDAR) prepared for the EIS.

RES has now reviewed BCD's comments and discussed these further with the relevant officers. In response, RES has provided the attached BDAR Addendum (Attachment 1). This addendum is intended to be read in conjunction with the original BDAR, with relevant text replaced as outlined.

We trust that this additional information is satisfactory. Should you require any further detail or clarification please me using the detail provided below.

Yours faithfully

Jamie McMahon
Associate Director Environment
jamie.mcmahon@aecom.com
0424 843 870

Attachment 1: Springdale Solar Farm BDAR Addendum

Springdale Solar Farm - Biodiversity Development Assessment Report Addendum

Prepared by Niche Environment and AECOM Australia and Heritage on behalf of RES Australia Pty Ltd

3 August 2020

1.0 Introduction

Niche Environment and Heritage prepared the Biodiversity Development Assessment Report (BDAR) on behalf of Renew Estate for the Springdale Solar Farm in 2018. This project was subsequently sold to RES Australia Pty Ltd (RES) in early 2020.

The EIS for the project was lodged in mid-2018, with submissions being received in September 2018. The project was placed on hold by Renew Estate later that year, before being purchased by RES. RES completed the Response to Submissions (RtS) report in June 2020, submitting this to NSW DPIE. As part of undertaking the assessment of the BDAR, DPIE's Biodiversity Conservation Division (BCD) requested further information in early July 2020.

This addendum provides responses to the relevant BCD queries. All relevant issues raised by BCD have been separated and responded to separately below.

2.0 Response to BCD queries

Issue 1

Reselect Diamond Firetail a predicted threatened species (ecosystem credits).

Issue 1 response

Completed. There was no intention to exclude this species within the BAM Calculator (BAM C). This is likely to have occurred due to updates to PCT allocation or other changes for the species within the Threatened Biodiversity Data Collection (TBDC).

Issue 2

Table 5 in the BDAR indicates that a number of candidate threatened species were assumed to be present. Assuming presence - and therefore waiving the requirement for targeted survey - normally requires that the species is offset.

Issue 2 response

For candidate species within Table 5 of the BDAR, the only species for which 'assumed presence' has been allocated in the status column is the Striped Legless Lizard, which has then been addressed via an expert report. Yass Daisy and Austral Toadflax have both been ascribed to 'No (surveyed)' within the status column. For clarity, this status means not present after survey, not that no survey has been conducted. With regard to survey for Austral Toadflax, the main vegetation survey occurred three days prior to the designated survey months as prescribed within the BAM-C. This species is known to be parasitic and therefore dependent upon a limited suite of species, often Themeda grass, which were not recorded within the site. The species has not been recorded within the locality. On these bases it

is clear that the preferred habitat of the species is not present at the site and therefore it is considered absent.

Issue 2 (cont.): *However, the information in the BAM C in relation to candidate threatened species is inconsistent with Table 5 in the BDAR. For example, both Yass Daisy and Austral Toadflax have been deselected as Candidate Threatened Species in the BAM C, indicating that further assessment is not required, but Table 5 in the BDAR indicates that both species were surveyed. Candidate species can only be removed where habitat constraints are not present (Section 6.4.1.17a BAM) or where an expert report states that a species is unlikely to be present (Section 6.4.1.17b BAM). Where neither of these exclusions apply, the presence or absence of a Candidate Threatened Species must be further assessed in accordance with Steps 4 and 5 in Section 6 of the BAM.*

Issue 2 (cont.) response: The relevant species will be changed to surveyed (absent) or degraded habitat within the BAM C as appropriate. The BAM C case will then be resubmitted.

Issue 3

The Applicant has identified Superb Parrot breeding behaviour beyond the development envelope and thus identified seven hollow bearing Eucalyptus mannifera as possible breeding habitat within development footprint that will be removed. Superb Parrot breeding habitat is defined by the Threatened Biodiversity Data Collection (TBDC) as living or dead Eucalyptus blakelyi, E. melliodora, E. albens, E. camaldulensis, E. microcarpa, E. polyanthemos, E. mannifera, E. intertexta with hollows greater than 5cm diameter, > 4m above ground and with a DBH of greater than 30cm. There are several trees within the development footprint (for instance, shown in the screen shot below) which have not generated a species polygon for Superb Parrot. Biodiversity Conservation Division (BCD) would like clarification in the BDAR as to why these trees did not satisfy the definition above.

