

09 May 2019

Health Infrastructure
C/- Colliers International
Level 30 Grosvenor Place
225 George Street
SYDNEY NSW 2000



Attention: Ms Bonnie Custance

Dear Bonnie

**Re: Response to Biodiversity Development Assessment Report comments from
Council for Wyong Hospital Expansion Planning
14-15, 664 Pacific Highway, Hamlyn Terrace**

I refer to correspondence received from Central Coast Council (1 April 2019) with respect to the Biodiversity Development Assessment Report (BDAR), our ref# 18COLL02BDAR for the proposed Wyong Hospital Expansion.

Central Coast Council is a referral agency and our responses have been given in that context.

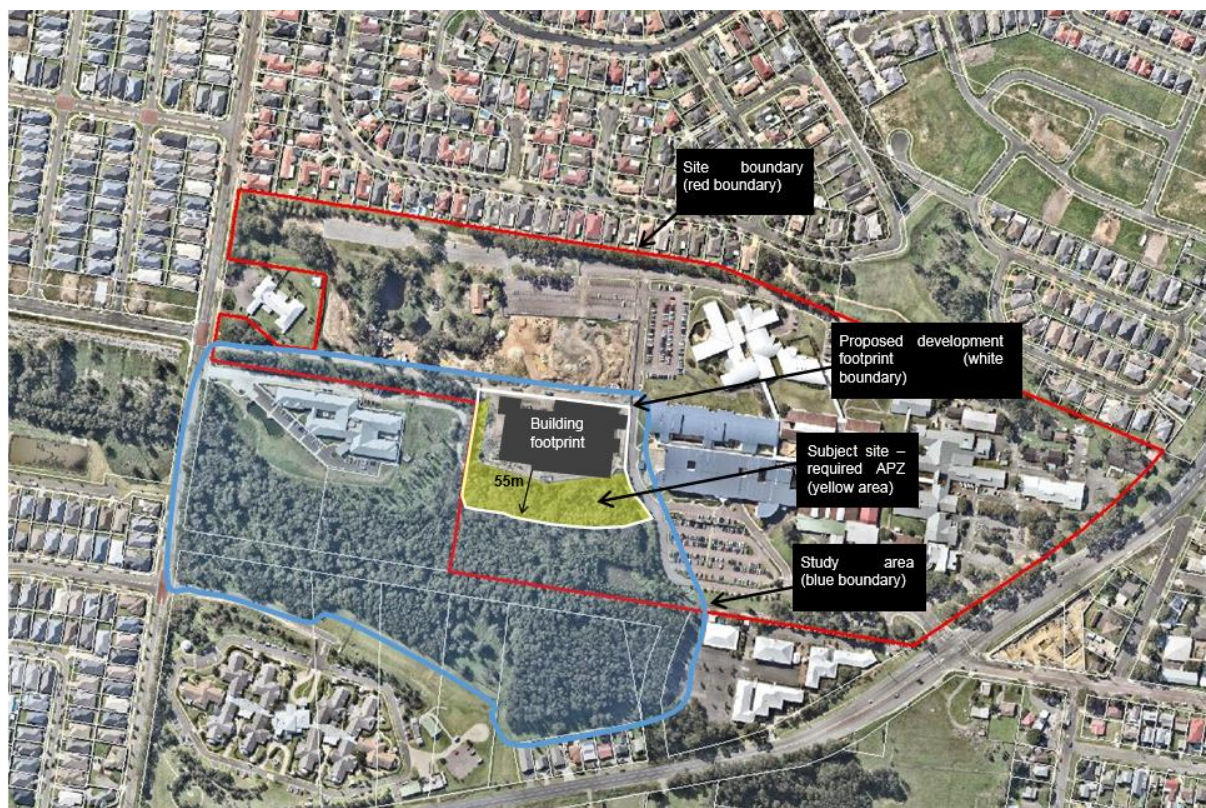


Figure 1 – Site boundary (red) and study area (blue)

