

**Biodiversity Certification of Land - Emerald Hills Estate
Recommendation Report**

For conferring or refusing to confer Biodiversity Certification of land under Part 7AA of the
Threatened Species Conservation Act 1995

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Part 1: Background and documents considered

Name of recommending officers:	Marnie Stewart and Sarah Burke
Name of decision makers:	Chief Executive, Office of Environment and Heritage (OEH) Minister administering the <i>Threatened Species Conservation Act 1995</i> (Minister for the Environment)
File / Folio number:	SF15/37660 DOC15/389236
Name of Planning Authority (applicant):	Camden Council
Date application received:	10 July 2015
Dates of public notification under s126N:	15 May – 15 June 2015

1.1 The proposal

Camden Council (Council) has applied for biodiversity certification under the NSW *Threatened Species Conservation Act 1995* (TSC Act) of the development lands (Biodiversity Certification Area) identified in the Emerald Hills Estate Biodiversity Certification Assessment Report and Biocertification Strategy prepared for Camden Council 30 June 2015, as amended (Report and Strategy).

The proposed Biodiversity Certification Area, which is identified as "Development" in Figure 1, within the Emerald Hills Estate is 122.49 hectares (ha), while the land proposed for conservation is 20.13 ha. The proposal also includes 3.02 ha of land identified as maintaining its current land use and has therefore been assessed as retained land (Table 1 and Figure 1).

Land use	Area (ha)
Land Proposed for Biodiversity Certification (i.e. Biodiversity Certification Area)	122.49
Land Proposed for Conservation Measures	20.13
Retained Land	3.02
Total	145.64

Table 1 Land use within the Emerald Hills Estate

The proposed on-site conservation measure is the Emerald Hills Biobanking Agreement ID number 159 which has been submitted concurrently with the biodiversity certification package for approval. To meet the requirements of the Biodiversity Certification Assessment Methodology (BCAM), it is also proposed to implement an off-site conservation measure with the purchase and retirements of biodiversity credits that will be generated from the proposed Hardwicke Biobanking Agreement ID number 168.

The biodiversity certification of the Emerald Hills Estate was considered by Council and Macarthur Developments Pty Ltd (Macarthur Developments) during the assessment of the Emerald Hills Estate planning proposal which was approved by the Minister for Planning on 19 September 2014. The planning proposal rezoned the land from RU2 Rural Landscape to R1 Residential, E2 Environmental Conservation and SP2 Infrastructure under Camden Local Environmental Plan (LEP) 2010. As depicted in the Indicative Layout Plan (Figure 2), it will

provide for approximately 1280 residential lots, a neighbourhood centre, open space and the conservation of the Cumberland Plain Woodland in the north-eastern corner of the site.

Macarthur Developments, the developer of Emerald Hills Estate, has consulted closely with Council in preparing the biodiversity certification application and Report and Strategy. Macarthur Developments acts on behalf of the owner of the Emerald Hills Estate, D&AI Pty Ltd.

A biodiversity assessment of the proposal has been undertaken, and a biodiversity certification strategy has been prepared in accordance with BCAM and lodged with the biodiversity certification application (Attachment A1). The biodiversity assessment and certification strategy are detailed in the Report and Strategy (Attachments A2 and A3, with later amendments in Attachments A5 and A6. In accordance with the section 126N of the TSC Act, Council has also prepared a Submissions Report (Attachment A4). The Report and Strategy and Submissions Report have been reviewed by OEH as documented in this Recommendation Report. For development lands to be biodiversity certified (see Biodiversity Certification Area in section 1.3 below), the Chief Executive of OEH¹ and Minister must be satisfied in relation to certain matters outlined in BCAM. These matters have been assessed by OEH and are also documented in this Recommendation Report for the Chief Executive and Minister to consider when making their decisions.

¹ The Biodiversity Certification Assessment Methodology (BCAM) refers to the Director-General of the Department of Environment, Climate Change and Water. All references in BCAM to Director-General are taken to mean the Chief Executive of the Office of Environment and Heritage (OEH), as per the *Instrument of authorisation and delegation of functions of Chief Executive of OEH, 2014*.

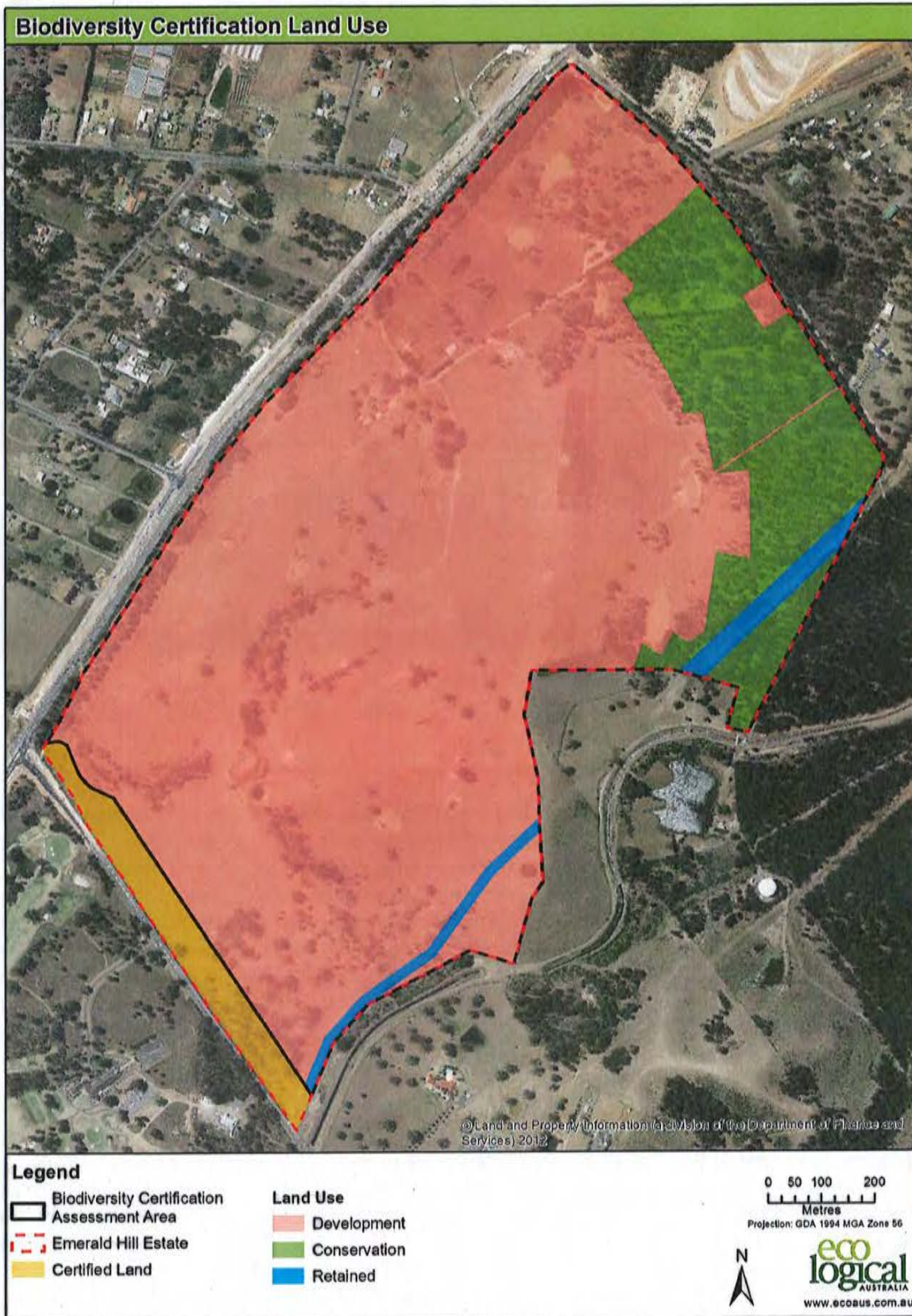


Figure 1: The assessment area including the development lands (pink) for which Council is seeking biodiversity certification. Land already 'Certified' (orange) is in the SW Growth Centre.

EMERALD HILLS ESTATE
DRAFT INDICATIVE LAYOUT PLAN
 30 June 2015

-  Site Boundary
-  Low Density Residential
-  Environmental Conservation
-  Indicative School Location
-  Neighbourhood Centre
-  Passive Open Space
-  Active Open Space
-  Drainage
-  Riparian Corridor
-  Sub Arterial Road
-  Local Collector Road
-  Local Road
-  Pedestrian Path
-  Potential Transmission Realignment
-  Existing Gas Easement
-  Existing Transmission Easement
-  Creek
-  LGA Boundary

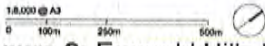


Figure 2: Emerald Hills Estate Indicative Layout Plan

1.2 History

The Emerald Hills Estate is located at 1100-1150 Camden Valley Way, Leppington in south western Sydney. It is an irregularly shaped rectangular parcel and is bounded by Camden Valley Way to the north-west, Raby Road to the south and west, and St Andrews Road to the north-east (Figure 3). The water canal owned by Sydney Water Corporation is to the south-east. There are a number of existing easements, including two aligned along the eastern boundary for an electrical transmission line and gas pipeline, and an easement for a power line that crosses the south west corner of the site (Figure 2). The majority of the site is located in the Camden Local Government Area (LGA) with a small portion along the eastern boundary situated within Campbelltown City LGA which is within the conservation area and will not be biodiversity certified. This area of land in the Campbelltown LGA is included in the Emerald Hills Biobanking Agreement ID number 159.

The subject site is located immediately south of South West Growth Centre Precinct of East Leppington and east of the Catherine Fields and Catherine Fields North Precincts (Figure 4). The *State Environmental Planning Policy (Sydney Region Growth Centres) 2006*, also known as the Growth Centres SEPP, established the broad framework for development of the Growth Centres over the next 25 to 30 years. In December 2007 an order conferring biodiversity certification on the Growth Centres SEPP was made by the Minister under section 126G of the TSC Act. In July 2008, the Minister's certification was validated by the *Threatened Species Conservation Amendment (Special Provisions) Act 2008*. The amendment is now incorporated into Part 7 of Schedule 7 of the TSC Act.

The Emerald Hills Estate is located outside the South West Growth Centre, with the exception of a five hectare strip of land along Raby Road which was subject to biodiversity certification under the Growth Centres SEPP. This certified land is shown in orange in

Figure 1. With the inclusion of this five ha of land the total area of the Emerald Hills Estate is 151 ha.

The land to the south-west of Emerald Hills Estate is known as the El Caballo Blanco and Lakeside site and was rezoned for urban development in 2010 (Figure 4).



Figure 3: Emerald Hills Estate (Emerald Hills Estate – Preliminary Constraints Analysis Ecology and Riparian Issues Eco Logical Australia April 2013)

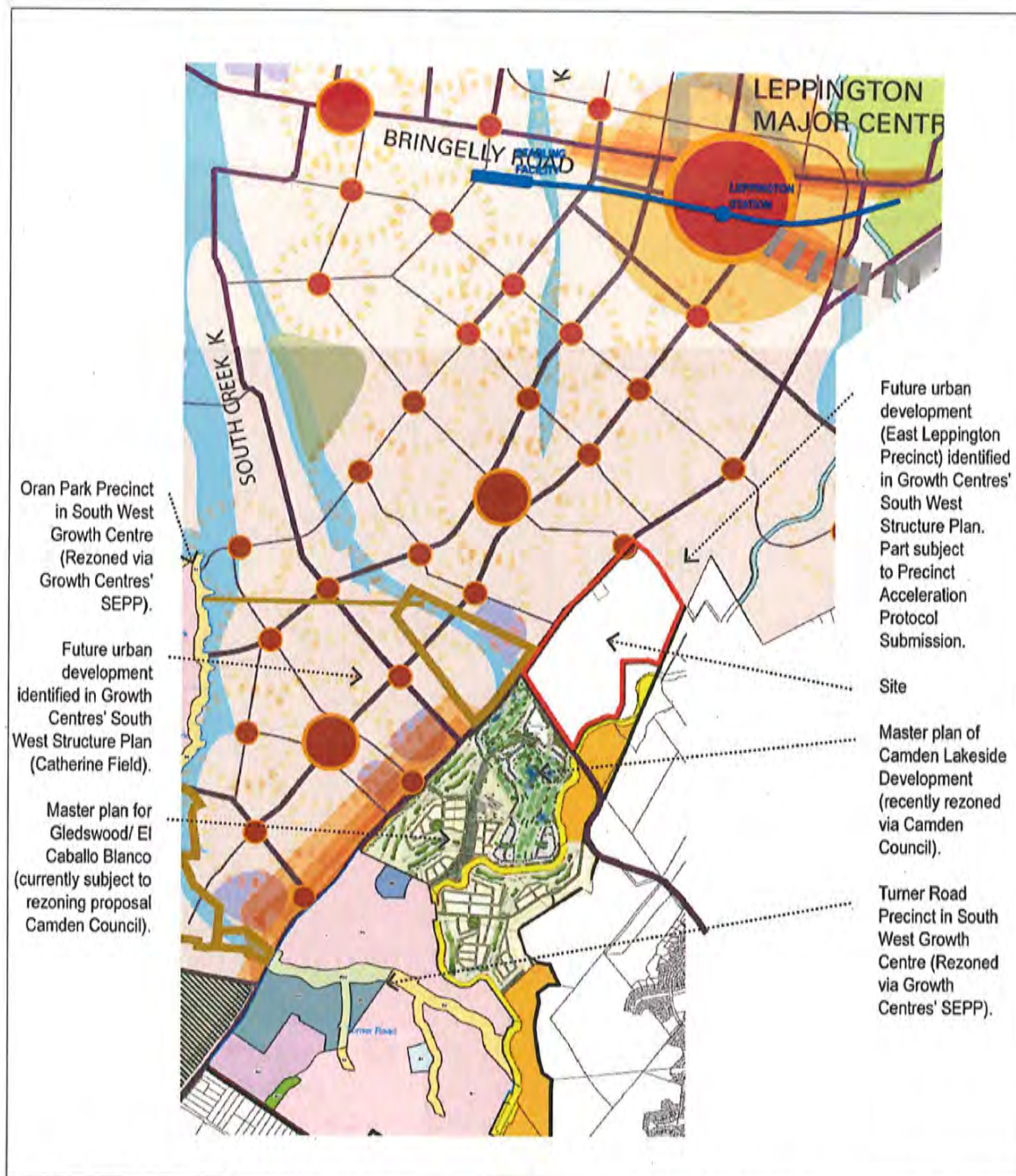


Figure 4: Location of Emerald Hills Estate and the surrounding land use including the South West Growth Centre (Emerald Hills Planning Proposal 10 Oct 2013).

