Mr Adam Fahim
Holdmark NSW Pty Ltd
19 Victoria Avenue
Concord West, NSW 2138

9 November 2011

Dear Adam,

RE: Microbat Habitat Assessment, Meadowbank Employment Area development, Meadowbank, NSW.

1. Introduction and background.

It is noted that, at the request of Robertson and Marks Architects Pty Ltd, LesryK Environmental Consultants conducted a flora and fauna assessment that formed part of the Environmental Assessment prepared for the above development (LesryK Environmental Consultants 2010). Two key findings during this assessment were the presence of the threatened Narrow-leaved Black Peppermint and that one or more of the buildings proposed for demolition could potentially support roosting microchiropterans.

Subsequent to the submission of the Environmental Assessment lodged by Holdmark, the Department of Planning and Infrastructure (DPI) has requested additional information be provided in order for the development to be adequately assessed. Two primary issues with regards to ecological matters were identified by the DPI, these directly related to the key findings of the original flora and fauna report, being:

1) An assessment of Narrow-leaved Black Peppermint (*Eucalyptus nicholii*) in accordance with the Threatened Species Assessment Guidelines 2007; and
2) An assessment of microchiropteran habitat, including surveys to assess the presence and significance of the site for this group of threatened fauna, and appropriate recommendations, as required.

As such, at the request of Holdmark, the above two issues have been addressed and presented in this report.

2. Narrow-leaved Black Peppermint (*Eucalyptus nicholii*).

A number of planted Narrow-leaved Black Peppermint individuals were recorded within the study area during the flora and fauna assessment (LesryK Environmental Consultants 2010). Narrow-leaved Black Peppermint is listed as vulnerable under the Schedules to the Commonwealth *Environment Protection and Biodiversity Conservation Act* 1999 (*EPBC Act*) and NSW *Threatened Species Conservation Act 1995* (*TSC Act*). At the request of the DPI an assessment has been undertaken in regards to this species.

2.1. Commonwealth - *Environment Protection and Biodiversity Conservation Act 1999*.

Listed as vulnerable under the Act, Narrow-leaved Black Peppermint (*Eucalyptus nicholii*) is a matter of national environmental significance. The Act requires that consideration be made as to whether there is likely to be a significant impact on a Matter of National Environmental Significance and as such whether the undertaking of an action would require referral of the matter to the Federal Minister for Sustainability, Environment, Water, Population and Communities for further consideration or approval. Accordingly, the Significant Impact Guidelines prepared under the *EPBC Act* (Australian Government 2009) are used to determine whether there is likely to be a significant impact on Narrow-leaved Black Peppermint.

An action is likely to have a significant impact on a vulnerable species if there is a real chance or possibility that it will:

- *lead to a long-term decrease in the size of an important population*[1]*,*

The natural habitat of Narrow-leaved Black Peppermint is dry grassy woodland, on shallow and infertile soils in the NSW Northern Tablelands from Nundle to north of Tenterfield (Office of Environment and Heritage 2011). It is commonly planted as a street tree in Sydney and elsewhere. The population at the site is not considered an important population for the purposes of the Act as it does not meet any of the relevant criteria (see footnote below).

- *or reduce the area of occupancy of an important population,*

The population at the site is not considered an important population for the purposes of the Act.

- *or fragment an existing important population into two or more populations,*

The population at the site is not considered an important population for the purposes of the Act.

- *or adversely affect habitat critical to the survival of a species,*

Habitat at the site is not critical to the survival of the species. Such habitat would be found in its natural distribution area in the NSW Northern Tablelands.

- *or disrupt the breeding cycle of an important population,*

The population at the site is not considered an important population for the purposes of the Act.

- *or modify, destroy, remove, isolate or decrease the availability or quality of habitat to the extent that the species is likely to decline,*

[1] An 'important population' is a population that is necessary for a species' long-term survival and recovery. This may include populations identified as such in recovery plans, and/or that are:

- key source populations either for breeding or dispersal;
- populations that are necessary for maintaining genetic diversity, and/or
- populations that are near the limit of the species' range (Australian Government 2009).

Given that the species is commonly planted throughout Sydney and many other areas outside its natural range, it is considered the action would not contribute in any manner to its decline.

- *or result in invasive species that are harmful to a vulnerable species becoming established in the vulnerable species' habitat,*

As the area affected does not represent natural habitat for the species, the question of the impact of invasive species is considered irrelevant.

