



9<sup>th</sup> April 2013

Shaq Mohajerani  
Project Development Manager  
Union Fenosa Wind Australia Pty Ltd  
Suite 403, 68 York Street  
Sydney NSW 2000

Dear Shaq

In relation to the comments/objections to the proposed Crookwell 3 Wind Farm Ecological Assessment and Heritage Assessment Reports please find our responses below.

## **Responses to Comments/Objections – Ecological Assessment**

### **1. Response to Ecology Assessment Comments**

#### **1.1. Targeted Threatened Species Assessment Survey Details**

In relation to the comments from OEH on the detailed of the fauna survey, the comprehensive details of the survey and survey effort for the Targeted Threatened Species Assessment has been provided in the table in Appendix A of this response report. This includes the dates and locations of the targeted fauna surveys undertaken along with weather conditions and methodology utilised for the surveys.

#### **1.2. Hollow Bearing Trees**

The Hollow Bearing Tree assessment methodology is also shown below with more details:

Hollow bearing tree assessments were undertaken in the timbered remnants with potential to be impacted by the proposed turbines and their related infrastructure. The methodology

for the assessment of hollow potential habitat trees was by 50 metre by 20 metre plots. Hollows were recorded which were greater than 5cm and only hollows which were visible from the ground were recorded. The reason that such small hollows were assessed is that microchiropteran bats often utilise these small hollows and from radio-tracking studies undertaken by the author it has been observed that large numbers of microchiropteran bats can exit such small hollows at dusk.

The results of the field surveys detected no individual threatened fauna species listed under either the EPBC Act or the TSC Act within the site. Most of the areas where the turbines and access roads/electricity easements are proposed represent cleared grazing paddock with high levels of disturbance and limited fauna habitat for most of the fauna listed. Only three of the proposed turbines are located in forested areas and these are proposed turbines A12, A18 and A19. The targeted surveys in these areas did not detect any threatened species and it was in these locations that trapping for Squirrel Gliders was undertaken. Hollow density in these areas amongst the overstory eucalyptus was moderate to low and the sizes of the hollows were generally small. Hollow densities within the remnants where turbines A12, A18 and A19 are proposed are at a density of approximately 5 hollows per hectare on average. These hollows were generally in the smaller range from 5-10 cm.

Due to the nature of the proposal and the ability for micro-siting turbines and tracks any potential hollow trees, which could provide habitat for threatened microchiropteran bats can largely be avoided. It is however recommended that pre-commissioning surveys identify all potential habitat trees within the proposed works areas. This should be undertaken after the proposed access roads and areas of disturbance are marked by surveyors. The history of the use of most of the turbine sites through clearing for grazing, current grazing and pasture improvement has severely degraded the habitat throughout most of the study site. This has resulted in high levels of introduced pasture grass species and weeds in many areas. Due to the proposed use of many of the existing access roads the levels of impacts are reduced and there would be no impacts on stream habitats. As the land is already fragmented there are considered to be no biodiversity corridor impacts likely and no threatened species were detected during the targeted surveys which were undertaken.

### **1.3. Bird and Bat Strike and Migratory Birds**

OEH mention in their comments concerns regarding bird and bat strike along with concerns of migrating waterbirds from Pejar Dam. The heights at which various birds and bats fly varies considerably with the main risk of collision being with the blades within the rotor swept area when the rotor is in motion.

Species most at risk are species where individual's home ranges intersect with wind farm areas or where wind farms occur on migratory paths of annual species migrations. Birds considered most at risk in the assessment for the Crookwell 2 Wind Farm (Ecology report by

Biosis Research) are “a variety of raptors, including the Wedge-tailed Eagle (*Accipiter audax*), Whistling Kite (*Haliastur sphenurus*), White-bellied Sea-eagle (*F.berigora*) and Australian Kestrel (*F.cenchroides*)”. None of these species are listed as threatened although the White-bellied Sea-eagle is listed as migratory under the EPBC Act (1999).

In relation to the birds of Prey including the Brown and Black Falcons (detected in the surveys for Crookwell 3) the “birds of prey” group has generally a low potential to be impacted. This is outlined in modelling by Biosis Research of eight existing and proposed wind farms in the range of the Tasmanian Wedge-tailed Eagle. This research indicated that there is only likely to be a 0.001 per cent increase in the mortality rate, for the species which is not significant. In relation to birds of prey most deaths are caused from vehicle collisions, electrocutions and collisions with wire, fencing and shootings (The Australia Institute – Wind Farms, The Facts and Fallacies, 2006). None of the raptors which have potential to use the local area are threatened species.

