Silverleaf Solar Farm Pty Ltd

120 MW Solar Farm

Response to Submissions

November 2020

Executive summary

Background

Silverleaf Solar Farm Pty Ltd (ENGIE) is seeking approval to construct and operate a 120 megawatt (MW) solar farm, known as the Silverleaf Solar Farm. The site is about four kilometres north of Narrabri between the Newell Highway in the east, and Logans Lane in the west ("the proposal").

The proposal would consist of the following components:

- Solar arrays consisting of about 440,000 single-axis tracking panels up to four metres in height, supported by about 5,150 tracker units
- Construction of a transmission corridor, supporting 132 kV power lines, connecting the proposal site to the existing TransGrid substation located on Stoney Creek Road
- Inverter and transformer stations evenly distributed across the site, with onsite cabling and electrical connections between solar arrays and panel inverters
- Internal solar farm substation
- Cables and trenches
- Internal access tracks including car parking areas
- Operational and maintenance office including staff amenities block
- Perimeter security fencing
- Landscaping around the perimeter of the site where required

Approval is sought for the proposal under Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

In accordance with the Secretary's Environmental Assessment Requirements (SEARs), an Environmental Impact Statement (EIS) was prepared to support the development application. The EIS identifies and assesses the environmental issues associated with the proposal. The EIS was exhibited by the NSW Department of Planning, Industry and Environment from 4 September 2019 to 1 October 2019. A total of 20 submissions were received about the proposal.

Purpose of this report

The response to submissions report summarises the issues raised through public consultation on the EIS for the proposal. This report also outlines mitigation measures that have been amended or added and minor amendments to the total area of the proposal site since lodgement of the EIS.

Key issues raised by submissions to the EIS

A total of 20 submissions were received about the proposal, of which five (5) submissions were from the community and 15 were from government agencies, including Narrabri Shire Council (Council). The most common issues raised by all respondents were:

- Land use, soils and land capability – six submissions
- Hydrology, groundwater and water quality – five submissions
- Consultation – four submissions

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1. Introduction

1.1 Background

Silverleaf Solar Farm Pty Ltd (ENGIE) proposes to construct and operate a 120 megawatt (MW) solar farm about four kilometres north of Narrabri between the Newell Highway in the east and Logans Lane in the west (referred to as the 'proposal').

ENGIE is seeking development consent under Division 4.7 of Part 4 of the *Environmental Planning and Assessment Act 1979* (EP&A Act) for the proposal. The Minister for Planning (or delegate) is therefore the consent authority for the proposal.

An Environmental Impact Statement (EIS) was prepared by GHD Pty Ltd (GHD) on behalf of ENGIE for the proposal. The EIS was placed on public exhibition by the NSW Department of Planning Industry and Environment (DPIE) between the 4 September and 1 October 2019. In addition to undertaking consultation with key stakeholders prior to EIS exhibition, ENGIE also undertook consultation during and after EIS exhibition.

1.2 Overview of submissions

Submissions in response to the EIS were accepted by DPIE during the public exhibition period. A total of 20 submissions were received about the proposal, of which five (5) submissions were from the community and 15 were from government agencies, including Council (Table 1-1).

Each submission was examined individually to identify and understand the issues raised. The content of each submission was reviewed and categorised according to the key issues (e.g. Land use, soils and land capability).

Table 1-1 Summary of submissions received

Submission group type	Number of separate respondents
Government agencies	
State government agencies	13
Local councils	1
Energy provider	1
Community	
Individual	5
Interest groups/organisations	0

The most common issues raised by all respondents were:

- Land use, soils and land capability – six submissions
- Hydrology, groundwater and water quality – five submissions
- Consultation – five submissions

When making a submission, respondents were able to identify if their submission was an objection to the proposal, support for the proposal or comments only. The results of this were as follows:

- Object – Two community submissions
- Support – Two community submissions
- Comments only – 16, including agency and community submissions

Consultation for the proposal has been ongoing during EIS exhibition and post-exhibition, in response to concerns raised by relevant agencies in their submissions and to fulfil commitments made in the EIS. A summary of these consultation activities and ongoing stakeholder engagement is provided in Section 2.

1.3 Purpose of the report

The Secretary of DPIE requires ENGIE to prepare a Response to Submissions Report in accordance with clause 85A(2) of the *Environmental Planning and Assessment Regulation 2000* to respond to issues raised in submissions received during the EIS exhibition.

This report also outlines mitigation measures that have been amended or added and minor changes to the proposal site since lodgement of the EIS.

2. Stakeholder engagement

2.1 Prior to EIS exhibition

Section 4 of the EIS describes the consultation undertaken for the proposal to inform development of the EIS.

2.2 During and after EIS exhibition

During and after the exhibition period, government agencies, key stakeholders (including interest groups and organisations), and the community were invited to make written submissions on the proposal. A summary of the engagement activities and tools used to encourage community and stakeholder participation during and after the exhibition period is provided in Table 2-1.

The EIS made available to the public at the following locations:

- DPIE – 320 Pitt Street, Sydney
- Nature Conservation Council of NSW – 338 Pitt Street, Sydney
- Narrabri Shire Council – 46-48 Maitland Street, Narrabri
- Service NSW Centre website

The EIS was also available on the Department of Planning and Environment's website at: https://www.planningportal.nsw.gov.au/major-projects/project/9716.

Table 2-1 Consultation activities undertaken during and after EIS exhibition

Activity	Detail
Project website	Information about exhibition of the EIS was included on the ENGIE website: https://www.engie.com.au/home/what-we-do/our-assets/silverleaf/
Toll free community information line and project email	Requests for information were responded to be ENGIE's project team, as relevant. With details available on the ENGIE website: Phone: 1800 066 243 Email: silverleaf@au.engie.com
Email notification	Some impacted and adjacent landowners, Narrabri High School and Inland Rail were contacted via email about the proposal and invited to consult and provide input on the project.
Phone discussions	Some impacted and adjacent landowners were contacted via phone about the proposal and invited to consult and provide input on the project.
Letter notification	Some impacted and adjacent landowners were contacted via letter about the proposal and invited to consult and provide input on the project.
Face-to-face meetings	Face-to-face meetings were held with all available impacted and adjacent landowners about the proposal and invited to consult and provide input on the project. Face-to-face meetings about the project were held with representatives from Narrabri Shire Council and Narrabri High School. Both stakeholders indicated that they were supportive of the project.

Consultation undertaken with a number of key stakeholders by ENGIE during and after EIS exhibition. Key stakeholders who were consulted included TransGrid, Inland Rail, Council, Narrabri High School as well as adjacent and impacted landowners. Details of this consultation and the issues raised are outlined in Sections 2.2.1 – 2.2.5 respectively.

2.2.1 TransGrid consultation

Consultation with TransGrid during exhibition of the EIS resulted in the following comments:

1. **Amendment report:** New 132 kV switchbay at TransGrid's existing Narrabri Substation is not clearly included in the EIS. It is recommended that it should be included in the Amendment Report.
2. **Substation plot area:** As per EIS clause 3.2.6 pg: 31/895: Substation dimensions have been mentioned as 55 metres x 40 metres.

   As per current proposed GA drawing substation area is 65 metres x 46 metres.

   As discussed, we can recommend to put substation dimensions as approximately 120 metres x 100 metres (it includes 20 metres buffer on each side of the substation) in the amendment report for department's approval.
3. **Access to sub-station:** Provision of access to the substation is the customer's responsibility. In the event that access cannot be provided to the substation from a public road, an easement for access will be required from the public road and it has to be minimum six metres wide and may be required to be up to 20 metres subject to project requirements.

ENGIE Response

Item 1, 2 and 3: The new 132 kV switchbay will be located at TransGrid's existing Narrabri Substation **(**Figure 5-2). The general location of the substation has not changed from that which was detailed in the EIS. However, ENGIE acknowledges TransGrid's comments regarding the footprint of the proposed substation and confirms that the footprint for the substation (refer to Figure 5-2) has been revised to include the recommended 120 metres x 100 metres dimensions.

2.2.2 Inland Rail

An email was received from Mr Joel Acosta, the Design Manager for the Narromine to Narrabri section of the N2N Project for Inland Rail (Australian Rail Track Group, ARTC) on 2 December 2019. This email requested updates on the status of the proposal, and any interfaces required with their project.

ENGIE Response

ENGIE will keep ARTC updated on the status of its activities as it progresses through subsequent project phases, and provide information on any interfaces with the NRN Project for Inland Rail as relevant.

2.2.3 Narrabri Shire Council

Email correspondence occurred with the Design Services Manager, Anthony Smetanin and ENGIE. Anthony reviewed section 6.7 Traffic, transport and access of the EIS. On 20 August 2019, Anthony provided some comments regarding traffic and road access, concluding that the majority of the traffic related matter had been covered and that Council would formally lodge their comments via the usual Department referral process. Council's formally lodged comments and ENGIE's responses to these are addressed in section 3.2.

A face-to-face meeting was held on 29 November 2019 with a representative of Council, the Economic Development Manager, Mr Bill Birch. This meeting discussed future opportunities for the project to provide financial support to the community. Mr. Birch indicated that Narrabri Shire Council were supportive of the proposal.

2.2.4 Narrabri High School

A face-to-face meeting was held on 21 February 2020 with representatives of Narrabri High School, Deputy Rozina Broderick and HT Wellbeing Kathryn Bailey. This meeting discussed future opportunities for the project to provide financial support to Narrabri High School. One program discussed was the Operation Flinders Foundation program, with the project to fund one team per year once the project was operational. Narrabri High School were generally supportive of the proposal.

2.2.5 Landowner consultation

Section 4 of the EIS outlines the stakeholder consultation which was undertaken prior to lodgement of the EIS. Additional consultation was also undertaken with landowners and adjacent landowners during and after the EIS exhibition period.

Face-to-face meetings were held with all available impacted and adjacent landowners about the proposal. Landowners were invited to consult and provide input on the project. Impacting and adjoining landowners raised a number of key concerns with the proposal. ENGIE provides a response to key concerns raised by landowners in Table 2-2 below.

Table 2-2 ENGIE response to landowner concerns

Landowner concern	ENGIE response
Consultation and landownership	ENGIE recognises the concerns raised in relation to consultation and will continue to offer opportunities for engagement, both public forums and individual meetings, to address impacted and adjacent landowner concerns. Landownership of the land adjoining the South-East corner of the proposed solar farm land (Lot 373A DP186621 & Lot 1 DP566857) is recognised and acknowledged.
Water flow and drainage	ENGIE commit to working with landowners during the design of the solar farm to ensure the overland water flow originating from the culverts under the Newell Highway on the Western boundary of Lot 2 DP 586990 to the existing drain on the Northern boundary of Lot 373A DP186621 & Lot 1 DP566857 do not suffer a material impact from the construction of the Silverleaf Solar Farm. ENGIE propose to move the location of the solar farm security fence away from the overland water flow path and from the Northern boundary of Lot 373A DP186621 & Lot 1 DP566857. Overland water flow from North to South of Lot 2 DP 586990, particularly the water flow captured by the existing drain on the Northern boundary of Lot 373A DP186621 & Lot 1 DP566857, are not anticipated to be impacted by the solar farm once built. However, to ensure impact is minimised the internal solar farm access tracks and associated drains constructed on Lot 2 DP 586990 will be designed where possible to allow overland water flows to follow a natural course. This may include the use of swale (also referred to as table) drains with regularly spaced turn outs to disperse water and the use of culverts or other structures to allow the flow of water under the security fence. As stated above, impacted and adjoining landowners will be consulted during the design of the solar farm. ENGIE also commit to reshape the existing drain on Lot 22 and 23 DP 1174848 during construction of the solar farm and maintain the drain during operation of the solar farm. We acknowledge a mapping error regarding direction of water flow for the existing drain on Lot 22 and 23 DP 1174848 and will consider this in detailed design of the solar farm.

Landowner concern	ENGIE response
Security fence design	ENGIE will consult with impacted and adjacent landowners regarding design of the solar farm security fence to achieve an outcome that will avoid or minimise impact to overland water flows to surrounding properties. This consultation will include the design of the fence, including discussing options such as the type of chain mesh, amount of clearance between the bottom of the chain measure and the natural surface, and an impervious barrier at the base of the fence in select locations to direct water flow along its natural course. The security fence will also be designed and reinforced where necessary to withstand flood waters.
Aerial spraying of crops	ENGIE acknowledges that some impacted and adjacent landowners may aerially spray for crops. We trust that this practice is carried out in accordance with relevant regulations and licencing for aerial spraying, including those set by the NSW Environmental Protection Authority. As per our discussions, we commit to working with landowners during the construction and operation of the solar farm to coordinate with landowner farming activities, including crop spraying. This would include understanding when aerial spraying of crops is intended to be undertaken and the types of chemicals to be used. Where necessary, ENGIE can schedule construction and operational activities at the solar farm to minimise impact to farming activities.
Transmission line	As per our discussion there will be a minimum 30 metre set back from the Northern boundary of Lot 373A DP186621 & Lot 1 DP566857 to the centreline of the overhead transmission line. Additionally, the existing powerline on Lot 373A DP186621 & Lot 1 DP566857 will not be moved from this property.
Vegetation screening	The EIS does not include planting of trees within 100 metres of Lot 373A DP186621 & Lot 1 DP566857.
Inland rail	ENGIE is consulting with ARTC regarding the alignment of the inland rail corridor and the design of the solar farm.
Property value	The impact of the proposal on surrounding land and property value was assessed in Section 6.11.2 of the EIS. Studies (Urbis 2016 and Jones et al 2014) have been undertaken around the world for both solar farms and other renewable energy farms such as wind farms. These studies suggest that the operation of renewable energy projects cannot be directly linked to decreases in property values. Solar farms are expected to have significantly less of an impact on land use and property values when compared to wind farms, due to their reduced visual and noise impact. A number of large scale farms have now been operating in Australia for several years and there have been no formal or informal reported impacts on local land values. With the implementation of mitigation measures, in particular the establishment of screening vegetation to mitigate the proposal's potential visual impact, the main potential impact to adjacent properties, would be minimised. No further mitigation measures are proposed.
Site access	ENGIE are committed to maintaining site access for impacted and adjoining landowners. Any restrictions to site access would be discussed and negotiated with relevant landowners.
Dust management	The proposal has the potential to impact on air quality during construction by generating dust from excavation, vegetation clearance, construction vehicles driving over exposed soils or unsealed roads, and wind blowing over stockpiles and exposed surfaces. Impacts due to the generation of dust and exhaust emissions would be short term, covering the anticipated construction period of 12 months. Dust has the potential to impact on the amenity of those occupying nearby properties. Due to the distance to nearby properties, potential impacts would be minor. Measures to minimise impacts on dust including surveillance, covering stockpiled materials and not undertaking dust-generating works during strong winds would be employed, as outlined in the EIS.

Landowner concern	ENGIE response
Theft during construction	The relative isolation and nature of the boundary fencing is expected to reduce the risk posed by theft/vandalism at the site and with adjacent holdings.
Glare	The EIS concluded that, based on the design of the proposed photovoltaic panels, tracking system, and other infrastructure on the proposal site, glare impacts would be minimal. Further, the installation of appropriate vegetation as screening along the site boundary would assist in minimising visual impacts, including potential glare. This would be discussed with adjoining owners to determine the positioning of screening vegetation, and any potential safety issues.

ENGIE are continuing to engage in consultation with impacted and adjoining landowners to address key concerns via phone calls, emails, letters and face-to-face meetings.

2.3 Ongoing stakeholder engagement

As described in Section 4.2 of the EIS, ENGIE has developed a stakeholder engagement plan to guide engagement with the local community. Consultation will continue to be undertaken over the next phases:

- Post-approval/pre-construction
- Construction
- Operation

The communication and engagement activities would be tailored for each phase, and would generally include:

- Meetings and briefings
- Community information sessions
- Phone, email and written correspondence
- Project website updates
- Distribution of information, including mail outs

Consultation will continue on a regular basis as guided by this plan. A full list of the activities proposed is provided in Table 2-3.

Table 2-3 Proposed consultation activities

Activity	Timing	Post-approval	Construction	Operation
Advertisements	Relevant milestones	✓	✓	
Community engagement team	Ongoing	✓	✓	✓
Community information sessions	Ongoing	✓	✓	
Complaints system	During construction and prior to/during operation		✓	✓
Notifications	As required	✓	✓	
Email and newsletter updates	Relevant milestones and proposal information/ updates		✓	

Activity	Timing	Post-approval	Construction	Operation
Engagement with stakeholders including nearby landowners and residents, government agencies, etc.	Ongoing	✓	✓	✓
Fact sheets	Relevant milestones	✓	✓	
Proposal briefings and presentations	Relevant milestones		✓	
Website	Ongoing	✓	✓	✓

2.3.1 Consultation and community feedback

Consultation with the community and key stakeholders will be ongoing in the lead up to, and during, construction works. The consultation activities will ensure that:

- The community and stakeholders have a high level of awareness of all processes and activities associated with the proposal
- Accurate and accessible information is made available
- A timely response is given to issues and concerns raised by the community
- Feedback from the community is encouraged
- Opportunities for input are provided

The 1800 phone number and proposal email address will continue to be available during construction, along with a construction response line. Targeted consultation methods, such as letters, notifications, signage and face-to-face communications, will continue to occur. The ENGIE website will also include updates on the progress of the proposal.

The following communication tools and activities will be used during the construction phase:

- Project email address
- 1800 phone number
- Updates to the ENGIE website
- Targeted consultation and notifications as required, including letters, notifications, and face to face communication
- Construction signage

2.3.2 Complaints management

The construction contractor engaged to carry out the proposal is required to implement a complaints management system during construction works. This system will be incorporated within the construction environmental management plan (CEMP), which the contractor is required to prepare and have approved by ENGIE and DPIE prior to construction commencing.

3. Response to government agency submissions

3.1 Respondents

Fifteen government agencies made a submission regarding the proposal. Table 3-1 provides a list of these, the submission number and where the ENGIE response is addressed in this report.