Table 1 Response table to matters raised by Central Coast Council

Issue	Response	Action required
The BDAR has not been certified as BAM compliant having regard for the specified timeframes contained in Section 6.15 of the <i>BC Act</i>.	Section 6.15 of the BC Act regarding currency of biodiversity assessment report requires: (1) A biodiversity assessment report cannot be submitted in connection with a relevant application unless the accredited person certifies in the report that the report has been prepared on the basis of the requirements of (and information provided under) the biodiversity assessment method. The accredited person for this BDAR, Mr. Lindsay Holmes (BAAS 17032), certifies here that the report has been prepared on the basis of the requirements of (and information provided under) the BAM as of the 6 May 2019, and that date is within 14 days of the date the report is so submitted (2) A relevant application is an application for planning approval, for vegetation clearing approval, for biodiversity certification or in respect of a biodiversity stewardship agreement.	The BDAR has been amended and certification has been included with the report. No further action required. Section 1.1.1 contains information regarding the calculator date and report finalisation.
PCT selection and justification is not adequate and does not comply with Section 5.2.1.12 of the BAM. There was no list provided of likely PCT's on the site and no logical steps provided in how the final PCT was selected. The applicant should provide a list of potential PCT's based on the Bionet vegetation classification system and provide logical steps and justifications (based on reference to the site data and diagnostic species for each PCT) as to how the final PCT was selected i.e. what other PCT's were considered and why were they discounted or rejected.	Page 29 of the BDAR describes the evidence used to identify the PCTs on site. However for clarity we have expanded the justifications for PCT determination.	Further justification has been included. A list of potential PCTs to be provided and this section of the report expanded to identify the reasons why or why not the respective PCTs were chosen or discounted.
Council is unable to verify if the patch size for each vegetation type has been determined and entered correctly into the calculator as this information is missing from the vegetation integrity assessment (refer to Section 5.3.2 of the BAM).	The patch size used in the calculator was 1,000ha. It has been entered correctly into the calculator. The patch size area is assigned to the vegetation zone as a class, being <5ha, 5–24ha, 25–100ha or ≥100ha. Anything greater than 100ha is	The vegetation integrity assessment has been updated with a description of the patch size classes and which category it falls into. Patch size is identified within the landscape plan and found in

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	treated the same. The patch size is large as there is extensive connectivity in the locality through Hamlyn Terrace through to the Wadalba Wildlife Corridor, and the swampy wetlands in Tuggerawong, Tacoma and Wyong. It also extends to the north-west through rural residential areas of Warnervale, Woongarra and Halloran.	table 1.2 and figure 1.4, for the 1,500m assessment circle. The assessment circle has been added to the updated BDAR. The 1500m assessment circle is a buffer to the site. The 1000ha is referring to the patch size. Therefore, two different entities																								
The summarised table of plot data used to determine the current vegetation integrity scores for each vegetation zone is missing (refer to Section 5.4.1.2 of the BAM).	A summary of the derived scores at the end of Section 3.1, in table 3.3 and 3.4 of the BDAR.	Screen shots have been inserted below to show all vegetation integrity score entries, or tabulate further the breakdown of each composition, structure and function score as shown in the calculator.																								
Table 3.3 – Current vegetation integrity (VI) score <table><tr><th>Vegetation zone name</th><th>Area (ha)</th><th>Patch size (ha)</th><th>Composition condition score</th><th>Structure condition score</th><th>Function condition score</th><th>Current VI score</th></tr><tr><td>1636_moderate_good</td><td>0.686</td><td>1000</td><td>54.7</td><td>77.7</td><td>54.7</td><td>61.5</td></tr><tr><td>1728_moderate_good (weedy)</td><td>0.106</td><td>1000</td><td>23.3</td><td>37.6</td><td>98.8</td><td>44.3</td></tr></table>			Vegetation zone name	Area (ha)	Patch size (ha)	Composition condition score	Structure condition score	Function condition score	Current VI score	1636_moderate_good	0.686	1000	54.7	77.7	54.7	61.5	1728_moderate_good (weedy)	0.106	1000	23.3	37.6	98.8	44.3			
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Table 3.4 – Future vegetation integrity score <table><tr><th>Vegetation zone name</th><th>Area (ha)</th><th>Patch size (ha)</th><th>Composition condition score</th><th>Structure condition score</th><th>Function condition score</th><th>Future vegetation integrity score</th><th>Change in integrity score</th></tr><tr><td>1636_moderate_good</td><td>0.686</td><td>1000</td><td>37.6</td><td>33.8</td><td>10.9</td><td>24</td><td>-37.5</td></tr><tr><td>1728_moderate_good (weedy)</td><td>0.106</td><td>1000</td><td>18.1</td><td>21.3</td><td>49.1</td><td>26.7</td><td>-17.6</td></tr></table>			Vegetation zone name	Area (ha)	Patch size (ha)	Composition condition score	Structure condition score	Function condition score	Future vegetation integrity score	Change in integrity score	1636_moderate_good	0.686	1000	37.6	33.8	10.9	24	-37.5	1728_moderate_good (weedy)	0.106	1000	18.1	21.3	49.1	26.7	-17.6
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Inadequate justification has been provided for the exclusion of any predicted species and credit species generated by the BAM calculator (refer to Section 6 and Appendix 10 of the BAM).	Appendix 2 shows the species habitat assessment for flora and fauna species from the OEH and EPBC coordinate search databases. The table highlights the habitat requirements and distribution limit for each species, then marks whether suitable habitat is present, the presence of nearby records or high number of local records, if records are recent or old, and then likelihood of occurrence.	Tables 4.2 and 4.11 of the BDAR have been expanded to explain the reason for exclusion.																								
Targeted threatened flora species surveys were not conducted in accordance with OEH guidelines.	Flora survey by <i>Travers bushfire & ecology</i> has been undertaken over one (1) day on 10 September 2018 which would be suitable for detecting	Justification clarified within Section 2 of the BDAR as to why additional survey for cryptic species is not required based upon unsuitable habitat																								

