I note that reference/consideration is made of PMHC DCP 2011 in regards to Koala Habitat, but fails to address the particular provisions in regard to hollow-bearing trees. While the report states that no hollow-bearing trees were confirmed to occur on site, it states "*it is **likely** that small hollows (5-10cm in diameter) may be present in the upper branches of some of the larger eucalypts in the south eastern corner of the PMBH site*".

The legal interpretation of '**likely'** means that hollows will occur, and hence be removed. This of concern given the Squirrel Glider has been recorded in urban remnants interconnected to this vegetation as have several hollow-obligate Yangochiropteran bats, and that no adequate offset measure has been provided for the loss of these key habitat components. This has not been given due consideration in the 7 Part Test assessment, and due compliance to the DCP provisions is also required.

Furthermore, the assessment has failed to undertake Elliot B trapping to determine if the site contains known habitat of the Squirrel Glider, despite loss of key habitat components and the issues of light spillage impacting habitat usage (eg hollows exposed to light may be avoided) and enhanced predation risk in the remaining remnant. Inexplicably, this species is considered as a moderate potential occurrence, yet is not assessed in the 7 Part Tests despite loss of foraging habitat, impacts on connectivity, apparent loss of potential den hollows, and the aforementioned indirect impacts.

Similarly, the Varied Sittella is considered a low to moderate chance, but is not assessed despite loss of potential foraging and nesting habitat. The Little Lorikeet is also a low to moderate occurrence and is also not evaluated despite local records, and loss of suitable foraging and nesting habitat. Several other species are listed as potential occurrences in the road reserve but not assessed due to lack of direct impacts. This fails to consider indirect impacts such as light spillage on hollows from artificial lighting, and demonstrates failure to undertake due assessment as per the 7 Part Test guidelines which requires both consideration of all potentially occurring species in the study area impacted by direct and indirect impacts.

More importantly, the assessment of significance of impacts on the Koala is inadequate and demonstrates failure to comprehend the fundamentals of Koala ecology.

The report records SAT levels of 23-40% (medium to high), high levels of scratching on most trees, sightings of two Koalas (a male and female) during the survey , plus an earlier sighting of an adult with a juvenile (ie female with a joey) on site. These findings are clearly indicative of Core Koala Habitat, and residential Koalas. While it is acknowledged that SEPP 44 does not legally apply to Part 3A proposals and hence a site KPoM is not required, the loss of such high use habitat clearly conflicts with the objectives of SEPP 44 and the NSW Koala Recovery Plan, as well as the guidelines of the Australian Koala Foundation for sustainable development in Koala habitat. The only ameliorative measures offered are to replant browse species at 'another site' and to check for Koalas in trees prior to clearing. These measures are deficient to mitigate the likely significant impact on the associated breeding aggregate of Koalas on the basis of the following issues:

- *Behavioural impacts*: The assessment makes no detailed evaluation of the impacts on the socio-ecology of the resident Koalas who will lose home range trees and hence significant foraging habitat (as indicated by the high SAT score). It only states in part (a) of the 7 Part Tests that "*it is considered that the proposal would result in a significant loss of foraging*

habitat for this species although given the availability of alternative foraging resources in the local area (eg Lake Innes Nature Reserve), is not expected to have a significant impact on the Koala…" Lake Innes NR is nearly 1km from the site (via mostly industrial and residential land), and most likely well outside the home range of the impacted Koalas AND the local population (as defined by the 7 Part Test guidelines). The report provides NO scientific information to justify that the local population let alone the site aggregate uses this other habitat OR that the habitat within proximate portions of the NR is as suitable or important OR what portion of the home range of the local aggregate that the site comprises (and hence no quantification of how important the area of loss is). Appraisal of aerial photos in the report clearly show local habitat is highly fragmented, spatially limited, and subject to high threats ie dog attack and vehicle strike. Hence all remaining remnants of Koala habitat will obviously be important to the high density population which occupies Port Macquarie – as identified in Connell Wagner (2000). Hence there is no surety that the affected Koalas will survive post-development, or maintain their reproductive capacity or functioning.

The 7 Part Assessment for the Koala clearly demonstrates a fundamental lack of knowledge of Koala ecology and social interaction (eg loss of a dominant male has been shown to lead to dissolving of aggregates), and hence is a grossly deficient impact assessment. A similarly inadequate response is given to part (d) (iii) in regards to the importance of the site to the population. The SAT scores indicate the site is VERY important, and removal of high use SAT scores directly conflicts with the practices and requirements of the UIA 13 KPoM for example, which was adopted by PMHC and reflects current practice. Hence the impacts cannot be simply dismissed with provision of offset plantings given Koala socio-ecology, and also the fact that it will take at least a decade for the replacement trees to be physically capable of supporting browsing, let alone be capable of providing sufficient carrying capacity to support the full lifecycle requirements of a Koala aggregate. What are the Koalas depending on the affected habitat to do for forage in the interim? What about the cumulative loss of habitat in the area due to other development on the PMHC grounds – why were the Tallowwoods planting for in the first place – as an original offset for the hospital? In this regard, the response to part (f) is also clearly inadequate as the proposal directly conflicts with the objectives of both the Recovery Plan and SEPP 44.

