



NGH



MODIFICATION REPORT

Avonlie Solar Farm SSD 9031

October 2020

Project Number: 17-439



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ACRONYMS AND ABBREVIATIONS

ASF	Avonlie Solar Farm
BAL	Basic Left-turn Lane
BAM	Biodiversity Assessment Methodology
BAR	Basic Right-turn Lane
BC Act	Biodiversity Conservation Act 2016 (NSW)
BCD	Biodiversity Conservation Division
BDAR	Biodiversity Development Assessment Report
BMP	Biodiversity Management Plan
BOS	Biodiversity Offset Scheme
BSF	Battery Storage Facility
CoA	Conditions of Approval
CoC	Condition of Consent
DPIE	Department of Planning, Industry and Environment
EIS	Environmental Impact Statement
EPBC Act	Environment Protection and Biodiversity Conservation Act 1999 (Commonwealth)
MW	Megawatt
NSC	Narrandera Shire Council
PCT	Plant Community Type
RES	The Proponent
RTS	Response to Submissions
SEARs	Secretary's Environmental Assessment Requirements
SSD	State significant development
TfNSW	Transport for New South Wales (NSW)
VEZ	Vegetation Exclusion Zones

Terminology

The Project	The construction and operation of the approved Solar Farm
The Proponent	RES Australia Pty Ltd
Subject land	All land within the affected lot boundaries. The subject land comprises Lots 1 and 2 DP 606800, Lots 13, 22, 26, 28, 30, 43, 53 DP 754538, Lot 1 DP 386927, Lot 13 DP 795880 and Lot 7 DP254595.
Development site	The area of land that is subject to the proposal. The development site is the area surveyed for this assessment prior to identified constraints and exclusions, and is approximately 581 ha.
Development footprint	The area of land that is directly impacted by the proposal, including, solar array design, perimeter fence, access roads, transmission line footprint and areas used to store construction materials. The development footprint is approximately 550 ha.

EXECUTIVE SUMMARY

Development Consent for the 200 megawatt (MW) Avonlie Solar Farm (ASF) (Figure 1-1) (SSD 9031) was approved by a delegate for the Minister for Planning on 8 August 2019.

The detailed road design of Sandigo and Muntz Road has been completed in accordance with the Conditions of Approval (CoA), Schedule 3 – Transport, Condition of Consent (CoC) 5 **Road Upgrades and Site Access**, with the exception of the Basic Left Turn (BAL) at Sandigo Road and Muntz Road Intersection. Alongside this, the proponent has modified a section of the internal roads.

A Category 1 Land Exemption under the *Biodiversity Conservation Act 2016* (BC Act) has also been applied to planted Old Man Salt Bush, Plant Community Type (PCT) 158-.

The Proponent also wishes to extend the operation period from 30 years to 35 years.

The key focus of this modification report includes:

- The removal of the requirement for the Basic Left-turn Lane (BAL) treatment.
- The amended development footprint to accommodate the upgraded intersection design.
- Vegetation impacts from changes to the internal roads.
- Repositioning and scaling of substation subdivision area.
- Category 1 Land Exemption.
- Extending the operational period from 30 to 35 years.

The environmental impacts that required further assessment in this Modification Report are biodiversity, and transport and traffic. The key findings and recommendation are as follows:

Biodiversity

One Plant Community Type (PCT) - PCT 80 Western Grey Box - White Cypress Pine tall woodland on loam soil on alluvial plains of NSW South Western Slopes Bioregion and Riverina Bioregion occurs within the proposed amended development footprint. The proposed amendment to the development footprint from the internal, Sandigo and Muntz road updates alters impacts in these vegetation zones:

- PCT 80:
 - Vegetation Zone 1: Decreased impact of 0.3 ha.
 - Vegetation Zone 2: Decreased impact of 0.2 ha.
 - Vegetation Zone 3: Increased impact of 0.2 ha.
 - Vegetation Zone 4: Increased impact of 0.05 ha.
 - Vegetation Zone 5: Increased Impact of 0.1 ha.

This represents a total decrease of 0.15 ha of clearing of PCT 80.

The proposed vegetation impacts from the detailed road design of Sandigo and Muntz Road plus the internal road modification are less than the clearing impacts assessed in the Biodiversity Development Assessment Report (BDAR) prepared by NGH Pty for the ASF in 2019. No further targeted surveys or BAM plots were completed for flora and fauna on site. Minor credit changes are required, as detailed within the updated BDAR (Appendix D). No EPBC referral is required.

A Category 1 Land Exemption under the *Biodiversity Conservation Act 2016* (BC Act) has also been applied over the planted Old Man Salt Bush. Thus, the planted Old Man Salt Bush would be excluded from future credit obligations under the Biodiversity Assessment Methodology (BAM) and Biodiversity Offset Scheme (BOS). This is due to evidence that shows the lots associated with the planted Old Man Salt Bush have been under regular rotational cropping, pasture improvement, and that the salt bush is part of a fodder plantation.

The BAM credit calculations completed for the BDAR have been updated to reflect the altered development footprint for both the upgrade of Sandigo and Muntz Road and internal road modifications, and Land Category Assessment an overall decrease in credits occurred:

- Ecosystem Credits decreased by 22.
- Species Credits decreased by 55.

Transport and traffic

There would not be any additional vehicles entering or exiting the ASF as a result of the modification. The approved approach to traffic and transport identified in the CoC and Environmental Impact Statement (EIS) would be sufficient to manage the potential impacts from construction works.

1. INTRODUCTION

1.1. PURPOSE

Development Consent for the 200 MW ASF (Figure 1-1) (SSD 9031) was approved by a delegate for the Minister for Planning on 8 August 2019. The EIS and subsequent Response to Submissions (RTS) identified the environmental impacts associated with the construction, operation and decommissioning of the ASF. NGH prepared the EIS and the RTS on behalf of RES (the proponent).

This Modification Report has been prepared to assess the transport and traffic, and biodiversity impacts to the detailed road design upgrade to Sandigo and Muntz Road alongside internal road amendments and exclusion of the Old Man Salt Bush. The proposed road upgrade would improve vehicle access to and within the ASF

For biodiversity matters, this Modification addresses the assessment requirements of the state *Biodiversity Conservation Act 2016* (BC Act) and federal *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) for biodiversity matters.

The proponent has engaged NGH to prepare the Modification Report.

1.2. MODIFICATION PROPOSAL

The Conditions of Consent (CoC) issued on 8th August 2019, Schedule 3 – Transport, Condition 5 Road Upgrades and Site Access states:

5. Prior to commencing construction, the Applicant must:

- (a) upgrade the intersection of the Sturt Highway and Sandigo Road, including BAR/AUL(s) treatments;
- (b) upgrade the intersection of Sandigo Road and Muntz Road, including BAR/BAL treatments with minimum 200 mm compacted gravel (CBR of 30) and 20/14 seal;
- (c) upgrade Sandigo Road from the Sturt Highway to 100 m past Muntz Road, including sealing to a width of 7 m with minimum 200 mm compacted gravel (CBR of 30), 20/14 seal and 1 m gravel shoulders;
- (d) upgrade Muntz Road between Sandigo Road and the site access point, including a gravel surface to a width of 6.2 m with 0.5 m shoulders; and
- (e) design the site access point off Muntz Road (shown in Appendix 1) with a Rural Property Access type treatment to cater for the largest vehicle accessing the site, as identified in the figure in Appendix 5.

These upgrades must comply with the Austroads Guide to Road Design (as amended by RMS supplements) and be carried out to the satisfaction of the relevant roads authority.

Since the issue of the CoC, Narrandera Shire Council (NSC) have completed their review of the detailed road design and provided comment. As a result, works on Sandigo and Muntz Roads have been designed in compliance with the CoC 5 and recommendations from review by NSC, with the exception of the BAL at Sandigo Road and Muntz Road intersection.

The proponent has also modified a section of the internal road layout within the development site, to allow for internal access (Figure 1-3) and electrical reticulation. NGH have applied a 7m buffer to this road design. The road width would be no more 6m wide within a 14 m wide corridor. The electrical reticulation would generally run parallel with the internal road network. A 14 m wide disturbance corridor was used to determine the maximum width of vegetation clearing to remaining within the scope identified in the BDAR.

Vegetation clearing within the Sandigo and Muntz Road detailed design and internal road modification is within the scope of clearing outlined in the BDAR. However, as requested by the Biodiversity Conservation Division, an updated BDAR is provided (Appendix D).

A minor adjustment to the substation position and area to be transferred to TransGrid has also been included in this modification report. The proponent has worked closely with TransGrid, following development approval, to establish a workable detailed design of the substation and vehicle access. During this consultation it was confirmed the substation would need to be slightly repositioned to enable over dimensional vehicles to safely access the substation. TransGrid also required an Asset Protection Zone (APZ) of 20m to be added to the substation fenced perimeter and this area included in the substation subdivision land to be transferred to TransGrid. The revised subdivision plan is provide at Appendix A.

1.3. AVONLIE SOLAR FARM PROJECT

The proposed ASF is in the Narrandera Local Government Area (LGA) approximately 20 kilometres (km) south east of Narrandera (Figure 1-1). The subject land occupies approximately 633 hectares (ha) of land and includes Lots 1 and 2 DP 606800, Lots 13, 22, 26, 28, 30, 43, 53 DP 754538, Lot 1 DP 386927, Lot 13 DP 795880 and Lot 7 DP254595.

The development site covers approximately 581 ha of land and involves the construction of a ground-mounted photovoltaic solar array generating approximately 200 MW of renewable energy. ASF involves approximately 670,000 solar panels would be mounted in rows on a single axis tracking system, with trackers likely to have a typical maximum tilt height of 4 m.

Two existing TransGrid-owned 132 kV transmission line runs through the development site. It is proposed that the internal solar farm substation be connected to the TransGrid transmission lines, sited within the development area. The area for the substation will be subdivided from the residual lot and would be constructed on a gravel bench and surrounded by security fencing. The Substation site will be transferred in freehold to TransGrid on completion of the project.

The project comprises of the following key infrastructure components:

- Photovoltaic solar arrays ground-mounted on a single-axis tracking system.
- Power conversion units.
- A substation including an elevated busbar, switch room, a lightning protection system, current and voltage transformers and a connection into the existing TransGrid overhead transmission line.
- A battery storage facility (BSF).
- Operations and maintenance buildings with associated car parking.
- Access point to the site via Muntz Road.
- Underground and overhead cabling.
- Internal access tracks.
- Emergency lighting.
- CCTV system including infrared (non-visible) lighting.
- Security fencing.
- Subdivision of the property for the purpose of the substation and continued agricultural purposes.
- Clearing of vegetation.
- Road upgrades.
- Temporary facilities.

The general layout map of the development (Figure 1-2) illustrates the development footprint. Detailed design avoids many sensitive features on the site.

The solar farm was expected to operate for 30 years. The construction phase of the project is expected to take eighteen months. The solar farm would be monitored and operated remotely and would require a small number of maintenance personnel (3-4 full time equivalent staff) to be based at the site. An asset management team likely located in Sydney would undertake the remote operation activities.

After the operating phase, the project would either be decommissioned, removing all above ground infrastructure and returning the site to its existing land capability (12 months), or upgraded with new photovoltaic equipment.