Table 3-1 List of respondents – government agencies

Respondent	Submission no.	Section number where issues are addressed
Narrabri Shire Council	1	3.2
Department of Primary Industries (DPI)	2	3.3
Environment Protection Authority (EPA)	3	3.4
TransGrid	4	3.5
Geological Survey of NSW, Division of Resources and Geoscience	5	3.6
NSW Heritage Council	6	3.7
NSW Health - Hunter New England Local Health District (NSW Health)	7	3.8
Natural Resources Access Regulator (NRAR)	8	3.9
Biodiversity Conservation Division - Department of Planning, Industry & Environment (BCD)	9	3.10
NSW Rural Fire Service (NSW RFS)	10	3.11
Transport for NSW (TfNSW)	11	3.12
Roads and Maritime Services (Roads and Maritime)[1]	12	3.13
Crown Lands - Department of Planning, Industry and Environment ('Crown Lands)	13	3.14
Energy, Resources and Compliance – Department of Planning, Industry and Compliance ('DPIE')	14	3.15

Note: 1. Two submissions were received from Roads and Maritime, however they consisted of the same submission with one being sent directly to DPIE and not via the Make a Submission page of the major projects website. For the purposes of this report this has been counted as one submission.

3.2 Narrabri Shire Council

Council provided comments regarding traffic, transport and access; hydrology, groundwater and water quality; and consultation/bushfire as outlined in the section below.

3.2.1 Logans Lane upgrade

Submission

Council would like to know what the proponent is relying upon to trigger the "requirement" to upgrade Logans Lane.

ENGIE response

Traffic impacts of the proposal are outlined in the EIS. The site has direct vehicular access to the Newell Highway to the east, and the Kamilaroi Highway (via Logans Lane) to the southwest. Site access will be from the Kamilaroi Highway (via Logans Lane).

During construction, there would be a maximum short-term peak of 60 heavy vehicle movements per day (i.e. to and from site is two movements) for a two or three day period and a limit of approximately 80 heavy vehicle movements per week (13 per day on average) outside this period. This number could be lower if B-doubles are used rather than semi-trailers.

The intersection at Kamilaroi Highway and Logans Lane is proposed to be upgraded for the purpose of allowing B-double access to the site during the construction period. This upgrade will facilitate B-double access to turn right onto Logans Lane from Kamilaroi Highway and to turn left onto Kamilaroi Highway from Logans Lane.

Consultation with both Roads and Maritime and Council has been incorporated into the design for the intersection of the Kamilaroi Highway and Logans Lane (Figure 3-2). This is in accordance with EIS commitments detailed in Section 6.7.4 of the EIS:

Engie would consult with Narrabri Shire Council during detailed design in regard to the proposed upgrades to Logans Lane. The works will be undertaken in accordance with Council requirements.

3.2.2 Hydrology, groundwater and water quality

Submission

In summary, Council raised the following issues in relation to hydrology, groundwater and water quality:

1. The proposed earthworks, more specifically the “Earthworks would be required in the northern part of the proposal site in order to level the ground in the location of an existing borrow pit used by the landowner…. Some earthworks would also potentially be required to fill any existing dams on site that are not to be retained” have the potential to negatively affect stormwater and any future flood waters at and around the site. As such these impacts should be investigated further.
2. Clause 6.2 Flood Planning and Clause 6.5 Essential Services of the Narrabri Local Environmental Plan 2012 (LEP) are still not addressed within the EIS.

ENGIE response

Item 1: The proposal would result in infilling of on-site dams and loss of swales/dish drains which divert runoff toward these dams. However, this impact is expected to result in negligible impact to existing overland flows.

This notwithstanding, ENGIE is committed to ensuring existing flows to downstream landowners are not impacted. ENGIE will ensure existing overland flows are maintained in consultation with relevant landowners during detailed design and all stages (i.e. pre-construction, construction, pre-operation and operation).

Item 2: As the proposal is permitted without consent under the Infrastructure SEPP and SEPP SRD, the consent requirements of the LEP do not apply. However, the requirements of these clauses were generally considered in Sections 6.6 and 6.8 respectively of the EIS.

3.2.3 Consultation/Bushfire

Submission

Council previously requested that the proponent consulted with the NSW Rural Fire Services prior to lodgement of the EIS. However, the EIS states only that “A bushfire management plan would be prepared in consultation with the Rural Fire Service”.

ENGIE response

Consultation for the proposal was undertaken in accordance with the consultation requirements detailed in the SEARs issued on 22 June 2018.

As discussed in Section 6.10 of the EIS, review of the NSW RFS Bushfire Prone Land Mapping Tool determined the bushfire risk for the proposal site to be low, while operation of the proposal is unlikely to result in any substantial additional bushfire risks.

As noted in Council’s submission, ENGIE is committed to working with RFS in preparation of a Bushfire Management Plan in consultation with NSW RFS during detailed design for the proposal.

NSW RFS provided comments in relation to the management and mitigation of potential impacts associated with the proposal. In response to RFS’s comments, ENGIE has revised and provides additional mitigation measures to address potential impacts associated with the proposal. These additional mitigation measures are outlined in Section 6 (Table 6-1) to address NSW RFS comments on the EIS.

3.3 Department of Primary Industries

Submission

DPI reviewed the proposal and provided no comment.

ENGIE response

DPI’s response is noted.

3.4 Environment Protection Authority

Submission

The EPA notes the proposal is not scheduled for POEO Act purposes, and provided no comment.

ENGIE response

The EPA’s response is noted.

3.5 TransGrid

Submission

In summary, TransGrid provided the following response on the proposal EIS:

Please be advised TransGrid is actively working with the developer to finalise the Silverleaf Solar Farm connection to TransGrid's transmission network. A Connection Enquiry has already been completed and Connection Processes Agreement has been executed between parties in order to finalise the connection works.

ENGIE responses

TransGrid's response is noted. A summary of this consultation and associated consultation is provided in Section 2.2.1.

3.6 Geological Survey of NSW

The GSNSW provided comments regarding consultation, as addressed below.

3.6.1 Consultation

Submission

In summary, GSNSW provided the following comments in relation to consultation:

1. The proponent has included a dated MinView search that shows the subject site is covered by current titles. PEL 238 held by SANTOS NSW Pty Ltd covers the site. While PEL 238 expired in August 2016, renewal for this licence has been applied for. Until the renewal application is determined, the licence remains current.
2. The proponent should make contact with the titleholder to determine if the solar farm would have an impact on exploration activities and provide evidence of consultation to the Division.
3. GSNSW note that at this stage of the planning process, no biodiversity offset methods have been determined. GSNSW would appreciate early consultation in relation to any proposed stewardship sites.

Response

Item 1: Consultation was undertaken as part of the project to identify key stakeholders and issues for consideration. A number of engagement activities were undertaken both prior to EIS exhibition (section 4 of the EIS) as well as during and after EIS exhibition (section 2.2). Government agencies, key stakeholders (including interest groups and organisations), and the community were invited to make written submissions on the proposal. No comments on the project was received from SANTOS NSW PTY LTD ('Santos').

Santos is not a government agency for which consultation is required. The presence of a current licence (PEL 238) over the subject site does not preclude development of the proposal.

Item 2: The proposal would be required to meet offsetting obligation to address impacts on native vegetation. These obligations have been determined in accordance with the requirements of *Biodiversity Conservation Act 2016* (NSW), calculated using the Biodiversity Assessment Methodology (BAM) and documented in a Biodiversity Development Assessment Report (BDAR).

Section 6.2.5 of the EIS outlines offsetting under the *Biodiversity Conservation Act 2016* (NSW). In accordance with the offset rules established by the *Biodiversity Conservation Regulation 2017* (NSW) there are various means by which offsetting obligations can be met. These include:

- Retiring the appropriate credits from an established stewardship site.
- Monetary payment directly into the Biodiversity Conservation Trust Fund, or
- Funding an approved biodiversity action. Funding a biodiversity action may be available as a last resort, subject to consultation with approval authorities, if all other options are determined to be unsuitable.

The preferred approach to offset the residual impacts of the proposal is to secure and retire appropriate credits from stewardship site/s that fit within the trading rules of the Biodiversity Offset Scheme and in accordance with the 'like for like' report generated by the credit calculator.

Section 9 of the EIS addresses offset requirements for the proposal. The EIS states that a payment to the Biodiversity Conservation Trust (BCT) could be considered if a suitable number and type of biodiversity credits could not be secured from third parties.

ENGIE is committed to meeting offsetting obligations for the proposal, and is open to options to secure appropriate credits. ENGIE welcomes dialogue with any stakeholders with suggestions, advice or questions in regards to securing appropriate credits for the project.

3.7 NSW Heritage Council

The NSW Heritage Council provided comments regarding non-Aboriginal heritage buildings and features.

3.7.1 Visual impacts on non-Aboriginal heritage

Submission

In summary, the NSW Heritage Council raised the following issues in relation to non-Aboriginal heritage associated with the proposal:

1. While the proposal would not physically impact any locally or State-heritage listed items, there may be adverse visual impacts associated with the transmission line infrastructure. The EIS contains insufficient visual impact assessment with respect to heritage items.
2. It is recommended that if the project is approved, a condition of approval be included requiring further assessment and the inclusion of any necessary mitigation measures to alleviate any visual impacts the project may have on heritage items, their setting and key views and vistas. In particular, the locally listed Old Narrabri Cemetery (I108) on Stoney Creek Road will be impacted as the transmission line will wrap around this cemetery.

ENGIE response

As noted in the NSW Heritage Council's response, the existing State-listed items are located in the township of Narrabri. There are existing transmission lines in the immediate vicinity and numerous other infrastructure and development, which are not in keeping with the aesthetic or character of the State-listed items. Therefore, it is considered that the introduction of an additional transmission line (where a number exist already), more than one kilometre from the nearest State-listed item, would have a negligible visual impact on the aesthetic or character of the State-listed items.

As for potential visual impacts on the aesthetic or character of the locally-listed Old Narrabri Cemetery (I108), there are existing transmission lines on both sides of the road reserve in the vicinity of the item. The proposal would follow the alignment of the existing transmission line on the northern side of Stoney Creek Road. Therefore, it is considered that the proposal would have negligible visual impact on the aesthetic or character of the locally-listed Old Narrabri Cemetery (I108) as such impacts currently already occur due to other transmission lines already in place.

Furthermore, a Historic Heritage Assessment (OzArk, 2019) was prepared for the EIS considering the Criterion identified in the *NSW Heritage Office guidelines for Assessing Heritage Significance* (Heritage Office 2001). This assessment concluded that there are no likely impacts to historic heritage from the activities of the proposal.

For these reasons, ENGIE considers that any requirement to undertake further assessment of the visual impact of the project on historic heritage items is unwarranted.

3.8 NSW Health

NSW Health provided comments regarding hydrology, groundwater and water quality and are addressed in the below sections.

3.8.1 Water supply

Submission

The selected option for the provision of a private potable water supply is likely to require a Quality Assurance Program in accordance with the provisions of the *Public Health Act 2010*. The proponent is encouraged to contact Hunter New England Local Health District with respect to developing a Quality Assurance Program and water carter registration.

ENGIE response

Prior to the commencement of operation, ENGIE will ensure the relevant requirements of the *NSW Private Water Supply Guidelines* (HNEHealth 2014) are addressed with consideration to operational potable water, in consultation with HNEHealth. This would include the preparation of a Quality Assurance Program for operation of the proposal.

See Section 6 for inclusion of this commitment as a relevant management measure.

3.9 Natural Resources Access Regulator

The Natural Resources Access Regulator (NRAR) provided comments regarding hydrology, groundwater and water quality, management and mitigation and land use soils and capability as address in the below section.

3.9.1 Water supply

Submission

Insufficient information has been provided to confirm a viable water supply is available.

ENGIE response

The EIS estimated that up to 20 kilolitres of water would be required per day of construction. Some water may be sourced from the existing farm dams, with supplementary water sourced from a town supply such as Narrabri under a commercial arrangement.
During operation, the proposal is expected to use about 2.5 mega litres of water per year to clean the solar arrays as part of maintenance activities. Rainfall is generally sufficient to clean the solar arrays, and therefore the volume of water required for cleaning is dependent on annual rainfall. A small volume of water would also be required for the amenities building. All water requirements beyond what can be supplied by site water harvesting would be sourced from a town supply such as Narrabri (under a commercial arrangement) and would be trucked to site.

3.9.2 Management and mitigation

Submission

1. The proponent should obtain relevant approvals and licences under the *Water Management Act 2000* before commencing any works which intercept or extract groundwater or surface water (including from on-site dams where necessary), or for any works which have the potential to alter the flow of floodwaters.
2. Clarification should be provided of the proposed infrastructure layout to meet the buffer requirements from watercourses as defined in the *Guidelines for Controlled Activities on Waterfront* Land (NRAR 2018).

ENGIE response

As discussed in Section 5.3.2 of the EIS, the following approvals under the *Water Management Act 2000* (WM Act) do not apply to State significant development (SSD) applications:

- A water use approval under Section 89
- A water management work approval under Section 90
- An activity approval (other than an aquifer interference approval) under Section 91 of the *Water Management Act 2000* (WM Act)

The proposal would require an aquifer interference approval under section 91 of the WM Act. However, DPI – Water (2017) have indicated that requirements for aquifer interference activity approvals have not yet commenced under the WM Act, and as such aquifer interference activities are regulated under Part 5 of the *Water Act 1912*.

During construction of the transmission line, excavation would involve installing poles up to seven metres deep. There is a potential for the foundations for these poles to intercept groundwater. The volume of groundwater to be displaced during construction of the transmission line poles is expected to be minimal. However, while the proposal does not propose to 'take' groundwater during construction of the transmission lines, the excavations would likely intercept groundwater. Therefore, a groundwater licence under Part 5 of the *Water Act 1912* would be required.

In relation to on-site dams, the proposal does not involve construction of any dams. Any existing dams to remain on-site are considered part of the proposal site's Maximum Harvestable Right Dam Capacity (MHRDC). In accordance with advice of the DPIE (2019a) in their publication *Water Access and Licensing During Drought*, if a dam is within the 'harvestable right', no approval or water access licence is required.

3.9.3 Erosion

Submission

The proponent should prepare a Construction Environmental Management Plan (incorporating an Erosion and Sediment Control Plan) prior to commencement of activities.

ENGIE response

As stated in Section 6.4.4 of the EIS, an ESCP will be prepared as part of the CEMP prior to construction to minimise impacts on soils during construction.

3.10 Biodiversity Conservation Division

Item 1 and 2: The Biodiversity Conservation Division of the Department of Planning, Industry and Environment provided comments regarding offsetting (Section 6.2.5 of the EIS), vegetation mapping (Section 6.2.1 of the EIS), vegetation clearing (Section 6.2.2 of the EIS) and targeted threatened flora surveys (Section 6.1.2 of the EIS).

3.10.1 Offsetting

Submission

The BCD identified the following concerns:

1. Identification of Category 1 land: The accredited assessor does not appear to have considered whether the site contains any Category 1 – Exempt Land.
2. An assessment should be conducted to determine whether any areas on the development site can be designated as Category 1 – Exempt. Any clearing of native vegetation on Category 1 – Exempt land will not require biodiversity offsets. Evidence must be provided to support areas designated as Category 1 – Exempt.

ENGIE response

Item 1& 2:

The *Local Land Services Act 2013* categorises land to determine native vegetation management options for landholders (i.e., Category 1 – Exempt Land). The circumstances under which land is to be designated as Category 1 – Exempt and Category 2– Regulated are set out in s.60H-60J of the LLS Act and cl.109-114 of the *Local Land Services Regulation 2014.*Clearing of native vegetation on land that meets the definition of Category 1 - Exempt Land (under the *Local Land Services Act 2013 (LLS Act*)) does not require assessment or offsetting under the BAM (refer to s.6.8 (3) under the BC Act and s.2.3.1.1 of the BAM).

GHD has recently completed an assessment on behalf of ENGIE to determine if any areas of the development site can be designated as Category 1- Exempt Land. This assessment included a review of historic aerial imagery (prior to 1990), publicly available datasets including land use mapping (2017) (DPIE 2019b), Landsat woody extent mapping (DPIE 2011) and landowner testimonies.

Historic aerial imagery provided in Figure 1 of Appendix A shows approximately 193 hectares of the site has been previously cleared and cropped prior to 1990. This evidence is also supported by land use mapping that shows portions of the site are mapped as cropped as well as woody extent mapping which indicates that the majority of the site consist of non woody vegetation (refer to Figure 2 and 3 in Appendix A). Statutory declarations from landowners that attest to historical cropping practices across the site are provided as Appendix B. These testimonies support the historic aerial imagery and land use mapping which all indicate that large areas within the development site were cleared prior to 1990.

Areas within the proposal site that ENGIE propose meet the definition of Category 1 exempt land provided in the LLS Act are shown on Figure 4 of Appendix A. The BDAR has been amended and this land excluded from the assessment to reflect this change of land classification.

3.10.2 Vegetation mapping

Submission

The BCD identified the following concerns:

1 The native vegetation extent does not appear to have been mapped in accordance with the Biodiversity Assessment Method (BAM). Section 4.3.2 of the BAM requires that both woody and non-woody native vegetation be assessed on the site and within a 1500 metre buffer of the development site.

2 Comparing the aerial image with the mapped native vegetation extent (Figure 4-1), it appears that areas of woody vegetation likely to be native have not been fully mapped.

3 There is no derived native grassland included with mapped native vegetation extent, despite this being identified on the proposal site. Native vegetation on the proposal site, which includes derived native grasslands shown in Figure 5-1, has not been mapped as part of the native vegetation extent.

Recommendations

- All native vegetation extent, including derived native grassland, be assessed in accordance with section 4.3.2 of the BAM.
- The revised percentage of native vegetation extent be used for BAM calculations.