BCD acknowledges that the Applicant has made considerable effort to avoid potential Superb Parrot breeding habitat by implementing significant modifications to the south-eastern solar array. BCD also acknowledges that the trees are not known nesting trees, rather, they are potential nesting trees based on known breeding records beyond the development footprint. Therefore, BCD do not require the full 100 m buffer and instead recommend a smaller 20 m buffer from the drip line of the canopy to create your species polygons. This will minimise impacts to tree health and also alleviate risk of falling tree limbs on to solar panels once in place.

There is a stand of hollow bearing Eucalyptus mannifera (Brittle gum) in the south-east corner of the site, adjacent to Tintinhull Road, as shown in Figure 6 of the BDAR. This area is suitable Superb parrot breeding habitat and should be avoided or offset using the Biodiversity Assessment Method. If the trees are retained, the BMP should include actions to protect them in the long term such as excluding grazing to promote tree regeneration.

Issue 3 response

Practices regarding offsetting for impacts to Superb Parrot at the time of the original assessment were under development. For example, the TBDC at the time of assessment did not include *Eucalyptus mannifera* (Brittle Gum) as a breeding tree for Superb Parrot and this was acknowledged within the OEH submission made on the EIS (August 2018). Despite no impacts to candidate breeding trees at the time of the original assessment a 0.25 ha offset area was provided for potential impacts to Superb Parrot habitat and credits for the species calculated on that basis.

The OEH submission (2018) noted that *E. mannifera* had been proven to be a candidate breeding tree for Superb Parrot and that the *stand of hollow bearing Eucalyptus mannifera (Brittle gum) in the south-east corner of the site, adjacent to Tintinhull Road, as shown in Figure 6 of the BDAR* should be avoided due to potential breeding habitat or offset (see Plate 1).

In response, the design footprint was amended to avoid the referred-to trees, as stated within the updated BDAR (June 2020), and the offset of 0.25 ha was maintained for impacts to remaining trees within the development area. The BCD reviewed the amended design (June 2020 correspondence) and sought additional protection or offsetting for trees to be cleared or that are adjacent to the development footprint.

The majority of trees referred to within both the RTS (2018) and recent correspondence by BCD (i.e. the *stand of hollow bearing Eucalyptus mannifera (Brittle gum) in the south-east corner of the site, adjacent to Tintinhull Road, as shown in Figure 6 of the BDAR*) have been avoided, with the entirety of the canopy drip-line now outside of the proposed development footprint (and typically an additional approximate 10m buffer from the drip line [Plate 1]). Therefore, there is not expected to be any impact upon the health of these trees.

Changes made to the development footprint in November 2018 were reflected within the updated BDAR (June 2020), however the number of hollow-bearing trees proposed to be cleared that comprise potential habitat for the Superb Parrot should have been revised to three trees rather than the seven stated (see Figure 1 of this addendum).

Notwithstanding avoidance measures already in place, in order to compensate for any potential residual impacts from the development, the species polygon for the Superb Parrot has been updated. This has been undertaken in response to recent comments by BCD, adopting their relevant recommendations. The updated species polygon consists of an area determined by a radius of 25 m (5 m for the average canopy radius and an additional 20 m, as per the recommendation from BCD) from the centre-point of each tree that is noted as potential breeding habitat for Superb Parrot. Parts of the polygon that overlap due to trees being adjacent, or that fall outside of the development area, have been removed (see Figure 1). *E. bridgesiana* trees have also been included as this species was considered within the BDAR.