Overall the biodiversity impact risks in relation to wind turbine collisions are usually insignificant compared to the threats associated with other activities and processes. Erickson et. Al. (2001) found that wind turbine collision deaths probably represent 0.001% to 0.02% (1 out of every 5000 to 10000 avian fatalities) of the annual collision fatalities in the United States. Australian studies of wind farms such as Pacific Hydro’s Codrington Wind Farm – Victoria which opened in 2001 recorded very low numbers of bird and bat fatalities (4 birds and one bat between 2001 and 2003). Behavioural studies undertaken for this wind farm also indicated that water birds are adept at avoiding the wind farm sites (Fact Sheet 8 – Wind Farms and Bird and Bat Impacts, AusWEA’s).

The first recording of Barotrauma was by Erin Baerwald of the University of Calgary in Canada who found that wind farms in southern Alberta were causing impacts to long range migratory bats through changes in air pressure at the turbines. Bats could not detect these changes and this lower air pressure at the blade tips causes damage to the lungs of these migratory bats (Baerwald et al 2008). The study found that birds do not suffer the same fate and that their deaths are from direct collision with blades or the uprights of turbines.

In Australia there are limited species that migrate long distances other than the Common Bent-wing Bat, Yellow-bellied Sheath-tailed Bat and Eastern False Pipistrelle. These species are not known to migrate in large groups and research from other wind farms in Australia does not indicate that these species are at significant risk from wind farms.

In regard to a solution (if bats were found to be impacted significantly by the proposed wind farm) the Canadian research recommends that the minimum wind speed to set the turbines in motion (be increased) as this would reduce potential impacts on bats. This is because bat activity reduces significantly as wind speed increases.

The potential for bats to be impacted by the proposal is low however if it was found through the recommended baseline monitoring that they were significantly impacted then a management change could be made such that the minimum wind speed for the turbines to be set in motion could be increased to manage any impacts (if found).

The other main species mentioned by OEH in their submission was the Regent Honeyeater. This is a broad-ranging migratory species. The impact assessment in the main Ecological Impact Assessment report found that this species is unlikely to be impacted. This assessment is similar to the conclusions of Biosis Research (2009) Crookwell 2 Ecological Report where it is stated; “other species, such as the endangered and migratory Regent Honeyeater and Swift Parrot are unlikely to be impacted, due to the lack of feeding resources in the study area and the LGA as a whole”. This species was not detected in either the surveys for Crookwell 2 or Crookwell 3 Wind Farms. Critical habitat is for breeding being larger reserves of Ironbark and Box Gum Woodland and the likelihood of this species being impacted by the proposal is not considered significant.

In regard to the concerns of OEH in relation to the Brown Treecreeper, Hooded Robin, Superb Parrot, Turquoise Parrot, Speckled Warbler, Varied Sitella and Powerful Owl (particularly in relation to Remnant E – Turbine A12) the potential impacts to these species have been examined in the main Ecological Impact Assessment report. These species were not found to utilise the habitat present and the likelihood of impact is considered low.

#### **1.4. Native Vegetation**

OEH outlines concerns regarding the avoidance of native vegetation. In relation to proposed Turbines 18 and 19 within mapped remnant B the Ecological Assessment mapped this remnant as Western Tablelands Dry Forest (Thomas et. Al (2000)). This remnant is currently within a Management Contract under Part 7 of the Native Vegetation Conservation Act 1997 with the Landowner. The objectives of this program are “to conserve and enhance approximately 132 hectares of Silvertop Ash – Brittle Gum Open Forest on two sites (Site 1: 12 ha and Site 2: 120ha). The recent mapping of this vegetation (Cunninghamia 11(3): 2010) maps this vegetation as DSF p14 (Dry Tablelands Forest) and this is what it was found to be in the field assessments. The vegetation where Turbine 12 is proposed is also mapped as this community.

It should be noted that turbine A19 has now been removed from the proposed layout as a Precautionary measure to reduce the impact to the remnant by avoiding further fragmentation of the remnant area.