ENGIE response

Item 1, 2 & 3: Native vegetation extent has been reviewed and Figure 4-1 of the BDAR amended to include small areas of woody vegetation that were not included in the assessment. The native vegetation extent for the 1500 m buffer has been recalculated based on the incorporation of these small areas of woody vegetation that were previously not included in the assessment.

Apart from the omission of these very small areas of woody vegetation, it is our understanding that native vegetation extent has been mapped in accordance with the BAM. Although the BAM does specify that both woody and non-woody vegetation types should be assessed, Section 4.3.2.1 of the BAM states ‘the assessor must estimate the percent cover of native woody and non woody vegetation types relative to the approximate benchmarks for these PCTs”.

Section 4.3.2.2 of the BAM details that “native over-storey vegetation is used to determine the percent cover in woody vegetation types, and native ground cover is used to assess cover in non-woody vegetation types”.

With consideration of the above sections of the BAM, the BDAR has not included areas of derived native grassland within the native vegetation extent as derived native grassland (which is part of a modified woody vegetation type) has 0% of the benchmark over storey cover for a woody PCT and so its contribution to native vegetation cover is 0%. Accordingly, it is our understanding of the BAM that areas of derived native grassland should not be included in the native vegetation cover polygon on the landscape assessment map.

Further detail regarding how native vegetation extent was calculated is provided in the BDAR.

3.10.3 Vegetation clearing

Submission

Poplar Box Grassy Woodland on Alluvial Plains has recently been listed as an endangered ecological community (EEC) under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). There is potential for the Poplar Box community on the site to meet the definition of the EEC.

Recommendation

The Poplar Box community on-site be assessed against the conservation advice for the EPBC listed Poplar Box Grassy Woodland on Alluvial Plains.

ENGIE response

The Poplar Box Grassy Woodland on Alluvial Plains was listed on 4 July 2019 as an endangered ecological community (EEC) under the *Commonwealth Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

One of the PCTs that occur within the proposal site (Poplar Box- White Cypress Pine shrub grass tall woodland of the Pilliga-Warialda region, Brigalow Belt South Bioregion (PCT 397) contains species that may be characteristic of this EEC. This PCT is mapped within the proposal site as both intact woodland (1.15 ha) and derived native grassland (32.69 ha) (where the canopy and mid stratum of this community has been removed) (refer to Figure 6-2 in Section 6 of project EIS).

The approved conservation advice for Poplar Box Grassy Woodland on Alluvial Plains (DEE 2019) outlines the key diagnostic characteristics and condition thresholds for this EEC. For EPBC Act referral, assessment and compliance purposes, vegetation is only protected under national environmental law if it meets the diagnostic characteristics and condition thresholds outlined in the approved conservation advice.

A review of the diagnostic characteristics and condition thresholds for Poplar Box Woodland indicates that the woodland form of PCT 379 within the proposal site does not conform with the EEC listing as although *Eucalyptus populnea* (Poplar Box) occurs occasionally in the canopy layer it is not the dominant species (i.e. does not form 50% or more of the total canopy cover within the community as required under the EPBC listing).

Similarly, areas mapped on Figure 6.4 of the EIS as the derived native grasslands form of PCT 397 are not considered to form part of this nationally listed EEC as patches lacking the canopy cover are not considered part of this ecological community (DEE 2019).

Regardless, it has always been the intention of ENGIE to avoid impacts to the woodland form of PCT 397. A slight mapping discrepancy has resulted in the inclusion of a narrow fringe of the woodland form of PCT 397 within the proposal site identified in the project EIS. The proposal site has therefore been amended so that all direct impacts to the woodland form of PCT 397 are now avoided (refer to attached Figure 5.1). Indirect impacts on this PCT would be avoided through the safeguards and mitigation measures outlined in section 8 of the BDAR and section 6.2.3 of the EIS.

The BDAR for the proposal has been updated to include an updated project footprint that avoids the full extent of the woodland form of this community.

3.10.4 Vegetation integrity scores

Submission

BCD considers that the reduction in groundcover vegetation scores does not take into account all impacts of the installation and operation of the solar farm and that the installation of approximately 20,000 piles would involve the complete removal of the groundcover for each pile location. In addition, the BDAR does not to take into account impacts associated with laying of cables, or construction impacts associated with laydown areas, access tracks and machinery movement. There is no justification for reducing groundcover vegetation scores, and no scientific evidence has been provided to support the percentage reductions.

Recommendation

Biodiversity offset calculations be revised with all groundcover scores for the development being reduced to zero unless the accredited assessor can provide adequate scientific data to support lesser reductions.

ENGIE response

The BDAR has been updated to account for permanent impacts associated with the proposal. For all areas where there is likely to be complete or permanent disturbance of vegetation i.e. site compounds, access tracks, fences and pile locations future vegetation integrity scores have been reduced to 0. For areas where impacts to derived grasslands would be limited to the effects of temporary disturbance during construction, routine maintenance and ongoing shading beneath the panel array and there has been a partial reduction in the future integrity scores.

The BDAR for the project has assumed that the construction and operation of the project would not result in the complete removal of all vegetation and that the derived native grasslands within the site would persist beneath the solar array (while acknowledging that native species diversity and cover may be impacted to some extent). This assumption was based on an analysis of the likely impacts and the accredited assessors use of judgement regarding the native grass and forb species that occur within the site, the majority of which are tolerant of disturbance (based on evidence of their persistence at the site despite exposure to intense agricultural practices over a long period of time). As such the ‘future vegetation integrity score’ for the various vegetation zones was calculated based on a partial reduction in the future vegetation integrity score rather than total loss (refer to section 9.1.1 of the BDAR for a detailed description regarding how the partial reduction was calculated).

We would argue however that the lack of scientific research in this area should not rule out anecdotal evidence and that it would not be unreasonable to assume that areas of derived grassland would not be completely lost due to partial shading and ongoing maintenance of the site. The fact that these derived grasslands persist within the site despite a long history of intensive agricultural land use which includes cropping and grazing supports the position they are resilient grassland communities. An assessment of the native plant species present within these grassland communities indicates that the majority of these species would be tolerant to partial shading and temporary disturbances associated with construction.

This anecdotal evidence is supported by observations from monitoring currently being undertaken by GHD at Beryl solar farm which indicate that derived grasslands are able to be established beneath a solar array. Results of early monitoring at this site have also found than numerous native grass and forb species have regenerated from the soil seed bank following soil disturbance below panel arrays.

Reducing the future vegetation integrity scores to 0 across the entire site however would result in a substantial increase in the credit requirements for the project from 290 ecosystem credits (when assuming that native grasslands will persist beneath panels and between panel rows although in somewhat modified form (as described above)) to 1021 ecosystem credits if a total loss of all native vegetation is assumed.

At present there are no suitable credits available for purchase on the Biodiversity Offsets and Agreements Management (BOAM) credit supply register. Therefore, these credits are currently not able to be purchased through the open market and consequently ENGIE would be required to satisfy their offsets either via a payment to the Biodiversity Conservation Fund (BCF) or through the establishment and management of a suitable stewardship site.

The current price to purchase the required 1021 credits if a total loss is assumed (quoted by the Biodiversity Conservation Trust (BCT) via the Biodiversity Offsets Payment Calculator (BOPC) as of 8 August 2020) would be $6,549,897(inc GST). This is a significant cost impediment for the project.

When the draft BDAR was submitted in April 2019 the BOPC payment report quoted a price of approximately $900,000 to purchase 417 ecosystem credits made up of the following:

- Seven (7) ecosystem credits for the woodland form of PCT 55 Belah woodland on alluvial plains
- 395 ecosystem credits for the derived grassland form of PCT 55 Belah woodland on alluvial plains
- 15 ecosystem credits for the woodland form of PCT 397 Poplar Box –White Cypress Pine shrub grass tall woodland

Since submission of the EIS, additional refinement of the project boundary has resulted in the avoidance of a further 1.15 hectares of the woodland form of PCT 397 and therefore the credit requirement for this PCT has reduced to zero. Further, the Category 1 exempt land assessment described in section 3.10.1 has resulted in additional 40 hectares of the derived grassland form of PCT 55 being excluded from the assessment.

If the assumptions around the derived grassland persisting in a modified form beneath the solar array were to remain, the cost to offset 290 ecosystem credits via payments to the BCT would be $1,860,401 (inc. GST) (as of 8 October 2020). This represents a greater than 50 percent increase in the offsetting costs for the project despite the impacts requiring offsets reducing by approximately one third since the project EIS was submitted. This increase is a result of the BCT increasing their price quoted per credit for PCT 55 from $2,017 in April 2019 to the current price of $5,813 (as of 8 October 2020).

If ENGIE are required to calculate losses to vegetation integrity based on an assertion that there would be a total loss of all native species richness and cover as well as loss of all leaf litter beneath the solar array (which as discussed above is unlikely). The cost required to offset 1021 ecosystem credits would be in excess of $6.5 million. This would represent a seven-fold increase to the projects offsetting costs. This large increase in costs would have significant financial consequences for the viability of this project.

The costs discussed above appear to be significantly disproportional to the minor residual impacts that would result from this project. To date ENGIE has made significant effort through the development and design process to avoid and minimise impacts to biodiversity values (a requirement of the BAM). As described above these residual impacts are predominantly limited to the disturbance of a relatively small area of low quality derived grassland with limited biodiversity values that have been already been impacted through past land clearing and are subject to ongoing impacts associated with grazing and cropping.

Given that the native vegetation within the proposal site is currently not protected and that agricultural entitlements mean that this grassland could be cleared by the currently land-owners without the need for approvals or dispensation for such impacts, it would suggest that the offsetting requirements for this project are disproportionate.

In light of the implications that the substantial offsetting costs would have on the viability of this, we request that DPIE support our position on the limited reduction in vegetation integrity scores associated with the project. It is our opinion that offsets for the 290 ecosystem credits more accurately reflect the impacts of the project on biodiversity values.

3.10.5 Targeted flora surveys

Submission

The BDAR includes targeted flora surveys for five threatened flora species, which were not located during survey and so have been subsequently discounted from requiring species credits. Three of these species have been recorded in the locality (Finger Panic Grass, Belson's Panic and Spiny Peppercress).

The BDAR notes that surveys were undertaken during drought conditions, and that the proposal site was very dry at the time of the survey. The NSW Guide to Surveying Threatened Plants states that, where suboptimal conditions such as prolonged drought has substantially affected the site, the proponent may choose to use an expert report to assess the species' presence or absence. Alternatively, the species can be assumed to be present at the development site.

Recommendation

The proponent should discuss the need for expert reports or assumption of presence of threatened flora species likely to occur on the site with BCD.

ENGIE response

Although conditions at within the proposal site was dry at the time of the site surveys, results from the floristic plots that were collected in March 2018 indicate that plant diversity was still relatively high. At the time of this March 2018 survey there was a relatively dense ground cover, with the majority of plant species having reproductive material which allowed for identification to species level. A total of 143 flora species was recorded within the site including 104 native species. Of the 104 native species recorded a total of 42 were grasses with 30 being native grasses. It is considered likely therefore that if *Digitaria porrecta* (Finger Panic Grass), *Digitaria setosum* (Bluegrass) or *Homopholis belsonii* (Belson's Panic) occur within the site they would have been recorded during the survey.

Regardless as there were good summer rainfalls in the Narrabri area (as of early February 2020) which significantly improved the conditions for the detection of summer flowering grasses. ENGIE commissioned GHD to complete additional targeted threatened flora surveys across the site in ideal conditions (surveys completed 26-28 February 2020). None of the candidate threatened species identified for the site were recorded during these surveys and as such these species can be discounted from occurring within the proposal site.

Although the conditions during the September and November 2018 surveys which targeted *Lepidium aschersonii* (Spiny Peppercress) and *Swainsona murrayana* were much dryer than during the March surveys. The threatened species profile for Spiny Peppercress states that an apparent increase in the numbers of this species during drought conditions have been observed (OEH 2020). The profile also states that the species is reported to be salt tolerant and grows well under drought conditions (OEH 2020). Surveys that were completed in September/November 2018 are therefore considered adequate to assess for the presence of this species within the site.

Swainsona murrayana has not been recently recorded in the Narrabri area since 1886. The closest contemporary record of this species is from the Pilliga Nature Reserve and are located approximately 70 km south of the proposal site. Given this species was not recorded during targeted surveys, the lack of local records combined with the disturbed nature of the site it is considered unlikely that this species would occur within the site.

With consideration of the above it is considered that appropriate survey for threatened flora species has been completed at the site. The BDAR has been updated to include details of the additional threatened flora assessment completed at the site under ideal conditions for the detection of threatened grass species identified as having potential to occur within the proposal site.

3.10.6 Planted vegetation

Submission

The BDAR includes areas of planted vegetation. The species that comprise the planted vegetation area not identified in the BDAR, and there is no information regarding the ages of the plantings. There is potential for the planted vegetation to provide some habitat values for threatened species.

Recommendation

1. More information on the planted vegetation, including age and species should be included in the BDAR.
2. Planted vegetation should be assessed to determine whether it conforms to a PCT.

ENGIE response

Figure 6.4 of the EIS shows three patches of planted native vegetation, totalling an area of 10.95 hectares. One of these patches is located on the northern boundary of the proposal site and two windbreaks run across the site in a roughly east west orientation.

Historic aerial imagery shows that none of the planted vegetation within the proposal site was present in 1998. Aerials from 2006 show the presence of the small patch of planted vegetation in the north of the site as well as the northern windbreak. This indicates this vegetation was planted somewhere between 1998 and 2006 so is likely to be approximately 20 years old. The southern wind break can be seen on aerial imagery from 2011 indicating this vegetation was planted somewhere between 2006 and 2010 and is therefore 10-15 years old.

The planted vegetation on the site includes a variety of planted native species. Species present within this vegetation include a mixture of young eucalyptus and Acacias, most of which were not able to be identified during field surveys due to a lack of reproductive material. Bark and tree form indicates that species may include *Eucalyptus chloroclada* (Dirty Gum), *Eucalyptus conica* (Fuzzy Gum) and *Acacia saligna* (Golden Wreath Wattle).

The planted vegetation within the site occurs within land that has been determined to meet the definition of Category 1- Exempt land, this vegetation has therefore been excluded from the BDAR (refer to section 3.10.1).

3.11 NSW Rural Fire Service

The NSW RFS provided comments regarding bushfire issues, these are addressed in the below section.

3.11.1 Bushfires: Management and mitigation

Submission

The NSW RFS provided the following comments in relation to management and mitigation of potential impacts associated with the proposal:

1. A Fire Management Plan (FMP) should be prepared in consultation with NSW RFS Namoi Gwydir Fire Control Centre. The FMP should include:
   - 24-hour emergency contact details including alternative telephone contact
   - Site infrastructure plan
   - Firefighting water supply plan
   - Site access and internal road plan
   - Construction of Asset Protection Zones (APZ) and their continued maintenance
   - Location of hazards (Physical, Chemical and Electrical) that will impact on firefighting operations and procedures to manage identified hazards during firefighting operations
   - Such additional matters as required by the NSW RFS District Office (FMP review and updates)
2. The proposal site should be managed as an APZ as outlined in Section 4.1.3 and Appendix 5 of 'Planning for Bush Fire Protection 2006' and the NSW Rural Fire Service's document 'Standards for Asset Protection Zones'.
3. A 20,000 litre water supply (tank) fitted with a 65 mm storz fitting shall be located adjoining the internal property access road within the required APZ.
4. A 10 metre defendable space (APZ) that permits unobstructed vehicle access should be provided around the perimeter of each of the solar array development sites including associate infrastructure.

ENGIE response

Items 1, 2, 3 and 4: A Bushfire Management Plan was identified as an appropriate management and mitigation measure in Section 6.10.3 of the EIS, to be prepared during detailed design.

The revised/additional measures described below will be implemented to address NSW RFS comments, and have been reproduced in Section 6 (Table 6-1).

A bushfire management plan would be prepared in consultation with the NSW Rural Fire Service (NSW RFS) Namoi Gwydir Fire Control Centre and NSW RFS District Office. This plan would include but not limited to the following:

- *24-hour emergency contact details, including alternative telephone contact*
- *Management of fuel loads onsite and identification of hazards (physical, chemical and electrical) at risk of fire ignition with potential to impact fire-fighting operations*
- *Sub-plans including:*
  - *Site infrastructure plan*
  - *Fire-fighting water supply plan*
  - *Site access and internal road plan*

- *Operational procedures relating to mitigation and suppression of bush fire relevant to the operation of a solar farm, including management of identified hazards during fire-fighting operations.*
- ~~*Management activities with a risk of fire ignition*~~
- ~~*Management of fuel loads onsite*~~
- *The below requirements of Planning for Bush Fire Protection 2006:*
  - *Identifying, construction and maintenance of asset protection zones (APZs)*
  - *Providing adequate egress/access to the site*
  - *Emergency evacuation measures*
- *Storage and maintenance of firefighting equipment including siting and provision of adequate water supplies, including provision of an appropriately sized tank within the APZ, located adjacent to the internal access road.*

3.12 Transport for NSW

Transport for NSW provided a response with comments regarding the management of traffic and transport, these comments are addressed in the below section.

3.12.1 Management and mitigation

Submission

In summary, Transport for NSW have made the following suggestions in relation to traffic and access management:

1. The Traffic Management Plan should take into account buses passing along the Kamilaroi Highway during the construction of the new intersection.
2. Bus operators should also be consulted with and informed of any resulting safety measures implemented, such as the reduction of speed limits, to ensure minimal impact on bus services.
3. The following draft conditions should be considered if the proposed development is to be approved.
4. Construction Pedestrian and Traffic Management: The Applicant should prepare a Construction Pedestrian and Traffic Management Plan (CPTMP) in consultation with Narrabri Shire Council, Roads and Maritime Services and the local bus operator Jeffrey Holmes. The CPTMP needs to specify, but not to be limited to, the following:
   - Location of the proposed work.
   - Haulage routes.
   - Construction vehicle access arrangements.
   - Proposed construction hours.
   - Estimated number of construction vehicle movements.
   - Construction program.
   - Any potential impacts to general traffic, cyclists, pedestrians and bus services within the vicinity of the site from construction vehicles during the construction of the proposed works.