- *Elevated risk of nutritional stress with associated implications for disease and reproduction*: As alluded to above, the loss of so many clearly significant food trees for these sedentary animals will clearly impact their nutritional requirements, and potentially impact their longevity, health and reproductive capacity. As the area is maternity habitat (demonstrated by the sighting of a female and joey), and probably also supports a dominant male, these impacts will clearly pose a high risk of compromising the ability of the site and possibly the current home range of these Koalas to meet their lifecycle needs. These Koalas will need to either somehow obtain these needs 'somewhere else', not breed for an unspecified time, ensure reproductive failure (ie inability of females to sufficiently lactate), or die. This habitat loss will also elevate the risk of displaced Koalas coming into contact with vehicles and dogs as they are forced to enter new areas or move more frequently to meet these needs; as well as the risk of Chlamydia. This clearly flies in the face of the Koala Recovery Plan, the

objectives of SEPP 44 and the reams of literature on Koala ecology and the reasons for their ongoing decline.

Overall, it is readily evident that these impacts are not duly considered in the assessment, and contrary to the statement "*with the adoption of mitigation measures outlined in chapter 7, the proposal is considered unlikely to have a significant impact on threatened species such that a viable local population would be placed at risk of extinction in the long term*", there is a significant threat posed to the Koala aggregate associated with the site that has not been duly assessed.

Furthermore, the replacement ratio of 2:1 is not comparable to accepted replacement ratios for individual KPoMs, Comprehensive KPoMs or other planning instruments in the region (eg Biodiversity Strategies in the Coffs , Byron and Clarence LGAs). A more acceptable ratio would be at least 5:1 or higher, as demonstrated by offsets in the UIA 13 KPoM prepared by Australian renowned Koala expert, Dr Stephen Phillips.

It is also noted with alarm that no actual suitable offset site has been identified at this time. This is of considerable concern for two reasons:

- No security/guarantee that the measure will actually be implemented or will be done effectively as there is no vegetation management plan to indicate planting details. There is the real possibility that an offset site will never be acquired. Land within Port Macquarie is expensive, and vacant land of sufficient size to support the offset plantings would not only be very expensive but difficult to find. Hence there is the risk of it becoming 'too hard' post-approval, and the measure never eventuating.

  With no offset site identified, there is no clarification that it will be larger enough to support all the required plantings without an excessive density of plantings. The density of plantings will affect canopy development and vigour, and hence the carrying capacity of the offset site. There is also no vegetation or landscape plan to show the likely density of plantings to address this concern; nor details provide to ensure the long term security of the offset site from future development.

  Furthermore, it is well known that the parent material is a significant influence on tree palatability for Koalas. The site is located on relatively fertile soils, hence the SAT scores indicating the palatability of food trees. If the offset site is not located on the same or better parent material, its carrying capacity is unlikely to correlate to the lost habitat. Hence again, a net negative impact on the Koala which will incrementally and cumulatively add to the decline of the local and meta-population in the Port Macquarie area.

- Fails to demonstrate that the **affected** population of Koalas will benefit from this offset measure. For this to happen, the lost carrying capacity on the site would need to be replaced within the range of the local breeding aggregate/population. This appears, as noted in the report and discussed above, to be impractical as the PMBH site lacks sufficient land for offset planting (in fact, offsets for the UNSW school's establishment in the southwest are to be cleared to allow relocation for a large gas tank associated with the hospital). Hence how can this measure be considered ameliorative for the local population? It is very likely that

the 'offset site' will be located well away from the affected population, and hence no guarantee of offsetting the impacts associated with the proposal.

Overall thus, it is considered that the impact on the local Koala population is likely to be significant, contrary to the conclusions of report. Regrettably under Part 3A, a Species Impact Statement cannot be required. Hence at the least, development and secure implementation of an adequate offset and ameliorative measure package will be required if the proposal is to be approved.

Australian Koala Foundation (2007). **Planning Guidelines for Koala Conservation and Recovery: A Guide to Best Planning Practice**. Australian Koala Foundation, Brisbane. Website: www.savethekoala.com.au

Biolink (2008). *Area 13 UIA Koala Plant of Management Final Draft*. Unpublished report for Hastings Council. Biolink Pty Ltd, Ecological Consultants, Uki NSW.

Biolink (2005a). *An Ecological Overview of Koalas and their Habitat on the Innes Peninsula, Port Macquarie NSW*. Unpublished report for Vilro Pty. Ltd. Biolink Pty Ltd, Ecological Consultants, Uki NSW.

Biolink (2005b). *Koala Plan of Management for Part Lot 32 DP 809231 – Maher's Headland Port Macquarie, NSW*. Unpublished report for Charley Brothers. Biolink Pty Ltd, Ecological Consultants, Uki NSW.

Biolink (2005c). *Area 13 Urban Investigation Area Local Environmental Study (Ecological Constraints)*. Unpublished report. Biolink Pty Ltd, Ecological Consultants, Uki NSW.

Biolink (2005d). *Area 14 Urban Investigation Area Local Environmental Study (Ecological Constraints)*. Unpublished report. Biolink Pty Ltd, Ecological Consultants, Uki NSW.

Connell Wagner Pty Ltd (2000a). **Koala Plan of Management – Coastal Area. Part A: The KPOM – Hastings Council**. Connell Wagner Pty Ltd, Neutral Bay.

Connell Wagner Pty Ltd (2000b). **Koala Plan of Management – Coastal Area. Part B: Resource Study – Hastings Council**. Connell Wagner Pty Ltd, Neutral Bay.