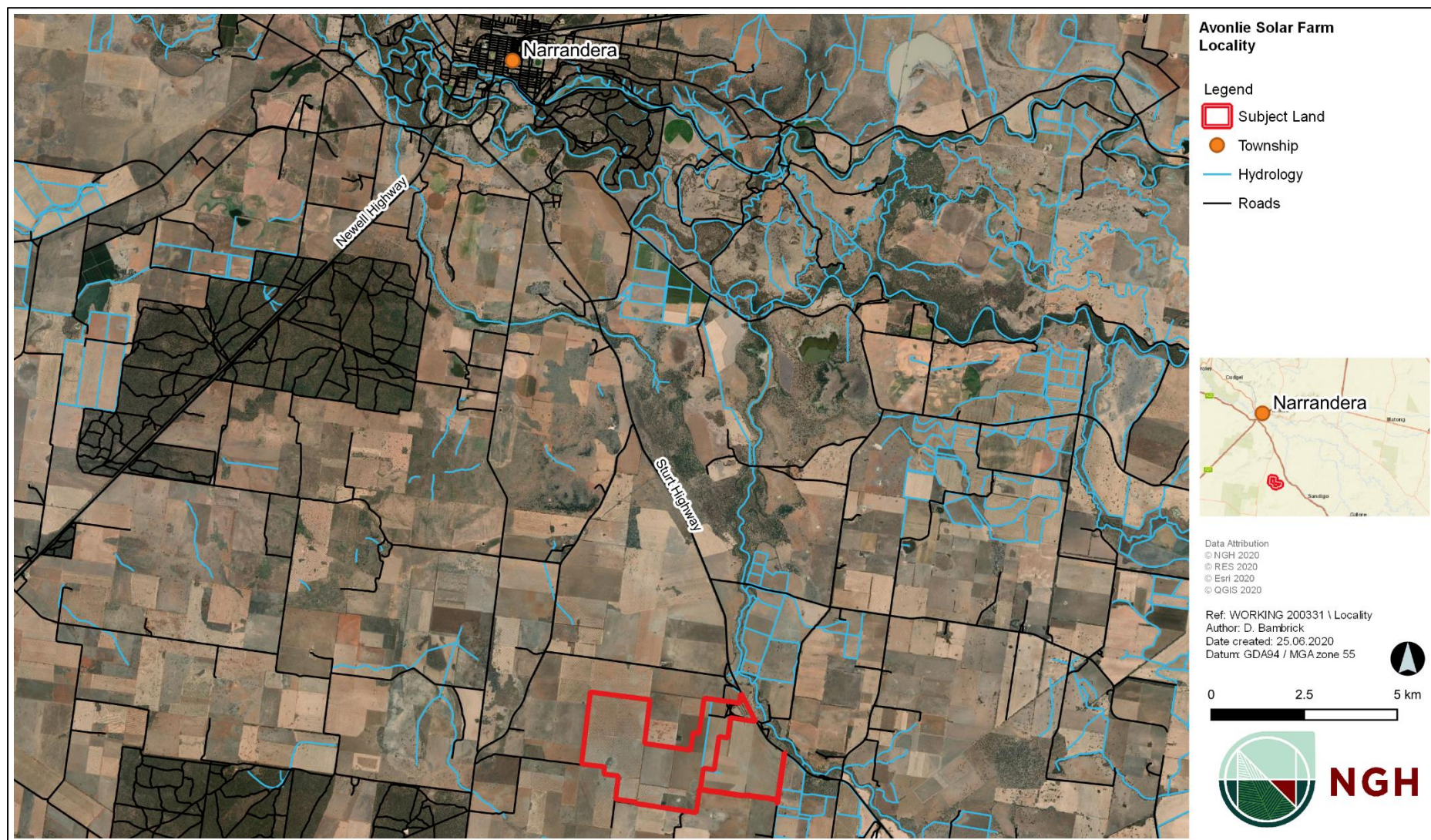


Figure 1-1 Site location

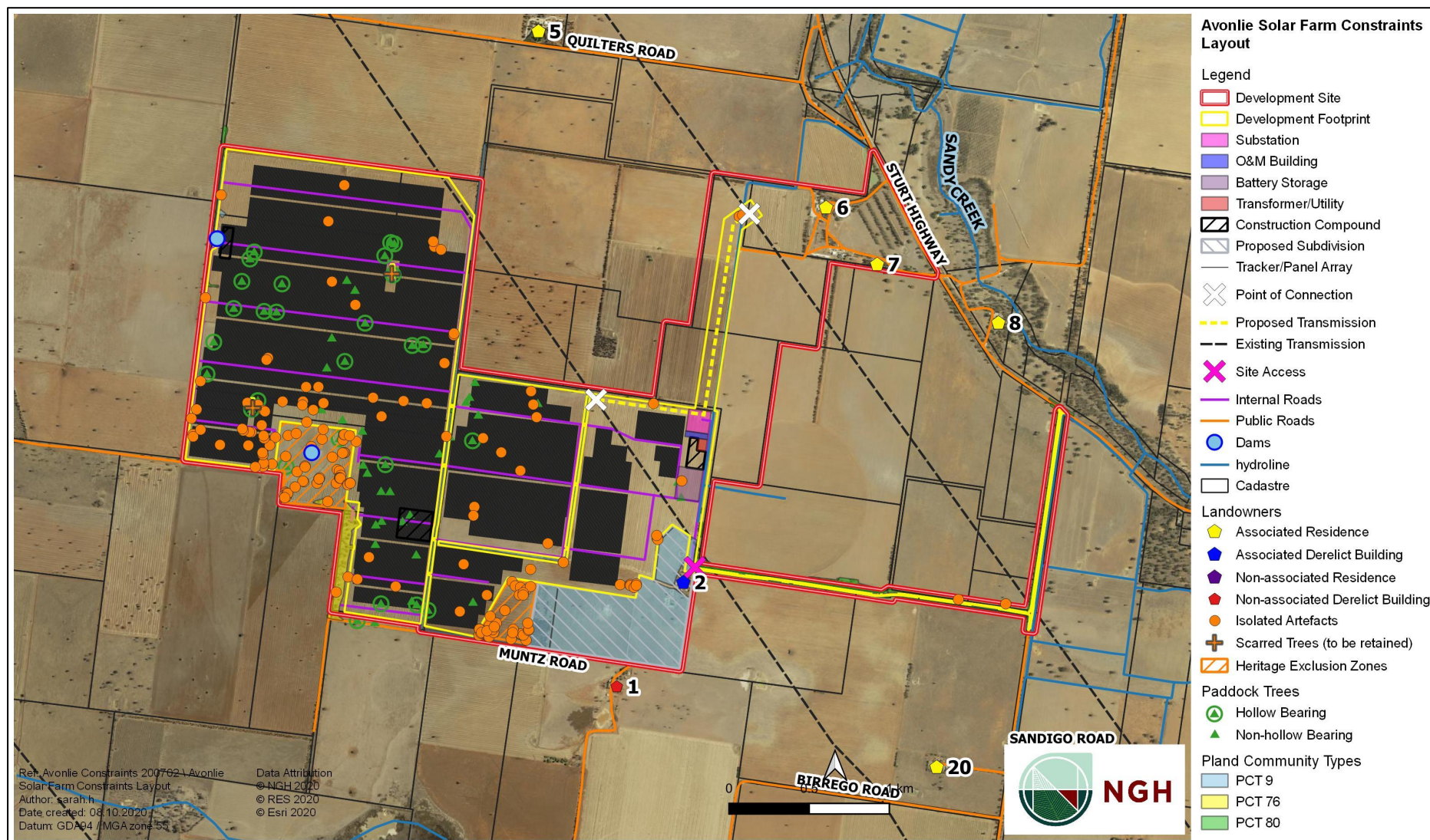


Figure 1-2: Project Layout.



Figure 1-3: Internal Road Modifications and Vegetation Impacts.

2. CONSULTATION

Consultation has occurred with agencies throughout the process leading to this modification. Evidence of consultation is provided in Appendix E.

2.1. NARRANDERA SHIRE COUNCIL

Ongoing consultation has taken place between the Proponent and NSC.

On 30 June 2020, NSC wrote to the Proponent stating their support for the proposed amendment to Condition 5 (b) of Schedule 3 of the CoC in relation to the road upgrades on Sandigo and Muntz roads.

NSC agreed that the BAL treatment on Sandigo and Muntz Road intersection was not required as:

- Construction traffic would not utilise the BAL due to the construction route.
- Increasing the intersection width would increase Council maintenance costs.
- The BAR was deemed all that was necessary for a safe and practical road upgrade.

2.2. DEPARTMENT OF PLANNING, INDUSTRY AND ENVIRONMENT

As part of the preparation of this modification report, and the associated impact assessment, the proponent consulted with the Department of Planning, Industry and Environment (DPIE). This included:

Notification and advice of the proposed project amendments, and a pre-submission scoping call between the proponent and DPIE on 7th September 2020. During that call the proponent set out the proposed changes to the project and the intention to submit a 1a planning modification.

2.3. BIODIVERSITY CONSERVATION DIVISION

As part of the preparation of this modification report, and the associated impact assessment, NGH consulted with the NSW Biodiversity Conservation Division (BCD) to notify and advise of the detailed road design for Sandigo and Muntz Road, internal road network and intention for a Land Category Assessment on the PCT 158 Old Man Saltbush.

A phone conference was held between NGH and BCD on 20 August 2020. It was agreed that the proposed changes were acceptable, and that an updated BDAR should be included with this Modification Report detailing all proposed changes.

2.4. LANDOWNER CONSENT

Consent for this Modification has been provided by the relevant associated landowner, and is provided in Appendix E.

2.5. TRANSGRID

Ongoing consultation has taken place between the proponent and TransGrid as both parties work towards agreeing detailed design and connection agreements. As part of these ongoing workstreams, discussions took place on the substation location and size. Following review by the proponent's project team it was confirmed to TransGrid the proposed change was generally in accordance with the EIS. However, for clarity it was deemed prudent to include it within this Modification. See Appendix E for evidence of TransGrid discussions.

3. ENVIRONMENTAL ASSESSMENT APPROACH

3.1. ENVIRONMENTAL IMPACTS OF THE APPROVED PROJECT

The key environmental impacts for the approved ASF Project included:

- Landscape and Visual amenity.
- Noise.
- Biodiversity.
- Indigenous heritage.
- Traffic and Transport.
- Hazards and Risks.
- Water Quality.
- Climate and air quality.
- Soils, Landforms and water.
- Non-indigenous heritage.
- Waste minimisation and management.
- Socio-economic considerations.
- Land use and resources.

A review of these environmental impacts is considered in Section 4 of this Modification to identify environmental aspects that may change the extent of impact of the approved project.

Mitigation measures set out by the Development Consent and the EIS (NGH 2019) would be sufficient to manage all potential impacts for this Modification.

4. ENVIRONMENTAL IMPACT ASSESSMENT

The environmental aspects from the approved EIS and Conditions of Consent are assessed in Table 4-1 to determine environmental impacts of this modification.

Table 4-1 Assessment of environmental impacts for the intersection upgrade for this modification.

EIS Environmental Impact	Comment
Noise	Noise impacts are not expected to change as a result of this modification. The existing mitigation measures and safeguards are considered sufficient.
Air Quality	It is anticipated that no additional air quality issues need particular consideration for this modification. The issues of dust from construction and extra vehicle emissions are considered negligible and the EIS and RTS mitigation measures and safeguards are sufficient.
Soils, landforms and water	Appropriate mitigation measures include sediment control measures, appropriate soil management and spill management. The EIS and RTS mitigation measures and safeguards are sufficient.
Hazardous chemicals	It is anticipated that no hazardous chemical will be stored or used on site. The EIS mitigation measures and safeguards are sufficient to manage any incidental or unanticipated hazards chemicals found on site.
Biodiversity	This Modification Report has been prepared to assess the biodiversity impacts for the upgrade of Sandigo and Muntz Road, and internal access tracks. The biodiversity impacts are summarised in Section 4.3.
Traffic and Transport	The road upgrade will not change the number of heavy or light vehicles used during construction. The intersection upgrade is required to improve road condition and access to the ASF and to meet Condition 5 of the Conditions of Consent with the exception of the BAL at Sandigo Road and Muntz Road intersection.

	This Modification Report applies to changes to Condition 5 for road upgrades and site access. Condition 5 states: <i>Prior to commencing construction, the Applicant must:</i> (a) <i>upgrade the intersection of the Sturt Highway and Sandigo Road, including BAR/AUL(s) treatments;</i> (b) <i>upgrade the intersection of Sandigo Road and Muntz Road, including BAR/BAL treatments with minimum 200 mm compacted gravel (CBR of 30) and 20/14 seal;</i> (c) <i>upgrade Sandigo Road from the Sturt Highway to 100 m past Muntz Road, including sealing to a width of 7 m with minimum 200 mm compacted gravel (CBR of 30), 20/14 seal and 1 m gravel shoulders;</i> (d) <i>upgrade Muntz Road between Sandigo Road and the site access point, including a gravel surface to a width of 6.2 m with 0.5 m shoulders; and</i> (e) <i>design the site access point off Muntz Road (shown in Appendix 1) with a Rural Property Access type treatment to cater for the largest vehicle accessing the site, as identified in the figure in Appendix 5.</i> <i>These upgrades must comply with the Austroads Guide to Road Design (as amended by RMS supplements), and be carried out to the satisfaction of the relevant roads authority.</i> There would not be any additional vehicles entering or exiting the ASF as a result of the modification. The approved approach to traffic and transport identified in the Conditions of Consent and EIS would be sufficient to manage the potential impacts from construction works. The traffic management plan will include the changes as detailed within this Modification Report.
Waste minimisation and management	It is anticipated that no additional waste issues require further assessment for this modification. It is anticipated the EIS and Conditions of Consent are sufficient to manage the likely spoil and vegetation waste from the proposed modification.
Indigenous heritage	There were no indigenous heritage issues associated with this Modification Report. The mitigation measure and safeguards in the EIS, ACHA and Conditions of Consent are considered sufficient.

Non-indigenous heritage	There were no non-indigenous heritage issues associated with the Modification Report. The mitigation measure and safeguards in the EIS and Conditions of Consent are considered sufficient.
Socio-economic considerations	There were no Socio-economic considerations issues associated with this Modification Report. The mitigation measure and safeguards in the EIS and Conditions of Consent are considered sufficient.
Land use and resources	There were no land use and resources issues associated with this Modification Report. The mitigation measure and safeguards in the EIS and Conditions of Consent are considered sufficient.

4.1. IMPACT SUMMARY

Section 4 of this report assessed the environmental impact of key issues relevant to the proposed modifications to the Approved Project. The assessment identified that no changes to the proposed mitigation measures are required for the proposed works.

