



12 July 2010

Associate Director
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**SYDNEY ADVENTIST HOSPITAL REDEVELOPMENT FLORA AND FAUNA
IMPACT ASSESSMENT**

Dear Cameron

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Cumberland Ecology has been requested by Morris Bray Architects to assess the potential flora and fauna impacts of the proposed redevelopment of the Sydney Adventist Hospital zoned SP1 Special Activities at Wahroonga Estate.

As you are aware Cumberland Ecology has an intimate knowledge of the flora and fauna issues of the Wahroonga Estate site because we were engaged to prepare all of the ecological work associated with the recent rezoning of the Wahroonga Estate Concept Plan. The ecological assessments for the rezoning entailed detailed flora and fauna surveys, impact assessment and provision of recommended mitigation measures.

Based upon the flora and fauna assessments that Cumberland Ecology completed for the rezoning, the hospital site is almost entirely cleared of native flora and fauna so ecological issues are minimal. For this reason we believe that there is no need to conduct any detailed ecological assessments for the proposed redevelopment of the hospital.

Appendix A below provides you with a concise ecological assessment to assist with the Part 3A application for the redevelopment of the Sydney Adventist Hospital. Appendix B provides the SKM Vegetation Mapping. Appendix C provides SP1 development materplan. As indicated in Appendix B, the proposed redevelopment can take place with essentially no ecological impacts.

If you require further information please feel free to contact myself or Ryan Sims on (02) 98681933.

Yours sincerely



David Robertson

Director

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Appendix A

**Flora and Fauna Impact Assessment for
Sydney Adventist Hospital Redevelopment**

INTRODUCTION

The proposed redevelopment of the Sydney Adventist Hospital (zoned SP1, Special Activities), hereafter referred to the “subject site”, includes an upgrade and expansion of the existing hospital and provision of new educational, commercial and residential facilities with associated roads and infrastructure. The purpose of this document is to consider the potential ecological impacts of the proposed redevelopment, with particular emphasis on threatened flora and fauna that are listed by the State *Threatened Species Conservation Act 1995* (TSC Act), and the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

METHODS

The flora and fauna of the area recently subject to rezoning has been studied in detail and has been used as the primary source of information for this report. The flora and fauna assessment report by Cumberland Ecology (2009) has entailed detailed analysis of the ecology of the surrounding land. The land on which the hospital is to be redeveloped has been largely cleared other than for scattered patches of native trees, which were investigated as part of the rezoning process. There was therefore no need to conduct fresh surveys.

A desktop assessment was conducted to review the likelihood of any direct or indirect impacts associated with the project. The material included in the desktop assessment includes the following:

- Draft Stormwater Management Plan for Sydney Adventist Hospital Redevelopment - Stage 1A and 1B. Revision A. Prepared by C&M Consulting Engineers (2010)
- Masterplan Overall Staging Siteplan dwg A/EA-3 P03. Prepared by Morris Bray Architects 2010;
- Flora and Fauna Impact Assessment prepared by Cumberland Ecology 2009;
- Ecological Report prepared by SKM. 2009;
- DECCW Wildlife Atlas Database Search (DECCW, 2010); and
- EPBC Act Protected Matters Search Tool (DEWHA, 2010).

RESULTS

The land that is to be the subject of redevelopment is essentially like an island of existing development amid surrounding bushland. The values of the surrounding bushland are summarised first, followed by a summary of the flora and fauna that occur on the hospital land.

Land Surrounding the Subject Site

The following three vegetation communities were recorded during flora surveys around the subject land (sourced by SKM 2009).

- Sydney Turpentine - Ironbark Forest (STIF; listed as a CEEC under Commonwealth legislation and an Endangered Ecological Community under State legislation)
- Blue Gum High Forest (BGHF; a Commonwealth and State listed Critically Endangered Ecological Community (CEEC));
- Sydney Sandstone Gully Forest which is comprised of two distinct forms:
 - Forest/Woodland Form; and
 - Tall Open Forest Form.

A fourth vegetation community that was not mapped by SKM, but is relevant to this project, is landscaped gardens and exotic grassland. Refer to Appendix B for SKM (2009) vegetation mapping of the Wahroonga Estate site.

In general, within the land surrounding the subject site, the vegetation varies in condition and structure. Areas of dense forest exist that have experienced minimal weed invasion, while patches of open forest and woodland with varying degrees of weed invasion are also common. Where the native shrub layer and ground vegetation has been removed areas of lantana and exotic grasses are often present. Highly disturbed areas with high proportions of exotic weed invasion are present on much of the subject site and have been mapped as Landscaped gardens and exotic grassland. Evidence of ongoing disturbance, such as slashing and the impacts of edge effects are clearly evident.

Coups Creek flows within the bushland surrounding the subject site. This stream has a catchment within suburban areas and carries elevated nutrient levels. Around the creek exists patches of weeds, particularly species such as Lantana (*Lantana camara*), and Privet (*Ligustrum* spp).

A wide range of fauna habitats occur and a number of fauna species were detected. The most frequently detected species include species that commonly occur in or adjacent to urban areas. Potential habitat for a number of threatened fauna species listed under the TSC Act and EPBC Act occurs across the surrounding lands.

