



19th September 2014

Bulgana Wind Farm Pty Ltd
c/o Wind Prospect Pty Ltd
Suite 10, 19-35 Gertrude St
Fitzroy VIC 3065

Attention: Alastair Smith (Development Manager)

By email – alastair.smith@windprospect.com.au (phone (03) 9005 9075)

Dear Alastair,

**RE: BULGANA WIND FARM: DESKTOP ASSESSMENT OF ACCESS POINTS
BL&A PROJECT NUMBER 13051.7**

Wind Prospect Pty Ltd, on behalf of Bulgana Wind Farm Pty Ltd, engaged Brett Lane & Associates Pty. Ltd. (BL&A) to carry out a desktop assessment of potential impacts to native vegetation based on the swept path analysis presented in Aurecon (2014). The purpose of this letter is to give an indication of the area and quality of native vegetation proposed to be removed, based on a desktop analysis of ecological values onsite.

Impacts to native vegetation were based on analysis of aerial photographs of each site, overlaid with polygons showing the areas of removal based on the swept path analysis. DEPI's Native Vegetation Information Management (NVIM) system was used to determine the location risk, condition score and strategic biodiversity score of each area proposed for removal.

A detailed table is provided in Appendix 1 which outlines the potential impacts to native vegetation at each access point. Figures 1 to 9 present the Local Road Routes detailed in Table 5-8 of Aurecon (2014), while Figures 10 to 16 present the Land Parcel Access Routes presented in Table 5-7 of Aurecon (2014). Access locations 6 & 7 in Table 5-7 are not detailed here, as native vegetation removal has already been assessed (reported in BL&A (2014)) and an offset site has been proposed for these areas. For some access points (shown in Figures 12, 14 & 16), additional native vegetation removal to that detailed in BL&A (2014) is required. Native vegetation proposed for removal that has already been assessed is detailed on these figures.

Based on the desktop analysis, the current construction footprint under the swept path analysis will result in the removal of approximately 1.758 hectares of native vegetation within the Wimmera Catchment Management Authority. All access points are mapped as Location A on NVIM, which is considered to be lower risk as compared to Location B or C. Native vegetation removal for the proposed Bulgana Wind Farm will currently be assessed under the moderate risk pathway. Based on the desktop assessment, the project is still likely to be assessed under the moderate risk pathway once additional removal of native vegetation for access points has been considered.



Brett Lane & Associates Pty. Ltd.
Ecological Research & Management

Once the construction footprint has been finalised, an onsite assessment will be required to accurately map the native vegetation present on site. The results will be sent to the DEPI Transition Support team to provide a Biodiversity Assessment Report which will enable offsets to be determined.

Please note this assessment is only intended to give a high level indication of the extent and quality of native vegetation present. Where we were unsure if vegetation was native or exotic, we have taken the precautionary approach and assumed that it is native. It is also possible that in some locations the area of native vegetation has been underestimated; ie. areas of treeless native vegetation or situations where more than one scattered tree occurs in one location. This will be confirmed during an onsite assessment.

We look forward to being of assistance and if you have any enquiries please do not hesitate to call me.

Yours sincerely,

Dr Annabelle Stewart

Senior Ecologist & Project Manager

Brett Lane & Associates Pty Limited

0459 026 321 | astewart@ecologicalresearch.com.au

References

Brett Lane & Associates 2014, *Bulgana Wind Farm: Flora and Fauna Assessment*. Report 13051 (7.2) prepared for Bulgana Wind Farm Pty. Ltd, September 2014.

Aurecon, 2014, *Bulgana Wind Farm: Draft Transport Report*. Revision 2 prepared for Bulgana Wind Farm Pty Ltd, September 2014.



Appendix 1: Potential impacts to native vegetation

Figure	Location	Location risk	Loss in hectares ¹	Condition Score (out of 1) ²	Strategic Biodiversity Score ²	Overall potential impacts ³
1	Intersection of Western Highway/Allanvale Road	A	0.034	0.200	0.473	Potential impact includes loss of one patch of native vegetation
2	Intersection of Western Highway/Paxton Street	A	0.142	0.200	0.861	Potential impact includes loss of two scattered trees
3	Intersection of Sandy Creek Road/Salt Creek Road	A	0.066	0.674	0.463	Potential impact includes loss of two patches of native vegetation
4	Intersection of Salt Creek Road/Bulgana Road	A	0.058	0.228	0.240	Potential impact includes loss of two patches of native vegetation
5	Intersection of Bulgana Road/Hall Road	A	0.071	0.200	0.137	Potential impact includes loss of one scattered tree
6	Intersection of Hall Road/Joel South Road	A	0.220	0.280	0.211	Potential impact includes loss of three patches of native vegetation and two scattered trees
7	Intersection of Gibsons Road/Joel South Road	A	0.031	0.200	0.204	Potential impact includes loss of one patch of native vegetation