Table 4-2. Impact Summary

Environmental factor	Any additional, increased or decreased impacts of the modified project?	Any changes to the mitigation strategies required? (Y/N)	Any changes to consent condition? (Y/N)																																								
Landscape and visual	No	N	N																																								
Noise	No	N	N																																								
Air quality	No	N	N																																								
Soil, landforms and water	No	N	N																																								
Hazardous chemicals	No	N	N																																								
Biodiversity	No - Vegetation Clearing Summary requiring offsets <table><tr><th>Zone</th><th>PCT</th><th>BDAR (ha)</th><th>Mod (ha)</th><th>Increase (+)/ Decrease (-) (ha)</th></tr><tr><td>1</td><td>80</td><td>1.1</td><td>0.8</td><td>-0.3</td></tr><tr><td>2</td><td>80</td><td>0.5</td><td>0.3</td><td>-0.2</td></tr><tr><td>3</td><td>80</td><td>0.1</td><td>0.3</td><td>+0.2</td></tr><tr><td>4</td><td>80</td><td>0.05</td><td>0.1</td><td>+0.05</td></tr><tr><td>5</td><td>80</td><td>0.1</td><td>0.2</td><td>+0.1</td></tr><tr><td>6</td><td>158</td><td>0.9</td><td>0.0</td><td>-0.9</td></tr><tr><td colspan="2">Total</td><td>2.75</td><td>1.70</td><td>-1.05</td></tr></table>	Zone	PCT	BDAR (ha)	Mod (ha)	Increase (+)/ Decrease (-) (ha)	1	80	1.1	0.8	-0.3	2	80	0.5	0.3	-0.2	3	80	0.1	0.3	+0.2	4	80	0.05	0.1	+0.05	5	80	0.1	0.2	+0.1	6	158	0.9	0.0	-0.9	Total		2.75	1.70	-1.05	NN	NY Credit summary would be updated within the CoC to reflect the Modification Report updates.
Zone	PCT	BDAR (ha)	Mod (ha)	Increase (+)/ Decrease (-) (ha)																																							
1	80	1.1	0.8	-0.3																																							
2	80	0.5	0.3	-0.2																																							
3	80	0.1	0.3	+0.2																																							
4	80	0.05	0.1	+0.05																																							
5	80	0.1	0.2	+0.1																																							
6	158	0.9	0.0	-0.9																																							
Total		2.75	1.70	-1.05																																							

Environmental factor	Any additional, increased or decreased impacts of the modified project?	Any changes to the mitigation strategies required? (Y/N)	Any changes to consent condition? (Y/N)																																
	Credit Offset Summary <table> <tr> <th>Credits</th><th>BDAR</th><th>Mod</th><th>Increase (+)/ Decrease (-)</th></tr> </table> Ecosystem Credits <table> <tr> <td>PCT - 80 Woodland</td><td>43</td><td>36</td><td>-7</td></tr> <tr> <td>PCT - 80 Paddock Trees</td><td>40</td><td>40</td><td>0</td></tr> <tr> <td>PCT 158</td><td>15</td><td>0</td><td>-15</td></tr> <tr> <td>Total</td><td>98</td><td>76</td><td>-22</td></tr> </table> Species Credits <table> <tr> <td>Flora</td><td>183</td><td>128</td><td>-55</td></tr> <tr> <td>Fauna</td><td>12</td><td>12</td><td>0</td></tr> <tr> <td>Total</td><td>195</td><td>140</td><td>-55</td></tr> </table>	Credits	BDAR	Mod	Increase (+)/ Decrease (-)	PCT - 80 Woodland	43	36	-7	PCT - 80 Paddock Trees	40	40	0	PCT 158	15	0	-15	Total	98	76	-22	Flora	183	128	-55	Fauna	12	12	0	Total	195	140	-55		
Credits	BDAR	Mod	Increase (+)/ Decrease (-)																																
PCT - 80 Woodland	43	36	-7																																
PCT - 80 Paddock Trees	40	40	0																																
PCT 158	15	0	-15																																
Total	98	76	-22																																
Flora	183	128	-55																																
Fauna	12	12	0																																
Total	195	140	-55																																
Traffic and transport	No – works were already approved for the road upgrade. The proposal for this modification has altered the footprint for those works. This alteration will not lead to increase traffic or changes to the construction schedule. The proposed modification will improve safety and efficiency at the intersection during construction and operation. The BAL has been removed from the detailed road design.	N	Y Removal of the BAL modifies the CoC by removing the requirement of the BAL on Sandigo/Muntz roads intersection.																																
Waste minimisation and management	No	N	N																																
Non-indigenous Heritage	No	N	N																																

Environmental factor	Any additional, increased or decreased impacts of the modified project?	Any changes to the mitigation strategies required? (Y/N)	Any changes to consent condition? (Y/N)
Indigenous Heritage	No	N	N
Climate and Air Quality	No - dust management should be managed as per CoC	N	N
Socio-economic considerations	No	N	N
Land use and resources	No	N	N

4.2. TRANSPORT AND TRAFFIC

4.2.1. Approach and assessment context

A detailed road design for the intersection upgrade to improve road condition and access along Sandigo and Muntz Road for the ASF was prepared. The detailed road design was prepared with input from Council NSC.

The detailed design was completed in compliance with Condition of Consent 5 (Table 4-1), with the exception of the BAL at Sandigo Road and Muntz Road intersection.

Modifications to the internal road design are not subject to compliance with CoC 5 and are assessed within the scope of the BDAR. Impacts from the internal road design are assessed within section 4.3.

4.2.2. Modification Assessment

The detailed road design is in compliance with CoC 5 with the exception of (b) where the BAL has been removed from the design. The Basic Right-turn Lane (BAR) will still occur. Therefore, the detailed road design will include provisions to maintain compliance with CoC 5, as amended.

4.2.3. Requirements and Recommendations

There would not be any additional vehicles entering or exiting the ASF as a result of the modification. The approved approach to traffic and transport identified in the CoC and EIS would be sufficient to manage the potential impacts from construction works.

The traffic management plan would include the changes in the development footprint for this detailed road design.

The safeguards and mitigation measures in the BDAR, EIS and the CoC are considered sufficient for this modification report. No additional requirements or recommendations are considered necessary.

4.3. BIODIVERSITY

4.3.1. Approach and assessment context

The detailed road design has resulted in an altered impact to biodiversity along both Sandigo and Muntz Road and its intersection with the Sturt Highway, and the internal access road network within the development site. There have been no biodiversity impacts to native vegetation as a result of the substation repositioning and introduction of substation APZ. The revised substation area falls completely within the Exotic/Cat 1 Exempt Land classification.

All vegetation within the subject land, including the roadside vegetation along Muntz Road and Sandigo Road was assessed as part of the overall Biodiversity Development Assessment Report (BDAR) and Draft Biodiversity Management Plan (BMP) for the ASF Development. The BAM was utilised for the assessment and reported in the BDAR.

A Category 1 Land Exemption under the *Biodiversity Conservation Act 2016* (BC Act) has also been applied over the planted Old Man Salt Bush, thus excluding it from future credit obligations.

The calculated vegetation impact for the modifications is 1.62 ha's. The BDAR concluded that up to 2.75 ha of native vegetation would be removed by the project (Table 1). Therefore, the vegetation clearance for the modifications is less than the scope of the BDAR and minor changes to ecosystem and species credits identified within the BDAR would occur. These credits have been updated in the latest BDAR (appended) and should be updated in the modified CoC.

4.3.2. Modification Assessment

The aim of the BDAR is to address the requirements of the Secretary's Environmental Assessment Requirements (SEARs) outlined below:

Biodiversity – including an assessment of the likely biodiversity impacts of the development, a detailed description of the proposed regime for minimising, managing and reporting on the biodiversity impacts of the development over time, and a strategy to offset any residual impacts of the development in accordance with the BC Act (NSW).

Vegetation community identified on site

One Plant Community Type (PCT), noted below, was identified along Sandigo Road, Muntz Road and the impact areas of the internal road update. This PCT was determined based on field surveys completed by NGH in 2017 and 2019:

- PCT 80 Western Grey Box - White Cypress Pine tall woodland on loam soil on alluvial plains of NSW South Western Slopes Bioregion and Riverina Bioregion.

Detailed road design

The roadside vegetation along Muntz Road and Sandigo Road was assessed as part of the overall BDAR for the Avonlie Solar Farm Development. The Biodiversity Assessment Methodology (BAM) was utilised for the assessment and reported in the BDAR. The detailed road design has less impact to native vegetation than previously assessed in the BDAR and shown in the Draft Biodiversity Management Plan (BMP).

The Vegetation Exclusion Zones (VEZs) mapped in the current draft BMP have been amended to reflect the detailed road design (Appendix C). The area of native vegetation to be removed by the detailed road design is less than the area of vegetation removal per PCT zone within the BDAR. The current offset credits have been updated to address the changes native vegetation impacts (4.3.3). Vegetation zones impacted by the detailed road design include zones 1, 2 and 4.

The detailed road design was constructed to maintain vegetation clearing within the scope of the BDAR. To accomplish the detailed road design disturbance footprint was reduced with vegetation exclusion areas expanded. The detailed road design has resulted in an increase in the width of clearing along some sections, particularly at the intersection of Muntz Road and Sandigo Road, and Sandigo Road and Sturt Highway. However, along other sections of Muntz Road and Sandigo Road the width of the upgrade has decreased, resulting in less disturbance (Figure 4-1; Figure 4-2; Figure 4-3). All clearing north of the Sturt Highway intersection is also no longer required. As a result of the detailed road design, an overall reduction of 0.18 ha in the total area of clearing has been achieved (Table 4-3).

Table 4-3 Native vegetation clearing changes as part of the BDAR vs updated design for Sandigo and Muntz Roads modification.

Zone ID	PCT/Condition	EEC and/or threatened species habitat?	Current assessed impact area (ha) (BDAR)	Amended impact area (ha) (updated design)
Western Grey Box - White Cypress Pine tall woodland on loam soil on alluvial plains of NSW South Western Slopes Bioregion and Riverina Bioregion				
1	80_Good	Inland Grey Box Woodland E	1.1	0.9
2	80_Good_understory	Inland Grey Box Woodland E	0.5	0.4

4	80_Low	Not EEC or threatened species habitat	0.05	0.07
TOTAL			1.55	1.37

The changes along Sandigo Road and Muntz Road as a result of the detailed design are almost imperceptible due to the small scale of the mapping. The survey set out prior to construction however will be able to accurately position the VEZ so as to realise the benefit of reduced clearing.

Internal road update

The vegetation within the internal road modification was assessed as part of the overall Biodiversity Development Assessment Report (BDAR) for the ASF. The Biodiversity Assessment Methodology (BAM) was utilised for the assessment and reported in the BDAR. The internal road design has less impact to native vegetation than previously assessed in the BDAR and shown in the Draft Biodiversity Management Plan (BMP).

The internal road modification was designed to maintain vegetation clearing within the scope of the BDAR. To accomplish this, the internal road corridor footprint was reduced to 14m wide. Vegetation zones impacted by the internal road modification include zones 3 and 5. The internal road modification resulted in an overall increase of 0.13 ha of vegetation clearance (Table 4-4). The current offset credits have been updated to address the changes native vegetation impacts (4.3.3).

Table 4-4: Native vegetation clearing changes as part of the BDAR vs updated internal road modification.

Zone ID	PCT/Condition	EEC and/or threatened species habitat?	Current assessed impact area (ha) (BDAR)	Amended impact area (ha) (updated design)
Western Grey Box - White Cypress Pine tall woodland on loam soil on alluvial plains of NSW South Western Slopes Bioregion and Riverina Bioregion				
3	80_Moderate_grazed	Inland Grey Box Woodland E	0.1	0.13
5	80_Planted	Not EEC or threatened species habitat	0.1	0.2
TOTAL			0.2	0.33

The changes within the internal road design are minor and almost imperceptible due to the small scale of the mapping.

Category 1 Land Assessment

Section 6.8(3) of the BC Act determines that the BAM is to exclude the assessment of the impacts of clearing of native vegetation on Category 1-exempt land (within the meaning of Part 5A of the *Local Land Services Act 2013*). Boundaries mapping Category 1-exempt land on the Native Vegetation Regulatory (NVR) Mapping are not yet publicly available. During the transitional period, accredited assessors may establish the categorisation of land for the agency head to consider, following the method utilised to develop the NVR.

Category 1- exempt land is defined under the LLS act as.

- Land cleared of native vegetation as of 1 January or lawfully cleared after 1 January 2019

- Low Conservation Grasslands
- Land containing only low conservation groundcover (not being grasslands)
- Native vegetation identified as regrowth in a Property Vegetation Plan under the repealed Native Vegetation Act 2003
- Land biodiversity certified under the *Biodiversity Conservation Act 2016*

Based on the above and publicly available data sources, there is evidence to suggest that lots associated with the project have largely been under regular rotational cropping, pasture improvement or part of native fodder plantations historically. This evidence is supported by recent and historical aerial imagery as well as 2017 Land Use Mapping data. A plantation of native Old Man Salt Bush has been utilised for fodder and soil stabilisation post 1990.

As such, the Old Man Saltbush has been categorised as Category 1 Land and should be excluded from the BAM and any credit obligations.

Modification summary

The BDAR concluded that up to 2.75 ha of native vegetation would be removed by the project. The total vegetation clearance for both the internal road modification and detailed external road design is within the scope of the BDAR (Table 4-3), demonstrating an overall reduction of 0.15 ha of vegetation impacts. The targeted surveys assessed in the BDAR have also been completed within scope of the modifications (internal road and detail external road design).