The Emerald Hills Estate planning proposal

At its meeting of 14 February 2012, Camden Council resolved to support a planning proposal to rezone the Emerald Hills Estate from rural land to urban development and to forward the proposal to the then Department of Planning and Infrastructure to seek a Gateway Determination. On 7 July 2012 a Gateway Determination was subsequently issued (see document number 6 in section 1.8 of this report). Under the Gateway Determination, OEH was ascribed a consultation role in condition 13, under sections 34A and 56(2)(d) of the *Environmental Planning and Assessment Act 1979*, as well as conditions 3 and 4, as follows:

3. In regards to the proximity of the subject land to the adjoining Sydney Water Supply Upper Canal, Council is to address the following prior to exhibition commencing:

- *Information relating to flora and fauna investigations showing:*
 - *any potential effects on adjoining land; and*
 - *an assessment of the quality of vegetation and the method of protecting the Cumberland Plain Woodland.*
- The planning proposal is to be amended to reflect the agreed approach; and*
- *Consultation with the public agencies identified under Conditions 13.*

4. In accordance with the requirements of S117 Direction 2.1 Environmental Protection Zones, Council is to amend the planning proposal to reflect outcomes of the flora and fauna investigations and public authority consultation and address the consistency of the revised planning proposal with the Local Planning Direction.

As a result of the Gateway Determination, OEH provided comprehensive advice to Council on the planning proposal, the biodiversity certification process and the draft Report and Strategy. Below is a summary of OEH's formal advice to Council, as well as significant milestones in the process. Copies of the correspondence discussed below is listed in section 1.8 of this Recommendation Report and can be viewed in Attachment F to DOC15/389236.

OEH letter of 16 July 2013 - Following a request for consultation from Council on 21 June 2013, OEH raised concerns with the impact of the planning proposal on Cumberland Plain Woodland. OEH advised that it was not clear what was being proposed to conserve the Cumberland Plain Woodland and how or when offsets for the vegetation proposed to be cleared would be secured. OEH specifically expressed the view that the configuration of the proposed two areas of E2 Environmental Conservation zoned land, and the subdivision of the north eastern E2 land into 'forest lots' would not adequately provide for the protection of Cumberland Plain Woodland. OEH recommended a greater area of Cumberland Plain Woodland be conserved in the north-eastern corner of the site and adequate protection measures be put in place to ensure its protection.

OEH concluded that given the proposed clearing of approximately 25.85 ha of Cumberland Plain Woodland, the lack of adequate protection of the remaining 17.34 ha of Cumberland Plain Woodland on site, and the uncertainty of the mechanism to secure the proposed offset areas, it was unable to support the planning proposal and requested that it be amended prior to public exhibition. At this stage, while the developer raised the possibility of biodiversity certification, Council had not provided OEH with the intention to seek formal biodiversity certification of the proposal.

OEH letter of 28 November 2013 - During the public exhibition of the planning proposal, OEH made a submission to Council acknowledging that the planning proposal had been modified in response to the issues raised in OEH's submission of 16 July 2013. In particular, OEH noted that the planning proposal and Draft Indicative Layout Plan had been modified to remove the linear strip of vegetation along Camden Valley Way and the area proposed to be zoned E2 in the north eastern corner of the site had been increased. While OEH supported the north eastern conservation area being zoned E2, OEH did not support the proposal to apply a minimum lot size of two hectares to the land to permit subdivision into 'forest lots'. OEH advised that this outcome would not provide for the protection of this area of Cumberland Plain Woodland as it would potentially result in further subdivision of this area into approximately 10 smaller lots.

OEH recommended that Council not finalise the rezoning until it could demonstrate that the vegetation retained on-site had been given an adequate level of protection and suitable management arrangements had been put in place. At this stage, Council still did not confirm to OEH if it would be pursuing biodiversity certification.

OEH letter of 12 March 2014 - On 17 February 2014, Council emailed OEH with an update on the planning proposal and a Biodiversity Certification Assessment Report (dated 11 December 2013). Council advised that the Cumberland Plain Woodland in the north-eastern corner would become a biobank site in conjunction with acquiring off-site credits from a site at The Oakes (known as Hardwicke) and that the developer was preparing the biobanking agreement applications. Council also stated that it hoped "to lodge a Biocertification application for Emerald Hills with OEH in the very near future". In regard to future ownership, Council indicated that it was likely that the site would be rezoned on the basis that the E2 zoned land at the north-eastern corner would be in private ownership via two large parcels of approximately 10 ha each, with a portion of the land zoned R2 to facilitate the erection of a dwelling house. In addition, the proposed LEP and Development Control Plan (DCP) controls applying to the land would be amended as per OEH's suggestions to ensure that they were commensurate with the E2 zoning.

On 12 March 2014, OEH advised Council that its intention to seek biodiversity certification and the proposal to biobank the on-site conservation area and the off-site Hardwicke site was supported. OEH noted however that, as the two biobanking applications had not been received, a level of uncertainty remained as to whether biobanking would be pursued after the planning proposal was gazetted. OEH suggested that Council explore a method for committing to a biodiversity offset strategy, including the biobank sites.

OEH letter of 3 September 2014 - On 13 August 2014, OEH met with Council and Macarthur Developments during which OEH was given a summary of the biodiversity certification proposal and a copy of the draft Report and Strategy dated 13 August 2014 for review.

On 3 September 2014, OEH provided detailed comments to Council on the draft Report and Strategy. This included advice on the rules applying to the calculation of credits for the on-site and off-site conservation areas, staged retirement of credits and additional information required to be included. OEH advised that when the draft Report and Strategy had been re-drafted to address the relevant requirements it should be re-submitted to OEH for review.

Planning proposal approval - On 19 September 2014, the Minister for Planning approved the planning proposal, which included the Indicative Layout Plan depicted in Figure 2.

OEH letter of 27 February 2015 - On 20 January 2015, Council advised OEH that at its meeting held on 9 December 2014 Council resolved to apply for biodiversity certification and provided a copy of the biodiversity certification application and the Report and Strategy dated 10 December 2014 for review.

On 27 February 2015, OEH provided comprehensive comments to Council and requested that the comments be addressed prior to public exhibition of the application. The comments provided and issues raised related to the clarification of the vegetation classification, survey and assessment requirements, on-site and off-site conservation areas, staged retirement of credits, the maintain or improve outcome and parties to the certification.

Site inspection 24 March 2015 - OEH officers undertook a site inspection of the Emerald Hills Estate with Eco Logical Australia, the developer's ecological consultants, which included discussion on vegetation zones.

OEH email of 23 April 2015 - On 31 March 2015, OEH received a revised Report and Strategy dated 31 March 2015 for review. On 23 April 2015, OEH provided comments to Council in regard to discrepancies with the survey and assessment data and required amendments to the strategy in terms of the off-site offset, the relevant parties to the certification, and the application form that needed to be addressed prior to public exhibition.

OEH letter of 12 May 2015 - On 28 April 2015, Council submitted the biodiversity certification application form and the Report and Strategy dated 27 April 2015 to the Minister for the Environment and sought permission to place the application on public exhibition. On 12 May 2015, OEH formally approved the placing of the biodiversity certification documents on public exhibition by Council.

Public exhibition - Council publicly exhibited the Emerald Hills biodiversity certification application and associated documents between 15 May and 15 June 2015.

Submission of completed Biodiversity Certification package to the Minister – Under Part 7AA of the TSC Act, Council has applied to the Minister for the Environment for Biodiversity Certification of the development land at Emerald Hills Estate. On 6 July 2015, Council forwarded the completed biodiversity certification application form, Report and Strategy and Submissions Report, which was received by OEH on 10 July 2015.

Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) approval - EPBC 2013/6999 approval for the development under sections 130(1) and 133 of the EPBC Act was granted on 3 August 2015.

1.3 The Biodiversity Certification Area

The proposed Biodiversity Certification Area is shown in pink in Figure 1 and is described as Part of Lot 10 in DP 1173819, Lot 10 1161557 and Lot 1 DP 301830 and totals 122.49 ha.

Development of the Emerald Hills Estate will result in the removal of 24.39 ha of a critically endangered ecological community and endangered ecological community under the TSC Act as follows in Table 2:

Biometric vegetation type name	Equivalent under TSC Act	Sub-component type	Conservation status	Area proposed for removal	Veg type ID
Grey Box – Forest Red Gum grassy woodland on shale of the southern Cumberland Plain	Cumberland Plain Woodland	Shale Hills Woodland	critically endangered ecological community	23.08 ha	HN529 and ME019
Forest Red Gum – Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain	River-flat Eucalypt Forest on Coastal Floodplains (RFEF)	Alluvial Woodland	endangered ecological community	1.31 ha	HN526

Table 2: Native vegetation types in the Emerald Hills Estate.

The extent and distribution of these vegetation types in the Emerald Hills Estate site is shown in Figure 5. The boundary between the Sydney Metro Catchment Management Area (CMA) and the Hawkesbury-Nepean CMA runs through the site. Some of the Cumberland Plain Woodland remnants occur in the Sydney Metro area, some in the Hawkesbury-Nepean, so these remnants have the vegetation type IDs ME019 and HN529, respectively. All the RFEF remnants occur in the Hawkesbury-Nepean, so are all classed as HN526.

The clearing of these vegetation types will require a red flag variation to be granted, which is detailed in section 2.1.1 of this report. A request for a variation of the offsets rules has also been made and is addressed in section 2.1.2 of this report.

The land proposed for biodiversity certification will require 470 ecosystem credits under the BCAM (Table 5, page 38), which are deemed to be equivalent to 409 biobanking credits calculated under the BBAM.

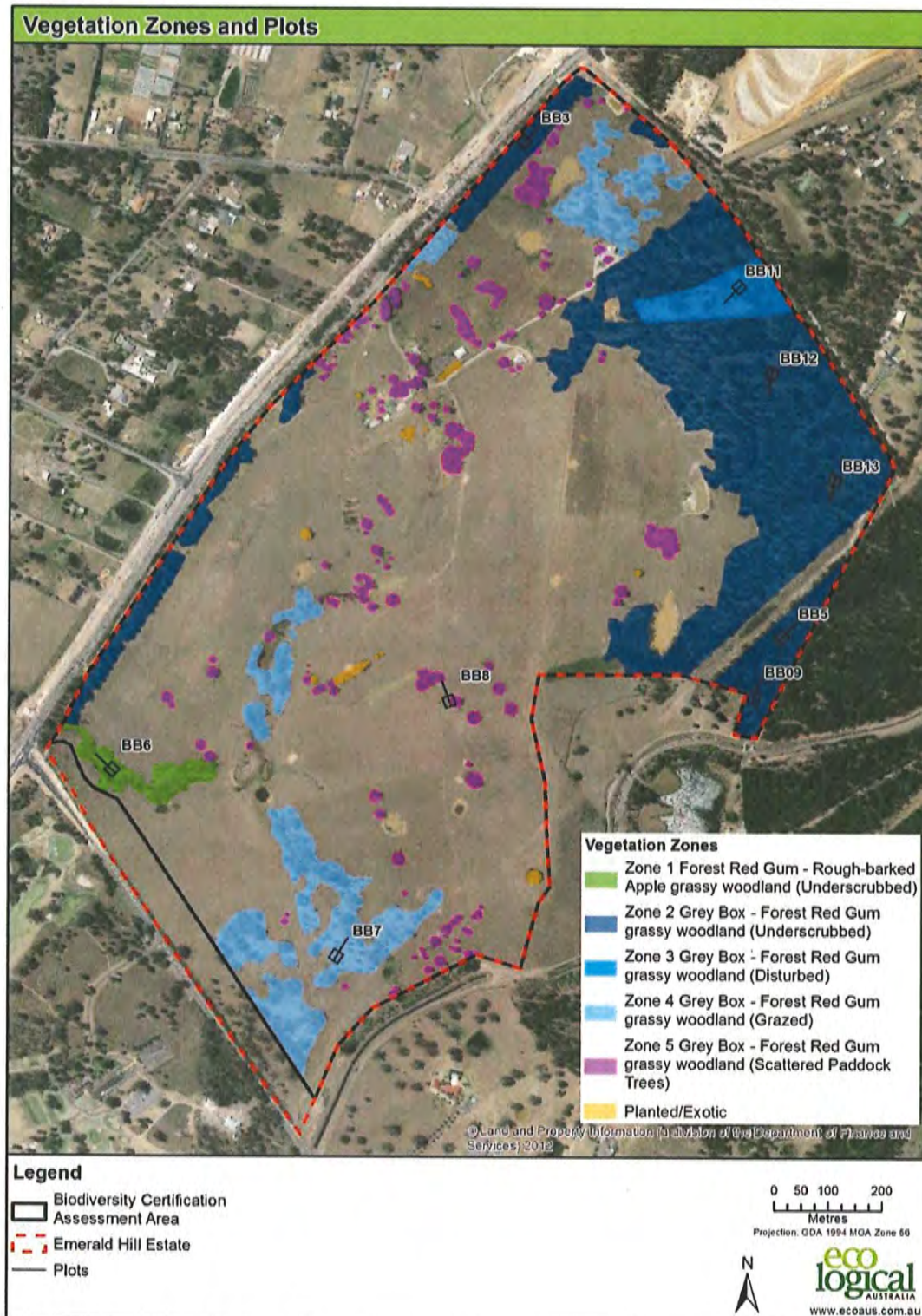


Figure 5: Vegetation types and zones

Vegetation classification

The land within the Emerald Hills Estate includes a large stand of regrowth Cumberland Plain Woodland, a critically endangered ecological community, of moderate quality. This vegetation is connected to other large stands of native vegetation to the east of the site. There is also a stand of remnant River-flat Eucalypt Forest, an endangered ecological community, along a drainage line in the west of the site. The bulk of the remaining land within the estate has been extensively cleared and modified through agricultural land uses and represents land with little biodiversity value.

OEH questioned the vegetation classification in the Report and Strategy during the pre-exhibition review. The Report and Strategy states that the vegetation on-site is Shale Hills Woodland, based on OEH's vegetation mapping and the site's position in the landscape. However, OEH considered that the vegetation on-site was more likely to be Shale Plains Woodland based on topography and species present. Shale Hills Woodland and Shale Plains Woodland are both components of the Cumberland Plain Woodland critically endangered ecological community.