Figure	Location	Location risk	Loss in hectares ¹	Condition Score (out of 1) ²	Strategic Biodiversity Score ²	Overall potential impacts ³
8	Intersection of Joel South Road/Curries Lane	A	0.071	0.250	0.114	Potential impact includes loss of one scattered tree
9	Intersection of Vances Crossing Road/Curries Lane	A	0.034	0.200	0.149	Potential impact includes loss of two patches of native vegetation
10	Allanvale Road	A	0.454	0.277	0.186	Potential impact includes loss of one patch of native vegetation and six scattered trees
11	Intersection of Allanvale Road/Tuckers Hill Road	A	0.145	0.512	0.364	Potential impact includes loss of one patch of native vegetation and one scattered tree
12	Metcalfe Road	A	0.026	0.317	0.262	Potential impact includes loss of one patch of native vegetation
13	Salt Creek Road	A	0.144	0.422	0.268	Potential impact includes loss of one patch of native vegetation
14	Bulgana Road	A	0.020	0.200	0.192	Potential impact includes loss of one patch of native vegetation
15	Vances Crossing Road	A	0.213	0.200	0.350	Potential impact includes loss of three scattered trees



Figure	Location	Location risk	Loss in hectares ¹	Condition Score (out of 1) ²	Strategic Biodiversity Score ²	Overall potential impacts ³
16	Joel South Road	A	0.029	0.240	0.338	Potential impact includes loss of one patch of native vegetation

¹ Loss of native vegetation in hectares calculated using shapefiles provided by client

² Condition Score and Strategic Biodiversity Score calculated using NVIM

³ Native vegetation impacts are all located in the Wimmera Catchment Management Authority



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

- Wind farm boundary
- Access point turns
- Potential native vegetation to be removed



Figure 1: Intersection of Western Highway/Allanvale Road		
Project: Bulgana Wind Farm		
Client: Bulgana Wind Farm Pty Ltd		
Project No.: 13051	Date: 18/09/2014	Created By: M. Ghasemi / A. Stewart
Brett Lane & Associates Pty. Ltd. <i>Ecological Research & Management</i>		
<ul style="list-style-type: none"> ● Experience ● Knowledge ● Solutions 	Suite 5, 61 - 63 Camberwell Road Hawthorn East, VIC 3123 PO Box 337, Camberwell, VIC 3124, Australia	Ph (03) 9815 2111 / Fax (03) 9815 2653 enquiries@ecologicalresearch.com.au www.ecologicalresearch.com.au



Legend

- Access point turns
- Potential native vegetation to be removed

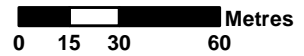


Figure 2: Intersection of Western Highway/Paxton Road		
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Legend

- Access point turns
- Potential native vegetation to be removed

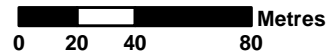


Figure 3: Intersection of Sandy Creek Road/Salt Creek Road		
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Legend

- Access point turns
- Potential native vegetation to be removed



Figure 4: Intersection of Salt Creek Road/Bulgana Road		
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Legend

- Access point turns
- Potential native vegetation to be removed

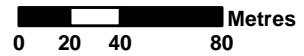


Figure 5: Intersection of Bulgana Road/Hall Road		
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Legend

- Access point turns
- Potential native vegetation to be removed

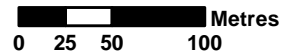


Figure 6: Intersection of Hall Road/ Joel South Road		
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Legend



- Wind farm boundary
- Access point turns
- Potential native vegetation to be removed



Figure 7: Intersection of Gibsons Road/ Joel South Road		
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Legend

-  Access point turns
-  Potential native vegetation to be removed

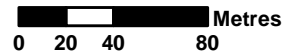








Figure 8: Intersection of Joel South Road/ Curries Lane		
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Legend