There is also a 0.9 ha reduction in the clearing/credit requirements for PCT 158 Old Man Salt Bush.

The current offset credits have been updated to address the changes native vegetation impacts (4.3.3).

Table 4-5: Total native vegetation clearing as part of the BDAR vs modifications assessed within this report.

Zone ID	PCT/Condition	EEC and/or threatened species habitat?	Current assessed impact area (ha) (BDAR)	Amended impact area (ha) (updated design)
Western Grey Box - White Cypress Pine tall woodland on loam soil on alluvial plains of NSW South Western Slopes Bioregion and Riverina Bioregion				
1	80_Good	Inland Grey Box Woodland E	1.1	0.8
2	80_Good_understory	Inland Grey Box Woodland E	0.5	0.3
3	80_Moderate_grazed	Inland Grey Box Woodland E	0.1	0.3
4	80_Low	Not EEC or threatened species habitat	0.05	0.1
5	80_Planted	Not EEC or threatened species habitat	0.1	0.2
Old Man Saltbush - mixed chenopod shrubland of the semi-arid hot (persistently dry) and arid climate zones (north-western NSW)				
6	158_Planted	White fronted chat (<i>Epthianura albifrons</i>) habitat	0.9	0.0

Total	2.75	1.7
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4.3.3. Offset Requirements

The calculated reduction in vegetation impact for the modifications is 1.7 ha. The BDAR concluded that up to 2.75 ha of native vegetation would be removed by the project (Table 4-4). Therefore, the vegetation clearance for the modifications is less than the scope of the BDAR.

The BAM credit calculations completed for the BDAR were updated to reflect the altered development footprint for both the upgrade of Sandigo and Muntz Road and internal road modifications. The changes to offset requirements detailed in the BDAR are detailed below in Table 4-6.

The Ecosystem and Species Credit offset requirements were updated to reflect the vegetation impact changes detailed within this modification report. The overall credit offset requirements have resulted in a decrease to both Ecosystem and Species Credits.

- Ecosystem Credits decreased by 22.
- Species Credits decreased by 55.

Table 4-6. Ecosystem and Species Credit Requirements

Ecosystem Credits	Offset credits required within previous BDAR	Offset credits required within updated BDAR
PCT 80: Western Grey Box -White Cypress Pine tall woodland on loam soil on alluvial plains of NSW South Western Slopes Bioregion and Riverina Bioregion	43	36
PCT 80: Paddock Trees – Western Grey Box -White Cypress Pine tall woodland on loam soil on alluvial plains of NSW South Western Slopes Bioregion and Riverina Bioregion	40	40
PCT 158: Old Man Saltbush – mixed chenopod shrubland of the semi-arid (persistently dry) and arid climate zones.	15	0
TOTAL	98	76
Species Credits	Offset credits required within BDAR	Offset credits required within Updated BDAR
A Spear Grass (<i>Austrostipa wakoolica</i>)	38	27
Sand-hill Spider Orchid (<i>Caladenia arenaria</i>)	58	40
Oaklands Diuris (<i>Diuris</i> sp.)	58	40
Pine Donkey Orchid (<i>Diuris tricolor</i>)	29	21
Superb Parrot (<i>Polytelis swainsonii</i>)	6	6
Major Mitchell Cockatoo (<i>Lophochroa leadbeateri</i>)	6	6
TOTAL	195	140

The updated Credit Summary report and Biodiversity Credit Report are located within Appendix D.

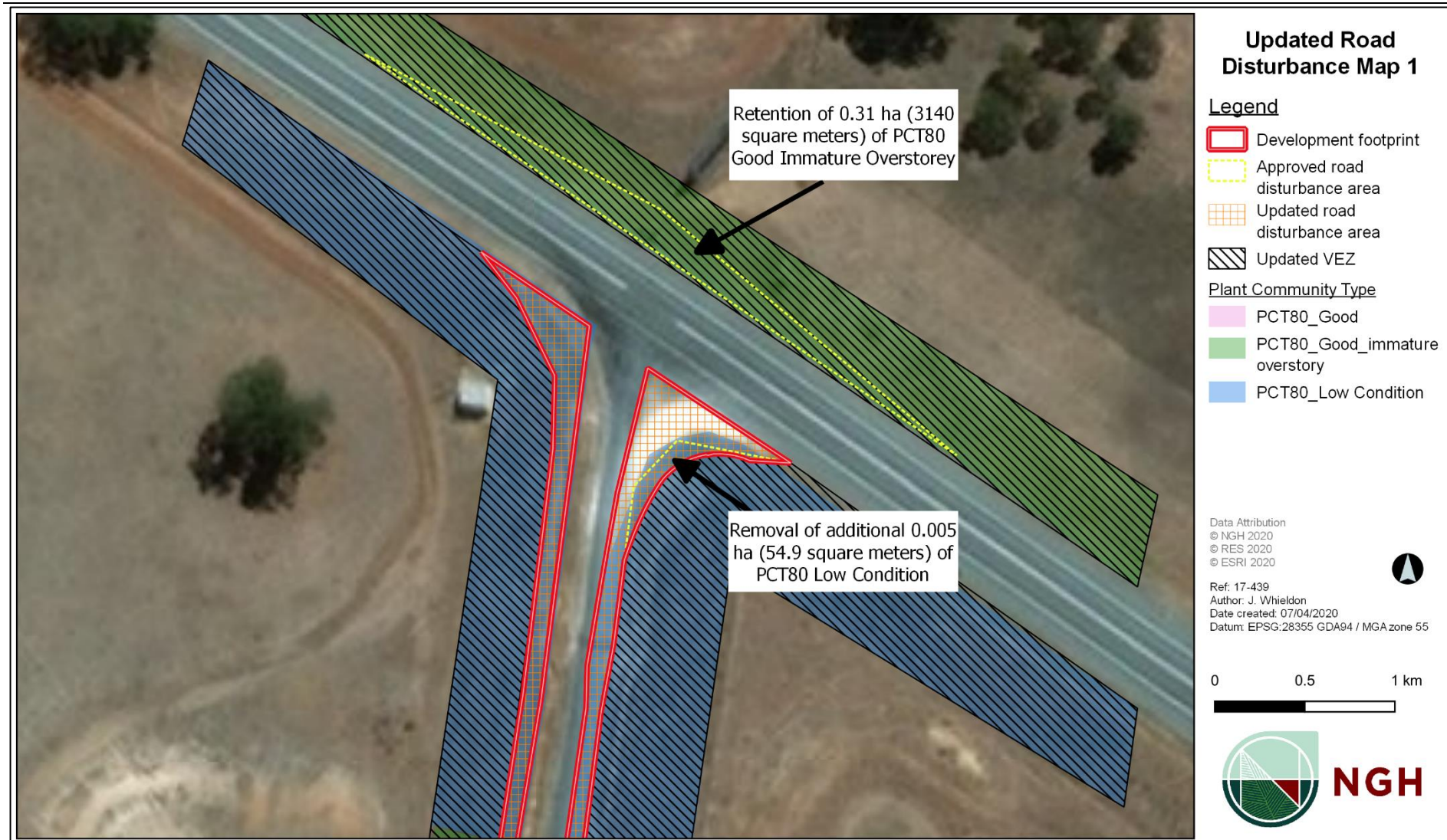


Figure 4-1. Sandigo and Muntz Road Vegetation Impacts (Map 1).

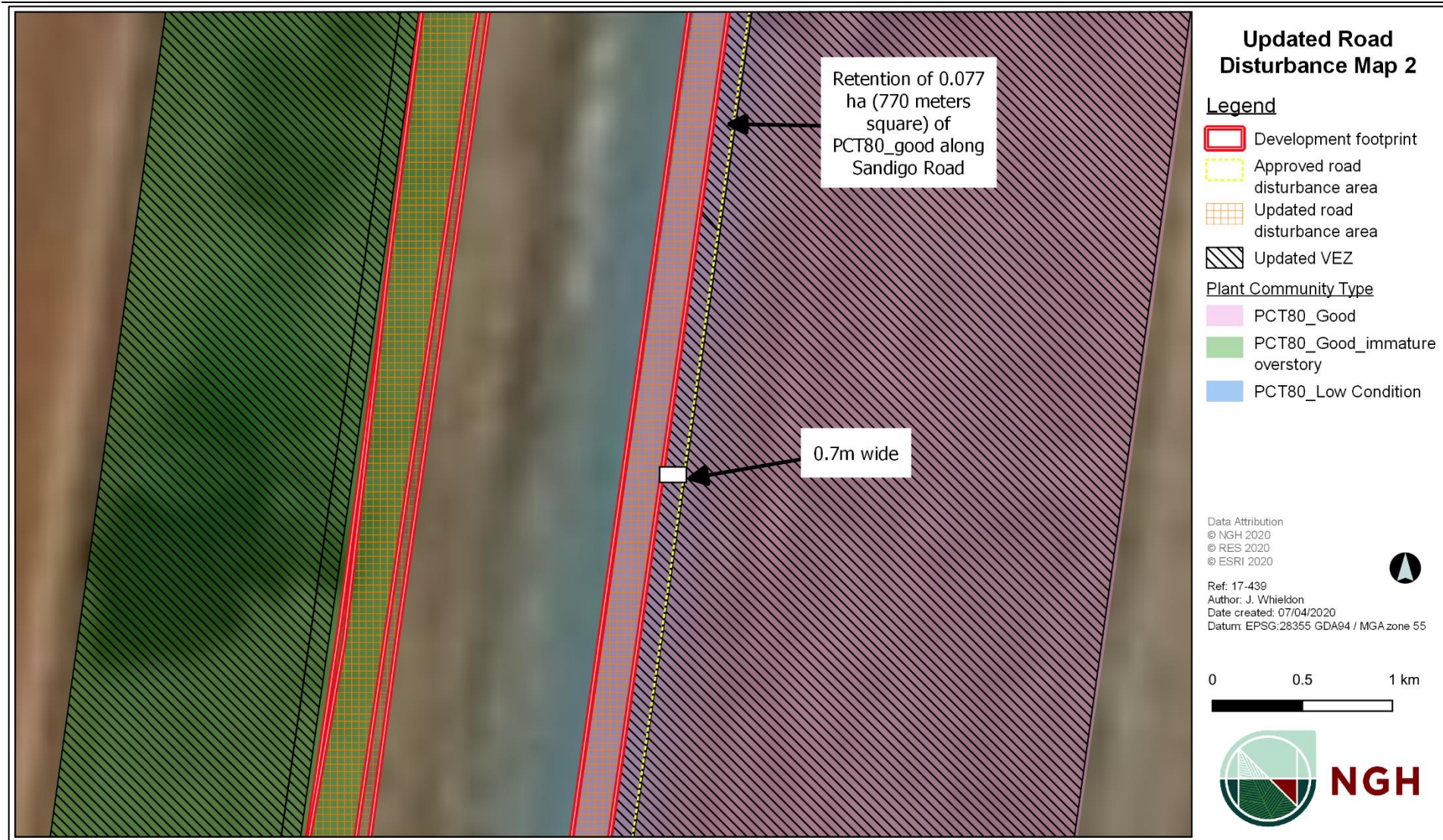


Figure 4-2. Sandigo and Muntz Road Vegetation Impacts (Map 2)