To assist in the decision-making, OEH utilised a tool that allows quantitative analysis of vegetation type. However, most of the sites sampled had insufficient numbers of species present, such that the results of the quantitative assessment were inconclusive.

Although OEH considers Shale Plains Woodland would be a better 'fit' for the woodland remnants on-site, its classification as Shale Hills Woodland is seen as acceptable in this instance, given the level of disturbance on-site has led to ambiguity about the vegetation types present, and given that the methodology was applied correctly. It is unlikely that further site assessment work would resolve the matter.

The current application was made using the Biobanking Assessment Methodology (BBAM) 2010. The use of the BBAM 2014 on future biodiversity certification applications will require quantitative analysis. This may assist in highlighting issues with vegetation typing earlier in the assessment process.

1.4 The conservation land or other measures

There are a number of conservation measures which can be implemented to ensure that the overall effect of biodiversity certification is to improve or maintain biodiversity values (section 126L of the TSC Act). Council has proposed an on-site and off-site conservation measure in the biodiversity certification application.

On-site conservation measure

The conservation land within the Emerald Hills Estate is shown in green in Figure 1 and described as Part of Lot 10 DP 1173819.

The conservation measure applying to the conservation land is the Emerald Hills Biobanking Agreement ID number 159 under Part 7A of the TSC Act and is submitted to the Minister for approval concurrently with this Recommendation Report to confer biodiversity certification (see Attachment D to DOC15/389236). The agreement covers 20.13 ha (Figure 7) of land and identifies the following vegetation type and credits created in Table 3.

Vegetation type and ID	Area (ha)	Credits created (BBAM)
Grey Box–Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion (HN529)	16.57	171
Grey Box–Forest Red Gum grassy woodland on shale of the southern Cumberland Plain, Sydney Basin Bioregion (ME019)	3.56	36
Total	20.13	207

Table 3: Emerald Hill BioBanking Agreement ID number 159 vegetation types and credits created

The 207 credits under BBAM equates to 268 BCAM credits (Table 4).

The Report and Strategy originally proposed to stage the retirement of the credits from the on-site biobank site over six stages during 2015–16. The number of credits to be retired was calculated based on the proportion of vegetation impacted in each stage (Table 4).

On 3 August 2015, Macarthur Developments received approval under the EPBC Act for the proposed action (see document 1 in Attachment F to DOC15/389236). The Australian Government approval contains a number of conditions which have different requirements for the timing of credit retirement for the on-site and off-site biobank sites compared to the proposed timing of credit retirement in the Report and Strategy. As a consequence, on 3 August 2015 Macarthur Developments formally advised OEH that it was seeking to amend the timing of credit retirement to align with the Australian Government approval. In particular, Macarthur Developments proposed to purchase and retire 100 per cent of the ecosystem credits required from the on-site biobank site once registered (being 207 BBAM credits), prior to the commencement of Stage 1 (Figure 6) of the residential development and associated infrastructure. Council confirmed the proposed amendment to the Report and Strategy on 19 August 2015 (Attachment A5).

As stated above, the Emerald Hills Biobanking Agreement ID number 159 has been submitted for consideration by the Chief Executive, OEH, and the Minister concurrently with this Recommendation Report. To provide sufficient certainty that the credits will be retired, Macarthur Developments has submitted the following to OEH:

- a completed 'application to retire credits' form
- paid the 'application fee for retirement of biodiversity credits (without a biobanking statement)'
- paid the Total Fund Deposit for the credits into the Biobanking Trust Fund.

The Emerald Hills Biobanking Agreement ID number 159 is included in the Ministerial Order as a conservation measure (Attachment B).

Off-site conservation measure

The off-site conservation measure is the entering into of the Hardwicke Biobanking Agreement ID number 168 under Part 7A of the TSC Act. The agreement was submitted to OEH on 26 March 2015 and is currently being reviewed. It is expected that the agreement will be finalised within the next six months. The biobanking agreement is proposed to cover 57 ha of land described as Part of Lot 1 DP 1101523 (Figure 8) and will provide the shortfall of 202 biodiversity credits required to achieve a maintain or improve outcome.

The Hardwicke biobank site is owned by South West Land Holdings Pty Ltd, D. Vitocco Constructions Pty Ltd, Palolem Pty Ltd and Shaun Newing who have all signed the biodiversity certification application as parties to the biodiversity certification.

The Report and Strategy originally proposed to stage the retirement of the credits from the Hardwicke biobank site over Stages 7-11 between 2017-2020 (Figure 6 and Table 4). However, as detailed above, the Australian Government approval conditions require a different timing of credit retirement to those in the Report and Strategy. This has necessitated an amendment to the biodiversity certification application. Consequently, it is proposed (Attachment A5) to purchase and retire 100 per cent of the ecosystem credits required from the Hardwicke biobank site once registered (being 202 HN529 credits) and prior to the commencement of Stage 7 of the proposed residential development and associated infrastructure as shown in Figure 17 and Table 18 of the Report and Strategy.

Under Section 8.1 of BCAM, where the applicant proposes to enter into a biobanking agreement as a conservation measure, but has not yet done so, that measure should be secured via a biodiversity certification agreement. Consequently, a biodiversity certification agreement has been prepared and has been signed by D&AI Pty Ltd and all of the owners of the Hardwick biobank site (Attachment C to DOC15/389236). Under the biodiversity certification agreement, the owners have agreed to transfer the required biodiversity credits to D&AI Pty Ltd who will apply to OEH to retire these credits prior to commencing any works associated with Stages 7-11 (Figure 6). D&AI Pty Ltd have also provided a bank guarantee to the Minister for the Environment of \$402,000 (which is the Part A Total Fund Deposit cost for the 202 biodiversity credits), as part of the security provisions under the agreement. The bank guarantee is being held by OEH's Greater Sydney Region, Regional Operations Group. The biodiversity certification agreement will also be registered on the title of the land.

The biodiversity certification agreement is also included in the Ministerial Order (Attachment B to DOC15/389236) as a conservation measure.

Stage	Area of vegetation impacted (ha)	% of Impacts	BCAM Credits Required	Cumulative Total BCAM Credits	Equivalent BBAM Credits	Cumulative Total BBAM Credits
On-site BioBank Site (Scaling factor of 0.77 applied)						
Stage 1	7.71	31.61%	149	149	115	115
Stage 2	2.41	9.88%	46	195	36	151
Stage 3	0.65	2.67%	13	208	10	160
Stage 4	0.96	3.94%	18	226	14	175
Stage 5	1.35	5.54%	26	252	20	195
Stage 6	0.65	2.67%	16	268	12	207
Off-site BioBank Site (no scaling factor applied)						
Stage 7	1.22	5.00%	20	288	20	227
Stage 8	1.33	5.45%	26	314	26	253
Stage 9	2.55	10.46%	49	363	49	302
Stage 10	1.42	5.82%	27	390	27	329
Stage 11	4.14	16.97%	80	470	80	409
Total	24.39	100.00%	470	470	409	409

Table 4: Proposed timing of credit retirement for on-site and off-site biobank sites as detailed in Table 18 in the Report and Strategy.



Figure 6: Report and Strategy Emerald Hills Estate indicative staging plan (identified as Figure 17 in the Emerald Hills Estate Biodiversity Certification Assessment Report and Biocertification Strategy 30 June 2015)

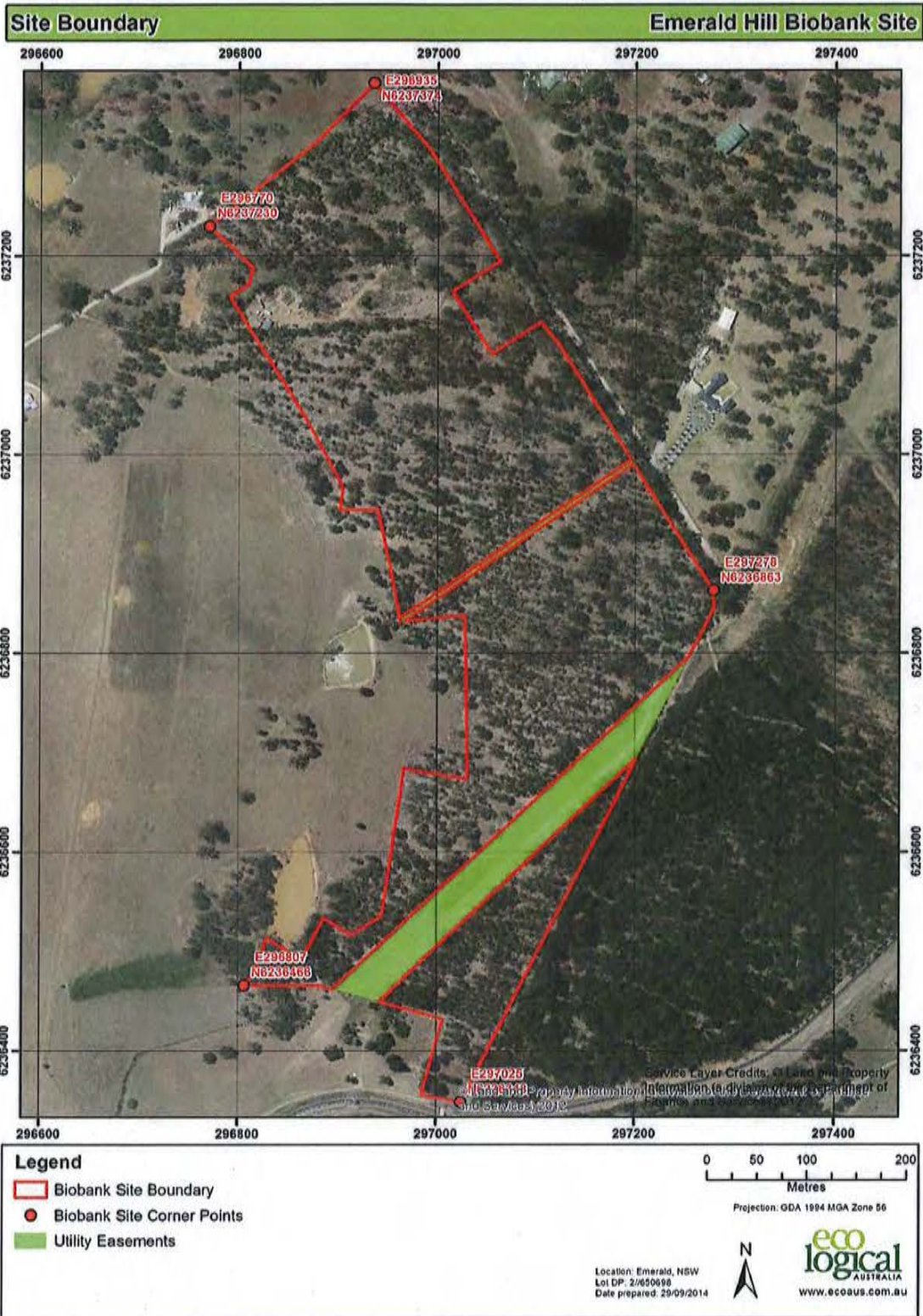


Figure 7: Emerald Hills biobank site (Emerald Hills Biobanking Agreement ID number 159)

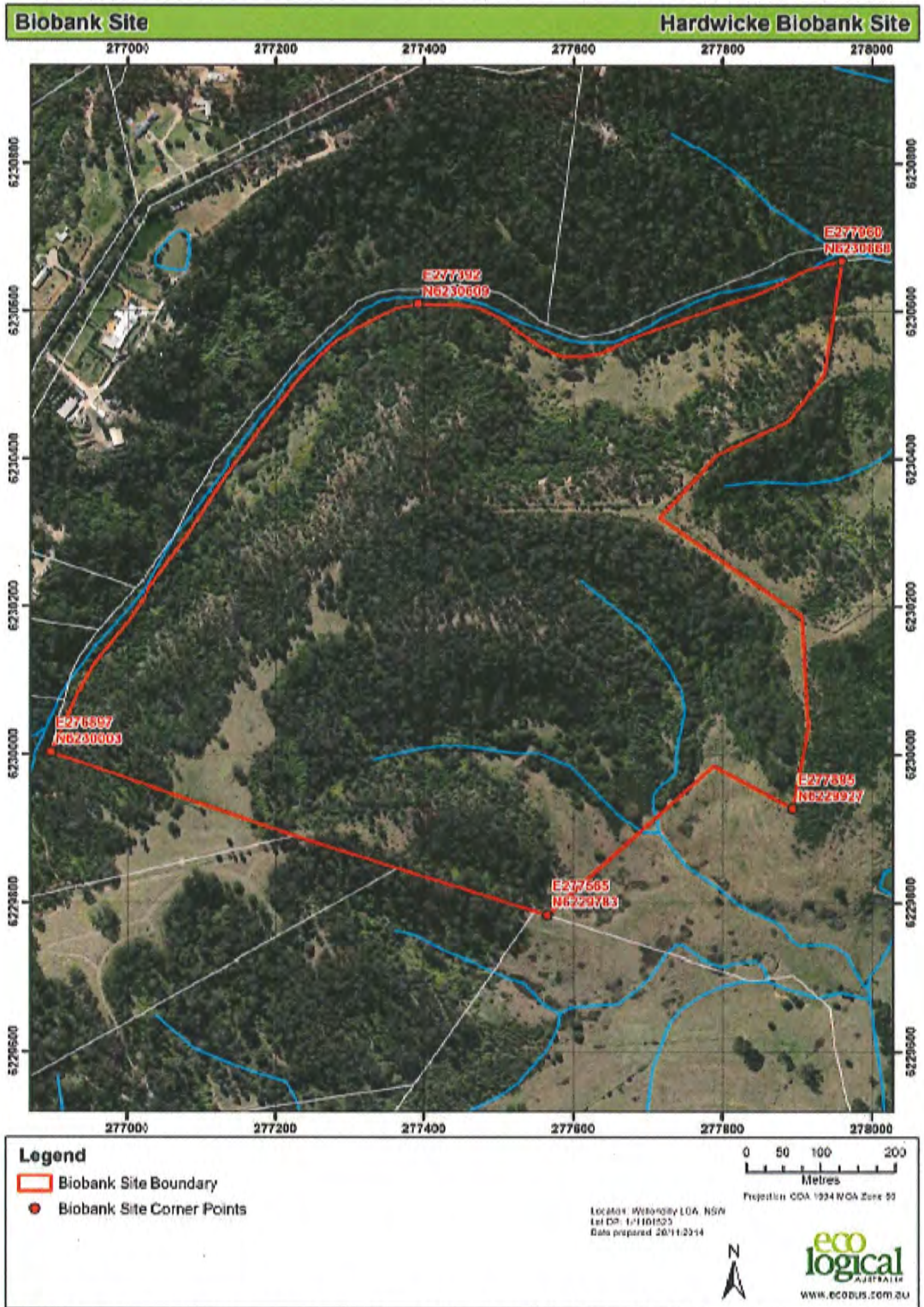


Figure 8: Proposed Hardwicke biobank site (Biobanking Agreement ID number 168)

1.5 The retained land

The biodiversity certification application includes 3.02 ha of retained land shown in blue in Figure 1 and described as part of Lot 10 DP 1173819. The retained lands comprise an infrastructure easement.