## **2. Responses to Heritage Assessment Comments**

### **2.1. Indigenous Heritage**

In relation to the Indigenous Archaeological Heritage Report and meeting the requirements of the “Draft Guidelines for Aboriginal Cultural Heritage Impact Assessment and Community Consultation” (DEC, July 2005), as part of the consultation process the project was advertised in the local newspapers (Goulburn Post and the Crookwell Gazette) for two consecutive weeks requesting expressions of interest in the proposal in accordance with the Guidelines. An invitation to participate in the consultation process was extended directly to the Pejar Local Aboriginal Land Council (Pejar LALC) as identified by the Aboriginal Land Council Boundaries in the Aboriginal Land Councils map produced by the NSW Department of Lands 2007. The site surveys were conducted with participation of two Aboriginal Field Officers from Pejar LALC. Consultation was an integral part of the process and the draft report was reviewed and commented on by Pejar LALC as the Registered Aboriginal Party (RAP) for the Project site area. (Refer to Appendix B for the copy of the letter from Pejar LALC dated 3<sup>rd</sup> November 2010). In this letter of review they state that they fully agree with the assessment and recommendations for the protection of Aboriginal Cultural Sites and the additional surveys required as outlined in the Heritage Report.

OEH has commented that they consider subsurface excavations should occur at the environmental assessment stage to ensure an adequate understanding of the Aboriginal Heritage Values prior to project approval. In regard to Sites 2 and 8 these are proposed to be avoided however if they could not be avoided the subsurface excavations are proposed. The main focus is on the avoidance of impacts.

Another concern of OEH is that not all the areas of potential impact were surveyed including access tracks and electrical connections. As per the Heritage Report these areas were not pegged at the time of survey and are proposed to be surveyed in detail prior to any construction works being undertaken so any potential sites can be avoided. This approach has been in consultation with Pejar LALC and they agree with this approach.

In regard to potential site impact the proponents approach since inception has been to avoid impacts as far as possible. As such subsurface excavations are unlikely to be required however if a site is detected that cannot be easily avoided then a more thorough evaluation would be undertaken utilising subsurface excavation. Undertaking subsurface excavations at the initial environmental assessment stage is not considered necessary and due to the large area involved would cause unnecessary impact. Test excavations are not excluded from the definition of Harm under the Act.

In regard to previous archaeological reports considered as part of the assessment process the Biosis 2004 survey report for Crookwell 2 was considered as part of the Heritage Report.

The Biosis report in their surveys did not assess all of the impact zones as part of the Crookwell 2 Wind Farm and recommended (as did Anderson Environmental Consultants Pty Ltd) that additional surveys would be required as part of the development phase of the project. "Further archaeological investigations in the form of subsurface test excavation is necessary when it can be demonstrated that sub-surface Aboriginal objects with potential conservation values have a high probability of being present in an area, and when the area cannot be substantially avoided by a proposed activity" – (DECCW 2010 – Code of Practice for Archaeological Investigation of Aboriginal Objects in New South Wales).

In regard to the site recording forms their details are as below. They were submitted by post previously and we were unaware that they were not available in the database.

Sites identified within the proposed project area:

- Site 1: Hillview Park – (51-6-0714)
- Site 2: Hillview Park 2 – (51-6-0715)
- Site 3: Hillview Park 3 – (51-6-0716)
- Site 4: Hillview Park 4 – (51-6-0718)
- Site 5: Hillview Park 5 – (51-6-0717)
- Site 6: Hillview Park 6 – (51-6-0719)
- Site 7: Hillview Park 7 – (51-6-0720)
- Site 8: Hillview Park 8 – (51-6-0721)
- Site 9: Wollondilly Farm 9 – (51-1-6-0723)
- Site 10: Wollondilly Farm 10– (51-6-0722)

A new search of the AHIMS database has been undertaken, refer to Appendix C for details. The search did not reveal any new sites within the proposal area.

The Aboriginal Site Recording Forms (site cards) for the current sites shown above, will be provided directly to OEH to avoid any potential for any sensitive information that may be contained within the site cards to be published without OEH authorisation.

Yours Sincerely

Jason Anderson (B.App.Sc – 1992, Conservation Technology)

Director

Anderson Environmental Consultants Pty Ltd

### 3. REFERENCES

AusWEA's. Fact Sheet 8 – Wind Farms and Bird and Bat Impacts. <http://www.synergy-wind.com/documents/8BirdBatImpact.pdf>

Baerwald E.F., D'Amours G.H., Klug B.J., Barclay R.MR, (2008). *Barotrauma is a significant cause of bat fatalities at wind turbines*. Current Biology Volume 18, Issue 16, Pages R695-R696.

Biosis Research. (2009). Crookwell 2 Wind Farm Modifications to DA-176-8-2004-i. Ecological Assessment.

Erickson, W., Johnson, G., Strickland, M., Young, D., Sernka, K. and Good, R. 2001. Avian Collisions with Wind Turbines: A Summary of Existing Studies and Comparisons to other sources of Avian Collision Mortality in the United States, National Wind Coordinating Committee.