-  Access point turns
-  Potential native vegetation to be removed

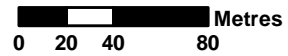


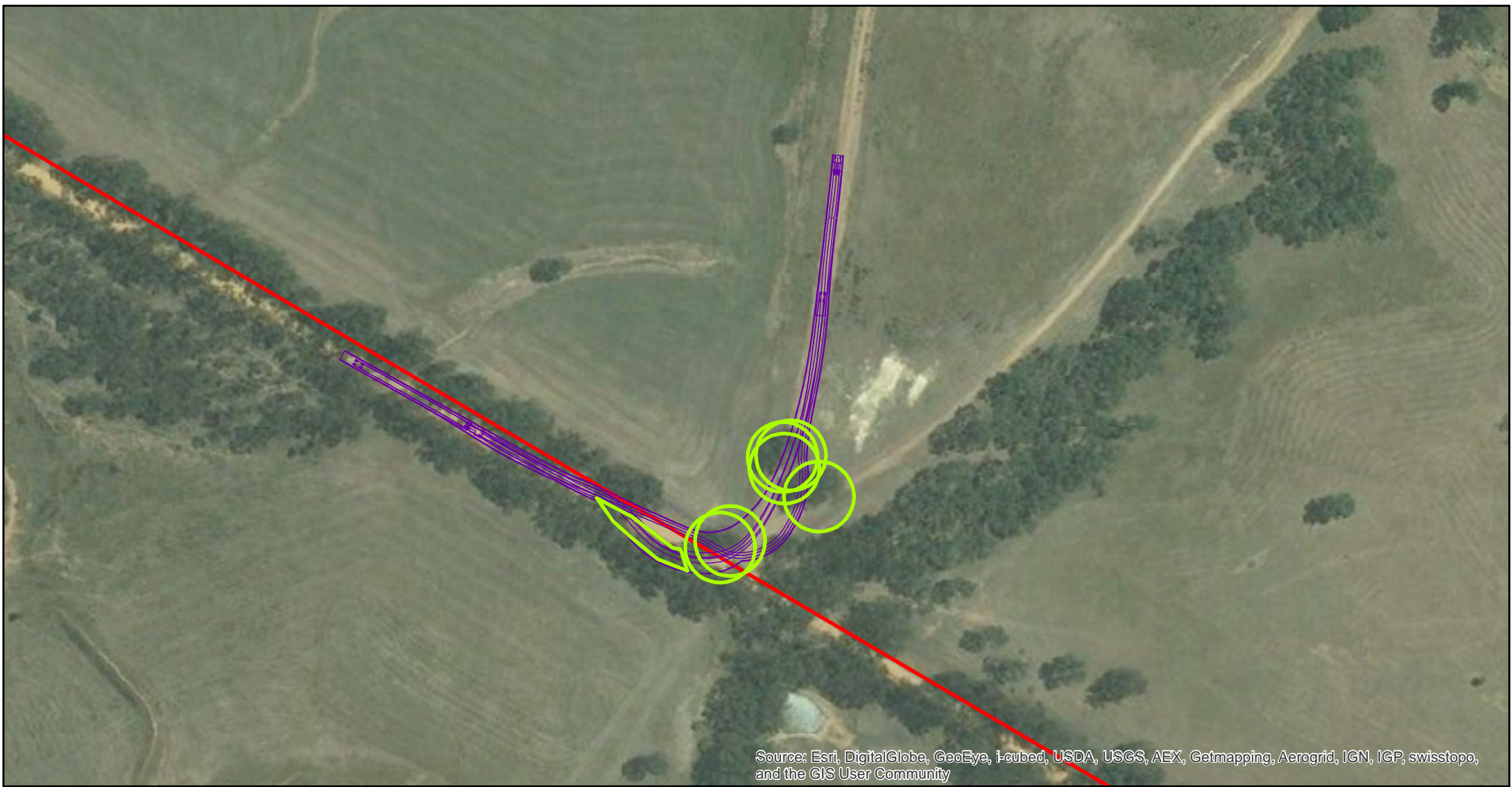
Figure 9: Intersection of Curries Lane/ Vances Crossing Road

Project: Bulgana Wind Farm

Client: Bulgana Wind Farm Pty Ltd

Project No.: 13051	Date: 18/09/2014	Created By: M. Ghasemi / A. Stewart
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Legend

- Wind farm boundary
- Access point turns
- Potential native vegetation to be removed