– Cumulative construction impacts of other developments. Existing CPTMPs for developments within or around the development site should be referenced in the CPTMP to ensure that coordination of work activities are managed to minimise impacts on the road network.
– Proposed mitigation measures. Should any impacts be identified, the duration of the impacts and measures proposed to mitigate any associated general traffic, public transport, pedestrian and cyclist impacts should be clearly identified and included in the CPTMP.

A copy of the final plan should be submitted to Narrabri Shire Council prior to the commencement of any works.

ENGIE response

It is noted that Roads and Maritime has also provided comment on the EIS relating to the requirements for a TMP during construction of the proposal, with minor differences in applicable requirements (see Section 3.13.2).

In addition, as discussed in Section 6.7.4 of the EIS, ENGIE has committed to preparation of a TMP as part of the CEMP, which includes consultation with the community of changes to the road network. In consideration of TfNSW's comments, this mitigation measure has been revised and reproduced in Section 6, to consider:

- Buses operating along Kamilaroi Highway during the construction of the new intersection
- Consultation with and informing bus operators of any safety measures, such as changing speed limits

3.13 Roads and Maritime Services

Transport for NSW (TfNSW) (formerly Roads and Maritime Services) provided a response with comments regarding the design of the proposal; management and mitigation of impacts; and works in road reserves, all of which are outlined in the below sections.

3.13.1 Design

Submission

In summary, TfNSW made the following suggestions in relation to design of the proposal:

1. The proponent should engage a suitably experienced surveyor and/or solicitor to review the physical location of the proposed high voltage transmission line relative to road and rail corridors and existing cadastral boundaries. It is noted that the historic road formation along the proposed transmission alignment may not be contained entirely within public road reserve.
2. Above-ground structures in roads including transmission line poles or towers are to be located as per Roads and Maritime's Requirements for Overhead Power Lines.
3. The EIS mentions creation of an easement in favour of the private transmission line operator. Generally Roads and Maritime will not support provision of an easement or lease which would burden the public domain for a private purpose, and so as not to inhibit the powers of Council or Roads and Maritime in ensuring the safety, efficiency or integrity of the classified road network and the travelling public.

ENGIE response

Item 1 and 2: The environmental management measures for the proposal have been updated to capture these Roads and Maritime comments (see Section 6).

Item 3: Section 1.2.2 of the EIS states that an easement is required for the 132kV transmission lines which will cross properties owned by Narrabri Shire Council and TfNSW. Landowner consent is required for these transmission lines. Newell Highway and Killarney Gap Road are classified roads, which require the concurrence of Council.

ENGIE has been liaising with NSW Department of Planning, Industry and Environment Crown Lands ('Crown Lands') regarding the best way to authorise the powerlines on Crown land. Crown Lands have advised that the most appropriate method is through the creation of an easement. The easement can be either a private easement, or compulsorily acquired by Essential Energy via agreement. ENGIE will continue to liaise with Crown Lands to investigate the most suitable option for obtaining an easement for the powerlines.

3.13.2 Management and mitigation

Submission

In summary, Roads and Maritime made the following suggestions in relation to management and mitigation measures:

1. The Newell Highway access is not to be used by development traffic but is to remain open for general agricultural use.
2. A Construction Traffic Management Plan (including a broader Traffic Management Plan for the entire life cycle of the project) is to be prepared in consultation with the Roads and Maritime and Narrabri Shire Council. This should outline measures to manage traffic related issues associated with the delivery and construction of solar plant and ancillary structures, any construction or excavated materials, machinery and personnel involved in the construction, operation and decommissioning process.
3. The Plan is to detail the potential impacts associated with the development, measures to be implemented and the procedures to monitor and ensure compliance. The plan should address but not be limited to:
   - The origin, number, size, frequency and destination of vehicles accessing/exiting the site. Although there were some estimations of traffic volumes identified, until greater detail on vehicle size is known this will impact the subsequent traffic volumes.
   - Loads, weights and lengths of haulage and construction related vehicles and number of movements of such vehicles.
   - Existing background traffic, peak hour volumes and types and their interaction with project development related traffic.
   - The management and coordination of construction and staff vehicle movements to the site and measures to limit disruption to other motorists.
   - Scheduling of haulage vehicle movements to minimise convoy length or platoons. Consideration is to be given to minimise the route length for road transport of all over size and over mass loads.
   - Policies and procedures for addressing concerns raised by the community of project related matters.
   - Local climatic conditions that may affect road safety for vehicles used during construction, operation and decommissioning of the project (e.g. dust, fog, wet weather).

- In particular consideration as raised by the local community regarding the current provision of a school bus stop near the intersection of Logans Lane and the Kamilaroi Highway and the impacts to this once the intersection is upgraded.
- The safety of children accessing school bus pick up/drop off locations along the proposed haulage route should be avoided.
- A commitment by the proponent for the use of buses to commute employees to and from the site, particularly during the construction phase.
- Dust mitigating measures by way of an appropriate length of seal along Logans Lane to limit dust impacts on surrounding sensitive receivers.
- Toolbox meetings to facilitate continuous improvement initiatives and incident awareness.
- Truckloads are to be covered at all times when being transported, to minimise dust and loss of material onto roads which may form a traffic hazard.
- Measures to ensure responsible fatigue management and discourage driving under the influence of alcohol and/or drugs, dangers of mobile phone use and driving to the conditions, and adherence to posted speed limits.

4. A Road Occupancy Licence (ROL) is required prior to any works commencing within three (3) metres of the travel lanes of a State classified road, or work that has potential to impact traffic flow such as the use of traffic control devices or signage. A Traffic Control Plan (TCP) prepared by an TfNSW-accredited person is to be submitted as part of the ROL application.
5. A temporary speed zone authorisation for use in connection with any oversize or special vehicle deliveries should form part of a Traffic Management Plan and ROL application.
6. Prior to construction, detailed designs for works within the classified road reserves will need to be submitted and approved by Roads and Maritime for concurrence pursuant to Section 138(2) of the *Roads Act 1993*. This includes transmission line work within the Newell Highway (HW17/A39) and Killarney Gap Road (MR133), and road intersection work within the Kamilaroi Highway (HW29).

ENGIE response

Items 1, 2 and 3: Comments are noted. As discussed in Section 6.7.4 of the EIS, a TMP is proposed to be prepared and implemented as part of the CEMP and would be prepared in accordance with any TfNSW and Council requirements pending receipt of consent.

The revised/additional measures described below will be implemented to address Roads and Maritime comments, and have been reproduced in Section 6.

A traffic management plan would be prepared and implemented as part of the CEMP. The plan would be prepared in accordance with any TfNSW ~~Roads and Maritime~~ and Narrabri Shire Council requirements. The plan would include but not be limited to:

- *Details of the haulage routes for the proposal including loads, weights and lengths of haulage and construction related vehicles and number of movements of such vehicles*
- *Avoidance of the Newell Highway access for the proposal, ensuring to remains open for general agricultural use*
- *Measures to maintain access along roads and to properties, including schedule of haulage vehicle movements to minimise convoy length or platoons*
- *Site specific control measures (including signage) to manage and regulate traffic movements*

- *Consultation would be undertaken bus operators, including buses operating along Kamilaroi Highway will be consulted during the construction of the new intersection*
- *The management and coordination of construction and staff vehicle movements to the site and measures to limit disruption to other motorists, including consideration of carpooling/shuttle bus arrangements to minimise the number of vehicles accessing the site each day*
- *Policies and procedures to consult and inform the community of changes to the road network and address any concerns*
- *A response plan for any traffic incident including toolbox meetings to facilitate continuous improvement initiatives and incident awareness*
- *Mechanisms to monitor the results of the plan and any subsequent reviews and revisions*
- *Outline timing of deliveries and site access, including construction program, construction vehicle access arrangements, estimated number of construction vehicle movements and proposed construction hours*

Item 4, 5 and 6: As discussed in Section 5.3.1 of the EIS, a Section 138 approval under the *Roads Act 1993* will be required from TfNSW for the proposed upgrade of the Kamilaroi Highway and Logans lane intersection, and for the lowering of the speed limit on the Kamilaroi Highway during construction. While a permit is also required from Council for works on Logans Lane.

Relevant licenses and management plans for construction of the proposal would be prepared in consultation with relevant stakeholders and management plans submitted for approval by DPIE prior to the commencement of construction of the proposal.

3.13.3 Works in road reserve

Submission

In summary, Roads and Maritime raised the following issues in relation to works in the road reserve:

1. Prior to commencement of construction of the proposal, the proponent is required to upgrade the intersection of Kamilaroi Highway and Logans Lane to the satisfaction of Roads and Maritime
2. A formal agreement in the form of a Works Authorisation Deed (WAD) is required between the Developer and Roads and Maritime prior to works commencing

ENGIE response

Item 1: The design for the intersection of the Kamilaroi Highway and Logans Lane would be completed during detailed design, in consultation with Roads and Maritime and Council. Construction of this intersection forms part of the first stage of construction works (i.e. site establishment and preparation), pending receipt of approval and satisfaction of all pre-construction consent conditions.

Item 2: ENGIE will ensure consultation with Roads and Maritime continues during detailed design and, pending receipt of development consent, that a WAD is entered into with Roads and Maritime prior to the commencement of construction.

3.14 Crown Lands

Crown Lands provided a response with comments regarding land acquisition for the proposed transmission lines, agency consultation and aboriginal land claims, all of which are outlined in the below sections.

3.14.1 Land acquisition

Submission

In summary, Crown Lands made the following suggestions in relation to land acquisition for the transmission lines:

1. The EIS states that an approval to construct transmission infrastructure on Crown land will be required prior to construction. However, it does not clarify a process for seeking this approval or the type of approval required.
2. The proposed transmission lines described as Option 1 and 2 in the scoping report will both traverse Crown land being TSR Reserves. The proponent is to consult with the department at the earliest opportunity regarding an acquisition of the required land.
3. The proponent will need to liaise with the relevant energy provider in order to arrange for the acquisition of the Crown land required for the transmission line under the *Land Acquisition (Just Terms Compensation) Act 1991*.

ENGIE response

Item 1, 2 and 3: ENGIE has been liaising with Crown Lands regarding the best way to authorise the powerlines on Crown land. Crown Lands have advised that the most appropriate method is through the creation of an easement. The easement can be either a private easement, or compulsorily acquired by Essential Energy via agreement. ENGIE will continue to liaise with Crown Lands to investigate the most suitable option for obtaining an easement for the powerlines.

3.14.2 Agency consultation

Submission

In summary, Crown Lands made the following suggestions in relation to agency consultation:

1. The proposal should be referred to Local Land Services as the Management body of such TSR Reserves.

ENGIE response

Item 1: Consultation was undertaken as part of the project to identify key stakeholders and issues for consideration. A number of engagement activities were undertaken both prior to EIS exhibition (section 4 of the EIS) as well as during and after EIS exhibition (section 2.2). Government agencies, key stakeholders (including interest groups and organisations), and the community were invited to make written submissions on the proposal. No comment on the project was received from Local Land Services.

Travelling stock reserves (TSR) are reserved primarily for use by travelling stock. TSR are also important in terms of the biodiversity and heritage significance, as well as for use in recreation and emergency management.

The transmission line corridor (shown in Figure 5-2) is proposed to traverse through a small section of Category 2 TSR approximately between Killarney Gap and Narrabri Bingara Roads.

The transmission line will be installed either below or above ground. Therefore, the creation of an easement to facilitate the transmission line easement is not expected to interfere with the use or enjoyment of this section of TSR. Environmental impacts associated with construction and operation of the transmission line would be addressed as part of the approval process.

3.14.3 Aboriginal land claims

Submission

In summary, Crown Lands made the following suggestions in relation to Aboriginal land claims:

1. Lot 7315 DP 1136856 is subject to ALC 32924, lodged 1 November 2010. The claim has not yet been determined. Undetermined Aboriginal Land Claims impact some of the affected TSR Reserves. The proponent shall be responsible for addressing the claims under the *Aboriginal Land Rights Act 1983*.

ENGIE response

ENGIE will continue to monitor the status of ALC 32924 in consultation with Crown Lands. If required, ENGIE will endeavour to enter into an agreement with the claimants following determination of the claim in accordance with the provisions of the *Aboriginal Land Rights Act 1983.*

3.15 DPIE

DPIE provided a response with comments regarding landowners classification and consent, noise impacts and traffic, all of which are outlined in the below sections.

3.15.1 Landowners classification and consent

Submission

In summary, DPIE made the following submission regarding landowners classification and consent:

1. Request for a figure clearly showing the Development Application area for the proposal, a schedule of lands listing all relevant land parcels (inclusive of land parcels associated with the transmission line corridor) as well as the provision of any correspondence to date with Crown Lands in regard to landowners consent is requested (for the purposes of satisfying Clause 49(1) and Clause 50(1)(a) of the EP&A Regulation).
2. Confirmation if receiver R15 is an “associated” landowner.

ENGIE response

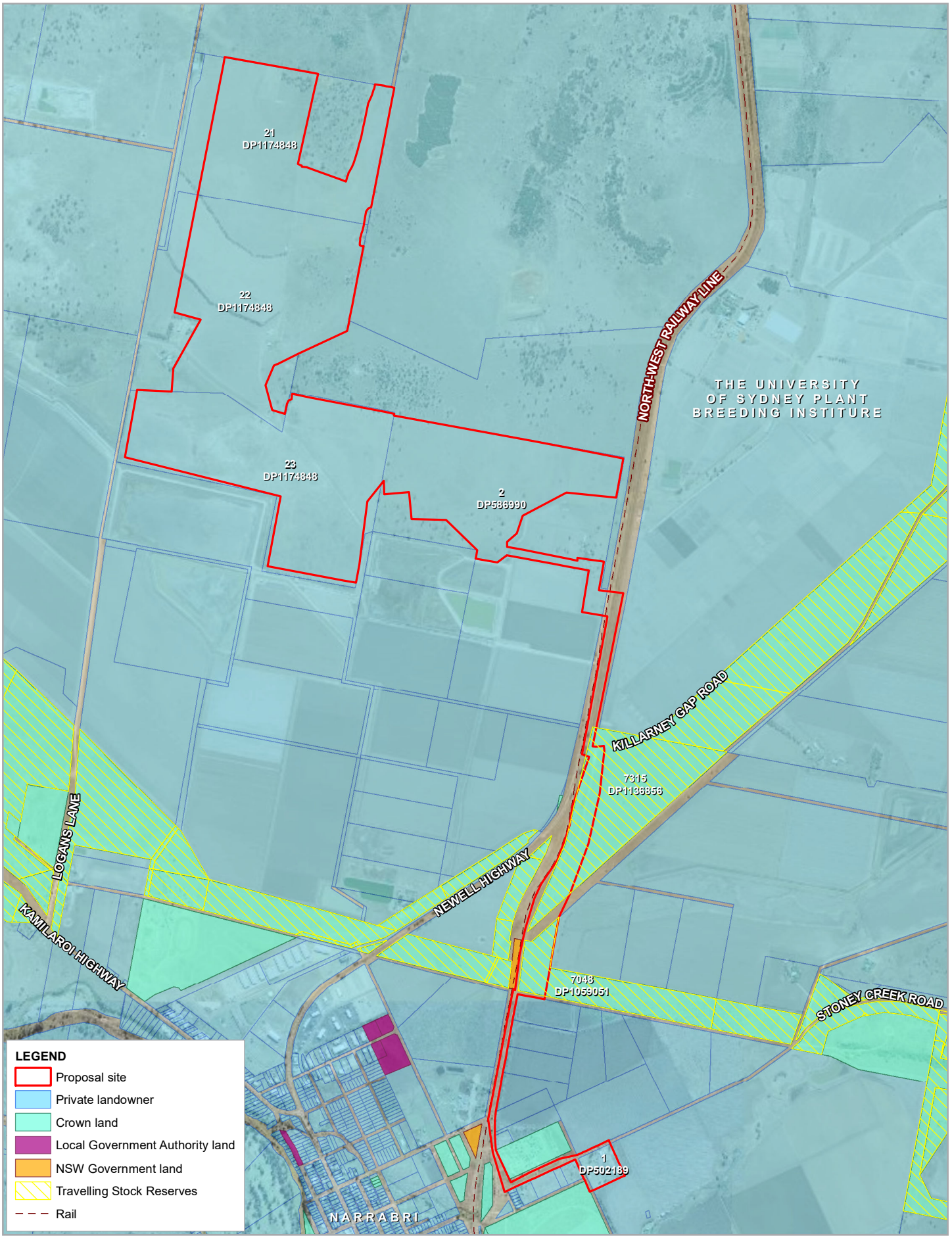
Item 1: ENGIE has prepared a figure to show the Development Application area for the proposal (Figure 3-1). All relevant land parcels (including all land parcels associated with the transmission line corridor) are shown in Table 3-2.

Table 3-2 Landownership details for the development's land parcels

Lot and DP	Landownership	Location
Lot 21 DP 1174848	Private landowner	Solar farm site
Lot 22 DP 1174848	Private landowner	Solar farm site
Lot 23 DP 1174848	Private landowner	Solar farm site
Lot 2 DP 586990	Private landowner	Solar farm site/Transmission line corridor
Lot 7315 DP 1136856	Crown land	Transmission line corridor
Lot 7048 DP 1059051	Crown land	Transmission line corridor
Lot 1 DP 502189	Private landowner	Transmission line corridor

The substation lot (Lot 1 DP 502189) is only being utilised for the purpose of allowing the transmission line to meet the connection point at TransGrid's Narrabri substation.

Item 2: ENGIE confirms that receiver R15 is an "associated" landowner.