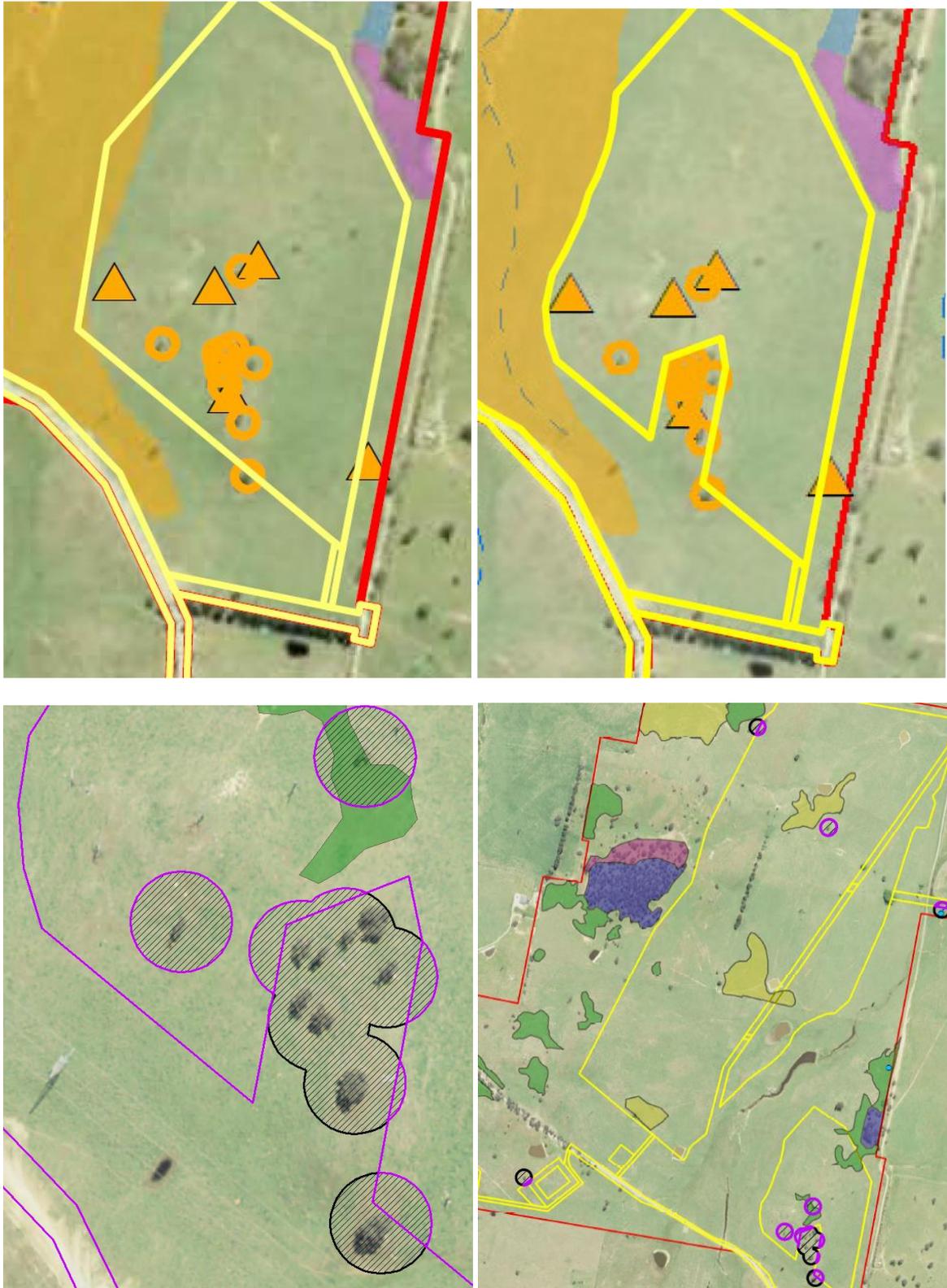


Plate 1. Springdale Solar Farm design and offset for Superb Parrot: top left) original design in BDAR July 2018; top right) amended design in revised BDAR June 2020; bottom left) amended design in revised BDAR June 2020 with application of 25m offset species polygon (July 2020 amendment – see also Figure 1 of this addendum; bottom right) entire offset area for Superb Parrot species polygon (July 2020).

Based on these changes the Superb Parrot species polygon has been revised from 0.25 ha to 0.94 ha.

Credit calculations for species polygons within the BAM are directly associated with vegetation quality scores. Despite most of the Superb Parrot species polygon coinciding with areas of non-native vegetation (Figure 1), for the purposes of calculating credits for this species the highest measured condition loss of any native Plant Community Type (PCT) (11.4 out of 100) was applied throughout the polygon. This conservative approach has resulted in a credit requirement of five credits for this species.