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	<i>Tetratheca juncea</i>, <i>Genoplesium insigne</i>, <i>Microtis angusii</i> and <i>Caladenia tessellata</i>. Repeated survey of this area was conducted by RPS in September 2014. RPS advised in their report that the study area does not support preferred habitat for <i>Cryptostylis hunteriana</i> or <i>Corunastylis sp. Charmhaven</i>. They did not conduct studies during those species' flowering period (Nov-Jan and Feb-Mar respectively). Abel Ecology also undertook target threatened species habitat on 18 August 2017. Abel Ecology advised marginal potential habitat for <i>Cryptostylis hunteriana</i> as did the <i>Travers bushfire & ecology</i> BDAR.	features. Indicated on the flora survey effort and results (figure 2) identifies where belt transects were undertaken, for all previous studies. Previous reporting has supported that the site provides marginal habitat for <i>Cryptostylis hunteriana</i> however we have assumed presence of such habitat and species credits for this species are required for offsetting purposes.
Threatened nocturnal bird surveys were conducted over a single night only and do not comply with OEH guidelines.	Survey effort from Abel Ecology and RPS is supplementary to TBE survey and fills in the gaps of compliance.	Table 2.1 and 2.2 of the BDAR have been updated to include Abel Ecology and RPS field survey effort. Table 2.1 and 2.2 identifies that Abel Ecology conducted fauna and flora surveys on the 16/09/2017 - 18/09/17. RPS also conducted a fauna survey on the 11/08/2014 - 12/08/2014 and a flora survey on the 15/09/2014.
Threatened amphibian surveys were not conducted in accordance with OEH guidelines.	Whilst habitat features may provide marginal habitat for the Wallum Froglet, the vegetation types are generally not suitable for the species. Based upon records in the locality and connectivity to areas that would be suitable, the site is likely to be too far from any dispersal habitat, and thus the proposal will not cause any breeding habitat loss.	<i>Travers bushfire & ecology</i> reviewed the potential for Wallum Froglet, considering previous reports and their survey effort. Justification included as to why the site is not suitable for Wallum Froglet, which can be found in table 4.11. No further survey required.
For remaining candidate species that require further assessment the applicant should either complete targeted surveys in accordance with OEH guidelines, provide an expert report to confirm species absence, or assume presence and offset under the requirements of the BAM.	Noted	Candidate species reviewed and further justification (table 4.3) has been provided for their exclusion. We have assumed presence for those species with suitable habitat where there is a deficiency in the survey or it has not been completed in an appropriate month.
Serious and Irreversible	Noted	

Issue	Response	Action required
Impacts have been correctly identified and assessed and additional information has been provided to support the decision maker.		
Council's preference is to have offsets secured within the Central Coast Local Government Area rather than offset 'somewhere' in NSW.	Noted	Whilst this is not a requirement of the <i>BC Act</i> or BAM methodology, (as the ecosystem credits can be obtained within the same or adjoining IBRA sub region, or within 100km of the site, and species credits may be obtained anywhere within the state) preference should be ultimately given to locate ecosystem credits and species credits as close to the site as practical, and like for like (same PCT preferable rather than one from the same vegetation class). It may be somewhat dependent upon where the credits are available at the time of them being sourced.

The BDAR has been updated in light of the reviews from OEH and Council (dated 7 May 2019).

If you require any further information please do not hesitate to contact the undersigned on (02) 4340 5331 or at info@traverseecology.com.au

Yours faithfully



Michael Sheather-Reid
Managing Director - **Travers bushfire & ecology**
BAM Accredited Assessor (BAAS17085)

Travers bushfire & ecology employs
Bushfire Planning and Design (BPAD) Accredited
Practitioners

Travers bushfire & ecology employs
Accredited BioBanking and Biodiversity Assessors