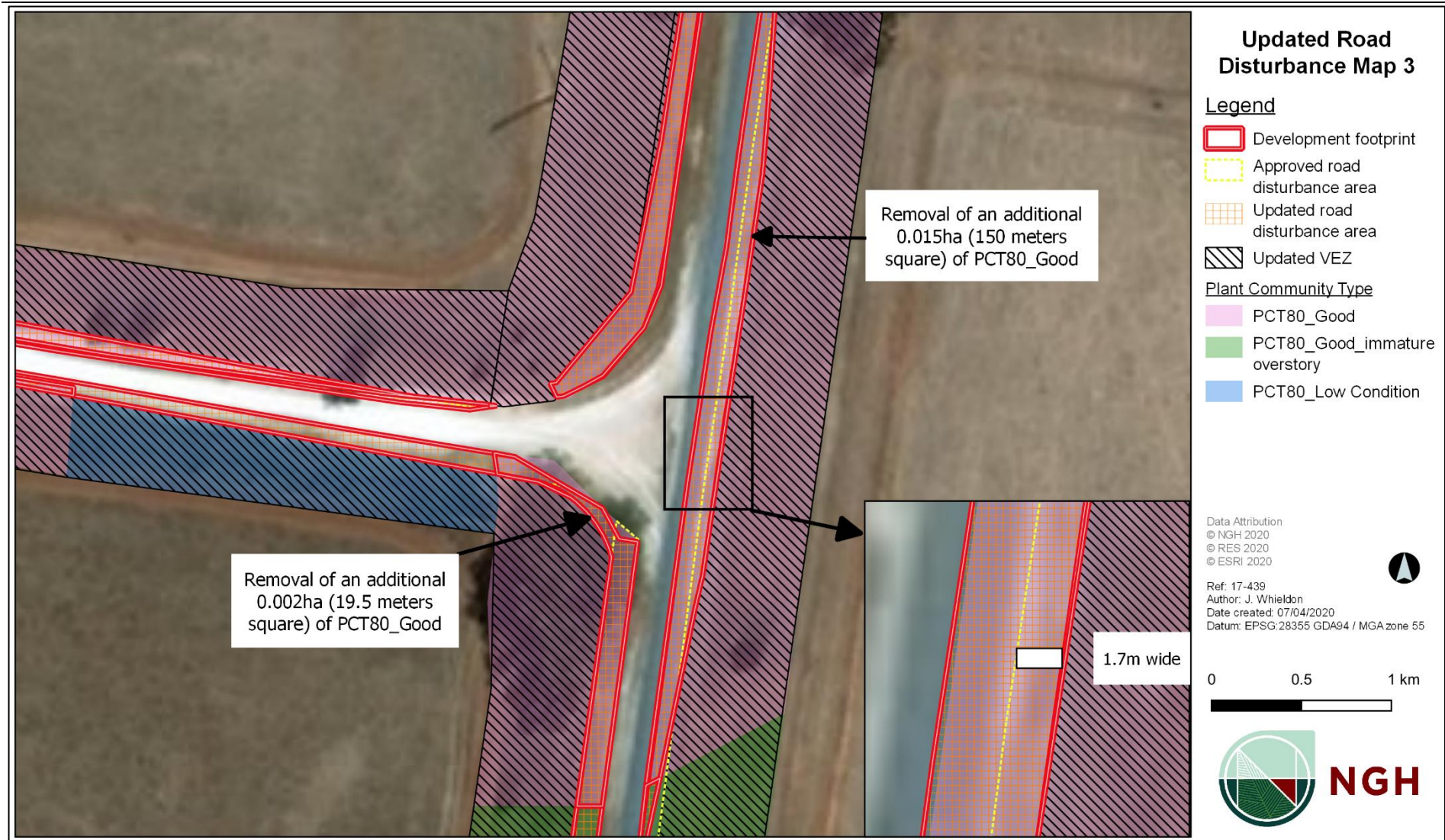


Figure 4-3. Sandigo and Muntz Road Vegetation Impacts (Map 3)

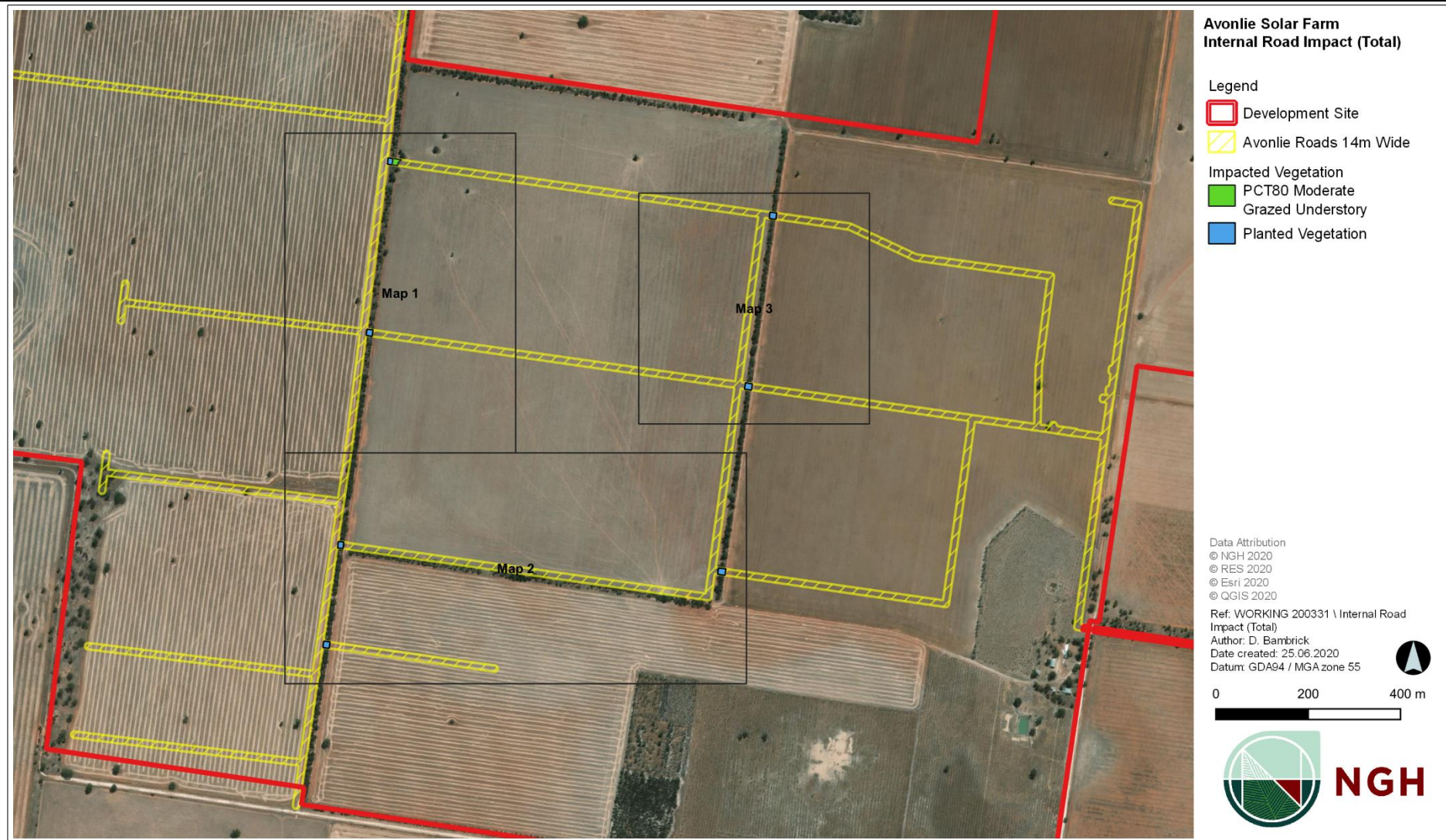


Figure 4-4: Internal Road Modification Vegetation Impact (Total)



Figure 4-5: Internal Road Modification Vegetation Impact (Map 1)

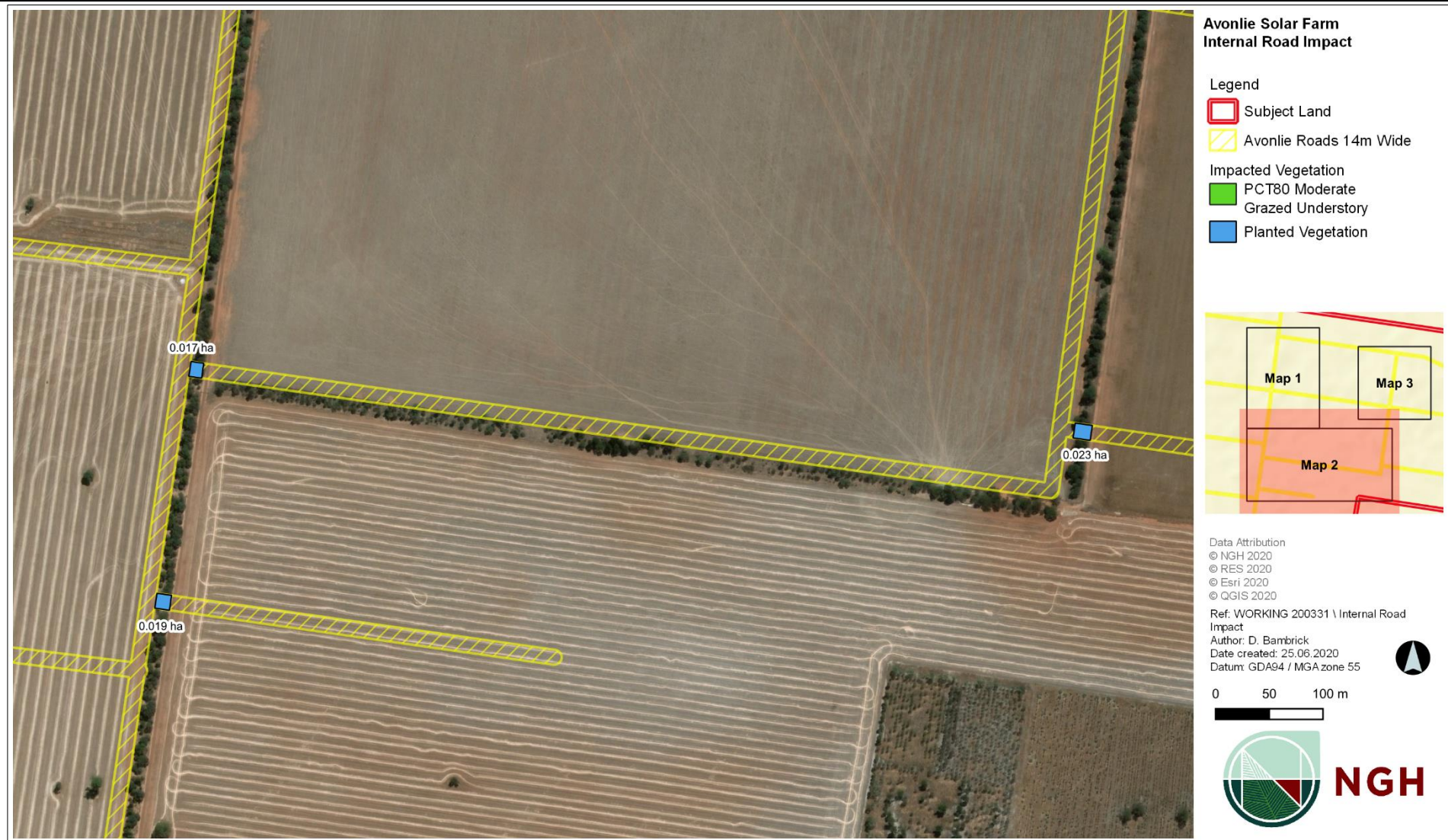


Figure 4-6: Internal Road Modification Vegetation Impact (Map 2)



Figure 4-7: Internal Road Modification Vegetation Impact (Map 3)

MNES Matters

The *Environmental Protection and Biodiversity Conservation Act, 1999* listed species on site in 2017 included Twenty-two threatened species were returned from the protected matters report, comprising nine birds, three fish, one frog, three mammals, five plants and one reptile species. The 2017 MNES search and habitat assessment results identified four fauna and three flora species to have the potential to utilise habitat within the development site for the ASF site. These species are:

- Fauna
 - Swift Parrot *Lathamus discolor*
 - Superb Parrot *Polytelis swainsonii*
 - Corben's Long-eared Bat *Nyctophilus corbeni*
 - Koala *Phascolarctos cinereus*
- Flora
 - A spear-grass *Austrostipa wakoolica*
 - Sand-hill Spider-Orchid *Caladenia arenaria*
 - Slender Darling Pea *Swainsona murrayana*

From the 2017 data results and site assessment the only ecological community that occurred on site was:

- Grey Box (*Eucalyptus microcarpa*) Grassy Woodlands and Derived Native Grasslands of South-eastern Australia (EEC)

None of these threatened entities are likely to be impacted by the intersection upgrade. Neither of the two ecological communities meet the criteria to qualify as EPBC ecological communities. Therefore, no EPBC referral is required.

4.3.4. Recommendations

The safeguards and mitigation measures in the BDAR, EIS and the CoC are considered sufficient for this modification report.

As requested by BCD, the BDAR has been updated to reflect any proposed changes.

The draft Biodiversity Management Plan will need to incorporate the changes in this Modification Report.

5. SUMMARY AND CONCLUSION

Based on the assessment presented in Section 4, the proposed modification for the detailed road design of Sandigo and Muntz Road, alongside the internal road modifications (capped width of 14m m) would result in a credit decrease. Vegetation clearing is less than the scope outline within the BDAR. Therefore, minor changes to the offset requires of the proposal would occur as a result of the modifications.

The vegetation impact associated with the modification occur in vegetation zones:

- PCT 80 Western Grey Box -White Cypress Pine:
 - Vegetation Zone 1: Decreased impact of 0.3 ha.
 - Vegetation Zone 2: Decreased impact of 0.2 ha.
 - Vegetation Zone 3: Increased impact of 0.2 ha.
 - Vegetation Zone 4: Increased impact of 0.05 ha.
 - Vegetation Zone 5: Increased Impact of 0.1 ha.

This represents a total decrease of 0.15 ha of clearing of PCT 80.

- PCT 158 Old Man Salt Bush
 - Vegetation Zone 6: Decrease impact by 0.9 ha.

The detailed road design of Sandigo and Muntz road are in accordance with the CoC 5, with the exception of the BAL at Sandigo Road and Muntz Road Intersection.