Paper Size ISO A4

0 400 800

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

GHD

Engie
Silverleaf Solar Farm

Project No. **21-26998**
Revision No. **1**
Date **27 Mar 2020**

Land Ownership

FIGURE 3-1

N:\AU\Orange\Projects\21\26998\GIS\Maps\Deliverables\21_26998_Z028_LandOwnership.mxd

Data source: General topo - NSW LPI DTDB 2015 & 2012; Aerial imagery - SIX maps 2020 (); Survey data & site details - Engie & Solaire direct; Travelling stock reserves - NSW LLS. Created by:jrprice

3.15.2 Noise impacts

Submission

In summary, DPIE made the following submission regarding noise impacts:

1. The EIS predicts exceedances of the ICNG 'noise affected' criteria at receivers (R005 and R015, R04) and along Bailey Street. The Department requests that ENGIE provide further detail regarding any consultation undertaken to date with these landowners. Justification for the acceptability of exceeding the ICNG noise criteria at these receivers is also required.

ENGIE response

Item 1 To date, extensive consultation has been undertaken with adjoining landowners (landowners within a 2 km radius and additional properties up to 3 km south of the project boundary). The purpose of this consultation has been to establish an open dialogue to answer questions, or discuss potential project impacts as they arise. ENGIE established contact with the adjoining landowners through face-to-face doorknocking where residents were provided with a fact sheet about the project (including how to provide feedback), or alternatively given a 'sorry we missed you' flyer (with contact details for the project team). The following communication lines remain open:

- The toll free 1800 number to call or speak to a member of the project team and provide feedback or information
- The community inbox for enquiries, complaints and feedback

ENGIE targeted sensitive receivers during consultation (Table 3-3).

Sensitive receivers, their potential noise exceedances and the consultation undertaken with these sensitive receivers is provided in Table 3-3 below.

Table 3-3 Noise exceedance and their justifications

Sensitive receiver	Potential noise exceedance	Consultation
R05	10 dB	The property at R05 is occupied by a tenant. ENGIE engaged with both tenant and landlord of the property. This included doorknocking, in person discussions with the tenant, and subsequent phone discussions with the landowner.
R15	12 dB	ENGIE engaged with this resident, as an "associated" landowner.
R04	2 dB	ENGIE has engaged in consultation with the operator of Oakville Aerodrome.
Bailey Street	12 Bailey Street – more than 75 dB(A) (highly affected noise criteria) All other receivers along Bailey Street- between 45 (construction noise management level) and 75 dB(A)	ENGIE has undertaken consultation activities with dwellings on the overhead transmission line route near Bailey Street and Stoney Creek road. This includes door knocking, letter drop of project information sheets, providing contact information to raise concerns, and invitation to attend the community consultation session.

A conservative approach to modelling has been taken, with the worst-case scenario being modelled. This includes using the loudest items of mechanical plant operating at full power under the worst-case meteorological conditions. The site is very large covering three kilometres (north to south and east to west), and the location of the noise generating works will vary, distributing the impacts.

The noise exceedances outlined above are associated with the construction phase of the project. Construction is expected to take between nine and 12 months. Construction is anticipated to be confined to the standard construction working hours outlined in the *Interim Construction Noise Guideline* (DECC 2009) as:

- Monday to Friday: 7:00 am to 6:00 pm
- Saturday: 8:00 am to 1:00 pm
- Sundays and public holidays: no work

In the unlikely event that work outside these hours would be required, residents would be notified.

The noise exceedance is limited to a maximum timeframe of three days. Potential exceedances are expected to be very short term and would reduce as the plant and equipment move further away from the sensitive receiver.

Potential exceedances at R05 and R15 are associated with installation of the steel post foundations, of which each pile would take approximately ten minutes to install. Potential exceedances are anticipated to be intermittent. Installation would take place at a distance of over 300 metres from R15.

Even though the construction noise levels are anticipated to be elevated along Bailey Street during the construction of the transmission line, the works are scheduled to occur no longer than two days duration.

Sensitive receivers are rural-residential dwellings in the area surrounding the proposal site. Agricultural activities including the associated noise impacts currently exist in this environment. Some noise generating activities are similar to those proposed to be undertaken as part of the construction of the project. For example, pile driving for the solar panel foundations would be undertaken using a machine which screws or hammers poles into the ground, similar to that used for driving farm fence poles into the ground.

Communication with sensitive receivers will be ongoing throughout the construction period, especially for potential noise exceedances.

3.15.3 Traffic impacts

Submission

In summary, DPIE made the following submission regarding traffic impacts:

1. The Department requests that ENGIE provide additional information regarding the proposed intersection upgrade works as well as further detail on the extent of any additional surface disturbance that may be required.

ENGIE response

Item 1 Traffic impacts of the proposal are outlined in the EIS. During construction, there would be a maximum short-term peak of 60 heavy vehicle movements per day (i.e. 30 in and 30 out to) for a two or three day period. Outside of this peak period, construction traffic would be limited to approximately 80 heavy vehicle movements per week (13 per day on average). This number could be lower if B-doubles are used rather than semi-trailers. The construction period is anticipated to be for 12 months.

To accommodate the increase in vehicle movements, especially heavy vehicles associated with construction, the intersection of the Kamilaroi Highway and Logans Lane will be upgraded (Figure 3-2). This upgrade will facilitate B-double access to turn right onto Logans Lane from Kamilaroi Highway and to turn left onto Kamilaroi Highway from Logans Lane.

The road upgrade is for the purpose of allowing B-double access to the site during the construction period. The upgrade of the intersection of Kamilaroi Highway and Logans Lane will be undertaken within the existing road reserve. No additional surface disturbance will be required to facilitate the upgrade.

ENGIE has consulted with both Council and TfNSW. As noted in the SEARs submission, TfNSW does not object to a single vehicular access from the intersection of the Kamilaroi Highway (via Logans Lane). The upgrade will be undertaken in consultation with Council and TfNSW.

B–DOUBLE 26M

meters

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 23.4
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

DESIGN VEHICLE PROFILE

B-DOUBLE (26.0m)

B–TRIPLE

meters

Tractor Width	: 2.50	Lock to Lock Time	: 6.0
Trailer Width	: 2.50	Steering Angle	: 21.2
Tractor Track	: 2.50	Articulating Angle	: 70.0
Trailer Track	: 2.50		

DESIGN VEHICLE PROFILE

B-TRIPLE (35.4m)

NOTES

1. ALL DIMENSIONS ARE IN METRES UNLESS NOTED OTHERWISE.
2. VEHICLE TRACKING DESIGN SPEED BASED ON 15KM/H.

PLAN

SCALE 1:500

CONCEPT

No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date
B	TEXT CHANGE		AO			
A	INFORMATION ONLY		TTN			

0 5 10 15 20 25m

SCALE 1:500 AT ORIGINAL SIZE

GHD Tower, Level 3
24 Honeysuckle Drive, Newcastle NSW 2300 Australia
PO Box 5403 Hunter Rgn Mail Cent. NSW 2310
T 61 2 4979 9999 **F** 61 2 4979 9988
E ntlmail@ghd.com **W** www.ghd.com

Drawn	T. NGUYEN	Designer	T. NGUYEN
Drafting Check		Design Check	
Approved (Project Director)			
Date			
Scale	AS SHOWN	This Drawing must not be used for Construction unless signed as Approved	

Client **NSW GOVERNMENT**
Project **SOLAR FARM SILVERLEAF**
Title **KAMILAROI HIGHWAY / LOGANS LANE INTERSECTION UPDGRADE - BAR ONLY OPTION**

Original Size **A1** Drawing No: **22-12518304-SK003** Rev: **B**

Plot Date: 25 March 2020 - 5:20 PM Plotted by: Anders Oldham Cad File No: \\ghdnet\ghd\AU\Newcastle\Projects\22\12518304\CADD\Drawings\22-12518304-SK003.dwg

4. Response to community submissions

4.1 Respondents

Five community submissions were received. Table 4-1 provides a list of these, submission number, issues raised and where the ENGIE response is provided in this report.

Table 4-1 List of respondents – community

Respondent	Submission no.	Issue	Section number where issues are addressed
Individual	13	Land use, soils and capability (property values) Landscape and visual amenity	4.3 4.6
Individual	14	General support for the proposal	4.2
Individual	15	General Support for the proposal	
Individual	16	Consultation Hydrology, groundwater and water quality Project description (Inland Rail description)	4.4 4.5 4.7
Individual	17	Land use, soils and capability (property values) Consultation Hydrology, groundwater and water quality Biodiversity	4.3 4.4 4.5 4.8

4.2 General support for the Proposal

Submission numbers(s)

14 and 15

Submission

The respondents gave general comments of support for the Proposal on the basis of support for the use of renewable energy and benefits to employment.

ENGIE response

The respondents comments have been noted.

4.3 Land use, soils and capability

4.3.1 Property values

Submission number(s)

13 and 16

Submission

The respondents indicated concern in relation to potential impacts of the proposal on the property values of adjoining landowners.

ENGIE response

The impact of the proposal on surrounding land and property value was assessed in Section 6.11.2 of the EIS.

Studies (Urbis 2016 and Jones et al 2014) have been undertaken around the world for both solar farms and other renewable energy farms such as wind farms. Both studies suggest that the operation of renewable energy projects cannot be directly linked to decreases in property values. Solar farms are expected to have significantly less of an impact on land use and property values when compared to wind farms, due to their reduced visual and noise impact. A number of large scale farms have now been operating in Australia for several years and there have been no formal or informal reported impacts on local land values. With the implementation of mitigation measures, in particular the establishment of screening vegetation to mitigate the proposal's potential visual impact, the main potential impact to adjacent properties, would be minimised. No further mitigation measures are proposed.

4.3.2 Land use conflict

Submission number(s)

16 and 17

Submission

The respondents provided the following comments in relation to potential conflicting land use issues:

1. Development of the proposal may inhibit use of airborne application of chemical fertilizers on adjacent cotton farm. Unsure as to whether cotton growing is compatible with a solar farm.
2. The proximity of the proposal (i.e. transmission line and screening trees) have the potential to impact on adjacent landowners and their operations.
3. Will the existing power line proposed to be removed from the proposal site also be removed through Lot 1 of DP 566857?

ENGIE response

Item 1: The proposal would not impede south easterly winds which the land holders require to conduct chemical and fertiliser application. During operation, the proposal will have a maximum of six employees on site between Monday and Friday, and will also be able to be controlled remotely. It is the land users moral and legal obligation to prevent it drifting and contaminating neighbouring properties. ENGIE are dedicated to working with relevant stakeholders and adjoining landowners to ensure ongoing consultation in relation to having a shared boundary.

Item 2: The use of screening trees in the proposal would be in consultation with the private air strip land owner such that plane and crop duster operations are not compromised. Tree screening is also expected to reduce any glare issues at adjacent properties. A risk assessment based on the Department of Industry's *Land Use Conflict Risk Assessment Guide*, which determined the risks to surrounding properties as a result of the proposal would be low, as outlined in Section 6.6 of the EIS. The proposal has a reversible nature and can be decommissioned and rehabilitated returning the land to its former agricultural use at the end of the operational period.

Item 3: The existing power line would not be moved off Lot 1 DP 566857 as part of the proposal.

4.4 Consultation

4.4.1 Stakeholder identification and consultation

Submission number(s)

16 and 17

Submission

The respondents provided the following comments in relation to potential stakeholder identification and consultation issues:

1. The applicant's EIS appears to suggest the neighbour to the south is only AGT, however this is not correct.
2. We have not been consulted by the proponent to date.

ENGIE response

Item 1 and 2: ENGIE is currently in the process of undertaking consultation with relevant landowners to ensure concerns are understood and addressed, where practicable.

A high-level summary of these consultation activities is provided in Section 2.2.5, with consultation to be ongoing during detailed design and all stages all stages (i.e. pre-construction, construction, pre-operation and operation).

4.5 Hydrology, groundwater and water quality

4.5.1 Flooding and overland flows

Submission number(s)

16 and 17

Submission

The respondents provided the following comments in relation to potential flooding issues:

1. The flow path shown in Figure 2 of the EIS has the water flowing in the wrong direction.
2. The development site is affected by overland flows running east to west.
3. Proposed fencing will inhibit water flow in creek (debris build up), fence position is vulnerable to flooding, EIS flow figures questioned.
4. Development site affected by overland flows, it is critical that overland flows not be blocked or diverted.
5. Questions whether flooding has been adequately assessed to factor in significant rainfall events.

ENGIE response

Items 1, 2, and 3: Item 1 refers to Figure 2 of Appendix F of the EIS, this comment is correct. Figure 2 incorrectly identified flows from the proposal site running from the north/north-west to the southern boundary and into the dam which straddles Lot 373A of DP 186621, Lot 171 of DP 754944 and Lot 1 of DP 566857.

Instead, water flows from this dam through the proposal site in a north-westerly direction, as identified in Item 2. However, despite this, discussion and assessment in Section 6.8 of the EIS main text correctly identifies flow direction.

Item 4 and 5: The proposal will result in infilling of on-site dams and loss of swales/dish drains which divert runoff toward these dams. However, this impact is expected to result in negligible impact to existing overland flows and flooding.

This notwithstanding, ENGIE is committed to ensuring existing overland flows to downstream landowners are not impacted. ENGIE will ensure existing overland flows are maintained in consultation with relevant landowners during detailed design and all stages (i.e. pre-construction, construction, pre-operation and operation). Consultation with relevant landowners is currently being undertaken and discussed in Section 2.2.5.

4.6 Landscape and visual

Submission number(s)

13

Submission

The respondents provided concerns in relation to glare emitted from large concentration of solar panels, and in relation to the height of solar panels impeding views from surrounding farmland.

ENGIE response

Section 6.4 of the EIS addresses glare and reflectivity of solar panels associated with operation of the proposal.

The potential for glare associated with non-concentrating photovoltaic systems that do not involve mirrors or lenses, is limited. Any impacts would be short-term at any given vantage point as the angle of the sun moves and changes the direction of the reflection.

Photovoltaic solar panels are designed to reflect as little sunlight as possible, as panels are designed to absorb as much solar energy as possible. The panels would not generally create noticeable glare when compared with an existing roof or building surface. The potential impacts of glare on adjacent land uses would be minor.

The height of the solar panels is four (4) metres, with the height of all other proposed infrastructure generally consistent with the existing infrastructure on the surrounding land, as discussed in Section 4 of the EIS.

The photovoltaic cells proposed to be used on the proposal are designed to absorb as much solar energy as possible, and typically reflect two percent of the light received. To mitigate the effect of this, vegetation screening will be provided with consultation with sensitive receivers.

Therefore, visual amenity and glare impacts from the proposal are expected to be very low and vegetation screening will be provided where it is deemed necessary (see Section 6.4.4).

4.7 Project description

4.7.1 Inland Rail corridor

Submission number(s)

16

Submission

The final corridor for the Inland Rail Narromine to Narrabri (N2N) will not come the way described in the EIS.

ENGIE response

This observation is correct. Review of the *Inland Rail Narromine to Narrabri Scoping Report* (ARTC, 2018) indicates the proposal site for the N2N section of Inland Rail would cross the Namoi River floodplain west of Narrabri on a viaduct, which continues over Wee Waa Road and Kamilaroi Highway to the north-west of Narrabri. After the Kamilaroi Highway, it continues on an embankment before following the Newell Highway for 1.2 kilometres and joining the Narrabri to North Star section of Inland Rail, in relative proximity to the proposal site.

The N2N section of Inland Rail is not yet approved, with the EIS noted to still be in preparation. Therefore, it is considered unlikely there would be a cumulative impact as a result of simultaneous construction of the proposal and the N2N section of Inland Rail. However, the timing of the N2N section of Inland Rail would be monitored as construction planning for the proposal progresses, in order to determine any overlap in construction periods.

4.8 Biodiversity

Submission number(s)

17

Submission

Koalas have been seen in the location from time to time.

ENGIE response

Item 1:

The Biodiversity Assessment is contained in Appendix B of the EIS. The woodland patches of the site constitute potential Koala (*Phascolarctos cinereus*) habitat, however this habitat is unlikely to be important habitat for the species. Potential habitat at the site is poor quality, and separated from better areas of habitat by large expanses of cleared agricultural land. It is unlikely that the Koala would traverse the site. The site would not constitute core or important habitat. Local records are concentrated around the Pilliga, with none near the proposal site. Koalas may occur on rare occasions, but would be unlikely to breed at the site. No evidence of the Koala was recorded during surveys in March, September and November 2019.