Macintosh, A., and Downie, C. (2006). Wind Farms: The Facts and the Fallacies. The Australia Institute. Discussion Paper 91. ISSN 1322-5421.

Tozer, M.G., Turner, K., Tindall, D., Pennay, C., Simpson, C., MacKenzie. B., Beukers, P., and Cox, S. Native Vegetation of Southeastern New South Wales: a revised classification and map for the coast and eastern tablelands. *Cunninghamia* 11(3): 2010. NSW Department of Environment and Climate Change, Scientific Services Division, Copyright: Botanic Gardens Trust.

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**APPENDIX A – Targeted Threatened Species Assessment Surveys  
and Survey Effort**

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Species	Survey Season	Survey Effort	Dates	Weather Conditions	Locations Surveyed	AMG Co-ordinates	Target Species Detected
Pink Tailed Worm Lizard and Little Whip Snake	August to October (Rocky Slopes after Rain)	3 sessions of 1 day each.	12th August 2010 18 <sup>th</sup> August 2010 25 <sup>th</sup> August 2010	Fine Fine Fine	Near to Remnant B Near to Remnant E	B=744550/6172940 E=742520/6173200	No
Striped Legless Lizard ( <i>Delmar impar</i> )	Nov-Dec (6 weeks of trapping). Trapping in dense Kangaroo Grassland is the preferred habitat however this habitat was not present on the site. Roof tiles to be placed in potential habitat 4 month prior to trapping (August to place roof tiles)	Trapping undertaken from second week of November (both pit and funnel)	2 <sup>nd</sup> November 2010 for 6 weeks	Fine for most of November with light rain only from 28 <sup>th</sup> Nov-4 <sup>th</sup> Dec 2010	Near to Remnant B Near to Remnant E	B=745050/6173430 E=742980/6172360	No
Grassland Earless Dragon ( <i>Tympanocryptis pinguicolla</i> )	Spider Tubes for 10 weeks from February to April with tubes checked twice a week. Two tubes per hectare in Grassland Habitat. Note: there was not good grassland habitat present so trapping undertaken near to potential impact areas.	Trapping commenced in mid-January due to warm season.	18 <sup>th</sup> January 2011 for 10 weeks	Fine during most of the survey period with light rain on only 15% of the days during the 10 weeks	Near to Remnant B Near to Remnant E	B=744310/6172945 E=742980/6172360	No
Squirrel Glider	Live Trapping in trees with traps 50-100 metres apart in potential habitat set for 3-4 consecutive nights. Traps checked in the morning and closed until dusk when they are re-opened. (No specific Season Required)	120 trap nights in remnants B and E. Cage traps covered with hessian on low tree branches. 20 traps placed in Remnant B for 4 nights and 10 traps in remnant E for 4 nights.	20 <sup>th</sup> August 2010 till 23 <sup>rd</sup> August 2010 (traps collected on 24 <sup>th</sup> )	Fine during the whole period.	Remnant B and Remnant E.	B=744450/6172850 E=742610/6172300	No
Regent Honeyeater	Call Playback in Spring-Summer in potential foraging or breeding habitats.	Undertaken over 2 days (September and January) around vegetation remnants A, B, C, D, E and F. Remnants C, D and F (30 minutes) slow walk and remnants A and E (1 hour), remnant D (2 hours) during each survey period.	15 <sup>th</sup> September 2010 18 <sup>th</sup> January 2011	Fine weather during both survey periods.	Remnants A, B, C, D, E and F.	A=743500/6171450 B=745000/6172650 C=743680/6172720 D=744000/6173250 E=742620/6173450 F=744120/6173810	No