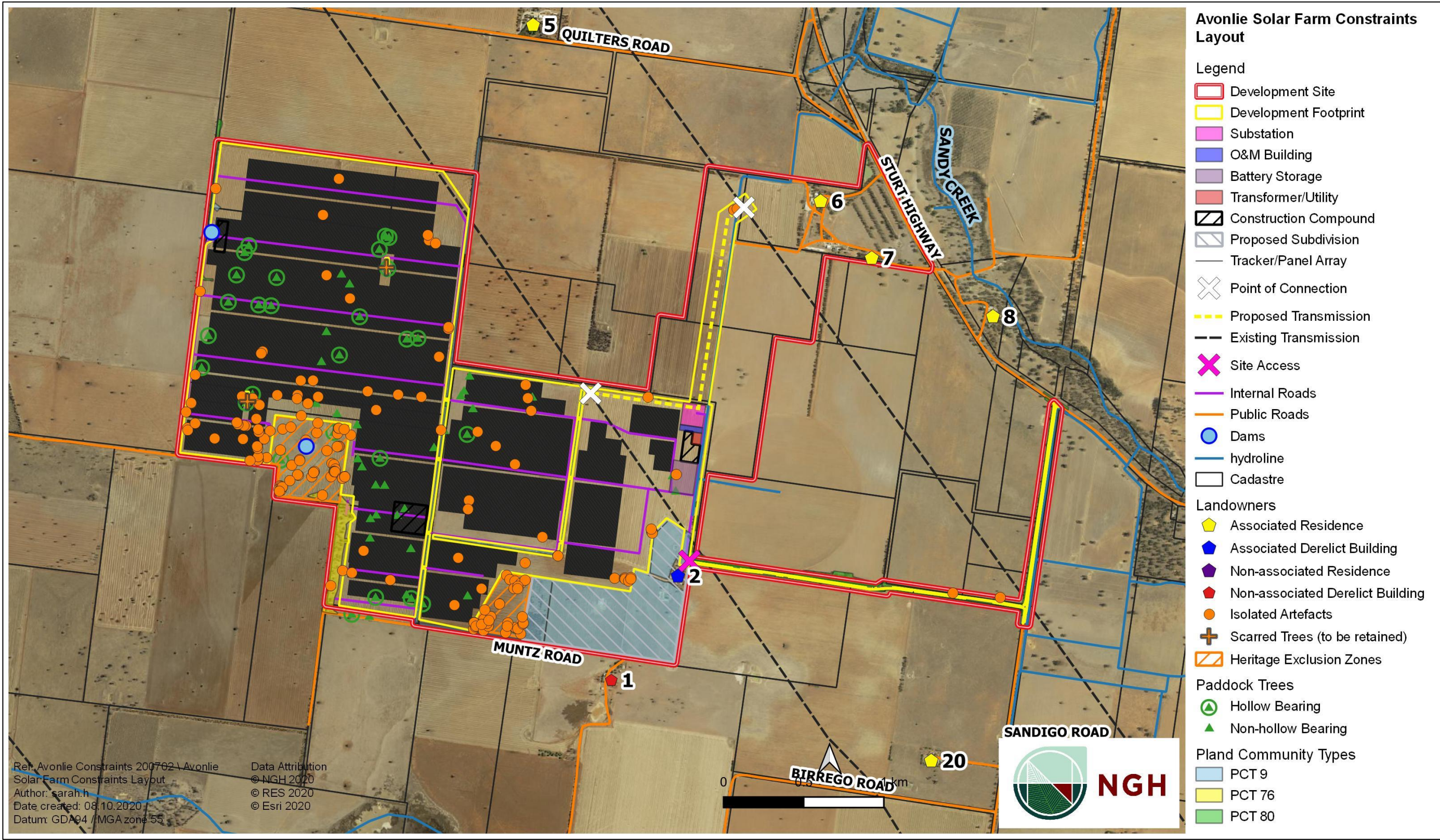
6. REFERENCES

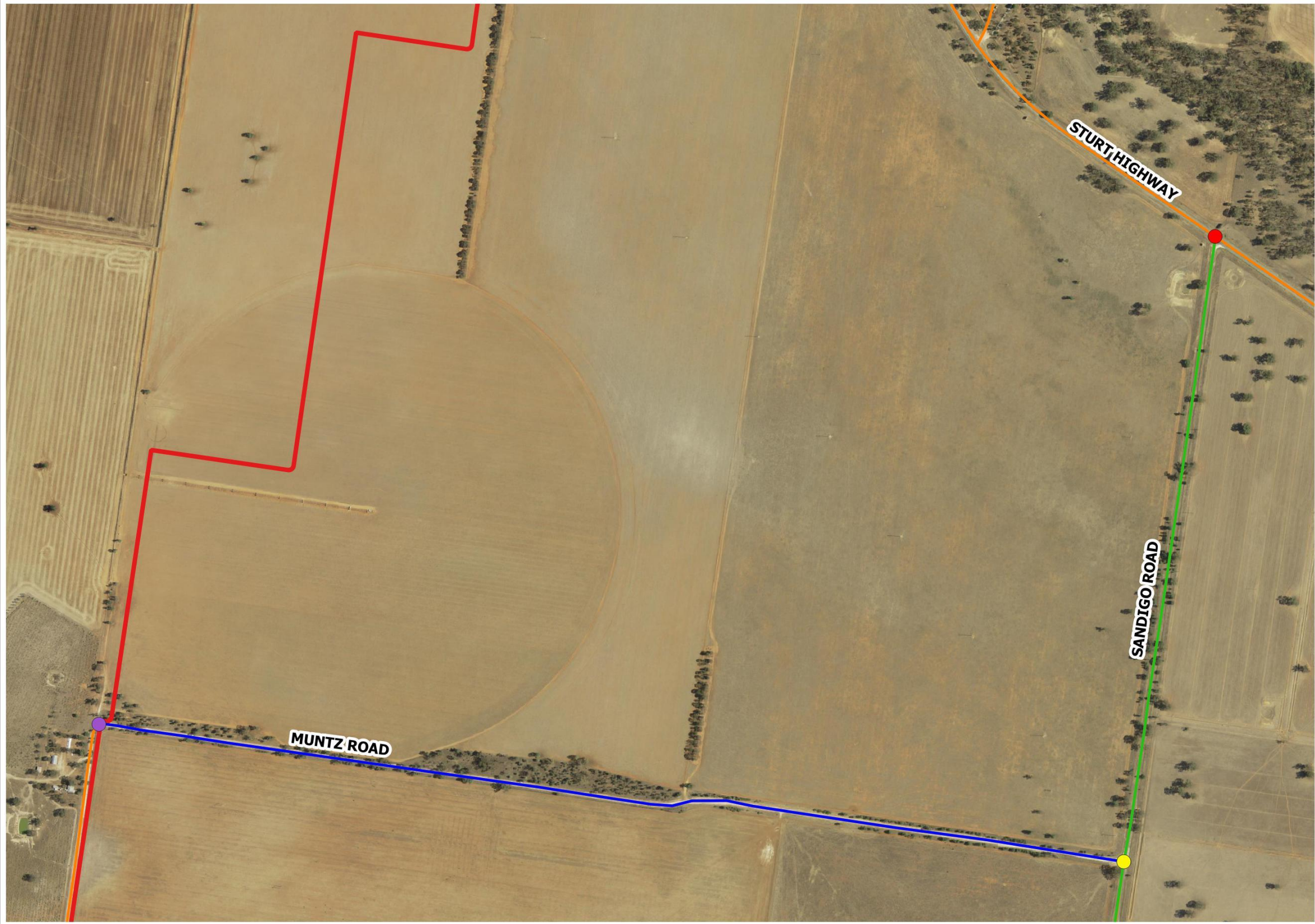
Department of Planning and Environment (2019), Development Consent for Avonlie Solar Farm, August 8th, 2019.

NGH (2019) Environmental Impact Statement, Avonlie Solar Farm, NGH Pty Ltd, 2019.

NGH (2019) Biodiversity Development Assessment Report, Avonlie Solar farm, NGH Pty Ltd, 2019.

APPENDIX A GENERAL LAYOUT AND UPDATED MAPS OF DEVELOPMENT





Avonlie SF Haulage Route

Legend

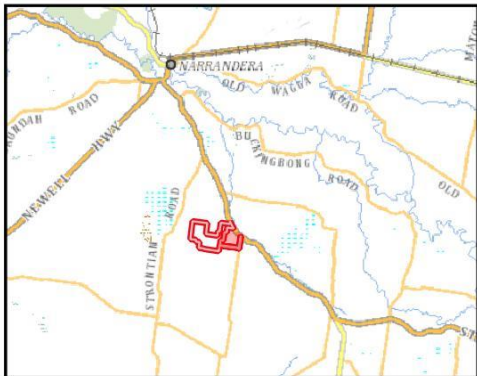
 Subject Land

Proposed Intersection Upgrades

-  BAR/AUL(s) Treatment
-  BAR Treatment
-  Rural Property Access

Proposed Road Upgrades

-  7m seal 1m gravel shoulder 100m past Muntz Road intersection
-  6.2m gravel upgrade 0.5m gravel shoulder
-  Public Roads



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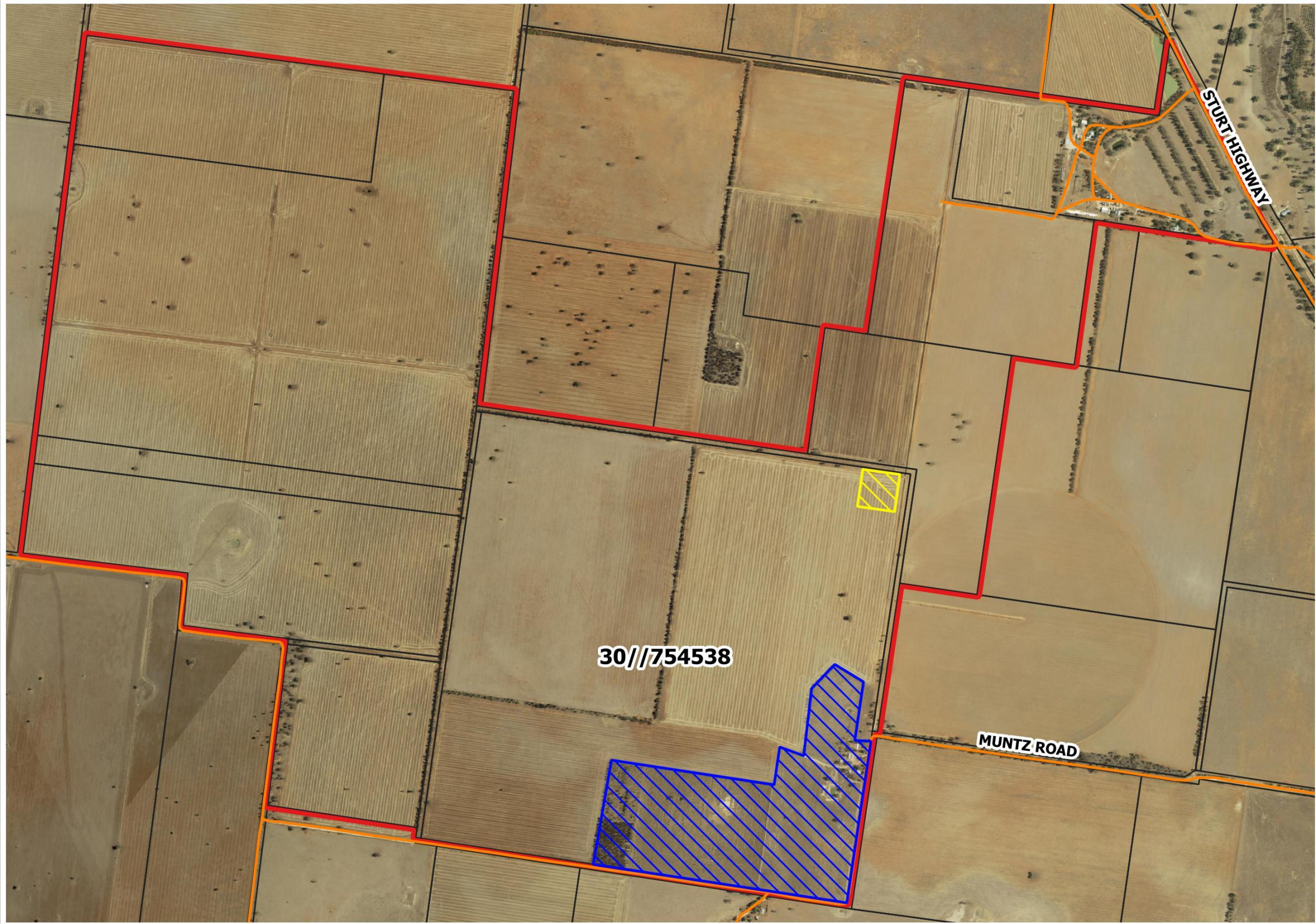
Ref: Avonlie Constraints 200702 \ Avonlie SF Haulage Route
Author: sarah.h
Date created: 08.10.2020
Datum: GDA94 / MGA zone 55