Material from BDAR which should be reconsidered

The following table outlines specific text included within the BDAR that should be reconsidered in light of the changes outlined above. In this case the text in the left column should be fully replaced by the text in the right column.

Section 1.96 Threatened Fauna	
Text within BDAR to be amended No <i>E. melliodora</i> trees with hollows are known to remain within the development envelope, having been avoided via design alterations. However, since the Superb Parrot was recorded breeding adjacent to the development envelope, and since the species could conceivably use hollows of other tree species known to occur within the development envelope such as <i>E. bridgesiana</i> (Apple Box), a conservative approach has been taken and breeding habitat assumed to occur within the development envelope comprising 0.25 hectares.	Amended text No <i>E. melliodora</i> trees with hollows are known to remain within the development footprint, having been avoided via design alterations. However, since the Superb Parrot was recorded breeding adjacent to the development footprint, and since the species could conceivably use hollows of other tree species known to occur within the development envelope such as <i>E. bridgesiana</i> (Apple Box), a conservative approach has been taken and breeding habitat assumed to occur within the development envelope. This has been calculated to comprise 0.94 hectares.
2.2.1 Direct Impacts/Commonwealth Assessment of Significance for Superb Parrot	
Text within BDAR to be amended Seven paddock trees containing tree hollows including <i>Eucalyptus mannifera</i> and <i>E. bridgesiana</i> would require removal.	Amended text Three paddock trees containing tree hollows including <i>Eucalyptus mannifera</i> (1) and <i>E. bridgesiana</i> (2) would require removal.

Issue 4

It is not clear from the BDAR if the prescribed impact from removal of 188.36 ha of non-native vegetation that potentially supports GSM was considered.

Issue 4 response

All GSM habitat was mapped within the BDAR by a recognised expert for the species. The GSM expert comprehensively assessed the full Site, including areas outside the project footprint and mapped all GSM habitat regardless of whether it occurred within native or non-native vegetation (see

Figure 4 of BDAR). The BDAR outlines the extent of GSM habitat present within the development site as being 4.52 ha, comprising areas within both native and non-native vegetation. Therefore, all 188.36 ha of non-native vegetation has been thoroughly considered as habitat for this species.

Offsets for this species have been calculated on the basis that all 4.52 ha of GSM habitat identified in site occurred within native vegetation, despite much of this area actually being comprised of non-native vegetation. Specifically, all non-native vegetation areas inhabited by GSM were recorded in the BAM-C as being within PCT 1330, as this PCT had the highest condition score for any area within the site and therefore generated more credits than other vegetation types. This approach generated a total of 38 credits.

The project has therefore taken a highly conservative approach, generating credit requirements for **all** affected areas for this species, regardless of whether they occur within native or non-native vegetation. Given impacts upon this species have been fully offset it is therefore not necessary to further consider prescribed impacts.

Candidate threatened species (Species credits)

Species	Species presence ⓘ	Survey timetable	UOM	Veg Zone & Value ⓘ	Biodiversity risk
<i>Synemon plana</i> Golden Sun Moth	Yes (surveyed) ▾	specified months? * Jan Feb Mar Apr May Jun Jul Aug Sep <input type="checkbox"/> Oct <input checked="" type="checkbox"/> Nov <input checked="" type="checkbox"/> Dec <input type="checkbox"/> Survey month outside the specified months?	Area (ha)	<input checked="" type="checkbox"/> 351_Low + 0.07 <input checked="" type="checkbox"/> 1330_Low + 4.45 <input type="checkbox"/> 320_Low	Very High

Plate 2. Screenshot from the Springdale Solar Farm BAM Calculator case

Issue 4 (cont)

Section 9.2.1.4 of the BAM requires that non-native vegetation supporting threatened species - such as GSM - must undergo an assessment of prescribed impacts which -

- (a) identifies the areas of non-native vegetation which forms habitat for the species
- (b) describes the nature, extent and duration of short and long-term impacts
- (c) describes, with reference to relevant literature and other reliable published sources of information, the importance within the bioregion of the habitat to these species,
- (d) predicts the consequences of the impacts for the local and bioregional persistence of the threatened species and communities likely to use these areas as habitat, with reference to relevant literature and other published sources of information.