Species	Survey Season	Survey Effort	Dates	Weather Conditions	Locations Surveyed	AMG Co-ordinates	Target Species Detected
Brown Treecreeper, Diamond Firetail, Hooded Robin, Speckled Warbler and Varied Sittella.	Early morning and or late afternoon on three occasions separated by a period of one week each. Three locations must be spread across the site. (No specific time of year required)	Undertaken during September, December and late January at ecotones between paddock and edges of remnants A, B, C, D, E and F.	15 <sup>th</sup> September 2010 14 <sup>th</sup> December 2010 18 <sup>th</sup> January 2011	Fine on all days.	Remnants A, B, C, D, E and F.	A=743500/6171450 B=745000/6172650 C=743680/6172720 D=744000/6173250 E=742620/6173450 F=744120/6173810	No
Scarlet Robin	Diurnal bird census in early morning and or late afternoon on three occasions separated by one week each. Surveys to be conducted from July to January. Surveys to concentrate on ridges, hills and foothills.	Undertaken during July, September, and January at ecotones.	28 <sup>th</sup> July 2010 15 <sup>th</sup> September 2010 18 <sup>th</sup> January 2011	Fine conditions on all days.	Remnant A, B and E.	A=743500/6171450 B=745000/6172650 E=742620/6173450	No
Barking and Powerful Owls and Anabat.	1 site per 100 ha. Survey for potential nest trees. Surveys best undertaken in Winter over 3 nights.	Surveys undertaken in August at the same locations as Anabat. Surveys over 3 nights.	24 <sup>th</sup> , 25 <sup>th</sup> and 26 <sup>th</sup> February 2010.	Fine during all nights.	Remnants A, B, C, E, F, G and near to proposed turbine 3.	A=743500/6171450 B=745000/6172650 C=743680/6172720 D=744000/6173250 E=742620/6173450 F=744120/6173810	No
Gang Gang Cockatoo/ Glossy Black Cockatoo/ Superb Parrot	Diurnal surveys and nesting assessments using stagwatching and call identification in late afternoon.  Gang Gang (Sept-January)  Glossy Black (March to August)  Superb Parrot (September to December)	Two days for each species separated by one month each.	28 <sup>th</sup> July 2010 15 <sup>th</sup> September 2010 14 <sup>th</sup> December 2010	Fine during surveys	Remnants A, B, C, E, F, G.	A=743500/6171450 B=745000/6172650 C=743680/6172720 D=744000/6173250 E=742620/6173450 F=744120/6173810	No

Species	Survey Season	Survey Effort	Dates	Weather Conditions	Locations Surveyed	AMG Co-ordinates	Target Species Detected
Microchiropteran Bats Eastern False Pipistrelle, Eastern Bent Wing Bat, Large Footed Myotis, Greater Broad Nosed Bat, Yellow bellied Sheath Tailed Bat and Greater Long Eared Bat	Surveys have been completed last season.	Three nights Anabat recording at 7 locations.	24 <sup>th</sup> , 25 <sup>th</sup> and 26 <sup>th</sup> February 2010.	Fine with no wind.	Remnants A, B, C, E, F, G and near to proposed turbine 3.	A=743500/6171450 B=745000/6172650 C=743680/6172720 D=744000/6173250 E=742620/6173450 F=744120/6173810	No
Golden Sun Moth	October to December. Hand netting during known flight periods in > 40% <i>Austrodanthonia</i> in the groundcover. Note: no good habitat was located for this species on the site.	Surveys during October, November and December. Undertaken while doing other surveys for extensive coverage.	Undertaken while doing other surveys as potential habitat on site was low.	Mainly Fine	Coverage over much of the site.	Most of site whilst undertaking other surveys	No
Swainsonia sericea, Swainsonia recta, Prasophyllum petilum, Austral Toad Flax.  <i>Diuris aequalis</i> (Oct-Nov)	Transects 10 metres apart through all areas of woodland /grassland.	October 2010 to mid-January 2011. 3 days during each month – total of 12 days.	19,20,21 October 2010 21,22,23 November 2010 10,11,12 December 2010 19,20,21 January 2011	Fine and Dry.	Surveys around proposed turbine sites and along interconnection corridors. Random meander transects undertaken due to the linear nature of the proposed development.	Turbine Sites and associated areas.	No
Spotlighting	Undertaken at Remnants A, B, C, D, E, F over two non-consecutive nights. Four nights total using Lightforce 100watt with infra-red filter.  Each Remnant for 1 hour except for remnants C,D,E,F,G for 30 minutes.	Each Remnant for 1 hour except for remnants C,D,E,F,G for 30 minutes. Each remnant surveyed 4 times on 19 <sup>th</sup> and 21 <sup>st</sup> October 2010 and 19 <sup>th</sup> and 1 <sup>st</sup> January 2011.	19 <sup>th</sup> and 21 <sup>st</sup> October 2010 19 <sup>th</sup> and 21 <sup>st</sup> January 2011	Fine, no to light wind	Remnants A, B, C, D, E, F	A=743500/6171450 B=745000/6172650 C=743680/6172720 D=744000/6173250 E=742620/6173450 F=744120/6173810	No threatened species detected

<b>Species</b>	<b>Survey Season</b>	<b>Survey Effort</b>	<b>Dates</b>	<b>Weather Conditions</b>	<b>Locations Surveyed</b>	<b>AMG Co-ordinates</b>	<b>Target Species Detected</b>
Amphibians	Amphibian surveys undertaken through call listening, active searching and spotlighting around Steeves Creek and First Creeks. Slow walks along each creek for the length of each property.	Three nights slow walk along each creekline for the length of each property.	20 <sup>th</sup> October 2010 20 <sup>th</sup> January 2011		Both Steeves and First Creeks		No threatened species detected