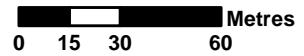
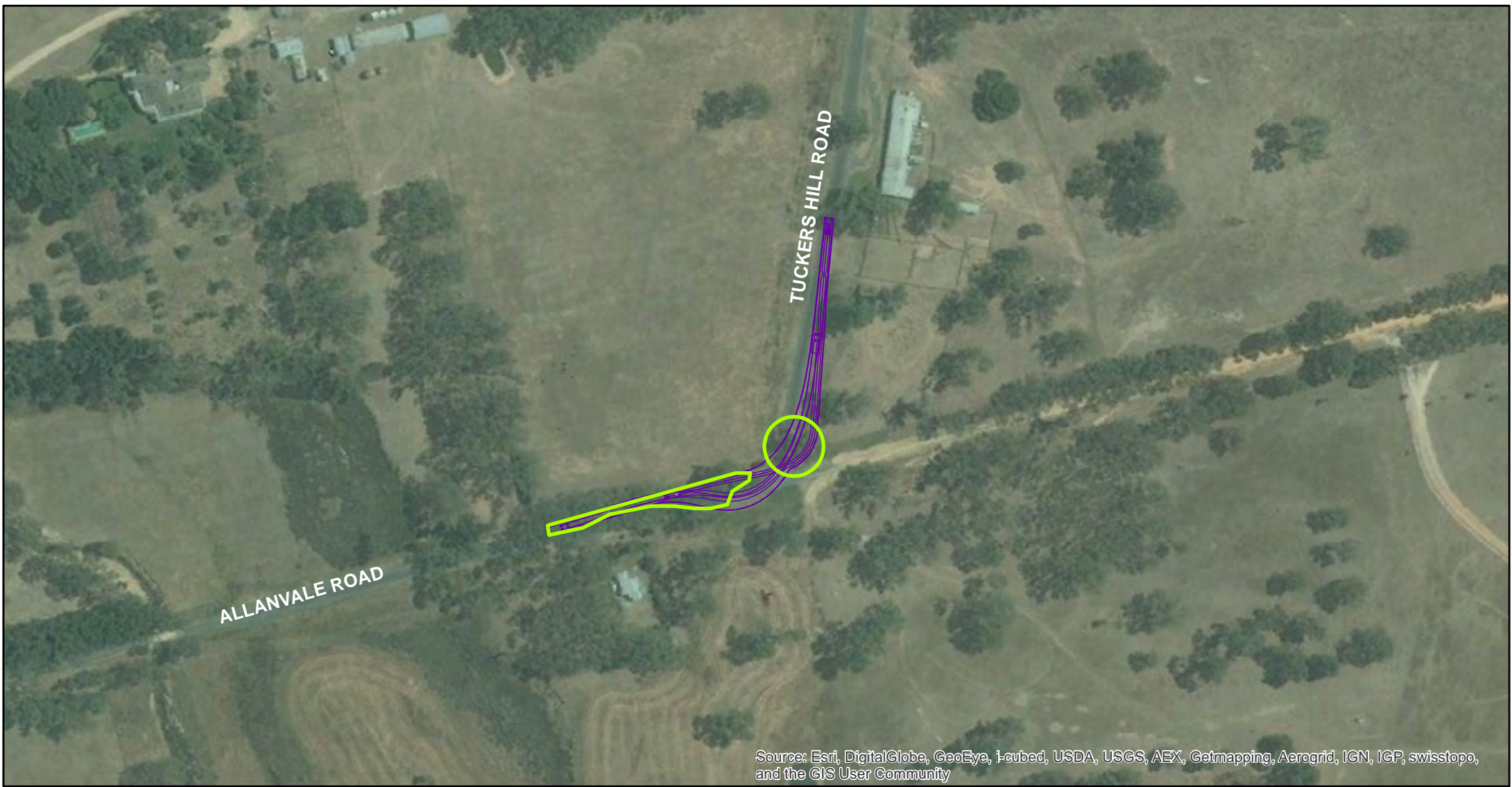


Figure 10: Allanvale Road		
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Legend

- Access point turns
- Potential native vegetation to be removed

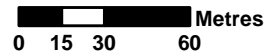


Figure 11: Intersection of Allnvalle Road/Tuckers Hill Road		
Project: Bulgana Wind Farm		
Client: Bulgana Wind Farm Pty Ltd		
Project No.: 13051	Date: 18/09/2014	Created By: M. Ghasemi / A. Stewart
<div style="display: flex; justify-content: space-between; align-items: flex-start;"> <div style="text-align: center;"> <p>BL&A Ecological Research & Management</p> </div> <div style="font-size: small;"> <p>Brett Lane & Associates Pty. Ltd. Ecological Research & Management</p> <p> ● Experience Suite 5, 61 - 63 Camberwell Road Ph (03) 9815 2111 / Fax (03) 9815 2653 ● Knowledge Hawthorn East, VIC 3123 enquiries@ecologicalresearch.com.au ● Solutions PO Box 337, Camberwell, VIC 3124, Australia www.ecologicalresearch.com.au </p> </div> <div style="text-align: right;"> </div> </div>		



Source: Esri, DigitalGlobe, GeoEye, i-cubed, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Legend

- Wind farm boundary
- Access point turns
- Potential native vegetation to be removed
- Wind farm impact area
- Native vegetation removal accounted for

Metres
0 5 10 20

Figure 12: Metcalfe Road		
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Client: Bulgana Wind Farm Pty Ltd		
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Legend