BCD recommends updating the BDAR in accordance with Section 9.2.1.4 of the BAM to include a prescribed impacts assessment for the removal of non-native vegetation which might support GSM. This would include a map showing GSM detections in non-native vegetation. The mitigation measures

for prescribed impacts should be in line with Sections 2.6 and 2.7 of the BAM Stage 2 Operational Manual. If mitigation measures or adaptive management are not applicable, the Applicant should offset for prescribed impacts in accordance with Section 2.5.4 BAM Stage 2 Operational Manual.

Issue 4 (cont.) response

As outlined above, all habitat identified for this species was considered as being within native vegetation for the purposes of the BAM-C, despite much of it occurring within non-native vegetation. Taking this highly conservative approach a requirement of 38 credits was generated. Given this approach it is not necessary to consider prescribed impacts on this species.

GSM habitat was present in both native and non-native vegetation areas of the site. As discussed within the expert report, GSM prefer native vegetation dominated by Wallaby grass compared with exotic vegetation present within the majority of the site (noting absence of Chilean Needle Grass). Assessment of GSM habitat within the BDAR considered all areas of potential habitat regardless of native or non-native status and was found to total 4.52 ha within the site. Offsetting for the species treated non-native vegetation areas as if they were native which resulted in a higher offset requirement for the species than would have otherwise been the case. Since GSM habitat was assessed as if it were native there is no need to complete a mixed style assessment for GSM separating native and non-native vegetation areas, particularly since areas of native vegetation are more important for the species than non-native areas.

In addition to this, it should be noted that the project footprint was heavily refined in order to avoid large areas of GSM habitat, particularly areas identified as being of higher quality. Large management areas have been committed to which will improve overall habitat value for the species in parts of the Site where presently there is no specific habitat protection. It is noted that land management practices detrimental to the survival of this species (e.g. heavy grazing and application of fertilisers) are commonplace.

Issue 5

Furthermore, the plot data for non-native vegetation needs to be entered into the BAMC for BCD to be satisfied that:

(a) the VI score for areas of non-native vegetation is below the offsetting threshold

Issue 5 response

The below passage is taken from the BDAR with the referred to survey effort (i.e. 3 x step-point transects) illustrated within Figure 4 of the BDAR:

3 x 50 m step-point transects were conducted within grassland areas of the development envelope to assess ground cover condition and composition, with groundcover assigned to one of the following categories at every metre along a 50 m tape: native groundcover of grass; native groundcover of shrubs; native ground cover other; exotic plant cover. The purpose of these transects was to provide a quantitative measure of native versus exotic cover within areas mapped as exotic pasture. The steppoint transects conducted added to transects performed within grassland areas during the Golden Sun Moth surveys (see Figure 4 – Appendix 9).

Relevant sections from the BAM (2017) are provided below to justify why BAM plots were not conducted in areas that were obviously non-native vegetation judging by the lack of native ground cover and general absence of shrub/tree cover.

10.4 Impacts that do not require further assessment by the assessor

10.4.1.1 An assessor is not required to assess areas of land on the development site or land proposed for biodiversity certification for ecosystem credits without native vegetation under Chapter 4 or Chapter 5. Note: Areas of land that do not contain native vegetation must still be assessed for threatened species, in accordance with Chapter 6

Furthermore, it was demonstrated that native areas did not achieve sufficiently high VI scores for meeting the offsetting thresholds and therefore additional BAM plots within non-native areas are not necessary.

3.0 Conclusion

We trust that the additional detail provided above satisfied BCD's queries in regard to the Springdale Solar Farm BDAR. Should BCD require further information please contact Jamie McMahon (contact details in the accompanying letter) or Steven Reid, Development Manager, RES Australia.