- *or interfere substantially with the recovery of the species.*

The loss of some or all of the planted specimens of Narrow-leaved Black Peppermint from the site would not interfere with the recovery of the species.

Conclusion.

The proposed action is unlikely to have a significant impact on Narrow-leaved Black Peppermint. As such, referral to the Commonwealth Department of Sustainability, Environment, Water, Population and Communities is not required.

2.2. NSW - *Environmental Planning and Assessment Act 1979*.

One vulnerable species, Narrow-leaved Black Peppermint (*Eucalyptus nicholii*), listed on the schedules to the *TSC Act*, occurs at the subject site. Therefore, an assessment under Section 5A of the *EP&A Act* (the "seven-part test") must be undertaken to determine if there is likely to be a significant impact on Narrow-leaved Black Peppermint, or its habitat. If so, a Species Impact Statement must accompany the REF.

(a) in the case of a threatened species, whether the action proposed is likely to have an adverse effect on the life cycle of the species such that a viable local population of the species is likely to be placed at risk of extinction,

The natural habitat of Narrow-leaved Black Peppermint is dry grassy woodland on shallow and infertile soils in the NSW Northern Tablelands (Office of Environment and Heritage 2011). It is commonly planted as a street tree in Sydney and elsewhere. The "local population" of the species consists of a number of planted trees, some or all of which may be removed by the proposed action. As the species does not occur naturally at the subject site, it is not considered significant that the "local population" is placed at risk of extinction.

(b) in the case of an endangered population, whether the action proposed is likely to have an adverse effect on the life cycle of the species that constitutes the endangered population such that a viable local population of the species is likely to be placed at risk of extinction,

No endangered populations listed on Schedule 1 (Part 2) of the *TSC Act* were recorded within the study area.

(c) in the case of an endangered ecological community or critically endangered ecological community, whether the action proposed:

(i) is likely to have an adverse effect on the extent of the ecological community such that its local occurrence is likely to be placed at risk of extinction, or

(ii) is likely to substantially and adversely modify the composition of the ecological community such that its local occurrence is likely to be placed at risk of extinction,

Narrow-leaved Black Peppermint is a threatened species not an endangered ecological community.

(d) in relation to the habitat of a threatened species, population or ecological community:

(i) the extent to which habitat is likely to be removed or modified as a result of the action proposed,

(ii) and whether an area of habitat is likely to become fragmented or isolated from other areas of habitat as a result of the proposed action,

(iii) and the importance of the habitat to be removed, modified, fragmented or isolated to the long-term survival of the species, population or ecological community in the locality,

Only a small area of artificial habitat well outside the species' natural distribution range would be affected by the proposed action. Therefore, any impact on its habitat or fragmentation thereof is not considered significant. The subject site is not an important area of habitat for Narrow-leaved Black Peppermint.

(e) whether the action proposed is likely to have an adverse effect on critical habitat (either directly or indirectly),

Critical habitat can only be applied to *endangered* ecological communities, populations or species. Narrow-leaved Black Peppermint is a vulnerable species and as such is not eligible for critical habitat listing. Furthermore, the site does not include any areas of critical habitat for any endangered ecological communities, populations or species.

(*f) whether the action proposed is consistent with the objectives or actions of a recovery plan or threat abatement plan,*

No recovery plan or any recovery strategies have been prepared for this species. Any such plan or strategy is unlikely to be concerned with plantings in areas well removed from the species' natural distribution.

(g) whether the action proposed constitutes or is part of a key threatening process or is likely to result in the operation of, or increase the impact of, a key threatening process.

The proposed action would not result in the operation of, nor increase the impact of, any Key Threatening processes.

Expected impact on Narrow-leaved Black Peppermint.

It is considered that the proposed action is unlikely to have a significant impact on Narrow-leaved Black Peppermint, or its habitat. As such, a Species Impact Statement need not be prepared in relation to this species.

3. Micochiropteran habitat assessment.

A more detailed survey of the existing buildings was undertaken by my colleague Kirsty Bloomfield and I on the 19th and 20th of October 2011. The weather experienced on the 19th was clear skies and light winds with warm temperatures (24°C). It is noted that this temperature dropped to 19°C by the completion of the field survey. The weather experienced on the 20th was clear skies and strong winds with warm temperatures (24°C), this dropping to around 20°C.