## **APPENDIX B – Pejar Local Aboriginal Land Council Correspondence**

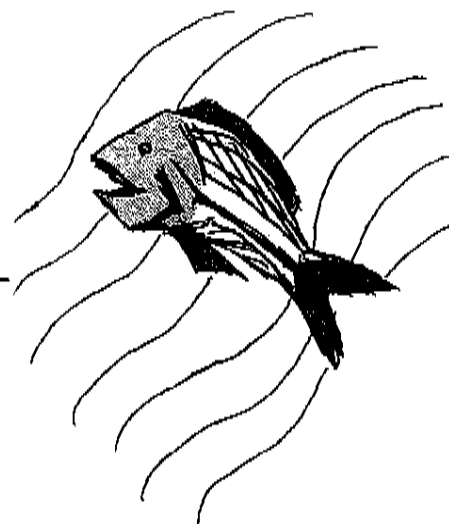
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## PEJAR LOCAL ABORIGINAL LAND COUNCIL

80 Combermere St (PO Box 289) Goulburn NSW 2580  
Phone (02) 4822 3552 • Fax (02) 4822 3551  
email address: pejar1@goulburn.net.au  
ABN 72 662 632 151



Jason Anderson  
Director  
Anderson Environmental Consultants Pty Ltd  
PO BOX 690 Springwood 2777  
Ph: 1300 302 507  
Fax: (02) 8580 4731

Dear Jason

### **RE: Proposed Crookwell 3 Windfarm**

The Pejar Local Aboriginal Land Council reviewed your draft report dated September 2010 for the Proposed Crookwell 3 Windfarm and fully agrees with your recommendations as stated below:

It is recommended that the development aims as far as possible to avoid impacts on the known archaeological sites. It is recommended that a Cultural Heritage Management Plan be prepared in collaboration with the Pejar Local Aboriginal Land Council to reduce and mitigate the impacts of the project on artifacts. If artifacts cannot be avoided then cooperation with Pejar LALC should be undertaken to determine the management of these artifacts (ie collection for education purposes or moving the artifacts slightly outside the zone of disturbance). In relation to the movement of objects the distances would not be significant and many of the objects may have been moved in the past via water movement, erosion and vehicle/tractor movements such as road grading and cultivation of the ground. The Cultural Heritage Management Plan should also outline management strategies for the management of unrecorded sites within the site. This is important as the exact access track and electrical infrastructure locations were not available at the time when the field surveys were conducted, and also potential deviations during the construction phase may occur to reduce impact(s) on the land. If impacts cannot be avoided then further investigation is recommended for sites 2 and 8. This would enable the mapping of the sites in order to determine the spread of artifacts and their density. It is however quite likely that these sites were used as transitory sites by the hunters or some as short term stay sites. The recommended further investigation for sites 2 and 8 involve sub-surface excavation in the form of 20cm deep and 20cm square shovel test pits near to the sites (in the areas of potential disturbance only). It is also recommended that the other landscape areas being

potentially disturbed by access roads, access tracks and electrical infrastructure be subjected to further investigation. These would be in the form of linear transects with spacing's of between 10-20 metres between the test pits. Before any sub-surface investigation was carried out a detailed surface investigation of the routes of the roads and electrical disturbance should be carried out as targeted surveys of the exact areas of potential disturbance. These additional surveys are required as the road and electricity accesses were not mapped or available during the time the surveys were being undertaken. As such the surveys did not specifically walk each potential road and access. The route of each proposed access should be walked and assessed prior to construction for artifacts and site potential. Roads and other infrastructure that require fill should utilise fill from off-site if possible to minimise the overall soil disturbance to the site. Careful road planning should be undertaken to utilise and upgrade existing roads where possible to achieve an overall plan to minimize soil disturbance.

If there is any further information that you may require, or wish to discuss further, then please do not hesitate to contact me on the above numbers.

Yours sincerely

A handwritten signature in cursive script that reads "Delise Freeman".