Our ref: DOC20/450469
Your ref: SSD8703

Natasha Homsey,
Senior Environmental Assessment Officer,
Resources Assessments 1B
4 Parramatta Square,
Parramatta, NSW 2150
Natasha.Homsey@planning.nsw.gov.au

Dear Ms Homsey,

Subject: Springdale Solar Farm Response to Submissions Report -

Biodiversity Conservation Division (BCD) have reviewed the Response to Submissions report and provide comments on the biodiversity and Aboriginal cultural heritage assessments. Please note this advice does not contain the Matters National Environmental Significance (MNES) assessment.

Review of the Biodiversity Development Assessment Report (BDAR)

The key biodiversity concerns raised in our previous correspondence have all been addressed in the revised BDAR. These concerns were in relation to:

1. Shading of Golden Sun Moth Habitat (GSM) as a result of the landscape plan
 - BCD agrees with the assumption that shading impacts are directly proportional to the vertical height of adjacent vegetation, at a 1:1 ratio, given the evidence available. BCD is therefore satisfied that the minimum 15 m screen planting offset which has been applied regardless of the direction to the GSM habitat, will be sufficient to protect GSM habitat from the indirect impacts of shading.
2. Protection of remnant Superb Parrot habitat by retaining Hollow Bearing Trees (HBTs)
 - The BDAR shows that solar array has been modified in the south eastern corner to ensure retention of Superb Parrot breeding habitat
3. Commitment to developing a Biodiversity Management Plan (BMP) to protect remnant Striped Legless Lizard (SLL) habitat
 - BCD commends the Applicant for avoiding all SLL habitat. Additionally, the Applicant has committed to developing a Striped Legless Lizard management plan as a subplan to the BMP in consultation with BCD in Section 2.1.2 which will facilitate avoidance of impacts from the construction phase and address ongoing indirect impacts arising from weeds.

Attachment 1 details matters in the BDAR that require clarification or further information.

Aboriginal cultural heritage

As previously advised, our key concern is that the Aboriginal cultural heritage assessment in the EIS did not include test excavation and as a result there is insufficient understanding of the values that may be impacted by the project. As test excavations have still not been undertaken since

August 2018 the impacts to Aboriginal cultural heritage values remains unknown. Significant cultural values of the Springdale area have also been raised by Ngunawal and Ngambri Elders following the assessment.

Testing upfront was recommended because the ACHAR stated that what is on the surface is not indicative of subsurface potential. Testing would also inform the potential of the area and whether future salvage is required and would allow the proponent to redesign the array and any associated infrastructure to avoid any significant objects or sites.

Detailed comments regarding Aboriginal cultural heritage are outlined in Attachment 2.

Yours sincerely



Michael Saxon 18/6/2020

Director

South East, Biodiversity Conservation Division

Enclosure: Attachment 1 – Review of the revised Springdale BDAR; Attachment 2 – BCD comments on the Response to Submissions Report for Springdale Solar Farm and Aboriginal cultural heritage matters

Attachment 1 – Review of the revised Springdale BDAR

In addition to previous comments provided by BCD in relation to the Biodiversity Assessment Method (BAM) credit calculation, we make the following recommendations and observations:

Reselect Diamond Firetail a predicted threatened species (ecosystem credits)

BCD notes that Diamond firetail has been deselected as a predicted threatened species (ecosystem credits) in the habitat suitability tab of the credit calculator. This is inconsistent with the BDAR which states on page 18 that ‘No ecosystem credit species were omitted from the BAM Calculator’ (BAM-C). It is permissible to remove species from the list of predicted threatened species, however, the only allowable justifications for deselection are if –

- if habitat constraints listed in the Threatened Biodiversity Data Collections (TBDC) are not present,
- the habitat is degraded to such an extent that it cannot support foraging or breeding behaviour of the species.

If neither of these exclusions apply, species presence *must* be assumed. Deselection also requires documentation and justification in the BDAR. BCD requests that the Applicant please provide adequate justification in the BDAR for the deselection of Diamond firetail in the event that it is not reselected in the BAM C.

We note that Diamond Firetail has no constraints in the TBDC and paddock trees aren’t considered important for foraging habitat. Furthermore, Diamond Firetail is an exclusive ground feeder which relies on grass and herb seeds, green leaves and insects occurring in NTG and secondary grassland from derived communities. Given that 351_Low and 1330_low has been considered suitable foraging habitat for similar species of woodland birds, it seems more appropriate for Diamond Firetail to be reselected.