5. Design refinements

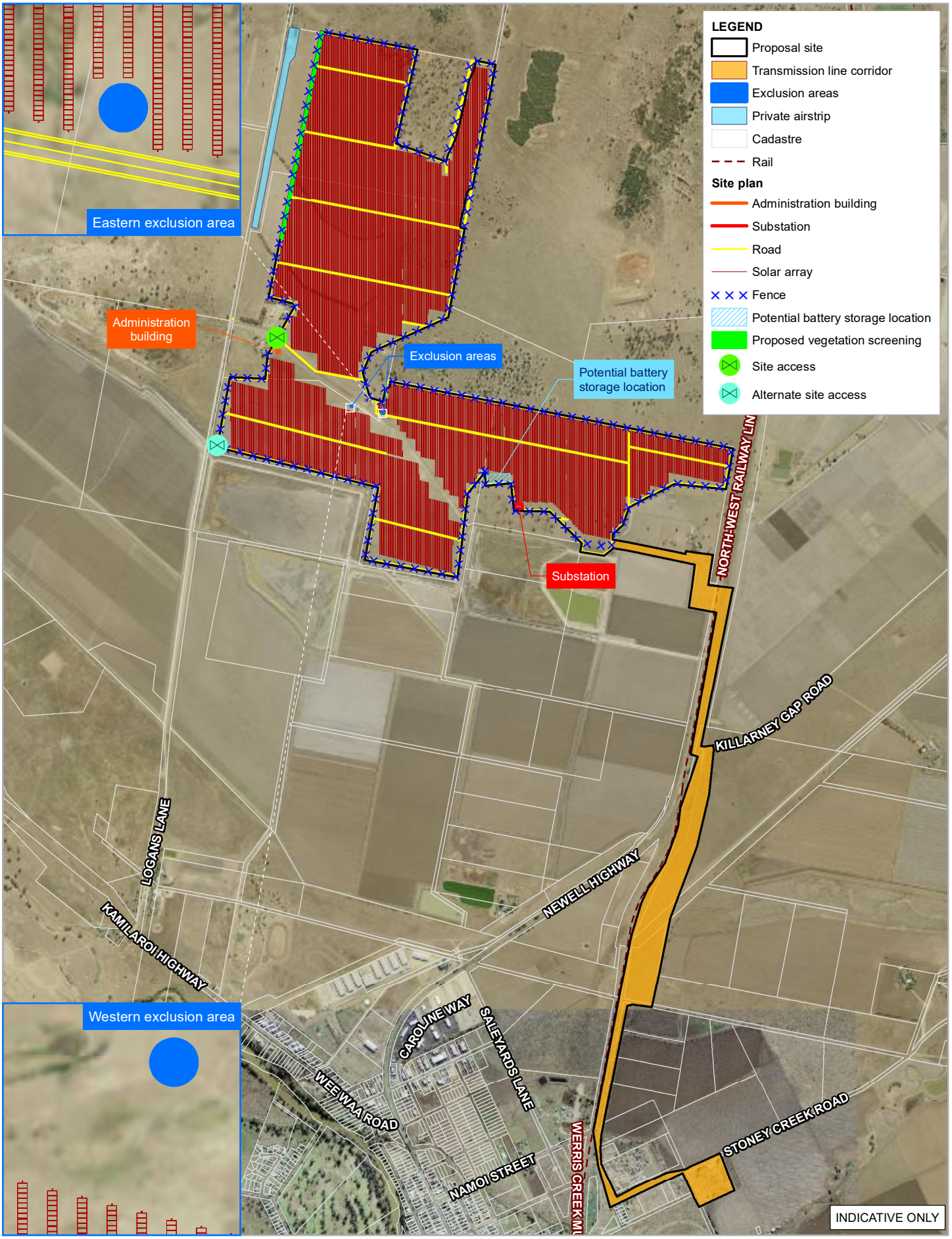
Since exhibition of the EIS, the proposal site has been reduced to exclude a vegetation zone (Zone 6. PCT 397 Poplar Box – White Cypress Pine shrub grass tall woodland of the Pilliga-Warialda region, Brigalow Belt South Bioregion) from the proposal site (see Figure 5-1 and Figure 5-2).

This vegetation zone was removed from the proposal site to minimise impacts to biodiversity. As outlined above in 4.8, PCT 397 within the proposal site is not considered to conform to the nationally listed EEC, Poplar Box Grassy Woodland on Alluvial Plains. Regardless, it has always been the intention to avoid any direct impacts to the woodland form of PCT 397. Indirect impacts on this PCT would be avoided through the safeguards and mitigation measures outlined in section 6.2.3 of the EIS. The BDAR for the proposal has been updated to reflect the avoidance of this community.

These design refinements are as a result of:

- Consultation with key stakeholders during and after exhibition of the EIS (see Section 2.2)
- Issues raised in submissions by agencies during exhibition of the EIS:
  - Biodiversity Conservation Division (See section 3.10)
- Further development of the design following exhibition of the EIS

The detailed design for the proposal is ongoing and will be subject to further development in consultation with relevant stakeholders, including agencies and local landholders.



Paper Size ISO A4

0 400 800

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

GHD

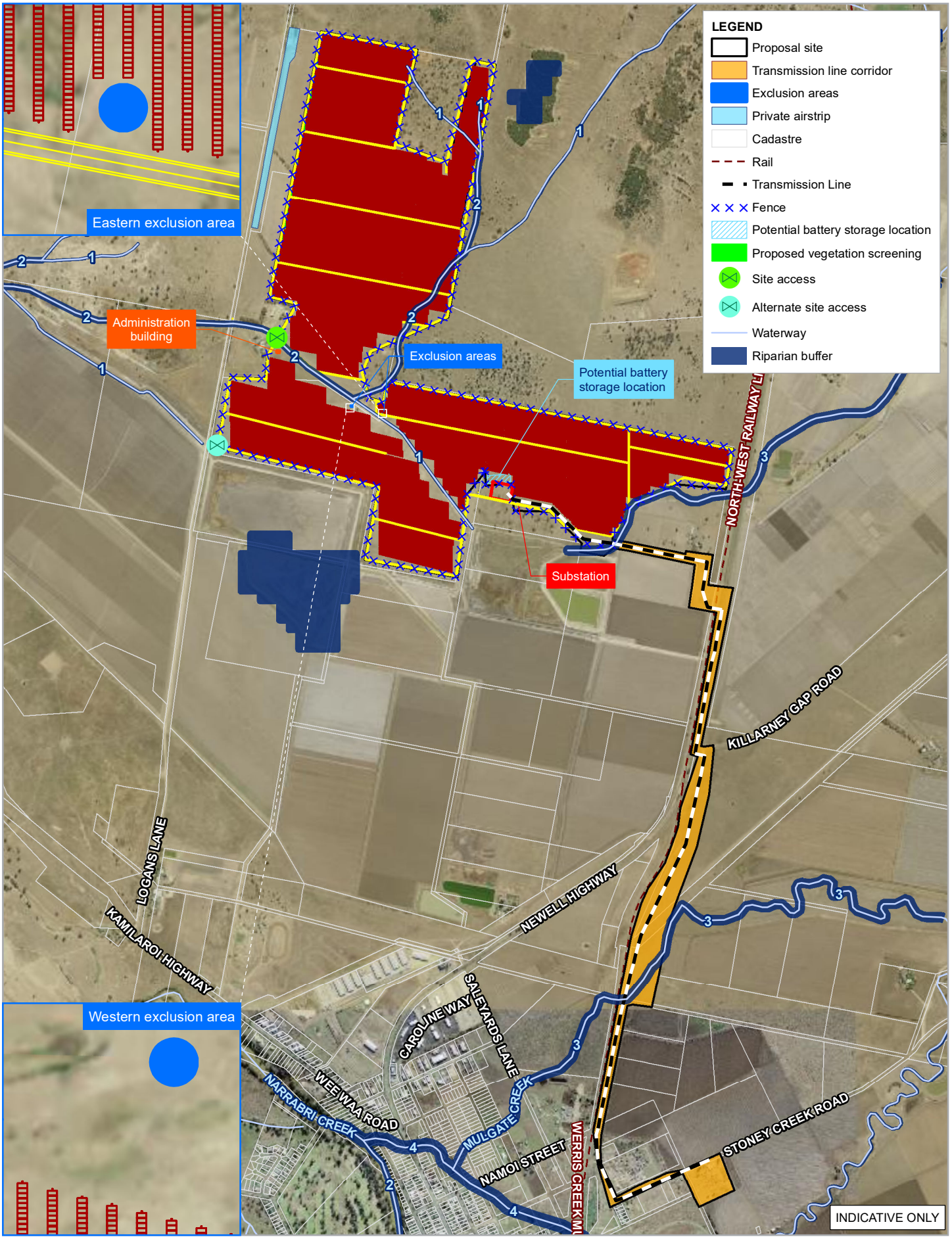
ENGIE
Silverleaf Solar Farm EIS
Response to Submissions

Project No. **12518304**
Revision No. **0**
Date **26 Nov 2020**

The proposal – as exhibited

FIGURE 5-1

N:\AU\Orange\Projects\21\26998\GIS\Maps\Deliverables\12518304\SubmissionResponse\12518304_SR001_SolarFarmLayout_Rev0.mxd Data source: General topo - NSW LPI DTDB 2015 & 2015; Aerial imagery - SIX maps 2019 (© Department of Customer Service 2020); Survey data & site details - Engie & Solaire direct. Created by: TMorton, kpsroba



Paper Size ISO A4

0 400 800

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

N

GHD

ENGIE
Silverleaf Solar Farm EIS
Response to Submissions

Project No. **12518304**
Revision No. **0**
Date **26 Nov 2020**

The proposal – as revised

FIGURE 5-2

N:\AU\Orange\Projects\21\26998\GIS\Maps\Deliverables\12518304\SubmissionResponse\12518304_SR002_RevisedLayout.mxd Data source: General topo - NSW LPI DTDB 2015 & 2015; Aerial imagery - SIX maps 2019 (© Department of Customer Service 2020); Survey data & site details - Engie & Solaire direct. Created by: TMorton, kpsroba

6. Revised environmental management measures

The EIS for the proposal identified a range of environmental outcomes and management measures which would be required to avoid or reduce the environmental impacts.

After consideration of the issues raised in the submissions, development of the detailed design and a review of constructability issues, the environmental management measures for the proposal (Section 8 of the EIS) have been revised. Other minor changes have also been made to reflect the detailed design plans (see Section 5) and address minor omissions in the EIS.

Should the proposal be approved, the environmental management measures in Table 6-1 will guide the subsequent phases of the proposal. Additional and/or modified environmental management measures to those presented in the EIS are in *blue italics*. Deleted measures, or parts of measures, appear as ~~strikethrough text~~.

Table 6-1 Revised summary of environmental management measures

Issues	Impact	Measure	Timing
Biodiversity	Pre-construction/clearing	A Biodiversity Management Plan would be prepared prior to construction. This would detail fauna management protocols including management of tree hollows and fauna handling.	Pre-construction
		Ensure all workers are provided with an environmental induction prior to starting work on site. This would include information on the ecological values of the site and protection measures to be implemented to protect biodiversity.	Construction
	Erosion, stockpile and soil impacts on biodiversity	Use of, and regular inspection and maintenance of, erosion and sediment control measures developed in an Erosion and Sediment Control Plan (ESCP). The ESCP shall be prepared and maintained as part of the Construction Environmental Management Plan (CEMP) in accordance with relevant sections of "*Managing Urban Stormwater: Soil and Construction Volume 1*" (Landcom, 2004) ('the Blue Book).	Pre-construction Construction
		Restrict stockpiles of construction materials, fill or vegetation to existing cleared areas and not within areas of adjoining native vegetation.	Construction
		Water would be applied to stockpile areas during windy conditions.	Construction
		Reinstatement of stabilised surfaces as quickly as practicable after construction.	Construction
	Clearance of vegetation	Fence off or mark trees to be retained, to avoid additional impacts on vegetation. Fencing should protect the entire Tree Protection Zone (i.e. 10 times the diameter of the trunk at breast height).	Pre-construction
		Any hollow-bearing trees to be felled would be marked prior to clearing of vegetation. The removal of hollow bearing trees is to be undertaken in accordance with a tree hollow management protocol set out in the CEMP, and would involve the presence of a qualified ecologist or wildlife specialist experienced in the rescue of fauna.	Pre-construction Construction
		Any trees with raptor nests would be felled outside the breeding season.	Construction
		Habitat features such as hollow trunks and limbs within the proposal site would be salvaged and replaced within areas proposed for screening vegetation where practicable.	Construction
	Site rehabilitation	Planting of locally endemic tree species in areas proposed for vegetated screens.	Construction Post-construction

Issues	Impact	Measure	Timing
Aboriginal heritage	Aboriginal heritage items	Development of an Aboriginal Cultural Heritage Management Plan (ACHMP) which would include details of the on-going management of Silverleaf IF-1 and Silverleaf IF-2 during construction and operation and procedures for unanticipated finds.	Pre-construction
		A five-metre buffer zone with high-visibility fencing around the two sites.	Construction
		Induction for site workers detailing the location of the two sites, their cultural values and the legislative requirements for their management.	Pre-construction
		In the event that the proposal would impact upon Silverleaf IF-1 and Silverleaf IF-2, further assessment would be required in the form of an Aboriginal Cultural Heritage Assessment Report (ACHAR). Further consultation would also be required in accordance with the OEH Aboriginal community consultation requirements.	Construction
		In the event that a previously unidentified Aboriginal site is discovered within the study area at any point during the operational life of the proposal, an AHIMS site card for that site should be submitted to OEH as promptly as possible. Timing protocols for the submission of AHIMS site cards should be included in the ACHMP for the proposal.	Construction
	Identification of potential human remains	In the event that potential human skeletal remains are identified within the study area at any point during the life of the proposal, the following standard procedure would be followed. • All work in the vicinity of the remains should cease immediately. • The location should be cordoned off and the NSW Police notified. • If the Police suspect the remains are Aboriginal, they will contact the Office of Environment and Heritage and arrange for a forensic anthropologist or archaeological expert to examine the site. Subsequent management actions will be dependent on the findings of the inspection undertaken under Point 3. • If the remains are identified as modern and human, the area will become a crime scene under the jurisdiction of the NSW Police. • If the remains are identified as pre-contact or historic Aboriginal, OEH and all RAPs are to be formally notified in writing. Where impacts to exposed Aboriginal skeletal remains cannot be avoided an appropriate management mitigation strategy will be developed in consultation with OEH and RAPs. • If the remains are identified as historic non-Aboriginal, the site is to be secured and the NSW Heritage Division contacted. If the remains are identified as non-human, work can recommence immediately.	Construction

Issues	Impact	Measure	Timing
Landscape and visual	Visual impacts of solar farm (including glare)	A landscape plan would be developed to detail the location and type of plantings that would minimise views of the proposal site from nearby properties. The landscape plan would be prepared in consultation with the adjacent landholders and the airstrip operators to confirm any operational requirements which would affect the location and type of landscape screening. The plan would detail the species to be used on site. Native vegetation communities found in the local area will be used where suitable.	Pre-construction
		A review of the landscaping plan would be carried out within six months of operation commencing. This would include consultation with nearby landowners to discuss the adequacy of the provided screening.	Construction
		The materials and colour of on-site infrastructure would, where practical, be non-reflective and be of a colour that would blend with the landscape.	Construction
		Security fencing posts and wire would be non-reflective.	Construction
		Construction plant, equipment, waste and excess materials would be contained within the designated boundaries of the work site and would be removed from the site following the completion of construction.	Construction
		Work sites shall be kept tidy at all times.	Construction
Noise and vibration	Construction noise	A noise management plan would be prepared and implemented as part of the Construction Environmental Management Plan (CEMP). The following project-specific noise mitigation measures would be implemented: • If possible, bored piling (rather than impact piling) would be considered as an alternative to install the steel post foundations. If impact piling is required, no impact piling would be undertaken within 45 metres of adjacent dwellings without prior notice being given to occupants.	Pre-construction Construction
		Consultation and cooperation with the nearest sensitive receivers: • The construction contractor would establish contact with residents affected by construction noise and communicate the construction program and progress on a regular basis, particularly when noise generating activities are planned. Communication with the local community would be maintained throughout the construction period. • The construction contractor would provide a community liaison phone number and permanent site contact so that noise complaints can be received and addressed in a timely manner. Upon receipt of a noise complaint, monitoring would be undertaken and reported as soon as possible. If exceedances are detected, the situation would be reviewed to identify means to attempt to reduce the impact to acceptable levels.	Pre-construction Construction

Issues	Impact	Measure	Timing
		Work ethic – management of worker generated construction noise All site workers would be briefed on the potential for noise impacts on local residents and the requirement to implement practical and reasonable measures to minimise noise impacts during the course of their activities. This would include: • Avoiding the use of loud radios • Avoiding shouting and slamming doors • Where practical, machines would be operated at low speed or power and switched off when not being used rather than left idling for prolonged periods • Inform truck drivers of designated vehicle routes, parking locations and delivery hours • Minimising reversing • Avoiding dropping materials from height and avoiding metal to metal contact on material • Keeping engine covers closed while equipment is operating	Construction
		The following general noise mitigation measures would be implemented to mitigate construction noise impacts: • All engine covers would be kept closed while equipment is operating. • As far as possible, heights from which materials are dropped, into or out of trucks, would be minimised. • Machines found to produce excessive noise compared to industry best practice would be removed from the site or stood down until repairs or modifications can be made. • Once the selection of equipment has been finalised, a review would be undertaken to ensure that the noise levels do not exceed the assumed levels in this assessment. To reduce the annoyance associated with reversing alarms, broadband reversing alarms (audible movement alarms) would be used for all site equipment. Satisfactory compliance with occupational health and safety requirements would need to be achieved and a safety risk assessment may need to be undertaken to determine that safety is not compromised.	Construction
Land use, soils and land capability	Soil and erosion	An Erosion and Sediment Control Plan (ESCP) would be prepared prior to construction to minimise impacts on soils during construction in accordance with relevant sections of "*Managing Urban Stormwater: Soil and Construction Volume 1*" (Landcom, 2004) ('the Blue Book).	Pre-construction Construction
		Spill management and materials handling measures would be included in the ESCP to minimise the potential for fuel or chemical spills.	Pre-construction Construction

Issues	Impact	Measure	Timing
		Ground cover would be reintroduced after construction to stabilise soils during operation.	Post-construction
	Biosecurity – site workers	Limit entry points to the property.	Construction Operation
		All construction equipment and boots would be cleaned upon entering the property.	Construction Operation
		Limit worker contact with livestock, crops or plant materials as much as possible and eliminate any unnecessary contact altogether.	Construction Operation
		Keep a visitor register.	Construction Operation
	Biosecurity – vehicles	Clean machinery and equipment from the top down and dismantle it as far as possible to gain access to internal spaces.	Construction Operation
	Operation of private airstrip	Vegetation screen planting to be installed on property boundary in consultation with airstrip operator.	Prior to operation
Traffic, transport and access	Construction traffic management	A traffic management plan would be prepared and implemented as part of the CEMP. The plan would be prepared in accordance with any Roads and Maritime and Narrabri Shire Council requirements. The plan would include but not be limited to: • Details of the haulage routes for the proposal including loads, weights and lengths of haulage and construction related vehicles and number of movements of such vehicles. • *Avoidance of the Newell Highway access for the proposal, ensuring it remains open for general agricultural use.* • Measures to maintain access along roads and to properties, *including schedule of haulage vehicle movements to minimise convoy length or platoons.* • Site specific control measures (including signage) to manage and regulate traffic movements. • *Consultation would be undertaken with bus operators, including buses operating along Kamilaroi Highway will be consulted during the construction of the new intersection.* • *The management and coordination of construction and staff vehicle movements to the site and measures to limit disruption to other motorists, including consideration of carpooling/shuttle bus arrangements to minimise the number of vehicles accessing the site each day.* • *Policies and procedures* to consult and inform the community of changes to the road network *and address any concerns.*	Pre-construction Construction