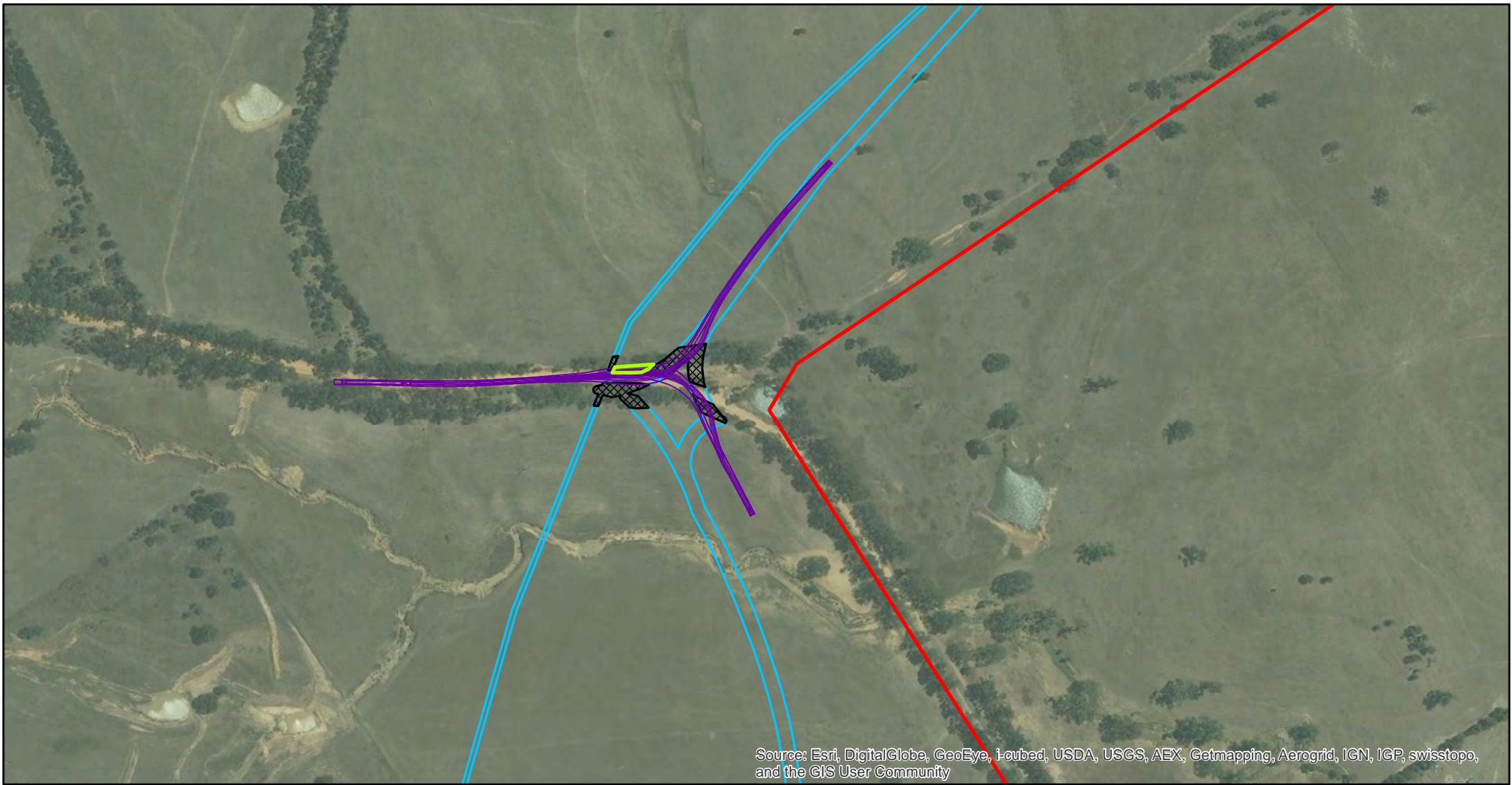
-  Wind farm boundary
-  Access point turns
-  Potential native vegetation to be removed
-  Wind farm impact area
-  Native vegetation removal accounted for



Figure 13: Salt Creek Road		
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Legend

- Wind farm boundary
- Access point turns
- Potential native vegetation to be removed
- Wind farm impact area
- Native vegetation removal accounted for

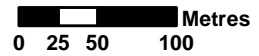


Figure 14: Bulgana Road		
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Legend






-  Wind farm boundary
-  Access point turns
-  Potential native vegetation to be removed



Figure 15: Vances Crossing Road		
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Figure 16: Joel South Road		
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