Candidate threatened species (species credits) for further assessment

Table 5 in the BDAR indicates that a number of candidate threatened species were assumed to be present. Assuming presence - and therefore waiving the requirement for targeted survey - normally requires that the species is offset.

However, the information in the BAM C in relation to candidate threatened species is inconsistent with Table 5 in the BDAR. For example, both Yass Daisy and Austral Toadflax have been deselected as Candidate Threatened Species in the BAM C, indicating that further assessment is not required, but Table 5 in the BDAR indicates that both species were surveyed. Candidate species can only be removed where habitat constraints are not present (Section 6.4.1.17a BAM) or where an expert report states that a species is unlikely to be present (Section 6.4.1.17b BAM). Where neither of these exclusions apply, the presence or absence of a Candidate Threatened Species must be further assessed in accordance with Steps 4 and 5 in Section 6 of the BAM.

Therefore, BCD requires further information in the BDAR clarifying –

- why candidate threatened species have been removed, particularly for species where habitat constraints do not exist and an expert report has not been provided. Where habitat degradation is the justification for removing candidate threatened species, this needs to be in reference to specific species habitat requirements outlined in the TBDC.

- What targeted survey or expert reports were undertaken in the instances where Candidate Threatened Species are not removed, noting the necessary survey windows for each species in the TBDC.

Species polygons

The Applicant has identified Superb Parrot breeding behaviour beyond the development envelope and thus identified seven hollow bearing *Eucalyptus mannifera* as possible breeding habitat within development footprint that will be removed. Superb Parrot breeding habitat is defined by the Threatened Biodiversity Data Collection (TBDC) as living or dead *Eucalyptus blakelyi*, *E. melliodora*, *E. albens*, *E. camaldulensis*, *E. microcarpa*, *E. polyanthemos*, *E. mannifera*, *E. intertexta* with hollows greater than 5cm diameter, > 4m above ground and with a DBH of greater than 30cm. There are several trees within the development footprint (for instance, shown in the screen shot below) which have not generated a species polygon for Superb Parrot. BCD would like clarification in the BDAR as to why these trees did not satisfy the definition above.



Furthermore, the correct method for drawing a Superb Parrot species polygon according to the TBDC is by 'providing a circular buffer with a 100m radius around the nest tree. The purpose of the buffer is to minimise disturbance/avoid clearing, for a development application, or to conserve and improve habitat, for a biodiversity stewardship agreement, within the area essential for breeding. This includes habitat suitable for fledgling requirements. It does not account for foraging habitat. The shape of the buffer can be modified where evidence provided in the Biodiversity Assessment Report indicates an alternative shape would better meet the species needs in the context of

the assessment site. For example, extant vegetation is linear and the nest tree is already located near the edge of the wooded area.'

The Superb Parrot species polygons appear to follow the boundary of the canopy without a 100 m buffer. The Applicant should provide justification in the BDAR as to why the species polygons do not conform to the advice in the TBDC for establishing Superb Parrot species polygons or amend the species polygons and BAM Calculator input to more accurately reflect the advice in the TBDC

BCD acknowledges that the Applicant has made considerable effort to avoid potential Superb Parrot breeding habitat by implementing significant modifications to the south-eastern solar array. BCD also acknowledges that the trees are not known nesting trees, rather, they are potential

nesting trees based on known breeding records beyond the development footprint. Therefore, BCD do not require the full 100 m buffer and instead recommend a smaller 20 m buffer from the drip line of the canopy to create your species polygons. This will minimise impacts to tree health and also alleviate risk of falling tree limbs on to solar panels once in place.

BCD has reviewed the GSM species polygons and BAM C input for the direct impacts and we are satisfied that the credit obligation has been correctly calculated.