0 150 300 m

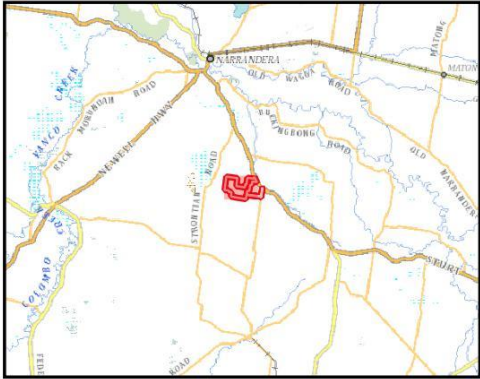


NGH



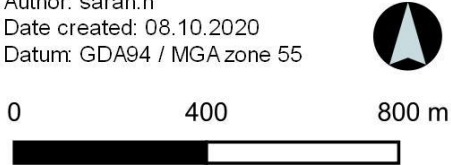
Avonlie SF Subdivision

- Legend
- Subject Land
 - TransGrid Subdivision 2ha
 - Property Subdivision 48ha
 - Caastre
 - Public Roads



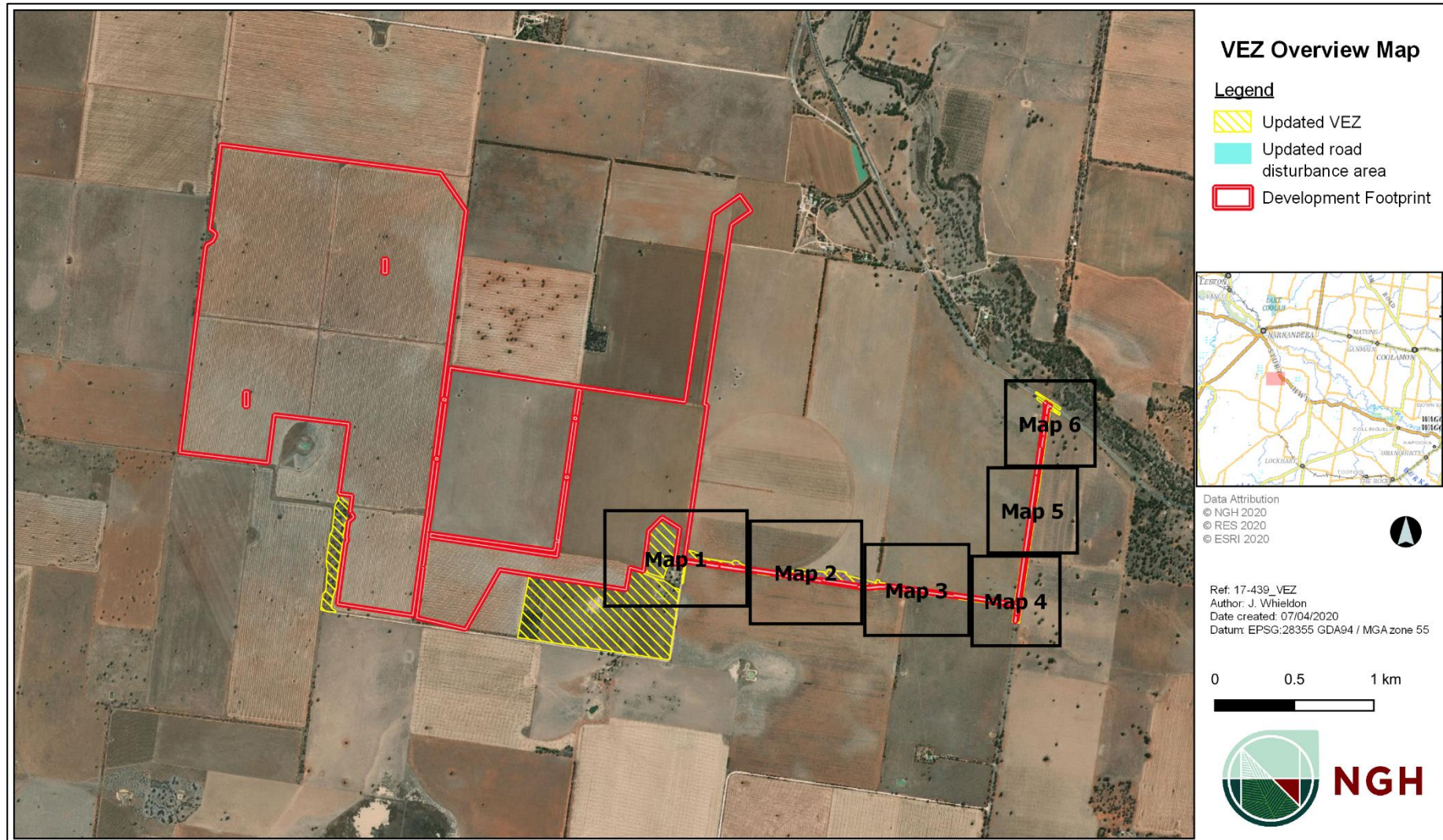
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Ref: Avonlie Constraints 200702 \ Avonlie SF Subdivision
Author: sarah.h
Date created: 08.10.2020
Datum: GDA94 / MGA zone 55



APPENDIX B CONDITIONS OF CONSENT

APPENDIX C UPDATED VEZ

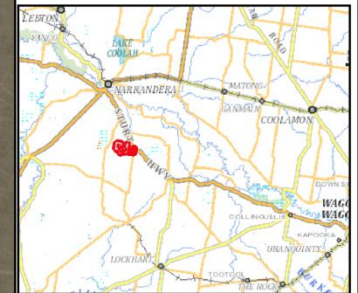




VEZ - Map 2

Legend

-  Updated VEZ
-  Updated road disturbance area
-  Development footprint



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Ref: 17-439_VEZ_20200311
Author: J. Whieldon
Date created: 11/12/2019
Datum: EPSG:28355 GDA94 / MGA zone 55

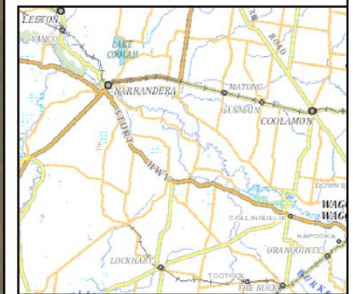
0 0.5 1 km



VEZ - Map 3

Legend

-  Updated VEZ
-  Updated road disturbance area
-  Development footprint



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Ref: 17-439_VEZ_20200311
 Author: J. Whieldon
 Date created: 11/12/2019
 Datum: EPSG:28355 GDA94 / MGA zone 55

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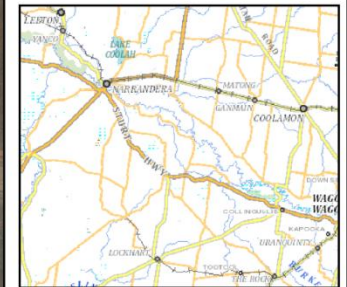


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VEZ - Map 4

Legend

-  Updated VEZ
-  Updated road disturbance area
-  Development footprint



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Ref: 17-439_VEZ_20200311
Author: J. Whieldon
Date created: 11/12/2019
Datum: EPSG:28355 GDA94 / MGA zone 55

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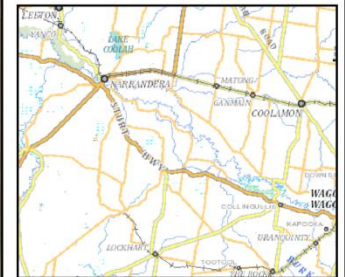


NGH

VEZ - Map 5

Legend

-  Updated VEZ
-  Updated road disturbance area
-  Development footprint



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Ref: 17-439_VEZ_20200311
Author: J. Whieldon
Date created: 11/12/2019
Datum: EPSG:28355 GDA94 / MGA zone 55

0 0.5 1 km

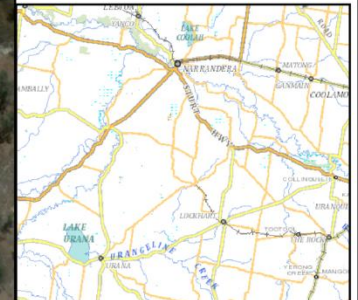


NGH

VEZ - Map 6

Legend

-  Updated VEZ
-  Updated road disturbance area
-  Development footprint



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Ref: 17-439
Author: J. Whieldon
Date created: 07/04/2020
Datum: EPSG:28355 GDA94 / MGA zone 55

0 0.5 1 km



NGH

APPENDIX D UPDATED BDAR

APPENDIX E CONSULTATION

E.1 NARRANDERA SHIRE COUNCIL

Our ref: SW:ap - Folder id: 5279



30 June 2020

Mr Steven Reid
Development Project Manager
RES Australia Pty Ltd
Suite 6.01
Level 6,
165 Walker Street,
NORTH SYDNEY NSW 2060

Dear Steven

Re: Avonlie Solar Farm (SDD 9031) – Conditions of Consent Amendment

Following further detailed review and consideration of the Avonlie conditions of consent, dated 8 August 2019, Narrandera Shire Council (NSC) are supportive of the proposed amendment to condition 5 (b), of Schedule 3, in relation to road upgrades on Sandigo and Muntz Road for the Avonlie Solar Farm (the project). The specific change has been noted below as a highlighted strikethrough.

Road Upgrades and Site Access

5. Prior to commencing construction, the Applicant must:

- (a) upgrade the intersection of the Sturt Highway and Sandigo Road, including BAR/AUL(s) treatments;*
- (b) upgrade the intersection of Sandigo Road and Muntz Road, including BAR/~~BAL~~ treatments with minimum 200 mm compacted gravel (CBR of 30) and 20/14 seal;*
- (c) upgrade Sandigo Road from the Sturt Highway to 100 m past Muntz Road, including sealing to a width of 7 m with minimum 200 mm compacted gravel (CBR of 30), 20/14 seal and 1 m gravel shoulders;*
- (d) upgrade Muntz Road between Sandigo Road and the site access point, including a gravel surface to a width of 6.2 m with 0.5 m shoulders; and*
- (e) design the site access point off Muntz Road (shown in Appendix 1) with a Rural Property Access type treatment to cater for the largest vehicle accessing the site, as identified in the figure in Appendix 5.*

These upgrades must comply with the Austroads Guide to Road Design (as amended by RMS supplements) and be carried out to the satisfaction of the relevant roads authority.

Justification for change

NSC has been working extensively with RES Australia Pty Ltd (RES) since the Development Approval was achieved in August 2019. NSC have also collaborated with RES' principal contractor and road designer, to achieve a detailed design that is practical and constructible, whilst still remaining safe for all road users during the construction and operation of the project. Through the process of design refinement it has become apparent to both the RES

and NSC that condition 5.(b) of Schedule 3 of the Conditions of Consent, is an excessive road upgrade requirement for a number of reasons, but the main three are noted below.

- I. The BAL from Sandigo Road into Muntz Road, would provide traffic travelling north on Sandigo Road an auxiliary left lane to pull into before making the left turn into Muntz road. The project's consented traffic route, for construction vehicles is from the Sturt Highway, travelling south on Sandigo Road. Therefore, during construction the project will not be utilising a BAL if constructed.
- II. The BAL from Sandigo Road into Muntz Road increases the sealed surface area of the intersection by 1 full additional lane width. The width of Sandigo Road would increase to 4 lanes wide in parts. NSC have an ongoing obligation to maintain all Council roads and this non-essential upgrade is considered a potential cost increase requirement to the NSC's road maintenance budget.
- III. The main test of a safe and practical road upgrade for the project and the local community is met without the addition of the BAL.

NSC continue to be supportive of the project and will continue to work with RES to help deliver the project and the economic benefits that are anticipated for the Narrandera Shire region during its construction and operation.

Please do not hesitate to contact me directly should you require any further information or support on the above matter.

Yours faithfully



Shane Wilson
Deputy General Manager Infrastructure

E.2 DEPARTMENT OF PLANNING, INDUSTRY AND ENVIRONMENT

2 September 2020

The Secretary
Department of Planning, Industry & Environment
Locked Bag 5022
PARAMATTA NSW 2124



Attention: Javier Canon
Javier.canon@planning.nsw.gov.au

Dear Sir,

RE: MODIFICATION APPLICATION – AVONLIE SOLAR FARM SSD 9031 (INTERNAL REF 17-439)

We refer to recent discussions between the Department of Planning, Industry & Environment (DPIE) and RES Australia Pty Ltd (RES). (the proponent) regarding a Modification (Mod 1) for SSD 9031, Avonlie Solar Farm. NGH acts on behalf of the proponent, RES.

The purpose of our correspondence is to seek DPIE's preliminary consideration of an intended Section 4.55(1A) Modification for Avonlie Solar Farm.

As a result of further detailed design since the approval of the Avonlie Solar Farm development, the following changes are proposed:

- The design for the internal road network;
- The design for access along Muntz and Sandigo Roads;
- The requirement for a Basic Left Turn (BAL) at the intersection of Muntz and Sandigo Roads would be removed which is supported by Narrandera Shire Council; and
- A Category 1-exempt Land Assessment has been conducted for the planted Plant Community Type (PCT) 158 Old Man Saltbush. Accordingly, the approved Biodiversity Development Assessment Report (BDAR) will be amended.

The intended outcome of the Modification is to update the overall design of the internal road network and public access roads, remove the BAL requirement for the intersection of Muntz and Sandigo Roads (Condition 5 (b) of Schedule 3), and remove the credit obligations associated with PCT 158 Old Man Saltbush.