1.6 The approved re-zoning proposal

As detailed in section 1.2, the Emerald Hills Estate planning proposal was approved by the Minister for Planning on 19 September 2014 which rezoned the land R2 Low Density Residential, B2 Local Centre, E2 Environmental Conservation and SP2 Infrastructure under Camden LEP 2010 (Figure 9) to permit urban development.

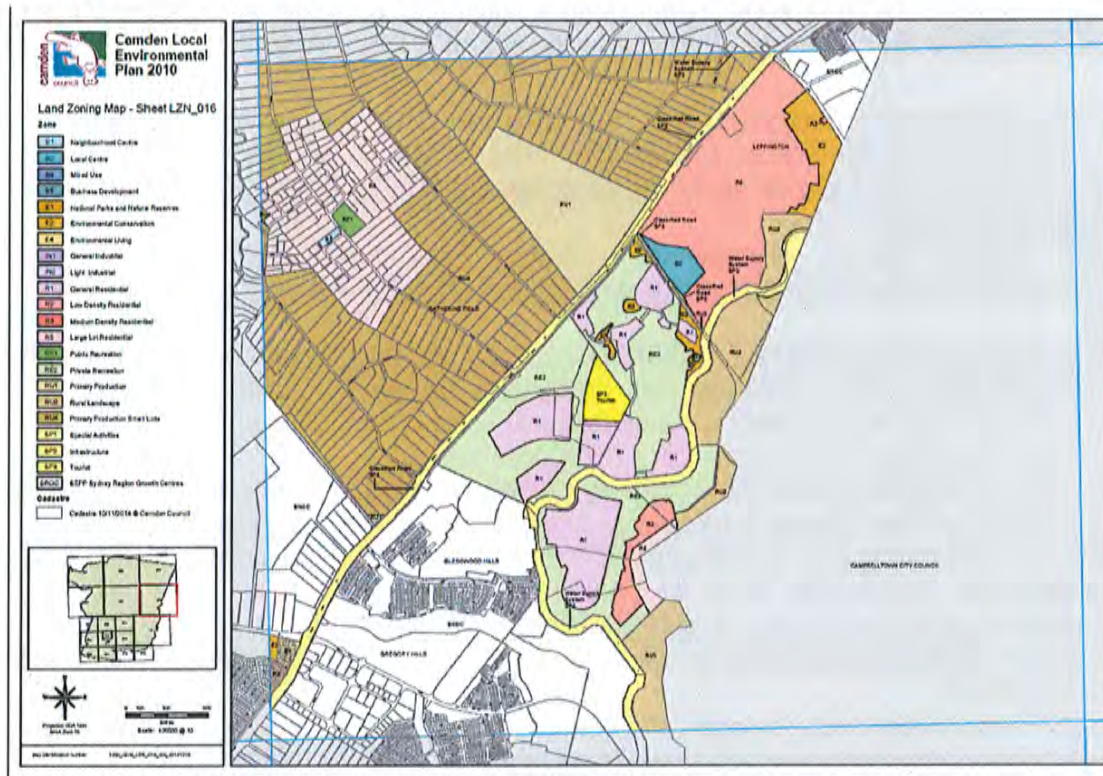


Figure 9: Approved rezoning map in Camden LEP 2010.

1.7 Documents provided by the applicant that were considered

1. Camden Council (2015) Biodiversity certification application dated 28 April 2015. Signed by Vince Capaldi, Director Community Infrastructure, Camden Council. (Attachment A1)
2. Camden Council (2015) Emerald Hills Estate Biodiversity Certification Application Submissions Report July 2015. (Attachment A4)
3. Capaldi, V (2015) Application Cover Letter dated 6 July 2015. Signed by Vince Capaldi, Director Community Infrastructure, Camden Council. (Attachment A1)
4. Capaldi, V (2015) Emerald Hills Biocertification, email to M Stewart, 19 August 2015. (Attachment A5)
5. D&AI Pty Limited (2015) Authorisation to Macarthur Developments and Camden Council dated 3 July 2015. Signed by D. Hazlett and A. Vitocco, D&AI Pty Ltd. (Attachment A7)

6. D&AI Pty Limited (2015) D&AI Pty Ltd Commitments to Biocertification of Property known as Emerald Hills Leppington dated 3 August 2015. Signed by D. Hazlett and A. Vitocco. (Attachment A5)
7. Eco Logical Australia (2015) Emerald Hills Estate Biodiversity Certification Assessment Report and Biocertification Strategy. Prepared for Camden Council 30 June 2015 (Attachment A2)
8. Eco Logical Australia (2015) Expert Report for Green and Golden Bell Frog (*Litoria aurea*) Emerald Hills Estate Biodiversity Certification Application. Prepared for Camden Council 31 March 2015. (Attachment A3)
9. Humphries, R (2015) Revised Figure 3 for Emerald Hills Biocertification Application, email to M Stewart, 1 September 2015. (Attachment A6)
10. Mackinnon, B (2015) Re: Revised Figure 3 for Emerald Hills Biocertification Application email to M Stewart 7 September 2015. (Attachment A6)

1.8 Other documents that were taken into consideration (see Attachment F to DOC15/389236 for copies of all documents noted in this section)

1. Australian Government Department of Environment (2015) Approval Emerald Hills Estate residential development, Leppington, New South Wales (EPBC 2013/6999) (<http://www.environment.gov.au/epbc/notices/assessments/2013/6999/2013-6999-approval-decision.pdf>).
2. Camden Council (2011) Development Control Plan 2011 C13 Emerald Hills (<http://www.camden.nsw.gov.au/development/plans-and-policies/development-control-plans/>).
3. Camden Council (2013) Emerald Hills Planning Proposal Amendment to Camden LEP 2010 Emerald Hills, 1100 – 1150 Camden Valley Way, Leppington (DOC15/386920).
4. Camden Council (2014) Ordinary Council Request to apply for Biodiversity Certification of Emerald Hills Estate 9 December 2014 (DOC15/386943).
5. Department of Planning and Environment (2014) Housing, Growth and Economics Section 59 Report (<http://leptracking.planning.nsw.gov.au/PublicDetails.aspx?Id=680>).
6. Department of Planning and Infrastructure (2012) Planning Proposal to rezone rural land at 'Emerald Hills', Leppington, for urban development (<http://leptracking.planning.nsw.gov.au/PublicDetails.aspx?Id=680>).
7. McKenna, P (2014) Emerald Hills rezoning, email to Susan Harrison, 17 February 2014 (DOC15/386951).
8. Office of Environment and Heritage (2014) BioBanking Assessment Methodology 2014 (<http://www.environment.nsw.gov.au/resources/biobanking/140661BBAM.pdf>).
9. Environment, Climate Change and Water (2011) Biodiversity Certification Assessment Methodology (<http://www.environment.nsw.gov.au/resources/biocertification/110170biocertassessmet h.pdf>).
10. Office of Environment and Heritage (2015) Biodiversity Certification Guide for Applicants (<http://www.environment.nsw.gov.au/resources/biocertification/150321-biocert-applicant-guide.pdf>).
11. Office of Environment and Heritage (2015) Biodiversity Certification Operational Manual (<http://www.environment.nsw.gov.au/resources/biocertification/150310-biocert-manual.pdf>).
12. Office of Environment and Heritage (2014) Draft Biodiversity Certification Guide to Applicants (DOC15/386954).
13. Office of Environment and Heritage (2013) letter to Camden Council 16 July 2013 (DOC15/386961).
14. Office of Environment and Heritage (2013) letter to Camden Council dated 28 November 2013 (DOC15/386964).

15. Office of Environment and Heritage (2014) letter to Camden Council dated 12 March 2014 (DOC15/386987).
16. Office of Environment and Heritage (2014) letter to Camden Council dated 3 September 2014 (DOC14/190081).
17. Office of Environment and Heritage (2015) letter to Camden Council dated 27 February 2015 (DOC15/21122).
18. Office of Environment and Heritage (2015) email to Camden Council dated 23 April 2015 (DOC15/106691).
19. Tozer M (2003) The native vegetation of the Cumberland Plain, western Sydney: systematic classification and field identification of communities. *Cunninghamia* 8(1): 1-75 (http://rbgsyd.nsw.gov.au/data/assets/pdf_file/0010/58924/Cun8Toz001.pdf).
20. Tozer MG, Turner K, Keith DA, Tindall D, Pennay C, Simpson C, Mackenzie B, Beukers P and Cox S (2010) Native vegetation of southeast NSW: a revised classification and map for the coast and eastern tablelands. *Cunninghamia* 11(3): 359-406 (https://www.rbgsyd.nsw.gov.au/data/assets/pdf_file/0014/106214/Cun113Toz359.pdf).

Part 2: Evaluation and recommendations

Matters considered

Biodiversity certification may only be conferred on land where the Minister makes a determination that the conferral of biodiversity certification will improve or maintain biodiversity values.

Section 126P(1) of the TSC Act states that:

“Biodiversity certification improves or maintains biodiversity values only if the Minister determines, on the basis of a biodiversity certification assessment, that the overall effect of biodiversity certification is to improve or maintain biodiversity values”.

This is evaluated in section 2.2 of this report. However, before the Minister makes his decision the Chief Executive must be satisfied with a number of matters. These are evaluated in section 2.1 of this report.

2.1 Matters for the Chief Executive to consider

This section evaluates the matters that are relevant for the Chief Executive to consider in order to be satisfied prior to making a recommendation to the Minister. These include proposed red flag variations (2.1.1), variations to the offset rules for using ecosystem credits (2.1.2), assessment of indirect impacts on biodiversity (2.1.3), certification of more appropriate local data (2.1.4), assessment of expert and expert report (2.1.5), and planning instrument conservation measures (2.1.6).

2.1.1 Red flag variation decisions under the methodology

Under BCAM, areas of land that are regarded as having high biodiversity conservation value are regarded as “red flag” areas. Red flag areas include areas of land which:

- contain an endangered ecological community (in moderate to good condition) listed under the TSC Act
- contain habitat for one or more threatened species identified in the Threatened Species Profile Database as unable to withstand further loss in the sub-region.

Where biodiversity certification is proposed to be conferred on land that is, or forms part of, a red flag area, biodiversity certification can only be considered to improve or maintain (as shown in the application for biodiversity certification) biodiversity values under Section 2.2 of BCAM if:

- a) *the conferral of biodiversity certification on land does not directly impact on biodiversity values in a red flag area that is on land where certification is conferred OR*
- b) *the conferral of biodiversity certification on land does directly impact on biodiversity values in a red flag area but the Director General is satisfied, having considered the criteria in section 2.4, that impacts on the red flag area may be offset in accordance with the rules and requirements set out in section 10 of the methodology AND*
- c) *the direct impacts on the biodiversity values of land to which biodiversity certification is conferred are offset in accordance with the rules and requirements set out in section 10 of the methodology AND*
- d) *the Director General is satisfied that any indirect impacts on the biodiversity values of land to which biodiversity certification is conferred are appropriately minimised in accordance with section 6 of the methodology”.*

The Emerald Hills Estate Biodiversity Certification Assessment Report and Biocertification Strategy prepared for Camden Council 30 June 2015, as amended (Report and Strategy; Table 11, Figure 10 and section 3.6) identifies a number of red flag areas in moderate to good condition in the proposed Biodiversity Certification Area. The vegetation type of all red flag areas is Shale Hills Woodland. The red flag areas total 27.32 ha, of which 8.92 ha, or 32.7 per cent, is proposed to be impacted. The remainder (18.40 ha) is within the proposed conservation area. The location of these areas is illustrated in Figure 10.

A further 15.96 ha of Shale Hills Woodland and 1.31 ha of RFEF occurs within the Biodiversity Certification Area but these areas are in ‘low’ condition and therefore do not meet the red flag definition or require consideration by the Chief Executive.

BCAM Section 2.4.1 - Feasibility of options to avoid impacts on red flag area(s)

Section 2.4.1 of BCAM states that:

“The Director General must be satisfied that the feasibility of options to avoid impacts on red flag areas has been considered in the application for biodiversity certification. An application for biodiversity certification can address this requirement by demonstrating that:

- (a) All reasonable measures have been taken to avoid adverse impacts on the red flag areas and reduce impacts of development on vegetation remaining within the biodiversity certification assessment area*
- (b) Appropriate conservation management arrangements cannot be established over the red flag area given its current ownership, status under a regional plan and zoning and the likely costs of future management”.*

With respect to criteria 2.4.1(a), the Report and Strategy describes the measures taken to avoid impact on each of the identified critically endangered ecological community red flag areas, which include:

- preparation of the Indicative Layout Plan (Figure 2) taking into account the site’s ecological and riparian values
- modification of the initial development footprint to avoid high quality critically endangered ecological community vegetation
- removal of 15 ‘forest lots’ that were previously located within the now conservation area
- design of roads and asset protection zones to reduce the potential impact of adverse edge effects from residential development

- high conservation value critically endangered ecological community remnants in good condition have been avoided wherever possible and will be protected on-site in the conservation area.

As detailed in section 1.2 of this report, a number of amendments were made to the planning proposal which resulted in avoidance of impacts on areas on biodiversity value and an increase in the conservation area.



Figure 10: Red flag vegetation impacted by development

With respect to criteria 2.4.1(b), the Report and Strategy argues that the majority of the site, which is located in the Camden LGA, was previously zoned RU2 Rural Landscape under

Camden LEP 2010. The objectives of this zone are focussed on facilitating agricultural land uses with some consideration given to maintaining areas of scenic value. In contrast, much of the land that surrounds the site has been rezoned for urban development either by Council or as part of the broader South West Growth Centre process. In this context, the opportunity for red flagged vegetation to be appropriately conserved would have been less likely to be pursued and effectively applied.