These weather conditions and the spring timing of the field survey are considered to be conducive to the detection of microchiropteran species. As such, no limitations to the outcome of the study were encountered.

It is noted that, on the 19th, you met us on site and gave us the necessary keys to access four buildings, these being:

1. Building 1 - 6 Nancarrow Avenue, Ryde;
2. Building 2 - 9-10 Rothesay Avenue, Ryde;
3. Building 3 - 11 Rothesay Avenue, Ryde; and
4. Building 4 - 157 Church Street, Ryde.

As such, these were the only buildings assessed as part of this study. Prior to dusk these buildings were investigated and thoroughly checked for any suitable cracks, crevices, holes or artificial overhangs (i.e. eaves etc). Where found, these potential roosting sites were investigated using a 163 lumen hand-held spotlight. Based on our observations:

- Building 1 - contained some crevices where the tiles have been lifted from the support structure (width <100 millimetres [mm], depth unknown). It is unlikely bats would be using this building;
- Building 2 - contained no obvious cracks, crevices etc. This building would not be utilised by bats;
- Building 3 - contained no obvious cracks, crevices etc. This building would not be utilised by bats; and
- Building 4 - contained some holes and crevices (<100mm, depth unknown). It is considered unlikely that bats would utilise this building, however there is potential.

In addition, during the site inspections, no guano (bat excrement) or dead/mummified bats that suggests site use/occupation were observed.

Based on this preliminary investigation Buildings 1 and 4 were specifically targeted. In regards to these buildings, they were investigated through use of Anabat ZCAIM™ echolocation detectors. These detectors were used to determine if any microbats were occupying those buildings present. The Anabat ZCAIM™ unit was placed at Building 4 on the 19th and Building 1 on the 20th of October. The detectors were set prior to dusk (this being around 19:00 hours at the time of the study) and left in place for approximately one and a half hours (picked up at 20:30). This time is considered sufficient given that the aim of the study was

to specifically identify any roosting bats that were occupying those buildings proposed for removal. Any calls recorded were analysed in house using Anabat 6.3 computer software.

In addition, these buildings were also stag watched. This involved a researcher standing in place half an hour prior to, and up to an hour after, dusk, watching those potential roosting sites present in an attempt to detect any microbats that were leaving these.

By the completion of the field investigation, no microbats were observed leaving any of those buildings that were stag watched.

In addition, the echolocation detectors did not record any species of bat over the course of the two survey nights

Based on the outcomes of the field investigations, no species of bat are considered to be roosting within any of those buildings surveyed during this study. As such, no bats listed, or currently being considered for listing, under the *EPBC* and/or *TSC Acts* will be directly or indirectly impacted on by the proposal. Therefore, the referral of the matter to the Federal Minister of Sustainability, Environment, Water, Populations and Communities is not required. Similarly, a Species Impact Statement that further addresses the impact of the proposal on any species of microchiropteran is not necessary.

4. Conclusion.

Given that the Narrow-leaved Black Peppermint individuals present within the subject site are planted and well outside its distribution range, their removal is not considered to have an adverse impact on the local population or viability of this species. With regards to microchiropteran habitat, no bat species are considered to be roosting within any of the buildings proposed for removal that were focused on during the study. Furthermore, none were recorded foraging within close proximity to the buildings. As such, the proposal can proceed as planned without having an adverse impact on any native flora or fauna of conservation concern.

If you require any further information on this matter, please do not hesitate to contact the undersigned on either (02) 9523 2016 or 0400 723 248.

Yours sincerely,

Stephen Bloomfield
Senior Ecologist
LesryK Environmental Consultants

References

Australian Government (2009) *Matters of National Environmental Significance: Significant Impact Guidelines 1.1.* http://www.environment.gov.au/epbc/publications/nes-guidelines.html [Accessed November 2011].

LesryK Environmental Consultants (2010) *Flora and fauna assessment conducted as part of the Meadowbank Master Plan - Shepherd's Bay, Meadowbank, NSW*. Report prepared for Robertson and Marks Architects Pty Ltd by LesryK Environmental Consultants, Bundeena, NSW.

Office of Environment and Heritage (2011) *Threatened species, populations and ecological communities of NSW. Narrow-leaved Black Peppermint – profile*. http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/profile.aspx?id=10302 [Accessed November 2011].