Delise Freeman  
CEO

## **Appendix C – Recent AHIMS Database Search**

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SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
51-6-0328	PJ33	AGD	55	735476	6173721	Open site	Valid	Artefact : 38		99732
	<b>Contact</b>	Searle	<b>Recorders</b>	Miss.Melanie Thomson				<b>Permits</b>	2339,3476	
51-6-0329	PJ34	AGD	55	735725	6174291	Open site	Valid	Artefact : 1		99732
	<b>Contact</b>	Searle	<b>Recorders</b>	Miss.Melanie Thomson,Niamh Coulter				<b>Permits</b>	2339,3476	
51-6-0330	PJ35	AGD	55	735780	6174889	Open site	Valid	Artefact : 23		99732
	<b>Contact</b>	Searle	<b>Recorders</b>	Miss.Melanie Thomson,Niamh Coulter				<b>Permits</b>	2339,3476	
51-6-0331	PJ36	AGD	55	735816	6175165	Open site	Valid	Artefact : 1		99732
	<b>Contact</b>	Searle	<b>Recorders</b>	Miss.Melanie Thomson,Niamh Coulter				<b>Permits</b>	3476	
51-6-0332	PJ38	AGD	55	735679	6175597	Open site	Valid	Artefact : 33		99732
	<b>Contact</b>	Searle	<b>Recorders</b>	Miss.Melanie Thomson,Niamh Coulter				<b>Permits</b>	3476	
51-6-0333	PJ39	AGD	55	736074	6175758	Open site	Valid	Artefact : 19		99732
	<b>Contact</b>	Searle	<b>Recorders</b>	Miss.Melanie Thomson,Niamh Coulter				<b>Permits</b>	2340,3476	
51-6-0335	PJ41	AGD	55	737718	6175646	Open site	Valid	Artefact : 6		99732
	<b>Contact</b>	Searle	<b>Recorders</b>	Miss.Melanie Thomson,Niamh Coulter				<b>Permits</b>	2339,2340,3476	
51-6-0336	PJ42	AGD	55	738023	6175212	Open site	Valid	Artefact : 10		99732
	<b>Contact</b>	Searle	<b>Recorders</b>	Mr.Lee Thompson,Niamh Coulter				<b>Permits</b>	2339,2340,3476	
51-6-0337	PJ43	AGD	55	738423	6175299	Open site	Valid	Artefact : 18		99732
	<b>Contact</b>	Searle	<b>Recorders</b>	Miss.Melanie Thomson				<b>Permits</b>	2339,2340,3476	
51-6-0338	PJ44	AGD	55	737205	6174583	Open site	Valid	Artefact : 2		99732
	<b>Contact</b>	Searle	<b>Recorders</b>	Miss.Melanie Thomson,Niamh Coulter				<b>Permits</b>	2339,2340,3476	
51-6-0339	PJ45	AGD	55	737545	6174562	Open site	Valid	Artefact : 24		99732
	<b>Contact</b>	Searle	<b>Recorders</b>	Miss.Melanie Thomson,Niamh Coulter				<b>Permits</b>	2339,2340,3476	
51-6-0340	PJ46	AGD	55	737555	6174092	Open site	Valid	Artefact : 3		99732
	<b>Contact</b>	Searle	<b>Recorders</b>	Miss.Melanie Thomson,Niamh Coulter				<b>Permits</b>	2339,2340,3476	
51-6-0341	PJ47	AGD	55	737122	6173471	Open site	Valid	Artefact : 8		99732
	<b>Contact</b>	Searle	<b>Recorders</b>	Thomas Kenyon & Kenyon & Son,Niamh Coulter				<b>Permits</b>	2339,2340,3476	
51-6-0342	PJ48	AGD	55	738073	6173402	Open site	Valid	Artefact : 2		99732
	<b>Contact</b>	Searle	<b>Recorders</b>	Miss.Melanie Thomson,Niamh Coulter				<b>Permits</b>	2339,2340,3476	
51-6-0343	PJ49	AGD	55	738269	6174415	Open site	Valid	Artefact : 16		99732
	<b>Contact</b>	Searle	<b>Recorders</b>	Miss.Melanie Thomson,Niamh Coulter				<b>Permits</b>	2339,2340,3476	
51-6-0344	PJ50	AGD	55	738514	6174288	Open site	Valid	Artefact : 1		99732
	<b>Contact</b>	Searle	<b>Recorders</b>	Miss.Melanie Thomson,Niamh Coulter				<b>Permits</b>	2339,2340,3476	
51-6-0345	PJ51	AGD	55	738600	6174177	Open site	Valid	Artefact : 323		99732
	<b>Contact</b>	Searle	<b>Recorders</b>	Miss.Melanie Thomson,Niamh Coulter				<b>Permits</b>		