The areas of red flagged vegetation that are to be impacted are generally along the Camden Valley Way road frontage or immediately adjacent to the proposed conservation area. These areas have very high edge to area ratios, so conservation of these areas in the long term would require intensive resources for limited conservation gain. This will be exacerbated by the future urban development, the requirement to provide mandatory bushfire asset protection zones and the senescing of older trees leading to safety hazards.

Recommendation on feasibility of options to avoid and minimise

That the Chief Executive be satisfied in accordance with Section 2.4.1 of BCAM that the application for biodiversity certification has adequately considered the feasibility of options to avoid impacts on the critically endangered ecological community red flag areas because the application demonstrates that:

- a) all reasonable measures have been taken to avoid adverse impacts on the red flag areas and to reduce impacts of development on vegetation remaining within the biodiversity certification area
- b) appropriate conservation management arrangements cannot be established over the red flag areas given their current ownership, status under a regional plan and zoning, and the likely costs of future management.

BCAM Section 2.4.2 - Additional assessment criteria for vegetation types

BCAM 2.4.2.1 – Viability must be low or not viable

For a red flag variation to be approved, viability of the red flag area must be low or not viable. Section 2.4.2.1 of BCAM states:

“In making an assessment that the viability of biodiversity values in the red flag area is low or not viable, the Director General must be satisfied that one of the following factors applies:

- (a) The current or future uses of land surrounding the red flag area where biodiversity certification is to be conferred reduce its viability or make it unviable. Relatively small areas of native vegetation surrounded or largely surrounded by intense land uses such as urban development, can be unviable or have low viability because of disturbances from urbanisation, including edge effects.*
- (b) The size and connectedness of the vegetation in the red flag area where biodiversity certification is to be conferred to other vegetation is insufficient to maintain its viability. Relatively small areas of isolated native vegetation can be unviable or have low viability.*
- (c) The condition of native vegetation in the red flag area where biodiversity certification is to be conferred is substantially degraded, resulting in loss of or reduced viability. Native vegetation in degraded condition can be unviable or have low viability. ‘Degraded condition’ means substantially outside of benchmark for many of the vegetation conditions variables as listed in Table 1 of the methodology (s3.6.2), without the vegetation meeting the definition of low condition set out in section 2.3. Vegetation that is substantially outside of benchmark due to a recent disturbance such as fire, flood or prolonged drought is not considered degraded for the purposes of the methodology.*
- (d) The area of a vegetation types in a red flag area on land where biodiversity certification is conferred is minor relative to the area containing that vegetation type on land subject to proposed conservation measures”.*

Although only one of the above factors needs to apply, the Report and Strategy has addressed both criteria 2.4.2.1(a) and 2.4.2.1(d). In relation to criteria 2.4.2.1(a), the Report and Strategy states that the current use is cattle grazing, which has had a detrimental impact on native vegetation through underscrubbing, introduction of exotic plants via stock feeds, creation of stock paths, dams and informal roadways. The Report and Strategy also argues that in regard to future uses, if the stock were removed, the areas that had been subject to cattle grazing would likely become rapidly infested with African Olive as well as localised edge effects from surrounding urban development. This urban development is planned to increase, with the South West Growth Centre Precincts of East Leppington to the north, and Catherine Fields and Catherine Fields North to the west. Immediately to the south of the site is the Camden Lakeside golf course (Figure 4). Areas of narrow linear vegetation within the site, such as that which forms its western boundary along Camden Valley Way, are likely to experience a higher incidence of illegal dumping and other similar activities as urban development and vehicle movements along the upgraded Camden Valley Way increase. The Report and Strategy argues that, as a result of these impacts, it is considered that the viability of the smaller more isolated patches of red flagged vegetation are not viable under the current and future land use framework. These arguments are considered reasonable.

Criteria 2.4.2.1(b) and 2.4.2.1(c) have not been addressed, and do not need to be. In relation to criteria 2.4.2.1(d), the Report and Strategy argues that the area of vegetation to be removed is minor compared to the area of vegetation subject to proposed conservation measures. The majority of the largest patch of vegetation is to be retained (78 per cent), with some of the outer edge vegetation to be removed (22 per cent), to minimise edges and consolidate the area into a larger management unit. Also, the disturbed portion has been excised to achieve a more uniform management area that is better suited to the urban development context in which it is located. Furthermore, the future biobank site is adjacent (less than 30 metres) to a 60 ha remnant of the equivalent Shale Hills Woodland vegetation. This connectivity will further enhance the biodiversity attributes of the biobank site. These arguments are considered reasonable.

BCAM 2.4.2.2 – Contribution of red flag area to regional biodiversity values is low

Additionally, for a red flag variation to be approved, the contribution of the red flag area to regional biodiversity values must be low. Section 2.4.2.2 of BCAM states:

"The application for biodiversity certification must demonstrate to the satisfaction of the Director General that the red flag area on land proposed for biodiversity certification makes a low contribution to regional biodiversity values. In making an assessment that the contribution of the red flag area to regional biodiversity values is low, the Director General must consider the following factors for each vegetation type or critically endangered or endangered ecological community regarded as a red flag area:

- (a) Relative abundance: that the vegetation type or critically endangered or endangered ecological community comprising the red flag area is relatively abundant in the region*
- (b) Per cent remaining is high: that the per cent remaining of the vegetation type or critically endangered or endangered ecological community comprising the red flag area is relatively high in the region*
- (c) Per cent native vegetation (by area) remaining is high: that the per cent remaining of all native vegetation cover in the region is relatively high".*

In accordance with the BCAM, the Report and Strategy defines the 'region' as both the CMA subregion where the red flag area is located (in this case the Cumberland CMA subregion) and the adjoining subregions, including the Yengo, Wollemi, Sydney Cataract, Pittwater and Burratorang CMA subregions. The Cumberland CMA subregion spans both the Hawkesbury-Nepean and the Sydney Metro CMA areas.

In relation to criteria 2.4.2.2(a), the Report and Strategy states that there is 10,336 ha of 'Grey Box – Forest Red Gum grassy woodland' in the region. The Report compares the amount of the vegetation type to be lost to the total extent of the vegetation type, which is not relevant to this criteria. Despite this, it is considered that 10,366 ha of this vegetation type would be considered relatively abundant.

In relation to criteria 2.4.2.2(b), the Report and Strategy argues that for the 'Grey Box – Forest Red Gum grassy woodland' vegetation type, data on the per cent remaining varies. If only good condition vegetation is counted, then only 10 per cent remains. If lower condition vegetation is included ('scattered trees'), then the figure is 27 per cent remaining. The Report and Strategy is silent on whether this would be considered a high per cent remaining. It is considered that neither of these figures could lead to the conclusion that the per cent remaining is high.

In relation to criteria 2.4.2.2(c), the Report and Strategy states that in total, 76 per cent of the region contains native vegetation cover. Based on this figure, it is agreed that the per cent of native vegetation remaining is high.

Recommendation on additional assessment criteria for vegetation types

That the Chief Executive be satisfied in accordance with Section 2.4.2.1 of BCAM that:

- (a) The current or future uses of land surrounding the red flag area where biodiversity certification is to be conferred reduce its viability or make it unviable. Relatively small areas of native vegetation surrounded or largely surrounded by intense land uses such as urban development, can be unviable or have low viability because of disturbances from urbanisation, including edge effects.
- (d) The area of a vegetation type in a red flag area on land where biodiversity certification is conferred is minor relative to the area containing that vegetation type on land subject to proposed conservation measures.

That the Chief Executive be satisfied in accordance with Section 2.4.2.2 of BCAM that the red flag area on land proposed for biodiversity certification makes a low contribution to regional biodiversity values on the basis of consideration given to the following factors for each vegetation type or critically endangered or endangered ecological community regarded as a red flag area:

- (a) relative abundance: that the vegetation type comprising the red flag area is relatively abundant in the region,
- (c) per cent of native vegetation (by area) remaining is high: that the per cent remaining of all native vegetation cover in the region is relatively high.

In regard to 2.4.2.2(b), the per cent remaining of the vegetation type cannot be considered relatively high in the region. Despite this, it is recommended that the Chief Executive can be satisfied that the red flag area makes a low contribution to regional biodiversity values.

Offsetting impacts on the red flag area

Given the assessment against all the criteria in relation to Sections 2.4.1 and 2.4.2 of BCAM, it can be concluded that impacts on the red flag area may be offset in accordance with the rules and requirements set out in Section 10 of BCAM.

Recommendations on offsetting impacts on the red flag area

That the Chief Executive, having considered the criteria in Section 2.4 of BCAM (as discussed above), be satisfied under Section 2.2b of the BCAM that impacts on the critically endangered ecological community red flag areas may be offset in accordance with the rules and requirements set out in Section 10 of BCAM.

BCAM Section 2.4.3 - Additional assessment criteria for threatened species that cannot withstand further loss

BCAM 2.4.3.1 – Viability must be low or not viable

For a red flag variation to be approved, viability of the red flag area must be low or not viable. Section 2.4.3.1 of BCAM states that:

"In making an assessment that the viability of biodiversity values in the red flag area is low or not viable, the Director General must be satisfied that one of the following factors applies:

- (a) The current or future uses of land surrounding the red flag area reduce its viability or make it unviable. Relatively small areas of threatened species habitat surrounded or largely surrounded by intense land uses, such as urban development, can be unviable or have low viability because of disturbances from urbanisation, including edge effects.*
- (b) The size and connectedness of vegetation in the red flag area to other native vegetation is insufficient to maintain its viability. Relatively small areas of isolated threatened species habitat can be unviable or have low viability.*
- (c) The condition of native vegetation in the red flag area is substantially degraded resulting in loss of or reduced viability. Native vegetation in degraded condition can be unviable or have low viability. 'Degraded condition' means substantially outside benchmark for many of the vegetation condition variables as listed in Table 1 of the methodology (s.3.6.2), without the vegetation meeting the definition of low condition set out in section 2.3. Vegetation that is substantially outside benchmark due to a recent disturbance such as a fire, flood or prolonged drought is not considered degraded for the purposes of the methodology.*
- (d) The area of a red flag area containing a threatened species on land where biodiversity certification is conferred is minor relative to the area containing that threatened species on land subject to proposed conservation measures".*

These assessment criteria are not relevant as there were no threatened species found in the red flag areas on the Emerald Hills Estate site.

BCAM 2.4.3.2 - Contribution to regional biodiversity value is low

Additionally, for a red flag variation to be approved in relation to threatened species, the contribution of the red flag area to regional biodiversity values must be low.

Section 2.4.3.2 of BCAM states that:

"In making an assessment that the contribution of the red flag area to regional biodiversity values for the species is low, the Director General must be satisfied that the relative abundance of the individual threatened species, threatened population or threatened species habitat on the land proposed for biodiversity certification is low relative to its abundance in the region.

'Region' for the purposes of section 2.4.3.2 means the CMA subregion in which the red flag area is located and any adjoining CMA subregions."

This criteria does not need to be addressed as there are no threatened species within the red flag areas on the Emerald Hills Estate site.

Recommendation on additional assessment criteria for threatened species that cannot withstand additional loss

No threatened species or endangered populations were located in the red flag areas. Therefore, a recommendation under this section is not required.

BCAM Section 2.4.4 - Additional assessment criteria for areas with regional or state biodiversity conservation significance

Section 2.4.4 of BCAM states that:

“Where the red flag area has regional or state biodiversity conservation significance as defined in section 2.3 of the methodology, the application for biodiversity certification must demonstrate that conferring biodiversity certification on the red flag area:

- a) will not substantially reduce the width of a riparian buffer with regional or state biodiversity significance, or*
- b) will not substantially impact on the ecosystem functioning of a state or regional biodiversity link, this includes considering whether the impacts of conferring biodiversity certification will substantially reduce the migration, colonisation and interbreeding of plants and animals between two or more larger areas of habitat, and*
- c) will not significantly impact on the water quality of a major river, minor river, major creek, minor creek or a listed SEPP 14 wetland.”*

These criteria do not need to be addressed as there are no areas on the Emerald Hills Estate site identified as having regional or state biodiversity conservation significance, as defined under section 2.3 of BCAM.

Recommendation on additional assessment criteria for areas with regional or state biodiversity conservation significance

A recommendation under this section is not required as there are no areas with regional or state biodiversity conservation significance on the Emerald Hills Estate site.

2.1.2 Offset rules in Section 10 of BCAM

BCAM Section 10.2.1 - Variation of the offset rules for using ecosystem credits generated for biodiversity certification

In accordance with Section 10 of BCAM, credits of HN529 and ME019 (both of which are ‘Grey Box – Forest Red Gum grassy woodland on shale’) can be traded for each other, as they occur in adjoining Catchment Management Authority (CMA) subregions within the same Interim Biogeographic Regionalisation for Australia (IBRA) Region.

The shortfall of 179 credits of HN529 and ME019 are proposed to be offset by the purchase and retirement of credits from the proposed Hardwicke biobank site.

To address the shortfall of 23 credits for the HN526 (‘Forest Red Gum – Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain’), the Report and Strategy requests a variation in the offset trading rules, such that impacts to HN526 are offset using credits of HN529.

In accordance with BCAM, before varying the offset rules for using ecosystem credits, the Director General must be satisfied as to the matters set out below:

A. *Firstly, before varying the offset rules for using ecosystem credits, the Director General must be satisfied that:*

(a) all reasonable steps have been taken to secure conservation measures that generate credits that match the credit profile specified for ecosystem credits required for biodiversity certification in section 10.1 of the methodology

OR

(b) the cost of securing a conservation measure capable of generating credits to match the credit profile specified for ecosystem credits required for biodiversity certification in section 10.1 of the methodology is disproportionate to the overall cost of the conservation measures identified in the application for biodiversity certification

AND

(c) the list of threatened species predicted to occur at the offset site is not significantly different to the list of threatened species that are assessed on land where biodiversity certification is proposed when assessed in accordance with section 4.2 of the methodology.

In relation to point a), the BCAM states that applicants should in the first instance attempt to generate credits from conservation measures within the biodiversity certification assessment area. The Report and Strategy states that there is only one patch of 'Forest Red Gum – Rough-barked Apple grassy woodland' on-site (Figure 5) and it was not considered a priority for retention, given its small size (1.31 ha), isolation, and level of degradation. Ongoing retention of this patch would be difficult given edge effects. The priority has been for the retention of the largest, most resilient and highest conservation vegetation onsite. This argument is considered reasonable.

In addressing point c), the Report and Strategy compares the list of threatened species predicted to occur in both vegetation types in Table 17 of the Report and Strategy, and notes that the species linked to these vegetation types are exactly the same.

Therefore, criteria a) and c) above are satisfied.