Issues	Impact	Measure	Timing
		• A response plan for any traffic incident including *toolbox meetings to facilitate continuous improvement initiatives and incident awareness.* • Mechanisms to monitor the results of the plan and any subsequent reviews and revisions. • Outline timing of deliveries and site access, including *construction program, construction vehicle access arrangements, estimated number of construction vehicle movements and proposed construction hours.*	
		Signage on Kamilaroi Highway to be erected to alert drivers of trucks entering and exiting Logans Lane.	Construction
		Access along Logans Lane is to be maintained.	Construction
		Upgrade the intersection of the Kamilaroi Highway and Logans Lane to a BAR type intersection.	Construction Decommissioning
		Temporarily reduce speed limits to the west of the intersection of the Kamilaroi Highway and Logans Lane from 100 km/h to 80 km/h.	Construction Decommissioning
	Road conditions	ENGIE would consult with Narrabri Shire Council during detailed design in regard to the proposed upgrades to Logans Lane. The works will be undertaken in accordance with Council requirements.	Pre-construction Construction
		Condition surveys would be undertaken prior to the construction commencing. Following construction, surveys would confirm if any damage attributed to the proposal has occurred. Should damage be identified (outside of normal wear and tear), repair works would be undertaken by ENGIE (or its contractor) in line with any relevant council requirements.	Pre-construction Construction
	Property access	Notification to affected landowners would be undertaken for any works located along Logans Lane, particularly if temporary closures would be required.	Construction
		Consultation with any properties where access would be impacted would be undertaken to determine whether additional measures are required to maintain access.	Construction
	Transmission line surveyor/solicitor	*A suitably experienced surveyor and/or solicitor would be engaged to review the physical location of the proposed high voltage transmission line relative to road and rail corridors and existing cadastral boundaries.*	*Detailed design*
	Structures in road corridors	*The location of above-ground structures in roads, including transmission line poles or towers, will be undertaken in accordance with Roads and Maritime's Requirements for Overhead Power Lines.*	*Detailed design, Construction*

Issues	Impact	Measure	Timing
Hydrology, groundwater and water quality	Water quality	An Erosion and Sediment Control Plan (ESCP) would be prepared as part of the CEMP. All erosion and sediment control measures shall be designed, implemented and maintained in accordance with relevant sections of "*Managing Urban Stormwater: Soil and Construction Volume 1*" (Landcom, 2004) ('the Blue Book) (particularly Section 2.2) and "*Managing Urban Stormwater: Soil and Construction Volume 2A – Installation of Services*" (DECC, 2008)". The ESCP shall include stockpiles, stormwater run-off, trees, site boundaries, site access and storage areas.	Pre-construction Construction
		The provision of sedimentation basins on site would be considered in the detailed design. This could involve converting existing farm dams into basins for the duration of the construction period.	Construction
		Prior to the commencement of operation, ENGIE will ensure the relevant requirements of the NSW Private Water Supply Guidelines (HNEHealth 2014) are addressed with consideration to operational potable water, in consultation with HNEHealth. This would include the preparation of a Quality Assurance Program for operation of the proposal.	*Pre-operation*
	Spills and leaks	A site specific emergency spill plan would be developed, and include spill management measures in accordance relevant EPA guidelines. The plan would address measures to be implemented in the event of a spill, including initial response and containment, notification of emergency services and relevant authorities (including ~~Roads and Maritime~~ *TfNSW* and EPA officers).	Construction
		An emergency spill kit would be kept on site at all times. All staff will be made aware of the location of the spill kit and trained in its use.	Construction
		All fuels, chemicals, and liquids will be stored at least 50 metres away from waterways and will be stored in an impervious bunded area within the compound site.	Construction
		The refuelling of plant and maintenance of machinery will be undertaken in impervious bunded areas in the compound site.	Construction
		Vehicle wash downs and/or concrete truck washouts will be carried out within a designated bunded area on an impervious surface or carried out off-site.	Construction
		Machinery would be checked daily to ensure there is no oil, fuel or other liquids leaking from the machinery. All staff would be appropriately trained through toolbox talks for the minimisation and management of accidental spills.	Construction
	Hydrology	The Department of Primary Industries (Water) controlled activity guidelines would be considered as part of the proposal's detailed design.	Pre-construction
	Rehabilitation	Rehabilitation works are to commence as soon as practicable to stabilise the land surface after works are completed in any area.	Construction

Issues	Impact	Measure	Timing
	Overland flows	*ENGIE will ensure existing overland flows are maintained in consultation with relevant landowners during detailed design and all stages (i.e. pre-construction, construction, pre-operation and operation).*	*All stages*
Hazards and risk	Offsite risks	Siting of key components will minimise any current or future offsite risk. The majority of the hazards identified are considered onsite risks, and are not considered offsite risks.	Construction
	EMF	Design and selection of all electrical equipment is to minimise EMF levels and comply with the ICNIRP exposure levels.	Construction
		Monitoring of electromagnetic levels would be undertaken during the commissioning of the substation to confirm exposure levels. Should levels be above the ICNIRP exposure levels the potential need for further mitigation would be considered.	Construction
Bushfire	Bushfire management	*A bushfire management plan would be prepared in consultation with the NSW Rural Fire Service (NSW RFS) Namoi Gwydir Fire Control Centre and NSW RFS District Office. This plan would include but not limited to the following:* • *24 hour emergency contact details, including alternative telephone contact* • *Management of fuel loads onsite and identification of hazards (physical, chemical and electrical) at risk of fire ignition with potential to impact fire-fighting operations* • *Sub-plans including:* – *Site infrastructure plan* – *Fire-fighting water supply plan* – *Site access and internal road plan* • *Operational procedures relating to mitigation and suppression of bush fire relevant to the operation of a solar farm, including management of identified hazards during fire-fighting operations* • ~~*Management activities with a risk of fire ignition*~~ • ~~*Management of fuel loads onsite*~~ • *The below requirements of Planning for Bush Fire Protection 2006:* – *Identifying, construction and maintenance of asset protection zones (APZs)* – *Providing adequate egress/access to the site* – *Emergency evacuation measures* • *Storage and maintenance of firefighting equipment including siting and provision of adequate water supplies, including provision of an appropriately sized tank within the APZ, located adjacent to the internal access road*	Pre-construction Construction, *Operation*

Issues	Impact	Measure	Timing
Socio-economic	Community consultation	A community consultation plan would be implemented to manage the concerns and impacts on stakeholders including adjacent property owners. The plan would include (but not be limited to) the following: • Protocols to keep the community updated about the progress of the project and its benefits • Protocols to inform relevant stakeholders of potential impacts • Protocols for allow the community to identify any concerns or issues with the project, particularly during construction and decommissioning The plan would be prepared in consultation with Narrabri Shire Council.	Pre-construction Construction
Air quality and climate change	Air quality	The CEMP would include measures to minimise impacts on air quality including: • A map identifying locations of sensitive receivers • Identification of potential risks/impacts due to the work/activities as dust generation activities • Management measures to minimise risk including a progressive stabilisation plan • A process for monitoring dust on-site and weather conditions • A process for altering management measures as required • A process of the review of the plan prior to the decommissioning works to ensure it is update at the time of the works occurring	Pre-construction Construction
	Dust emissions	Surveillance for visible dust generation would occur at all times.	Construction
		Works that disturb vegetation, soil or stockpiles will not be carried out during strong winds (over 40 km/h) when this may affect receivers (visibility on roads, dust and debris near recreational areas, residences and commercial premises).	Construction
		Stockpiled materials would be covered, stabilised or stored in areas not subject to high wind.	Construction
		All trucks would be covered when transporting material to and from the site.	Construction
		Work activities would be reprogrammed if the safeguards and management measures are not adequately restricting dust generation.	Construction
		Maximum speed limits would be enforced for construction traffic within the site to limit dust generation.	Construction
		Use of a water tanker or similar to spray unpaved roads and exposed areas during construction where required.	Construction
	Exhaust emissions	Construction plant and equipment would be maintained in a good working condition in order to limit impacts on air quality.	Construction

Issues	Impact	Measure	Timing
		Construction equipment, plant and vehicles would be appropriately sized for the task.	Construction
		Equipment would be serviced frequently to ensure they are operating efficiently.	Construction
	Impacts on sensitive receivers	Local residents would be advised of hours of operation and duration of work and supplied with a contact name and number for queries or complaints regarding air quality. The CEMP will also include a procedure for handling any queries or complaints.	Pre-construction Construction
	Climate change	The use of alternative fuels and power sources for construction plant and equipment would be investigated and implemented, where appropriate.	Pre-construction Construction
		The energy efficiency and related carbon emissions would be considered in the selection of vehicle and plant equipment.	Pre-construction Construction
		Materials would be delivered as full loads and local suppliers would be used where possible.	Pre-construction Construction
Non-Aboriginal heritage	Unexpected finds	In the event that a site or artefact (as defined by the *Heritage Act 1977*) is identified during construction works, works would cease at the location.	Construction
		The find would be immediately reported to ENGIE, and the regulator ~~(OEH Heritage Division)~~ in accordance with legislation. No work would commence in the vicinity of the find until any required approvals have been given by the regulator.	Construction
Waste management	Construction waste	A Waste Management Plan would be developed for the proposal and would form part of the CEMP. It would include but not be limited to the following: • Identification of opportunities to avoid, reuse and recycle, in accordance with the waste hierarchy and WARR Act • Quantification and classification of all waste streams • Provision for recycling management onsite • Provision of toilet facilities for onsite workers and how sullage would be disposed of (i.e., pump out to local sewage treatment plant) • Tracking of all waste leaving the site • Disposal of waste at facilities permitted to accept the waste • Requirements for hauling waste (such as covered loads)	Pre-construction Construction
		Where possible waste would be removed on a daily basis, or as soon as reasonably practical, to maintain the site in a tidy and litter free condition.	Construction
	Wastewater	Septic tanks to be installed and operated in accordance with Narrabri Shire Council's requirements.	Construction Operation

Issues	Impact	Measure	Timing
Cumulative impacts	Cumulative traffic impacts	Consultation with ARTC and ~~RMS~~*TfNSW* to identify if the construction phase of the proposal will overlap with ARTC Inland Rail or ~~RMS~~*TfNSW* Newell Highway projects. Traffic management plans would be developed to address potential traffic impacts caused by concurrent projects generating construction traffic.	Pre-construction Construction
	Cumulative noise impacts	Cumulative construction noise impacts would be addressed in a Noise Management Plan. Consultation with ARTC and ~~RMS~~*TfNSW*, and other proponents if applicable, would be completed to determine if construction activities may take place in close proximity to adjoining projects. Where possible, noise generating activities would be scheduled for different areas of the proposal site to avoid cumulative construction noise impacts. This would include periods where the nearby airstrip is in regular use.	Pre-construction Construction
	Cumulative impacts on services and accommodation	If there is potential for construction of multiple projects to occur in and around Narrabri at the same time, and large workforce numbers are required, consideration would be given to alternative accommodation options such as neighbouring towns.	Pre-construction Construction

7. Conclusion

This Response to Submissions report responds to the issues raised in submissions from the community and government agencies, following the public exhibition of the Narrabri 120MW Solar Farm EIS.

In response to the submissions, the proposal has undergone a minor amendment being that:

- The total area of the proposal site has been reduced to exclude a vegetation zone (Zone 6. PCT 397 Poplar Box – White Cypress Pine shrub grass tall woodland of the Pilliga-Warialda region, Brigalow Belt South Bioregion) from the proposal site.

In addition mitigation measures have been amended or added in relation to the following issues:

- Traffic, transport and access
- Hydrology, groundwater and water quality
- Bushfire

This Response to Submissions report fulfils the requirements of Section 85A of the *Environmental Planning and Assessment Regulations 2000*. It meets the requirement to prepare a response to submissions as outlined in the notice provided by the Department of Planning and Environment on 3 October 2019.

In consideration of the assessment of the impacts from the proposal contained in the EIS and the proposed mitigation measures committed to, it is believed that all relevant issues and concerns have been addressed and that the proposal should now proceed for approval by the Minister.

8. References

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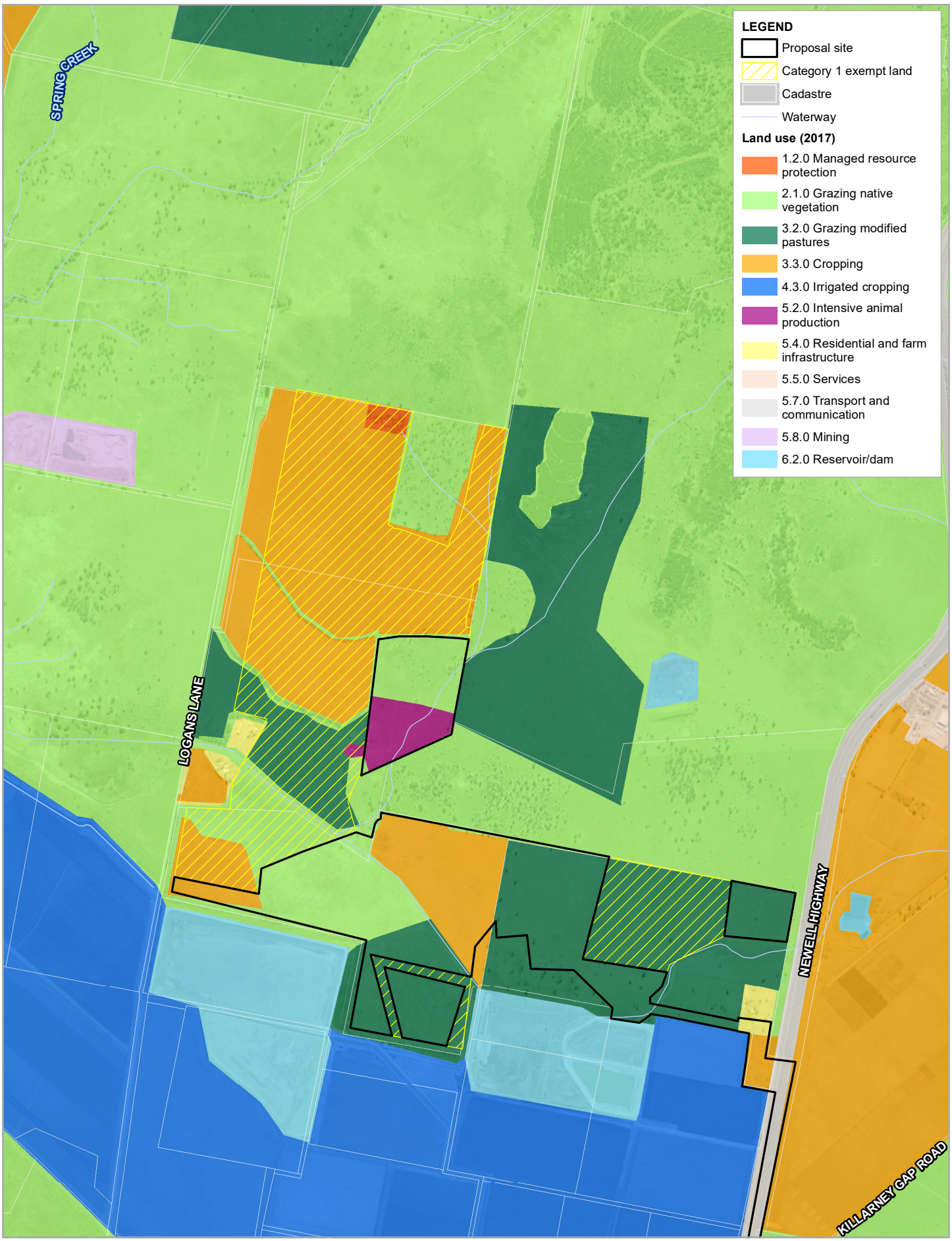
Appendices

Appendix A – Figures supporting category 1 exempt land assessment



Paper Size ISO A4

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Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