Prescribed impacts on GSM

It is not clear from the BDAR if the prescribed impact from removal of 188.36 ha of non-native vegetation that potentially supports GSM was considered. Section 9.2.1.4 of the BAM requires that non-native vegetation supporting threatened species - such as GSM - must undergo an assessment of prescribed impacts which -

- (a) identifies the areas of non-native vegetation which forms habitat for the species
- (b) describes the nature, extent and duration of short and long-term impacts
- (c) describes, with reference to relevant literature and other reliable published sources of information, the importance within the bioregion of the habitat to these species,
- (d) predicts the consequences of the impacts for the local and bioregional persistence of the threatened species and communities likely to use these areas as habitat, with reference to relevant literature and other published sources of information.

BCD recommends updating the BDAR in accordance with Section 9.2.1.4 of the BAM to include a prescribed impacts assessment for the removal of non-native vegetation which might support GSM. This would include a map showing GSM detections in non-native vegetation. The mitigation measures for prescribed impacts should be in line with Sections 2.6 and 2.7 of the BAM Stage 2 Operational Manual. If mitigation measures or adaptive management are not applicable, the Applicant should offset for prescribed impacts in accordance with Section 2.5.4 BAM Stage 2 Operational Manual.

Furthermore, the plot data for non-native vegetation needs to be entered into the BAMC for BCD to be satisfied that:

- (a) the VI score for areas of non-native vegetation is below the offsetting threshold, and
- (b) Assist with the calculation of addition GSM credits if this is deemed suitable following the SAI assessment.

Attachment 2 – BCD comments on the Response to Submissions Report for Springdale Solar Farm and Aboriginal cultural heritage matters

The key issues raised in our previous correspondence that have not been adequately addressed in the Response to Submissions Report (RTS) are:

Undertake subsurface archaeological test excavations prior to project approval

As previously advised we recommend that subsurface archaeological test excavation be undertaken across all areas that will be impacted by the solar farm, including ancillary infrastructure, prior to approval to inform the design of the solar farm.

AECOM acknowledged poor visibility occurred during the archaeological survey and in response stated within the 2018 assessment report that a program of archaeological test excavation was necessary to “adequately characterise the Aboriginal archaeological record of the proposal site”. We support this recommendation as test excavations contribute to the understanding of the Aboriginal cultural heritage values of the area and they inform both avoidance and harm mitigation measures for the proposed activity.

Given the time since the archaeological survey was undertaken - test excavations could have already been undertaken to identify constraints and help inform the footprint design. The proposed management and mitigation measures outlined in the RTS, such as leaving test excavations to post-approval, should not take the place of appropriate upfront assessment.

We note that Ngunawal and Ngambri Elders raised concerns about the impacts of the Springdale Solar Farm on cultural values in the area after the 2018 assessment was completed. Undertaking the test excavations prior to approval may assist in addressing these concerns in understanding the nature and extent of all cultural values in the area before impact occurs. We recommend the proposed management measures in Table 8.0 include a commitment to undertaking consultation with the Aboriginal community about the cultural significance of the Springdale area.

A subsurface archaeological salvage program should be conducted after subsurface test excavation has been completed

We note that the RTS makes several references to the archaeological salvage program. The mitigation measures proposed for Aboriginal cultural heritage outlined in Table 8.0 (page 143) needs to be updated to reflect that test excavations are a separate process to the proposed archaeological salvage program. Test excavation is part of an assessment process in order to determine the presence and significance of Aboriginal objects. The results of the test excavations, and a consideration of redesigning the footprint to avoid impacts, should determine whether surface and subsurface salvage is needed and how it should be carried out. Table 8.0 needs to include a commitment to considering the results of the testing before recommending salvage. It should not be assumed that salvage should automatically occur following test excavations.

3.5 Annexure E - Subdivision Plan



SPRINGDALE

SUBDIVISION PLAN

SOURCE DATA © NEW SOUTH WALES
CROWN (SPATIAL SERVICES)

LEGEND

-  LOT BOUNDARY
-  SITE BOUNDARY



LAYOUT DWG: N/A | T-LAYOUT NO.: N/A

DRAWING NUMBER: **04317-RES-PRO-DR-PT-001**

SCALE - 1:4,000 @ A3

PLANNING PERMIT APPLICATION

THIS DRAWING IS THE PROPERTY OF RENEWABLE ENERGY
SYSTEMS LTD. AND NO REPRODUCTION MAY BE MADE IN
WHOLE OR IN PART WITHOUT PERMISSION