The Report and Strategy also notes that the 'Grey Box – Forest Red Gum grassy woodland on shale' is of higher conservation significance than the 'Forest Red Gum – Rough-barked Apple grassy woodland'.

In accordance with BCAM, the Director General must also be satisfied as to following matters:

B. *Secondly, that the alternate ecosystem credits are generated from conservation measures:*

a) located on land within the same IBRA region as the land proposed for biodiversity certification, regardless of the CMA subregions identified in attribute 1,

AND

(b) on land containing a vegetation type of the same vegetation class as the vegetation type specified in attribute 2 of the credit required for the land proposed for biodiversity certification as set out in section 10.1 of the methodology,

OR

(c) if paragraph (b) cannot be complied with, on land containing a vegetation type from the same vegetation formation as the vegetation type specified in attribute 3 of the credit required for the land proposed for biodiversity certification as set out in section 10.1 of the methodology.

The Report and Strategy states that both the land proposed for biodiversity certification and the land proposed for conservation measures are within the Sydney Basin IBRA, and both

are in the same vegetation formation, Grassy Woodlands. Therefore, criteria a) and c) are satisfied.

Recommendations on the variation of the offset rules for using ecosystem credits generated for biodiversity certification

That the Chief Executive be satisfied that:

1. In accordance with Section 10.2.1 of the BCAM that the matters set out in A and B are satisfied to allow a variation of the offset rules because:
 - A. Firstly, before varying the offset rules for using ecosystem credits:
 - a) all reasonable steps have been taken to secure conservation measures that generate credits that match the credit profile specified for ecosystem credits required for biodiversity certification in Section 10.1 of the methodology
 - AND
 - c) the list of threatened species predicted to occur at the offset site is not significantly different to the list of threatened species that are assessed on land where biodiversity certification is proposed when assessed in accordance with Section 4.2 of the methodology.
 - B. Secondly, in order to approve a variation of the offset rule in Section 10.2, the alternate ecosystem credits are generated from conservation measures:
 - a) located on land within the same IBRA region as the land proposed for biodiversity certification, regardless of the CMA subregions identified in attribute 1
 - AND
 - c) on land containing a vegetation type from the same vegetation formation as the vegetation type specified in attribute 3 of the credit required for the land proposed for biodiversity certification as set out in Section 10.1 of the methodology.
2. That the Chief Executive approve the variation of the offset rules set out in section 10.2 of BCAM.

2.1.3 Indirect impact decisions under the Methodology

Section 2.2d) of BCAM requires that *"the Director General is satisfied that any indirect impacts on the biodiversity values of land to which biodiversity certification is conferred are appropriately minimised in accordance with section 6 of the methodology"*.

Section 6 of BCAM states that:

"Where the application for biodiversity certification is also subject to a strategic assessment under the EPBC Act, the assessment of indirect impacts must include determining whether there will be any significant indirect impacts on the biodiversity values of World Heritage properties, places of National Heritage, Ramsar wetlands of international importance, or migratory birds in accordance with section 5 of the methodology."

The application for biodiversity certification must address to the satisfaction of the Director General, how the proposed ownership, management, zoning and development controls of the land proposed for biodiversity certification is intended to mitigate any indirect impacts on biodiversity values.

Where a proposed conservation measure is used to protect land that is a red flag area as defined in section 2.3, the area of the proposed conservation measure must include a buffer

area to mitigate any negative indirect impacts from development following the conferral of biodiversity certification. The buffer area may be secured via a conservation measure and used to offset the impacts of biodiversity certification, or it may be a retained area in the biodiversity certification assessment area. The Director General must be satisfied that the size of the buffer area is appropriate to mitigate any negative indirect impacts from development following the conferral of biodiversity certification."

The application for biodiversity certification is not subject to a strategic assessment under the EPBC Act by the Australian Government Department of the Environment. However, it should be noted that the development of the Emerald Hills Estate was declared a controlled action under the EPBC Act in October 2013 by the Australian Government Department of Environment. An approval for the development (EPBC 2013/6999) under sections 130(1) and 133 of the EPBC Act was granted on 3 August 2015.

Section 3.7 of the Report and Strategy addresses indirect impacts. It states that all impacts, direct and indirect, within the biodiversity certification assessment area (Figure 1) have been considered to be completely contained within the area to be biodiversity certified, "that is the development area includes all urban development areas and associated roads, stormwater management structures, infrastructure and features such as Asset Protection Zones (APZs) and other impacts within the land identified for development".

In regard to zoning, the proposed Biodiversity Certification Area is zoned R2 Low Density Residential, B2 Local Centre, and SP2 Infrastructure and the conservation land is zoned E2 Environmental Conservation under the Camden LEP 2010 (see Section 1.6 and Figure 9). During the rezoning process, OEH supported the application of the E2 zone to the conservation lands as this zone permits only limited uses that are compatible with the high conservation values present and provides the highest level of zoning protection outside of the reserve system (see section 1.2).

In regard to development controls, the Report and Strategy advises that the Camden Development Control Plan (DCP) Part C13 'Emerald Hills', which has been adopted by Council, "will assist in mitigating any indirect impacts that may result from the biodiversity certification of the land". The Report and Strategy also states that the DCP will affect biodiversity conservation outcomes both within the biodiversity certified and conservation lands by guiding development outcomes including subdivision design, large lot development, vegetation conservation and stormwater management. Under DCP C13.2, the subdivision pattern will follow the indicative master plan, which is the same the Indicative Layout Plan in Figure 2.

In addition, the Report and Strategy indicates that a Conservation Management Plan (CMP) will be prepared, which will further guide activities within the site during and following the development phase. In particular, it is proposed that the CMP will address and influence both direct and indirect impacts within the site for pre-clearing vegetation survey procedures, vegetation clearance procedures, injured animal responses, stop work incidents and procedures, erosion and sediment control, topsoil management and weed management.

In relation to ownership and management, the current and future developers and owners of the land proposed for biodiversity certification will be required to comply with the LEP, DCP and CMP requirements relating to the minimising and mitigating of any indirect impacts.

The Report and Strategy notes that there are other indirect impacts that may arise as a result of the management practices within the transmission easement, as it traverses the proposed conservation area (Figure 1). However, the Report and Strategy states that as these areas are retained land and not part of the biodiversity certification area these impacts are not a component of this assessment. Retained land remains subject to standard assessment and approval processes.

In regard to the buffer area requirements of BCAM, the proposed Emerald Hills Biobanking Agreement ID number 159 is the conservation measure used to protect a red flag area. However, the Report and Strategy does not address the requirement that the buffer area be secured via a conservation measure or be a retained area in the biodiversity certification assessment area.

As shown in the Indicative Layout Plan (Figure 2) and Figure C82 in the DCP, there will be perimeter roads and drainage basins to act as buffers between the land proposed for biodiversity certification and the conservation land. The Report and Strategy indicates that the interface between conservation lands and surrounding development will be fronted by 2.4 kilometres of roadways and drainage basins, or 87.8 per cent of its total length. The perimeter roads will also contain the APZ, which is required to have an indicative width of 15 metres under section 13.10 of the DCP. Furthermore, preliminary plans for the Emerald Hills Estate indicate that the perimeter roads adjoining the conservation lands will be slightly elevated and separated by sympathetic retaining walls at the road reserve boundary. As a result, the number of created parcels abutting the conservation land will be minimised, which will discourage private property encroachments and minimise indirect impacts such as rubbish dumping following occupation by future residents.

In addition, the Emerald Hills Biobanking Agreement ID number 159 contains a number of management actions, including the erection of new fencing and the maintenance of existing fencing between the conservation land and the land proposed for biodiversity certification, as well as actions related to signage, weed control, management of human disturbance, revegetation and erosion control. The agreement also contains a specific requirement that landscape plantings on the residential development side of the fence must be provided to limit human access/disturbance at the cost of the Emerald Hills Estate developer.

In considering the above, OEH has formed the view that the perimeter road, basins and APZ, coupled with the other relevant DCP, CMP and biobanking agreement requirements, will form a buffer to the conservation lands and will provide an appropriately sized buffer area to mitigate any negative indirect impacts from development following conferral of biodiversity certification.

It should be noted that there are three small areas of land proposed for biodiversity certification land not subject to perimeter road buffers as follows:

- A residential lot between the perimeter road and conservation land (Figure 2). The DCP requires a 15 metre wide APZ to be located within the lot adjoining the conservation land. In addition, the Emerald Hills biobanking agreement requires the erection of a fence along the boundary with conservation area. OEH considers that the APZ, coupled with the other relevant DCP, CMP and biobanking agreement requirements, will provide an appropriately sized buffer to mitigate any negative indirect impacts from development following conferral of biodiversity certification.
- A residential lot along the northern boundary adjoining the conservation land. During the rezoning process it was envisaged that the conservation land would remain in private ownership, therefore a residential lot was incorporated to permit the construction of a dwelling with an APZ, which is required to be 15 metres under the DCP. Following the retirement of all the credits, the biobank site will likely be on sold with the residential lot and will be managed in accordance with the biobanking agreement, which includes the erection of a new fence on the boundary with the conservation area. OEH considers that the APZ, coupled with the other relevant DCP, CMP and biobanking agreement requirements, will provide an appropriately sized buffer to mitigate any negative indirect impacts from development following conferral of biodiversity certification.

- A 4.7 metre wide easement for a waste water reticulation main within the conservation area to permit a 225 millimetre main to be installed by the developer (see Figure 2). The width of the easement, coupled with the DCP and CMP requirements, will mitigate the potential for impacts to travel off the easement site and will provide a buffer to the conservation area. OEH considers the size of the buffer area is appropriate to mitigate any negative indirect impacts from development following the conferral of biodiversity certification.

As discussed above, the Report and Strategy does not address the BCAM requirement "*The buffer area may be secured via a conservation measure and used to offset the impacts of biodiversity certification, or it may be a retained area in the biodiversity certification assessment area*". As detailed above, the buffer area to the conservation area is located within the land proposed for biodiversity certification.

In this regard, OEH has assessed the buffer area and concluded that the buffer area is appropriate and adequate to mitigate any negative impacts from development following conferral of biodiversity certification and that it will be adequately secured by the DCP (which includes the Indicative Layout Plan in Figure 2), CMP and biobanking agreement requirements. Consequently, a recommendation to the Minister for a minor variation to the BCAM has been made in section 2.2 of this Recommendation Report to delete the requirement that "*The buffer area may be secured via a conservation measure and used to offset the impacts of biodiversity certification, or it may be a retained area in the biodiversity certification assessment area*", from Section 6 of BCAM.

OEH considers that in this particular case strict adherence with the BCAM in terms of securing the buffer via a conservation measure or in a retained area is unnecessary and unreasonable. In addition, the variation is minor and will still ensure a buffer area to mitigate any negative indirect impacts from development following the conferral of biodiversity certification and would result in a determination that the overall effect of biodiversity certification is to improve or maintain biodiversity values.

OEH has also formed the view that the Chief Executive can be satisfied that the size of the buffer area is appropriate to mitigate any negative indirect impacts from development following the conferral of biodiversity certification.

Recommendation on indirect impacts

That the Chief Executive be satisfied that:

- (a) the application is not subject to a strategic assessment under the EPBC Act by the Australian Government Department of the Environment
- (b) the application addresses how the proposed ownership, management, zoning and development controls of the land proposed for biodiversity certification is intended to mitigate any indirect impacts on biodiversity values
- (c) the buffer area has been adequately secured without the requirement that it be secured via a conservation measure or in a retained area
- (d) the size of the buffer area is appropriate to mitigate any negative indirect impacts from development following the conferral of biodiversity certification.

It recommended that the Chief Executive support the recommendation to the Minister for a variation to the BCAM to delete the requirement that "*The buffer area may be secured via a conservation measure and used to offset the impacts of biodiversity certification, or it may be a retained area in the biodiversity certification assessment area*" from Section 6 of the BCAM.

It is also recommended that the Chief Executive be satisfied under Section 2.2d) of BCAM that any indirect impacts on biodiversity values of land proposed for biodiversity certification

are appropriately minimised in accordance with Section 6 of BCAM, as proposed to be varied by the Minister.

2.1.4 Certification of local data under Section 3.4 of BCAM

Section 3.4 of BCAM states that:

“The Director General may certify that more appropriate local data can be used instead of the data in the Vegetation Types Database, Vegetation Benchmarks Database and the Threatened Species Profile Database. Local data may be used if the Director General is of the opinion that the data more accurately reflects local environmental conditions. In certifying the use of local data, the Director General must provide reasons for this opinion.

Benchmark data that more accurately reflect the local environmental conditions for a vegetation type may be collected from local reference sites, or obtained from relevant published sources using the procedures set out in Appendix 2.

The certified local data can then be used in applying the methodology in accordance with any procedures outlined in the Biodiversity Certification Operational Manual.”

This is not applicable as there was no request for the use of local data.

Recommendation on certification of local data

A recommendation under this section is not required as there was no request for the use of local data.

2.1.5 Assessment of expert and expert report

Section 4.5 of BCAM states that:

“An expert report may be obtained instead of undertaking a threatened species survey. An expert report must only be prepared by an expert. An expert is a person who is accredited by the Director General under section 142B(1)(b) of the TSC Act, or if arrangements for accreditation under section 142B(1)(b) are not in place, a person who, in the opinion of the Director General, possesses specialised knowledge based on training, study or experience to provide expert opinion in relation to the biodiversity values to which an expert report relates.”

“An expert report prepared for the purposes of this section must be prepared in accordance with any guidance provided in the Biodiversity Certification Operational Manual. The Director General may decide not to accept an expert report instead of a survey.”

Expert qualifications

An expert report for the Green and Golden Bell Frog (*Litoria aurea*), prepared by Ross Wellington, has been submitted as part of the biodiversity certification application.

Mr Wellington is an ecologist/zoologist with over 30 years' experience in wildlife and environmental investigations. His key area of expertise is in herpetofauna. Mr Wellington was employed by OEH for seven years (1998-2005) during which time he coordinated the recovery program and prepared the National Recovery Plan for the Green and Golden Bell Frog. While at OEH he also provided advice on all major developments in NSW where Green and Golden Bell Frog may have been impacted. The Expert Report lists 22 projects that

Ross has prepared advice on, that dealt with impacts on the Green and Golden Bell Frog. It is evident that Ross possesses specialised knowledge, based on training and many years of experience, such that he is qualified to provide expert opinion in relation to the Green and Golden Bell Frog.