We respectfully request consideration be given to this request for a Modification under Section 4.55(1A) of the *Environmental Planning & Assessment Act 1979* (EP&A Act). The EP&A Act indicates a Section 4.55(1A) Modification relates to:

“(1A) Modifications involving minimal environmental impact A consent authority may, on application being made by the applicant or any other person entitled to act on a consent granted by the consent authority and subject to and in accordance with the regulations, modify the consent if

- (a) it is satisfied that the proposed modification is of minimal environmental impact, and*
- (b) it is satisfied that the development to which the consent as modified relates is substantially the same development as the development for which the consent was originally granted and before that consent as originally granted was modified (if at all), and*
- (c) it has notified the application in accordance with*
 - (i) the regulations, if the regulations so require, or*



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ABN 31 124 444 622 ACN 124 444 622

(ii) a development control plan, if the consent authority is a council that has made a development control plan that requires the notification or advertising of applications for modification of a development consent, and

(d) it has considered any submissions made concerning the proposed modification within any period prescribed by the regulations or provided by the development control plan, as the case may be.

Subsections (1), (2) and (5) do not apply to such a modification.”

The proposed Modification is considered to have no additional environmental impact, and the development as modified is substantially the same development as the development for which consent was originally granted.

In regard to the design changes for the internal and public road network, the calculated vegetation impact for the modified development is 2.52 ha. The original BDAR determined that up to 2.75 ha of native vegetation would require removal. Therefore, the proposed vegetation clearing would be reduced. The ecosystem and species credit offset requirements would be reduced as follows.

- Ecosystem Credits decreased by 7.
- Species Credits decreased by 35.

On 30 June 2020, NSC wrote to RES. stating they support the proposed amendment to Condition 5 (b) of Schedule 3 of the Conditions of Consent in relation to upgrades on Sandigo and Muntz Roads.

NSC agreed that the BAL treatment on Sandigo and Muntz Road intersection was not required given:

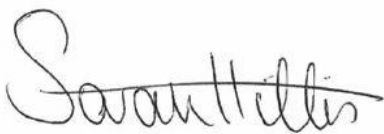
- Construction traffic would not utilise the BAL due to construction route.
- Increasing the intersection width would involve cost to Council to maintain.
- The BAR treatment was sufficient to provide for a safe and practical road upgrade.

On 20 August 2020, NGH consulted with the Biodiversity Conservation Division (BCD) via phone conference. It was agreed that the proposed road design changes and the proposed Category 1 Land Assessment were acceptable in principle, and should be supported through an updated BDAR.

It is therefore reasonable to conclude that the modified development would have no additional environmental impact, and the development as modified is substantially the same as the development for which the consent was originally granted. We respectfully request consideration be given to this request for a Modification under Section 4.55(1A) of the EP&A Act.

Should you have any questions please do not hesitate to contact me.

Yours sincerely,



Sarah Hillis
Senior Environmental Consultant

[Redacted]
[Redacted]

NGH

E.3 BIODIVERSITY CONSERVATION DIVISION

From: [Sarah Hillis](#)
To: [Andrew Fisher](#); [Simon Stirrat](#)
Subject: Avonlie Solar Farm Modification 1
Date: Thursday, 27 August 2020 8:57:00 AM
Attachments: [image001.png](#)

Good morning, and thank you for your time last week.

The Proponent for the Avonlie Solar Farm, RES Ltd., are proposing to submit a Modification for the approved Avonlie Solar Farm.

The Modification includes design changes to the internal road network, and design changes to the public access roads being Muntz and Sandigo Roads. This includes design changes to the internal road network and removal of the planted Plant Community Type (PCT) 80 Inland Grey Box Woodland, shifting alignments to better suit the topography and the removal of the requirements of a Basic Left Turn on the intersection of Muntz and Sandigo Roads.

In regard to the design changes for the internal and public road network, the calculated vegetation impact for the proposed Modification is 2.52 ha. The original Biodiversity Development Assessment Report (BDAR) concluded that up to 2.75 ha of native vegetation would be removed by the project. Therefore, the vegetation clearance for the proposed Modification is *less* than the scope of the BDAR. The overall credit offset requirements have resulted in a decrease to both ecosystem and species credits.

- Ecosystem Credits decreased by 7.
- Species Credits decreased by 35.

The Proponent also proposes to complete a Category 1 Land Assessment for the PCT 158 Old Man Saltbush, due to the fact that the area has been extensively farmed and cleared, and the saltbush has been planted and currently used for sheep fodder.

As discussed, NGH will update the existing BDAR to reflect the changes to the internal and public road network and the Category 1 Land Assessment, and submit the updated BDAR with the Modification.

Kindest regards,

Sarah

SARAH HILLIS
SENIOR ENVIRONMENTAL PLANNER

[Redacted signature block]

[Redacted signature block]



E.4 LANDOWNER CONSENT

E.5 TRANSGRID

Steven Reid

From: Jay Chan [REDACTED]
Sent: Friday, 18 October 2019 9:39 AM
To: Steven Reid; Suzanne Westgate
Cc: Mason Jafari; Jose Arroyo
Subject: RE: Avonlie SF drawing file

Hi Steven,

As discussed with Suzanne, we will keep the property equipment as per project agreement - Freehold title for the Substation site including a 20m buffer zone to the whole perimeter of the substation.

Regards,
Jay
[REDACTED]

From: Steven Reid <steven.reid@res-group.com>
Sent: Tuesday, 15 October 2019 10:31 AM
To: Jay Chan <Jay.Chan@transgrid.com.au>
Cc: Suzanne Westgate <Suzanne.Westgate@transgrid.com.au>
Subject: RE: Avonlie SF drawing file

Hi Jay,

Yes, please end an invite with dial in.

Kr,
Steve

Steven Reid MRICS
Development Project Manager, APAC
[REDACTED]

From: Jay Chan <Jay.Chan@transgrid.com.au>
Sent: Tuesday, 15 October 2019 10:29 AM
To: Steven Reid <steven.reid@res-group.com>
Cc: Suzanne Westgate <Suzanne.Westgate@transgrid.com.au>
Subject: RE: Avonlie SF drawing file

Hi Steven, are you available tomorrow morning for a call? 10-11?

Regards,
Jay
[REDACTED]

From: Steven Reid <steven.reid@res-group.com>
Sent: Wednesday, 9 October 2019 3:48 PM
To: Jay Chan <Jay.Chan@transgrid.com.au>
Subject: RE: Avonlie SF drawing file

Sure,

Let me know when suits next week.

S

Steven Reid MRICS

Development Project Manager, APAC

[REDACTED]

From: Jay Chan <Jay.Chan@transgrid.com.au>

Sent: Wednesday, 9 October 2019 3:05 PM

To: Steven Reid <steven.reid@res-group.com>

Subject: RE: Avonlie SF drawing file

Hi Steven, Suzanne is on leave till the end of this week. Is it ok if we organise it when she is back to work please?

Regards,

Jay

[REDACTED]

From: Steven Reid <steven.reid@res-group.com>

Sent: Wednesday, 9 October 2019 2:37 PM

To: Jay Chan <Jay.Chan@transgrid.com.au>

Cc: John McCall <Edward.McCall@transgrid.com.au>; Mason Jafari <Mason.Jafari@transgrid.com.au>; Jose Arroyo <Jose.Arroyo@transgrid.com.au>

Subject: RE: Avonlie SF drawing file

Hi Jay, I am still keen to explore this TG property requirement a little more with the TG property team.

Can you arrange a separate telcon this week?

Thanks,

S

Steven Reid MRICS

Development Project Manager, APAC

[REDACTED]

From: Jay Chan <Jay.Chan@transgrid.com.au>

Sent: Thursday, 3 October 2019 10:35 AM

To: Steven Reid <steven.reid@res-group.com>

Cc: John McCall <Edward.McCall@transgrid.com.au>; Mason Jafari <Mason.Jafari@transgrid.com.au>; Jose Arroyo <Jose.Arroyo@transgrid.com.au>

Subject: RE: Avonlie SF drawing file

Hi Steven, I am happy to organise a meeting with TG property to discuss the details in next coming weeks or so if you would like to explore more on this.

However, this has been common practice for TG to hold Freehold title for the Substation site including a 20m buffer zone to the whole perimeter of the substation. Please see below extract from TG design manual for reference:

Land acquisition shall allow for 20m buffer zone, the buffer zone is measured perpendicular from the centreline of the perimeter security fence, around the perimeter of the substation external fence to allow for:

- Maintenance access;
- Bushfire protection of the substation asset;
- Earthwork and drainage;
- Earthing system transferred potential to neighbouring properties.

The ownership of the Avonlie Solar Farm is also likely to change and whoever the solar farm is sold to in the future may inadvertently use this space. Land title ensures that any activity on the land is TG's right to prohibit.

Regards,
Jay

From: Steven Reid <steven.reid@res-group.com>

Sent: Wednesday, 2 October 2019 11:04 PM

To: Jay Chan <Jay.Chan@transgrid.com.au>

Cc: John McCall <Edward.McCall@transgrid.com.au>; Mason Jafari <Mason.Jafari@transgrid.com.au>; Jose Arroyo <Jose.Arroyo@transgrid.com.au>

Subject: RE: Avonlie SF drawing file

Can't it just be secured for this purpose by an easement agreement around the substation? As you say that is what you do for all your other safety zone for OHL's?

Just a thought. I told actually see how the freehold ownership protects it more unless you are going to put another fence around it and you said that you did not intend to do this. The fact that TG own it and its outside your substation fence seems odd. Are TG going to maintain it?

Thanks,
Steve

Steven Reid MRICS

Development Project Manager, APAC

From: Jay Chan <Jay.Chan@transgrid.com.au>

Sent: Wednesday, 2 October 2019 10:07 AM

To: Steven Reid <steven.reid@res-group.com>

Cc: John McCall <Edward.McCall@transgrid.com.au>; Mason Jafari <Mason.Jafari@transgrid.com.au>; Jose Arroyo <Jose.Arroyo@transgrid.com.au>

Subject: RE: Avonlie SF drawing file

Hi Steven,

You are absolutely right. It's 140x140.

In order to **ensure safety** freehold property for the substation site (one freehold required), including a 20m buffer zone to the whole perimeter of the substation.

This is a safety standard in case the current owner or the potential owner of the Solar Farm performs any works i.e: building or digging within the buffer zone area that could compromise the safety of the substation.

All TG substation follow the same principle as below. It is the same principle than the easements in Transmission Lines, we would not rely in other parties to own a safety zone.

Regards,
Jay

From: Steven Reid <steven.reid@res-group.com>
Sent: Tuesday, 1 October 2019 7:08 PM
To: Jay Chan <Jay.Chan@transgrid.com.au>
Cc: John McCall <Edward.McCall@transgrid.com.au>; Mason Jafari <Mason.Jafari@transgrid.com.au>; Jose Arroyo <Jose.Arroyo@transgrid.com.au>
Subject: Re: Avonlie SF drawing file

20m APZ around 100 x 100 is 140 x 140.

Why do TG need to own it?

Steven

On 1 Oct 2019, at 6:41 pm, Jay Chan <Jay.Chan@transgrid.com.au> wrote:

Hi Steven, yes my understanding is that subdivision would be around 120m x 120m including buffer zone. Attached for the explanation on this buffer zone and APZ.

Regards,
Jay

From: Steven Reid <steven.reid@res-group.com>
Sent: Tuesday, 1 October 2019 6:22 PM
To: Jay Chan <Jay.Chan@transgrid.com.au>
Cc: John McCall <Edward.McCall@transgrid.com.au>; Mason Jafari <Mason.Jafari@transgrid.com.au>; Jose Arroyo <Jose.Arroyo@transgrid.com.au>
Subject: Re: Avonlie SF drawing file

Hi Jay, my understanding is that TG need to own the 20mAPZ. Is this correct?

Steven

On 1 Oct 2019, at 6:09 pm, Jay Chan <Jay.Chan@transgrid.com.au> wrote:

Hi Steven, we are checking them now. Will get back asap.
Could you please explain what you mean that you can do that through the final design? TG owns 100*100m land and RES owns the extra 20m buffer zone?

Regards,

Jay
[REDACTED]

From: Steven Reid <steven.reid@res-group.com>
Sent: Tuesday, 1 October 2019 4:13 PM
To: Jay Chan <Jay.Chan@transgrid.com.au>
Cc: John McCall <Edward.McCall@transgrid.com.au>; Mason Jafari <Mason.Jafari@transgrid.com.au>; Jose Arroyo <Jose.Arroyo@transgrid.com.au>
Subject: RE: Avonlie SF drawing file

Jay, latest SGRE drawing for Avonlie including the proposed change to the substation. Can you please access the [sharepoint folder](#) and confirm this layout is acceptable to TG in terms of the substation requirements?

The 20m APZ has been accommodated. Can you confirm the reason why TG need to own the freehold of this land? If it is simply to ensure a clearance area is maintained we can do that through the final design rather than subdividing a larger area. Please confirm as a priority, I am discussing with The Department for Planning the minor amend to location and size.

All TG email addresses on distribution have been provided access to the sharepoint folder. Please let me know if you cannot access?

Look forward to hearing from you.

Thanks,
Steve

Steven Reid MRICS
Development Project Manager, APAC

[REDACTED]
[REDACTED]