Report generated by AHIMS Web Service on 19/03/2013 for Jason Anderson for the following area at Lat, Long From : -34.5782, 149.5775 - Lat, Long To : -34.5365, 149.6436 with a Buffer of 1000 meters. Additional Info : impact assessment. Number of Aboriginal sites and Aboriginal objects found is 31

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SiteID	SiteName	Datum	Zone	Easting	Northing	Context	Site Status	SiteFeatures	SiteTypes	Reports
51-6-0346	PJ52	AGD	55	738991	6174232	Open site	Valid	Artefact : 2		99732
	<a href="#">Contact</a>	Searle	<a href="#">Recorders</a>	Miss.Melanie Thomson,Niamh Coulter				<a href="#">Permits</a>	2339,2340,3476	
51-6-0347	PJ53	AGD	55	739279	6174302	Open site	Valid	Artefact : 2		99732
	<a href="#">Contact</a>	Searle	<a href="#">Recorders</a>	Miss.Melanie Thomson,Niamh Coulter				<a href="#">Permits</a>	2339,2340,3476	
51-6-0349	PJ37	AGD	55	735898	6175227	Open site	Valid	Artefact : 50		99732
	<a href="#">Contact</a>	Searle	<a href="#">Recorders</a>	Miss.Melanie Thomson,Niamh Coulter				<a href="#">Permits</a>	2339,2340,3476	
51-6-0209	PJ01	AGD	55	739026	6174452	Open site	Valid	Artefact : -		99732
	<a href="#">Contact</a>	Searle	<a href="#">Recorders</a>	Ms.Vanessa Hardy,Miss.Melanie Thomson				<a href="#">Permits</a>		
51-6-0210	PJ02	AGD	55	739916	6172258	Open site	Valid	Artefact : -		99732
	<a href="#">Contact</a>	Searle	<a href="#">Recorders</a>	Ms.Vanessa Hardy,Miss.Melanie Thomson				<a href="#">Permits</a>		
51-6-0228	PJ20	AGD	55	736047	6173724	Open site	Valid	Artefact : 11, Stone Quarry : 1		99732
	<a href="#">Contact</a>	Searle	<a href="#">Recorders</a>	Ms.Vanessa Hardy,Miss.Melanie Thomson				<a href="#">Permits</a>		
51-6-0229	PJ21	AGD	55	735763	6173736	Open site	Valid	Artefact : -		99732
	<a href="#">Contact</a>	Searle	<a href="#">Recorders</a>	Ms.Vanessa Hardy,Miss.Melanie Thomson				<a href="#">Permits</a>	2094,2095,2339,2340,3476	
51-6-0230	PJ22	AGD	55	735672	6173987	Open site	Valid	Artefact : -		99732
	<a href="#">Contact</a>	Searle	<a href="#">Recorders</a>	Ms.Vanessa Hardy,Miss.Melanie Thomson				<a href="#">Permits</a>	2094,2095,2339,2340,3476	
51-6-0231	PJ23	AGD	55	737648	6175300	Open site	Valid	Artefact : -		99732
	<a href="#">Contact</a>	Searle	<a href="#">Recorders</a>	Ms.Vanessa Hardy,Miss.Melanie Thomson				<a href="#">Permits</a>	2094,2095,2339,2340,3476	
51-6-0232	PJ24	AGD	55	737814	6175420	Open site	Valid	Artefact : -		99732
	<a href="#">Contact</a>	Searle	<a href="#">Recorders</a>	Ms.Vanessa Hardy,Miss.Melanie Thomson				<a href="#">Permits</a>	3476	
51-6-0233	PJ25	AGD	55	738802	6173308	Open site	Valid	Artefact : -		99732
	<a href="#">Contact</a>	Searle	<a href="#">Recorders</a>	Ms.Vanessa Hardy,Miss.Melanie Thomson				<a href="#">Permits</a>	3476	
51-6-0683	PJ 55	GDA	55	738227	6173623	Open site	Valid	Artefact : 75		102037
	<a href="#">Contact</a>		<a href="#">Recorders</a>	Ms.Jenni Lennox				<a href="#">Permits</a>	2339,2340,3358,3476	
51-6-0716	Hillview Park 3	GDA	55	743498	6173108	Open site	Valid	Artefact : 1		
	<a href="#">Contact</a>		<a href="#">Recorders</a>	Mr.Jason Anderson				<a href="#">Permits</a>		
51-6-0723	Wollondilly Farm 9	GDA	55	736295	6170833	Open site	Valid	Artefact : 1		
	<a href="#">Contact</a>		<a href="#">Recorders</a>	Mr.Jason Anderson				<a href="#">Permits</a>		

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