Acceptance of an expert report instead of a survey

On site surveys were conducted for the Green and Golden Bell Frog on 21 February 2013 in accordance with survey guidelines for the species. The Report and Strategy does not explain why it was thought necessary that an expert report should be prepared for the species. However it is presumed that given that there are a number of dams and drainage depressions that provide potential habitat on-site for the Green and Golden Bell Frog, the expert report was prepared to remove all doubt that the species may occur on-site and was potentially missed during the one night of survey.

The expert report concludes that the Green and Golden Bell Frog does not occur within the Emerald Hills Estate site because:

- diurnal and nocturnal surveys, undertaken in accordance with the relevant survey guidelines, failed to locate the species
- over-wintering habitat is absent from the site
- Green and Golden Bell Frog is not considered to be extant in the south west of Sydney
- the Plague Minnow (*Gambusia holbrooki*) was found in most of the areas of potential habitat on site. This species predated on tadpoles of Green and Golden Bell Frog and its presence is a recognised Key Threatening Process for the Green and Golden Bell Frog.

These arguments are considered reasonable. It is considered very likely that the species does not occur on-site given the reasons listed above, and given that surveys in the correct season and under suitable climatic conditions, failed to locate the species on site.

Recommendations on experts and expert reports

That the Chief Executive be satisfied that under Section 4.5 of the BCAM that:

- (a) Ross Wellington is appropriately qualified to be considered an expert in the Green and Golden Bell Frog.
- (b) The expert report and findings within can be accepted in place of targeted survey and applied in the methodology.

2.1.6 Planning instrument conservation measures

Section 8.1.3 of BCAM states that:

“Conservation measures applied through a planning instrument are known as planning instrument conservation measures. Planning instrument conservation measures can be used to create ecosystem credits and species credits to offset the impacts of the conferral of biodiversity certification on the land.

Planning instrument conservation measures are only available to be used to offset the impacts of the proposed biodiversity certification where:

- a) the land proposed as a planning instrument conservation measure adjoins or is proximate to the land proposed for biodiversity certification OR*

- b) *the land proposed as a planning instrument conservation measure is within the biodiversity certification assessment area AND*
- c) *the land proposed as a planning instrument conservation measure is identified in the application for biodiversity certification AND*
- d) *the land proposed as a planning instrument conservation measure is not subject to any other proposed conservation measure in the application for biodiversity certification AND*
- e) *the relevant planning instrument is in place at the time the application for biodiversity certification is made OR*
- f) *the application for biodiversity certification includes written advice from the Minister for Planning, agreeing to support the proposed changes to the relevant planning instrument, within a reasonable timeframe from the date the application for biodiversity certification is made.*

Note: Where the planning instrument conservation measure is not in place at the time biodiversity certification is conferred, the Minister may, in approving the conservation measure, specify a time within which the conservation measure must be implemented. If the conservation measure is not implemented within that timeframe, the Minister may suspend certification until the conservation measure is implemented.

In addition, the following new provisions must be contained in the planning instrument applying to the land that is proposed as a planning instrument conservation measure:

- a) *the land must be zoned E2 or E3 (or, for State Forest, RU3) or another suitable zone provided that the uses permitted on the site are unlikely to compromise the biodiversity values of the land AND*
- b) *a local provision setting out the development controls that will apply to protect the native vegetation and any other habitat for native species on the land to the satisfaction of the Director General.*

The provisions in the planning instrument relating to g) and h) will be considered 'new' if:

- *they are a direct result of the preparation of the application for biodiversity certification, or*
- *the Director General is satisfied that significant upgrades have occurred or are planned to occur to existing environmental protection zoning and development controls in order to achieve improvement in existing biodiversity values as a direct result of the preparation of the application for biodiversity certification.*

In determining what constitutes a 'significant upgrading' to existing zoning and development control provisions the Director General may consider:

- a) *the objectives of the proposed zone*
- b) *the permissible uses in the proposed zone*
- c) *the subdivision design, including configuration of lots, minimum lot sizes and/or options for lot averaging and lot clustering*
- d) *the development controls that will apply to future development within the zone*
- e) *any other matter the Director General considers relevant."*

No planning instrument conservation measures are proposed. Therefore, the assessment criteria under Section 8.1.3 of BCAM do not need to be addressed.

Recommendation on planning instrument conservation measures

A recommendation under this section is not required as no planning instrument conservation measures are proposed.

2.2 Matters for the Minister to consider

2.2.1 Application for a minor variation under s126Q of the TSC Act

Section 126Q of the TSC Act states that:

- (1) *The Minister may, for the purpose of a biodiversity certification assessment, permit a variation to be made to the biodiversity certification assessment methodology if the Minister is of the opinion that:
 - (a) the variation to the methodology is minor, and
 - (b) the variation would result in a determination that the overall effect of biodiversity certification is to improve or maintain biodiversity values, and
 - (c) strict adherence to the methodology is in the particular case unreasonable and unnecessary.*
- (2) *A variation to the biodiversity certification assessment methodology is not to be permitted if the Minister is of the opinion that the variation is inconsistent with the classification of a plant species as a threatened species or as a component of an endangered ecological community.*
- (3) *The Minister must cause his or her reasons for permitting a variation to be made to the biodiversity certification assessment methodology to be published on the website of the Department.*
- (4) *The regulations may make further provision for the circumstances in which the Minister may permit a variation to be made to the biodiversity certification assessment methodology under this section.*

Section 6 Assessment of indirect impacts on biodiversity values of Biodiversity Certification Assessment Methodology (BCAM) includes:

"Where a proposed conservation measure is used to protect land that is a red flag area as defined in section 2.3, the area of the proposed conservation measure must include a buffer area to mitigate any negative indirect impacts from development following the conferral of biodiversity certification. The buffer area may be secured via a conservation measure and used to offset the impacts of biodiversity certification, or it may be a retained area in the biodiversity certification assessment area. The Director General must be satisfied that the size of the buffer area is appropriate to mitigate any negative indirect impacts from development following the conferral of biodiversity certification."

The Emerald Hills Biobanking Agreement ID number 159 is the conservation measure used to protect the red flag area. However, the Emerald Hills Estate Biodiversity Certification Assessment Report and Biocertification Strategy prepared for Camden Council 30 June 2015, as amended (Report and Strategy) does not address the requirement that *"The buffer area may be secured via a conservation measure and used to offset the impacts of biodiversity certification, or it may be a retained area in the biodiversity certification assessment area"*.

As discussed in section 2.1.3 of this Recommendation Report, the buffer area is located within the land proposed for biodiversity certification. OEH has assessed the buffer area and concluded that the buffer area is appropriate to mitigate any negative impacts from development following conferral of biodiversity certification and that it will be adequately secured via the DCP, which includes the Indicative Layout Plan, CMP and the biobanking agreement requirements. In this particular case, OEH has formed the view that strict adherence with the requirements of BCAM that the buffer area be secured via a conservation measure in a retained area is unreasonable and unnecessary. In addition, the variation is

minor and would result in a determination that the overall effect of biodiversity certification is to improve or maintain biodiversity values.

OEH has also formed the view that the Chief Executive can be satisfied that the size of the buffer area is appropriate to mitigate any negative indirect impacts from development following the conferral of biodiversity certification.

A minor variation to Section 6 Assessment of indirect impacts on biodiversity values of BCAM is sought to delete the requirement that:

“The buffer area may be secured via a conservation measure and used to offset the impacts of biodiversity certification, or it may be a retained area in the biodiversity certification assessment area.”

Recommendation on application for a minor variation

It is recommended that the Minister form the view and be satisfied that:

- a) the variation to the BCAM is minor, and
- b) the variation will result in a determination that the overall effect of biodiversity certification is to improve or maintain biodiversity values, and
- c) strict adherence to the BCAM is in this particular case unreasonable and unnecessary.

2.2.2 Biodiversity certification to be conferred only if biodiversity values are improved or maintained

Section 126P of the TSC Act states that:

- (1) For the purposes of this Part, biodiversity certification improves or maintains biodiversity values only if the Minister determines, on the basis of a biodiversity certification assessment, that the overall effect of biodiversity certification is to improve or maintain biodiversity values.*
- (2) A biodiversity certification assessment is an assessment of the effect of biodiversity certification on biodiversity values.*
- (3) A biodiversity certification assessment is to be made in accordance with the biodiversity certification assessment methodology, and not otherwise.*
- (4) This section applies to biodiversity certification as extended or modified under this Part in the same way as it applies to the conferral of biodiversity certification.*

Improve or maintain biodiversity values

Section 2 of BCAM defines the circumstances in which biodiversity values can be considered to improve or maintain biodiversity values:

“Biodiversity values are to be regarded as being improved or maintained (as shown in the application for biodiversity certification) if:

- a) the conferral of biodiversity certification on land does not directly impact on biodiversity values in a red flag area that is on land where certification is conferred*
OR
- b) the conferral of biodiversity certification on land does directly impact on biodiversity values in a red flag area but the Director General is satisfied, having considered the criteria in section 2.4, that impacts on the red flag area may be offset in*

- accordance with the rules and requirements set out in section 10 of the methodology AND
- c) the direct impacts on the biodiversity values of land to which biodiversity certification is conferred are offset in accordance with the rules and requirements set out in section 10 of the methodology AND
 - d) the Director General is satisfied that any indirect impacts on the biodiversity values of land to which biodiversity certification is conferred are appropriately minimised in accordance with section 6 of the methodology."

Red flag variation

As discussed in section 2.1.1 of this Recommendation Report, the applicant is impacting on a red flag area and is seeking a red flag variation. OEH considers that the red flag variation criteria have been satisfactorily addressed and can be offset. Section 2.1.1 recommends that the Chief Executive, having considered the criteria in Section 2.4 of BCAM, be satisfied under Section 2.2b) of BCAM that impacts on the critically endangered ecological community red flag areas may be offset in accordance with the rules and requirements set out in Section 10 of BCAM.

A summary of impacts (credits required) and offsets (credits available) are detailed below in Table 5.

Vegetation type	Credits required (BCAM)	Credits available (BCAM)	Credit status
Grey Box – Forest Red Gum grassy woodland on shale of the southern Cumberland Plain (HN529 & ME019)	447	268	-179
Forest Red Gum – Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain (HN526)	23	0	-23
Total	470	268	-202

Table 5: Final ecosystem credit results

Direct impacts

As discussed in section 2.1.2 of this Recommendation Report, to address the shortfall in credits for the HN526 the Report and Strategy requests a variation in the offset trading rules, such that impacts to 'Forest Red Gum – Rough-barked Apple grassy woodland on alluvial flats of the Cumberland Plain (HN526) are offset using credits of 'Grey Box – Forest Red Gum grassy woodland on shale' (HN529).

OEH considers that the variation criteria in Section 10.2.1 of BCAM have been satisfactorily addressed. Section 2.1.2 of this Recommendation Report recommends that the Chief Executive be satisfied as to the matters set out in A and B in section 10.2.1 of BCAM to allow a variation of the offset rules and consequently that the Chief Executive and approve the variation of the offset rules set out in Section 10.2 of BCAM.

As per the discussion in section 2.1.2 and the offset proposal in Table 5, the direct impacts on the biodiversity values of the land proposed for biodiversity certification are offset in accordance with the rules and requirements set out in Section 10 of BCAM as required under section 2.2c) of BCAM, if the variation to the offset rules for using ecosystem credits is approved by the Chief Executive.

Indirect impacts

In regard to indirect impacts in Section 6 of BCAM, as stated in section 2.1.3 of this Recommendation Report, it recommended that the Chief Executive be satisfied that:

- (a) the application is not subject to a strategic assessment under the EPBC Act by the Australian Government Department of the Environment
- (b) the application addresses how the proposed ownership, management, zoning and development controls of the land proposed for biodiversity certification is intended to mitigate any indirect impacts on biodiversity values
- (c) the buffer area has been adequately secured without the requirement that it be secured via a conservation measure or in a retained area
- (d) the size of the buffer area is appropriate to mitigate any negative indirect impacts from development following the conferral of biodiversity certification.

Section 2.1.3 recommends that the Chief Executive support the recommendation to the Minister for a minor variation of BCAM to delete the requirement that *"The buffer area may be secured via a conservation measure and used to offset the impacts of biodiversity certification, or it may be a retained area in the biodiversity certification assessment area"* from Section 6 of BCAM.

Section 2.1.3 also recommends that the Chief Executive be satisfied under Section 2.2d) of BCAM that any indirect impacts on biodiversity values of land proposed for biodiversity certification are appropriately minimised in accordance with Section 6 of BCAM, as proposed to be varied by the Minister.

Assessment of effect of biodiversity certification on biodiversity values

The Minister determines whether an assessment improve or maintain biodiversity values on the basis of a biodiversity certification assessment. A biodiversity certification assessment is an assessment of the effect of biodiversity certification on biodiversity values.

The Report and Strategy, as amended, is an assessment of the effect of biodiversity certification on biodiversity values.

Biodiversity assessment in accordance with the Methodology

During the preparation of the final Report and Strategy, OEH identified a number of issues with the assessment, including the classification of vegetation types, the per cent cover of vegetation in the landscape, as well as some discrepancies in the data in the Report and Strategy. A number of edits were made to the Report and Strategy by the developer's consultant and these matters have been adequately addressed. Therefore, in regard to the requirements under Section 3 of BCAM, it is considered that the assessment and measurement of general biodiversity values is adequate.

In regard to the requirements under Section 4 of BCAM, it is considered that the assessment and measurement of threatened species is adequate.

In regard to Section 5 of BCAM, Matters of National Environmental Significance, a strategic assessment under the EPBC Act is not being sought. However, it should be noted that the development of the Emerald Hills Estate was declared a controlled action under the EPBC Act in October 2013 by the Australian Government Department of Environment. An approval for the development (EPBC 2013/6999) under sections 130(1) and 133 of the EPBC Act was granted on 3 August 2015. Given that the EPBC Act action has been assessed independently and approval has been issued, it has not been assessed in this report.

In regard to Section 6 of BCAM 'Assessment of indirect impacts on biodiversity values', indirect impacts have been measured and assessed. It is recommended that the Chief Executive be satisfied that:

- (a) the application is not subject to a strategic assessment under the EPBC Act by the Australian Government Department of the Environment
- (b) the application addresses how the proposed ownership, management, zoning and development controls of the land proposed for biodiversity certification is intended to mitigate any indirect impacts on biodiversity values
- (c) the buffer area has been adequately secured without the requirement that it be secured via a conservation measure or in a retained area.
- (d) the size of the buffer area is appropriate to mitigate any negative indirect impacts from development following the conferral of biodiversity certification.