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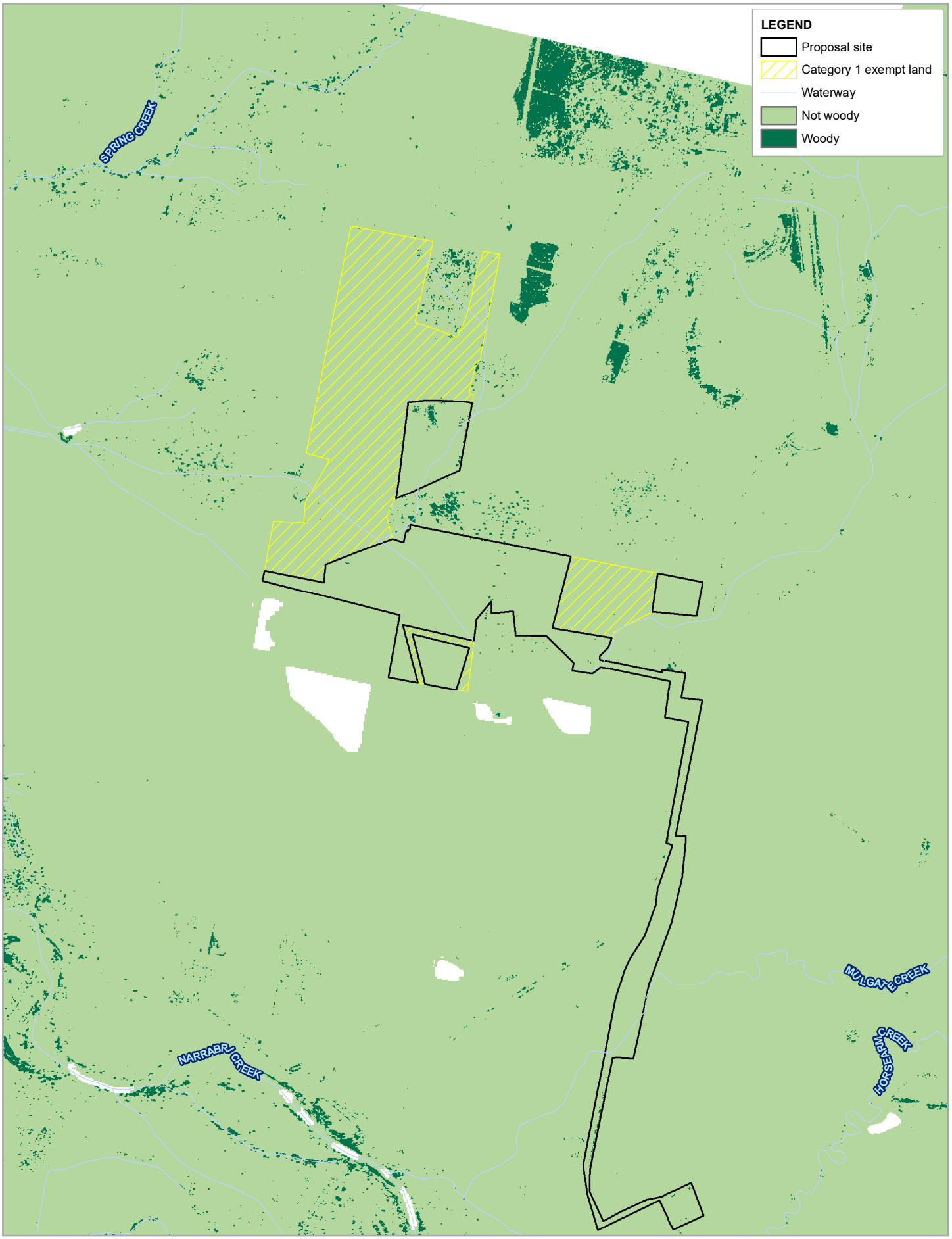
Engie
Silverleaf Solar Farm
Category 1 Exempt Land Application

Project No. **21-26998**
Revision No. **-**
Date **23 Oct 2020**

Land use

FIGURE 2

N:\AU\Orange\Projects\21\26998\GIS\Maps\Deliverables\Biodiversity\RtS report\21_26998_Z031_Biodiversity_RtS_LandUse.mxd Data source: General topo - NSW LPI DTDB 2015 & 2012; Aerial imagery - Sixmaps 2020 (); Land use - NSW DPIE 2017; Survey data & site details - Engie & Solaire direct. Created by:jrprice



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Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

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GHD

Engie
Silverleaf Solar Farm
Category 1 Exempt Land Application

Project No. **21-26998**
Revision No. **-**
Date **23 Oct 2020**

Woody extent 2011

FIGURE 3

N:\AU\Orange\Projects\21\26998\GIS\Maps\Deliverables\Biodiversity\RtS report\21_26998_Z032_Biodiversity_RtS_WoodyExtent.mxd Data source: General topo - NSW LPI DTDB 2015 & 2012; Aerial imagery - SIX maps 2019 (); Survey data & site details - Engie & Solaire direct; Woody extent - OEH 2011. Created by:jrprice

Paper Size ISO A4

0 200 400

Metres

Map Projection: Transverse Mercator
Horizontal Datum: GDA 1994
Grid: GDA 1994 MGA Zone 55

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Engie
Silverleaf Solar Farm
Category 1 Exempt Land Application

Project No. **21-26998**
Revision No. **-**
Date **23 Oct 2020**

Category 1 exempt land

FIGURE 4

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Data source: General topo - NSW LPI DTDB 2015 & 2012; Aerial imagery - SIX maps 2019 (); Survey data & site details - Engie & Solaire direct. Created by:jrprice

Appendix B – Landowner statutory declarations

(Insert PDFs from

N:\AU\Orange\Projects\21\26998\Tech\Ecology\Cat 1 Exempt land assessment\Landholder statutory declarations)

Statutory Declaration

OATHS ACT 1900, NSW, EIGHTH SCHEDULE

I, Gregory Colyvan, do solemnly and sincerely declare that

During my ownership and control of the properties identified by Lot 2, Land Title DP586990 and as shown in the enclosed (the **Property**), I farmed crops on the Property. My period of ownership and control of the properties was between 1977 and the current date. For the purposes of this Statutory Declaration, the period between 1977 and 1990 is termed the **Pre-1990 Ownership Period**.

Farming of Crops

The farming of crops occurred at least 5 times during the Pre-1990 Ownership Period. The cropping process involved the clearing and/or tillage of land for the preparation of cropping.

The extent of cropping is shown in the areas marked in the attached map, and underwent cropping during the Pre-1990 Ownership Period, and in later years.

The only crops planted were wheat.

Herbicide Use

During the Pre-1990 Ownership Period, herbicide was not applied to the property.

and I make this solemn declaration conscientiously believing the same to be true, and by virtue of the provisions of the *Oaths Act 1900*.

Declared at: 12461 Newell Hwy, Narrabri, 2390. on 29/1/2020

[place] *[date]*

.....

[signature of declarant]

in the presence of an authorised witness, who states:

I, ... , a ..... ,

[name of authorised witness] *[qualification of authorised witness]*

certify the following matters concerning the making of this statutory declaration by the person who made it: *[* please cross out any text that does not apply]*

Ashleigh Isobelle Ann Rose
A Justice of the Peace in and for
the State of New South Wales
Reg. No. 226579

1. *I saw the face of the person *OR* ~~*I did not see the face of the~~ person because the person was wearing a face covering, but I am satisfied ~~that the person had a special justification[1] for not removing the covering, and~~

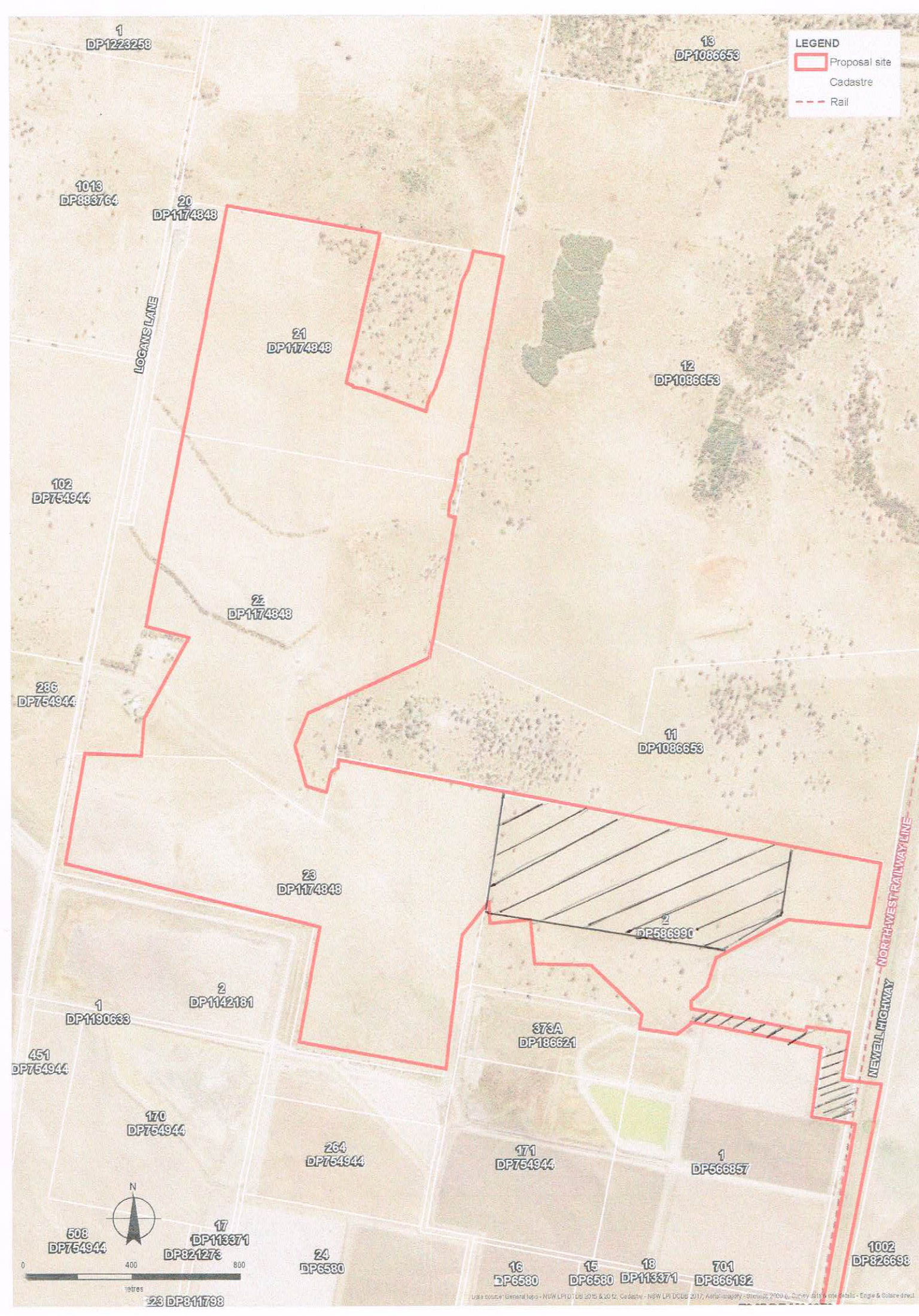
2. *I have known the person for at least 12 months *OR* ~~*I have confirmed the person's identity using an identification document and the document I relied on was .....~~

[describe identification document relied on]

..... 20/02/2020.....

[signature of authorised witness] *[date]*

[1] The only "special justification" for not removing a face covering is a legitimate medical reason (at September 2018)


LEGEND
Proposal site
Cadastre
Rail
1
DP1223258
13
DP1086653
1013
DP883764
20
DP1174848
LOGANS LANE
21
DP1174848
12
DP1086653
102
DP754944
22
DP1174848
286
DP754944
11
DP1086653
23
DP1174848
2
DP586990
NORTH WEST RAILWAY LINE
NEWELL HIGHWAY
2
DP1142181
1
DP1190633
373A
DP186621
451
DP754944
170
DP754944
264
DP754944
171
DP754944
1
DP566857
N
508
DP754944
17
DP113371
DP821273
24
DP6580
16
DP6580
15
DP6580
18
DP113371
701
DP866192
1002
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400
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Metres
23 DP811798

Statutory Declaration

OATHS ACT 1900, NSW, EIGHTH SCHEDULE

I, MICHAEL JOHN LOGAN, do solemnly and sincerely declare that

[name of declarant]

during my ownership and control of the properties identified by Lots 21 – 23 DP 1174848 and as shown in the enclosed "Attachment 1 – Properties the subject of this Statutory Declaration" (the **Property**), I farmed crops on the Property. My family's period of ownership and control of the properties was between about 1955 and the current date. I assumed management of the property since 1980. For the purposes of this Statutory Declaration, the period between 1955 and 1980 is termed the **Pre-1980 Ownership Period**.

Farming of Crops

The farming of crops occurred at least 15 times during the Pre-1980 Ownership Period. The cropping process involved the clearing and/or tillage of land for the preparation of cropping.

The extent of cropping is shown in "Attachment 2 – Areas never cropped during the Pre-1980 Ownership Period". The map isolates in blue marking the areas that had not been cropped prior to 1980. Where areas unmarked on the Property in Attachment 2 underwent cropping at least 15 times during the Pre-1980 Ownership Period.

The crop(s) planted were wheat, barley, sorghum, sunflowers and lupins.

Herbicide Use

At least 15 times during the Pre-1980 Ownership Period, a herbicide was applied to the all of the property, so to destroy any existing vegetation within the herbicide application extent.

and I make this solemn declaration conscientiously believing the same to be true, and by virtue of the provisions of the *Oaths Act 1900*.

Declared at: EDGECLIFF on 25 FEBRUARY 2020

[place] *[date]*

[signature of declarant]

in the presence of an authorised witness, who states:

Ian Dunwoodie - Solicitor & Notary Public
Suite 404 Edgecliff Centre
203 New South Head Road, Edgecliff 2027

I, ... , a .....,

[name of authorised witness] *[qualification of authorised witness]*

certify the following matters concerning the making of this statutory declaration by the person who made it: *[* please cross out any text that does not apply]*

1. *I saw the face of the person ~~*OR *I did not see the face of the person because the person was wearing a face covering, but I am satisfied that the person had a special justification[1] for not removing the covering~~, and
2. *I have known the person for at least 12 months ~~*OR *I have confirmed the person's identity using an identification document and the document I relied on was .....~~

[describe identification document relied on]

.....
[signature of authorised witness]

25 FEBRUARY 2020
.....
[date]

Ian Dunwoodie - Solicitor & Notary Public
Suite 404 Edgecliff Centre
203 New South Head Road, Edgecliff 2027

Attachment List:

- Attachment 1 – Properties the subject of this Statutory Declaration
- Attachment 2 – Areas never cropped during the Pre-1980 Ownership Period

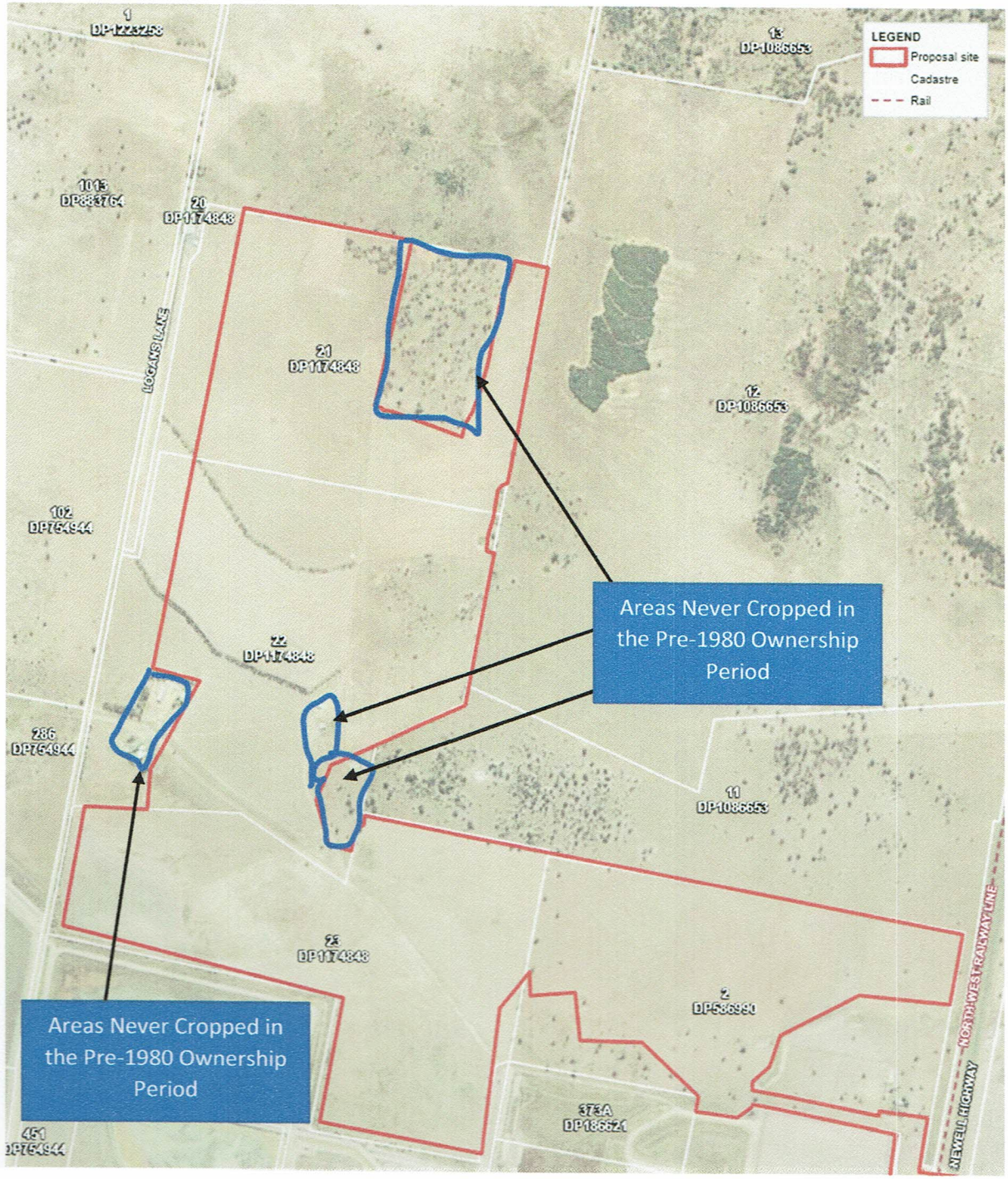
[1] The only "special justification" for not removing a face covering is a legitimate medical reason (at September 2018)

Attachment
This is the ~~Annexure~~ marked "1"
referred to in the Statutory Declaration of
MICHAEL ~~LOGAN~~ JOHN LOGAN
Sworn at EDGECLIFF
This 25 day of FEBRUARY 2020.
Before me

Ian ~~Dunwoodie~~ - Solicitor & Notary Public
Suite 404 Edgecliff Centre
203 New South Head Road, Edgecliff 2027

ATTACHMENT 2

Attachment 2 – Areas never cropped during the Pre-1980 Ownership Period



Attachment
This is the ~~Annexure~~ marked "2"
referred to in the Statutory Declaration of
MICHAEL JOHN LOGAN
Sworn at EDGECLIFF
This 25 day of FEBRUARY 2020
Before me

Ian ~~Dunwoodie - Solicitor~~ & Notary Public
Suite 404 Edgecliff Centre
203 New South Head Road, Edgecliff 2027

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Document Status

Revision	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
0	J. McDonough/ E. Holland	D. Mees		D. Mees		27/11/2020

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