A recommendation to the Minister for a minor variation to Section 6 of BCAM has been made in section 2.2 of this Recommendation Report. Section 2.1.3 also recommends that the Chief Executive be satisfied under Section 2.2d) of BCAM that any indirect impacts on biodiversity values of land proposed for biodiversity certification are appropriately minimised in accordance with Section 6 of BCAM, as proposed to be varied by the Minister.

In regard to Section 10 of BCAM, the applicant is requesting a variation of the offset rules. The variation has been assessed and measured. Section 2.1.2 of this Recommendation Report recommends that the Chief Executive be satisfied as to the matters set out in A and B in Section 10.2.1 of BCAM to allow a variation to the offset rules and, as a result, approve the variation of the offset rules set out in Section 10.2 of BCAM.

Recommendations on improvement or maintenance of biodiversity values

That the Minister can be satisfied that:

- i. On the basis of the Report and Strategy, as amended, the overall effect of biodiversity certification of the proposed Biodiversity Certification Area is to improve or maintain biodiversity values.
- ii. The Report and Strategy, as amended, is an assessment of the effect of biodiversity certification on biodiversity values.
- iii. The Report and Strategy, as amended, was carried out in accordance with the BCAM, as proposed to be varied.

2.2.3 Consideration of others matters under Part 7AA of the TSC Act

Section 126N Public notification requirements

Section 126N of the TSC Act states that:

- (1) *Land cannot be biodiversity certified unless the applicant has complied with the public notification requirements in relation to the application for biodiversity certification.*
- (2) *The public notification requirements in relation to an application for biodiversity certification are as follows:*
 - (a) *an applicant must publish notice of the application for biodiversity certification in a newspaper circulating generally throughout the State and on the applicant's website,*
 - (b) *the notice must invite the public to make submissions relating to the application before a closing date for submissions specified in the notice (being a date that is not less than 30 days after the date the notice is first published in a newspaper under this section),*

- (c) *until the closing date for submissions, an applicant is to cause copies of the application to be exhibited at its principal office in New South Wales and on its website,*
- (d) *an applicant must provide a report to the Minister that indicates the applicant's response to any submissions relating to the application that were received before the closing date.*
- (3) *A planning authority may vary its application for biodiversity certification (including its biodiversity certification strategy) as a consequence of any submission received following public notification of the application or for any other reason.*
- (4) *Further public notification of the application, as varied, is not required unless the Minister otherwise directs.*

Council publicly exhibited the Emerald Hills biodiversity certification application form, the Report and Strategy and the Expert Report for Green and Golden Bell Frog (*Litoria aurea*) between 15 May and 15 June 2015. It was advertised in the Sydney Morning Herald, local newspapers and on Council's website. In addition, hard copies of the application were made available at the Narellan Customer Service Centre, Camden Customer Service Centre, Narellan Library and Camden Library.

During the exhibition period, Council received five submissions. In accordance with section 126N(2)(d) of the TSC Act, Council prepared a Submissions Report responding to the submissions. Three of the submissions received related to wastewater reticulation, energy and road infrastructure issues. It is considered that Council has adequately addressed the concerns in these submissions with an outcome including a minor clarification to the Report and Strategy in relation to the wastewater matter.

The remaining two submissions were from environment groups and both raised similar concerns that the Report and Strategy did not adequately consider the extent of native grasslands on the site. Native grasslands should be included in the areas of native vegetation, as they are captured in the definition of a 'derived native grasslands' form of Cumberland Plain Woodland. In response, Macarthur Developments' consultant provided further information to Council to assist in addressing this issue. The consultant argued that although there were patches of native grasses in the pasture areas, these areas were relatively small and at a scale which cannot be accurately mapped. This issue was considered by OEH at the site inspection with the consultant in March 2015. Based on observations at this inspection, OEH formed the view that the consultant's view was justified, in that these patches of native vegetation were too small to be mapped. Therefore, these submissions did not result in any amendments to the Report and Strategy.

On 6 July 2015 Council forwarded the completed biodiversity certification application form, Report and Strategy and Submissions Report, which was received by OEH on 10 July 2015.

As discussed in section 1.4 of this Recommendation Report, the biodiversity certification application was amended on 3 August 2015 after the close of the public exhibition period. It should also be noted that an amended version of Figure 3 in the Report and Strategy was also provided to OEH via email on 1 September 2015 (Attachment A6). Figure 3 was amended to remove the staging layer as it was different to the staging proposed in Figure 17 of the Report and Strategy. As detailed in section 1.4, the letter received from D&AI Pty Ltd on 3 August 2015 specifically referenced the staging in Figure 17 of the Report and Strategy.

As detailed above, sections 126N (3) and (4) of the TSC Act allow for a planning authority to vary its application and that further public notification of the application is not required unless the Minister otherwise directs. OEH has formed the view that further public exhibition is not required as the proposed amendments will result in the credits being retired earlier than originally proposed in the Report and Strategy which is an improved outcome. In addition, the proposed amendments do not alter the number and type credits generated for the

development and conservation lands or the proposed conservation measures. In regard to the amended Figure 3, the only change is that the staging layer was removed.

As discussed in section 2.2 of this report, a minor variation to Section 6 of BCAM is proposed. However, the variation is considered by OEH to be minor, would result in a determination that biodiversity values would be improved or maintained, and it would be unreasonable or unnecessary to require strict application of BCAM. OEH has formed the view that the proposed minor variation does not warrant further notification of the application.

Recommendation on public notification requirements

That the Minister note the public notification requirements for biodiversity certification as required under section 126N of the TSC Act have been met and that there is no requirement to provide further notification.

2.2.4 Section 126R refusal to confer certification

Section 126R of the TSC Act states that:

- (1) *The Minister must refuse to confer biodiversity certification if biodiversity certification does not improve or maintain biodiversity values.*
- (2) *In addition, the Minister may refuse to confer biodiversity certification:*
 - (a) *if the application for certification does not comply with this Part or the regulations,*
or
 - (b) *if, in the opinion of the Minister, insufficient information is provided to enable biodiversity certification to be conferred, or*
 - (c) *if, in the opinion of the Minister, the certification application does not sufficiently address the biodiversity certification assessment methodology, or*
 - (d) *for any other reason the Minister considers sufficient.*

The application complies with relevant requirements of the TSC Act and BCAM, as proposed to be varied by the Minister. It is also considered that sufficient information has been provided by the applicant to enable biodiversity certification to be conferred.

OEH has formed the view that there are no grounds on which to refuse certification.

Recommendation on refusal to confer

It is recommended that the Minister be satisfied that refusal to confer biodiversity certification under section 126R of the TSC Act is not justified.

2.2.4 Recommendation to confer Biodiversity Certification on the proposed Biodiversity Certification Area

It is recommended that under Part 7AA of the TSC Act, the Minister confer certification on the proposed Biodiversity Certification Area by:

- signing and dating the declarations in Part 4 section 4.2 of this Recommendation Report
- signing and dating the Order conferring biodiversity certification attached to the briefing note accompanying this report and approving its publication in the Government Gazette (DOC15/389236, Attachment B)
- signing and dating the three copies of the Biodiversity Certification Agreement (DOC15/389236, Attachment C).

Part 3: List of documents before the decision maker

Documents relevant to the decision (DOC15/389236)

Attachment A1 – Biodiversity Certification Application and letter to the Minister dated 6 July 2015.

Attachment A2 – Emerald Hills Estate Biodiversity Certification Assessment Report and Biocertification Strategy. Prepared for Camden Council 30 June 2015.

Attachment A3 – Expert Report for Green and Golden Bell Frog (*Litoria aurea*) Emerald Hills Estate Biodiversity Certification Application 31 March 2015.

Attachment A4 – Emerald Hills Estate Biodiversity Certification Application Submissions Report July 2015.

Attachment A5 – D&AI Pty Limited Commitments to Biocertification of Property known as Emerald Hills Leppington dated 3 August 2015 and Camden Council's confirmation of amendments to the Biodiversity Certification Application via email dated 19 August 2015.

Attachment A6 – Revised Figure 3 from Eco Logical Australia via email 1 September 2015 and Camden Council's confirmation of amendment via email 7 September 2015.

Attachment A7 – Letter from D&AI Pty Limited providing authorisation to Macarthur Developments and Camden Council dated 3 July 2015.

Other documents that were taken into consideration (Attachment F to DOC15/389236)

1. Australian Government Department of Environment (2015) Approval Emerald Hills Estate residential development, Leppington, New South Wales (EPBC 2013/6999). (<http://www.environment.gov.au/epbc/notices/assessments/2013/6999/2013-6999-approval-decision.pdf>).
2. Camden Council (2011) Development Control Plan 2011 C13 Emerald Hills. (<http://www.camden.nsw.gov.au/development/plans-and-policies/development-control-plans/>).
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<http://www.environment.nsw.gov.au/resources/biocertification/150321-biocert-applicant-guide.pdf>).

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15. Office of Environment and Heritage (2014) letter to Camden Council dated 12 March 2014 (DOC15/386987).
16. Office of Environment and Heritage (2014) letter to Camden Council dated 3 September 2014 (DOC14/190081).
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20. Tozer MG, Turner K, Keith DA, Tindall D, Pennay C, Simpson C, Mackenzie B, Beukers P and Cox S (2010) Native vegetation of southeast NSW: a revised classification and map for the coast and eastern tablelands. *Cunninghamia* 11(3): 359-406 (https://www.rbgsyd.nsw.gov.au/data/assets/pdf_file/0014/106214/Cun113Toz359.pdf).

And that under Section 2.2b) of the BCAM the impacts on the critically endangered ecological community red flag areas may be offset in accordance with the rules and requirements set out in Section 10 of the BCAM.

Variation to the offset rules for using ecosystem credits generated for biodiversity certification

4. **am satisfied / ~~am not satisfied~~** in accordance with Section 10.2.1 of the BCAM that the matters set out in A and B are satisfied to allow a variation of the offset rules because:
- A. Firstly, before varying the offset rules for using ecosystem credits:
- (a) all reasonable steps have been taken to secure conservation measures that generate credits that match the credit profile specified for ecosystem credits required for biodiversity certification in Section 10.1 of the methodology
AND
- (c) the list of threatened species predicted to occur at the offset site is not significantly different to the list of threatened species that are assessed on land where biodiversity certification is proposed when assessed in accordance with Section 4.2 of the methodology.
- B. Secondly, in order to approve a variation of the offset rule in Section 10.2, the alternate ecosystem credits are generated from conservation measures:
- (a) located on land within the same IBRA region as the land proposed for biodiversity certification, regardless of the CMA subregions identified in attribute 1
AND
- (c) on land containing a vegetation type from the same vegetation formation as the vegetation type specified in attribute 3 of the credit required for the land proposed for biodiversity certification as set out in Section 10.1 of the methodology.
5. **approve / ~~do not approve~~** a variation to the offsets rules set out in Section 10.2 of the BCAM.

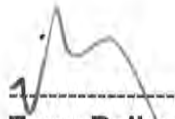
Indirect impacts

6. **am satisfied / ~~am not satisfied~~ that:**
- (a) The application is not subject to a Strategic Assessment under the EPBC Act by the Australian Government Department of the Environment.
- (b) The application addresses how the proposed ownership, management, zoning and development controls of the land proposed for biodiversity certification is intended to mitigate any indirect impacts on biodiversity values.
- (c) The buffer area has been adequately secured without the requirement that it be secured via a conservation measure or in a retained area.
- (d) The size of the buffer area is appropriate to mitigate any negative indirect impacts from development following the conferral of biodiversity certification.
7. **I recommend / ~~do not recommend~~** to the Minister a minor variation to the BCAM to delete the requirement that 'The buffer area may be secured via a conservation measure and used to offset the impacts of biodiversity certification, or it may be a retained area in the biodiversity certification assessment area', from Section 6 of the BCAM.
8. **am satisfied / ~~am not satisfied~~** that under Section 2.2d) of the BCAM, any indirect impacts on biodiversity values of land to which biodiversity certification is conferred are

appropriately minimised in accordance with section 6 of the BCAM, as proposed to be varied by the Minister.

Expert Report

9. **am satisfied / ~~am not satisfied~~** under Section 4.5 of the BCAM that:
- (a) Ross Wellington is appropriately qualified to be considered an expert in the Green and Golden Bell Frog.
 - (b) The expert report and findings within can be accepted in place of targeted survey and applied in the methodology.



Terry Bailey
Chief Executive
Office of Environment and Heritage

24 November 2015
Date

4.2 Decision of the Minister

The Minister must strike through the relevant wording to indicate his decision prior to signing this section.

I, Mark Speakman, Minister for the Environment, having considered this report and the attachments to this report:

1. **am satisfied / ~~am not satisfied~~** that:

- (a) Under section 126Q of the *Threatened Species Conservation Act 1995*,
 - i. the variation to the Biodiversity Certification Assessment Methodology (BCAM), is minor, and
 - ii. the variation would result in a determination that the overall effect of biodiversity certification is to improve or maintain biodiversity values, and
 - iii. strict adherence to the BCAM is in this particular case unreasonable and unnecessary.
- (b) Under section 126P of the *Threatened Species Conservation Act 1995*,
 - i. on the basis of the Emerald Hills Estate Biodiversity Certification Assessment Report and Biocertification Strategy (Report and Strategy), as amended, the overall effect of biodiversity certification of the proposed Biodiversity Certification Area is to improve or maintain biodiversity values
 - ii. the Report and Strategy, as amended, is an assessment of the effect of biodiversity certification on biodiversity values
 - iii. the Report and Strategy, as amended, was carried out in accordance with the BCAM, as varied by me.
- (c) The public notification requirements for biodiversity certification as required under section 126N of the *Threatened Species Conservation Act 1995* have been met and that there is no requirement to provide further notification.
- (d) Refusal to confer biodiversity certification under section 126R of the *Threatened Species Conservation Act 1995* is not justified.

2. **sign / ~~refuse to sign~~** the three copies of the Biodiversity Certification Agreement (DOC15/389236, Attachment C).

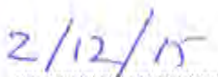
3. under Part 7AA of the *Threatened Species Conservation Act 1995*:
confer biodiversity certification on the proposed Biodiversity Certification Area by signing and dating the Order conferring biodiversity certification attached to the Briefing Note accompanying this report and approving its publication in the Government Gazette.

~~or~~

~~refuse to confer biodiversity certification on the proposed Biodiversity Certification Area.~~



Mark Speakman
Minister for the Environment



Date