Threatened fauna species that were detected on the surrounding lands during recent surveys include: the Powerful Owl (Vulnerable TSC Act), Grey-headed Flying-fox (Vulnerable TSC and EPBC Acts) and the Eastern False-Pipistrelle (Vulnerable TSC Act). A suspected nest tree for a pair of adult Powerful Owls with one juvenile was also located.

While not detected during recent surveys the surrounding land contains suitable habitat for a range of other threatened species including microchiropteran bats, Swift Parrot, Glossy Black Cockatoo and Gang-gang Cockatoo.

Vegetation of the Subject Site

The subject site is almost entirely cleared. Vegetation consists of largely disturbed areas of grassland with scattered trees and landscaping. Along the eastern side of the hospital, several small patches of Sydney Turpentine Ironbark Forest (STIF) and Blue Gum High Forest (BGHF) exist as canopy trees while considerable areas of native vegetation surround the subject site.

No threatened flora species as listed under the TSC Act or EPBC Act have been detected on the subject site although sub-optimal habitat does occur for some threatened species, which are discussed in this report.

Two vegetation communities were mapped within the subject site zoned SP1 which include:

- Sydney Turpentine - Ironbark Forest (STIF; listed as Endangered Ecological Community (EEC) under State legislation); and
- Blue Gum High Forest (BGHF; listed as Critically Endangered Ecological Community (CEEC) under State legislation).

These communities do not conform to the national listing (EPBC Act) due to their poor quality, small size and absence of native understorey species (Cumberland Ecology 2009).

IMPACT ASSESSMENT

Land Surrounding the Subject Site

The land surrounding the subject site (zoned E2 for environmental protection) contains high ecological values but it is understood that the hospital redevelopment will not require removal of these high value areas.

The E2 conservation area provides habitat for two threatened ecological communities; STIF (EPBC Act and TSC Act) and BGHF (TSC Act). The conservation area also provides known habitat for the state listed species the Powerful Owl. Other threatened fauna have the potential to utilise the conservation area also. Providing development of the subject site (zoned SP1) does not extend beyond their boundaries to include the high value habitat areas, no impacts to flora and fauna listed under the TSC Act or EPBC Act are likely to occur. This habitat will be protected and managed under the implementation of a Biodiversity Management Plan (BMP) which was required as Condition 2 of consent as part of the rezoning of the land (DEWHA 2008).

Subject Site

The subject site provides very limited fauna habitat and is only suitable for urban adapted fauna. Higher quality habitat exists within the surrounding E2 conservation area. The subject site is almost entirely cleared. Retained vegetation resembles predominantly landscaped gardens and lawns. There is however a small occurrence of STIF and BGHF. These threatened communities exist within the subject site as canopy trees only (refer to Appendix B) and represent the state listing (TSC Act). It is anticipated that footprints of new constructions will generally not impact flora and fauna. It should be noted the position of the “new oxygen tanks” (Appendix C) are located among the STIF canopy trees are indicative only. There is scope to relocate the tanks to miss these trees. Provided that these trees aren’t removed there will be no impact upon native vegetation within the subject site.

Providing the development adheres to the draft stormwater management objectives set out in C&M (2010) the development is considered consistent with the BMP.

The following Stormwater Management Objectives as described in C&M (2010) include:

- Maintain existing runoff flow regimes including:
 - No increase in peak runoff;
 - No increase in frequency of runoff;
 - No adverse impact on downstream;
- Runoff from site to have no increase in pollutant loads or concentrations

Other indirect impacts should be controlled through the implementation of Sediment and Erosion Control Plan and the BMP.

CONCLUSION

Based on the current staging plan dwg A/EA-P03 (Morris Bray, 2010) and the Draft Stormwater Management Plan (C&M, 2010) the proposed redevelopment of the Sydney Adventist Hospital zoned SP1 will not impact upon the threatened communities Blue Gum High Forest and Sydney Turpentine-Ironbark Forest or known habitat of Powerful Owl which exist within the E2 conservation area. No impacts are anticipated to flora and fauna within the subject site provided the development does not remove any canopy trees which resemble STIF and BGHF and stormwater management objectives are achieved.

It is considered that this report is appropriate to address any flora and fauna issues associated as no significant impacts will occur on any species or habitats as a result of the Sydney Adventist Hospital redevelopment.

Reference List

C & M Engineering Consultants (2010) Draft Stormwater Management Plan for Sydney Adventist Hospital Redevelopment – Stage 1A and 1B Rev A. C & M Engineering Consultants Pty. Ltd. Carlingford

DECCW (2010) **Atlas of NSW Wildlife**

<http://wildlifeatlas.nationalparks.nsw.gov.au/wildlifeatlas/watlas.jsp> last accessed 2010

DEWHA (2008) *Approval Wahroonga Estate Redevelopment, Fox Valley, NSW* – EPBC 2008/4460

DEWHA (2010) **EPBC Protected Matters Search Tool**

Morris Bray Architects (2010) *Masterplan Overall Staging Plan A/EA-P03*. Morris Bray Architects Pty. Ltd. Crow Nest

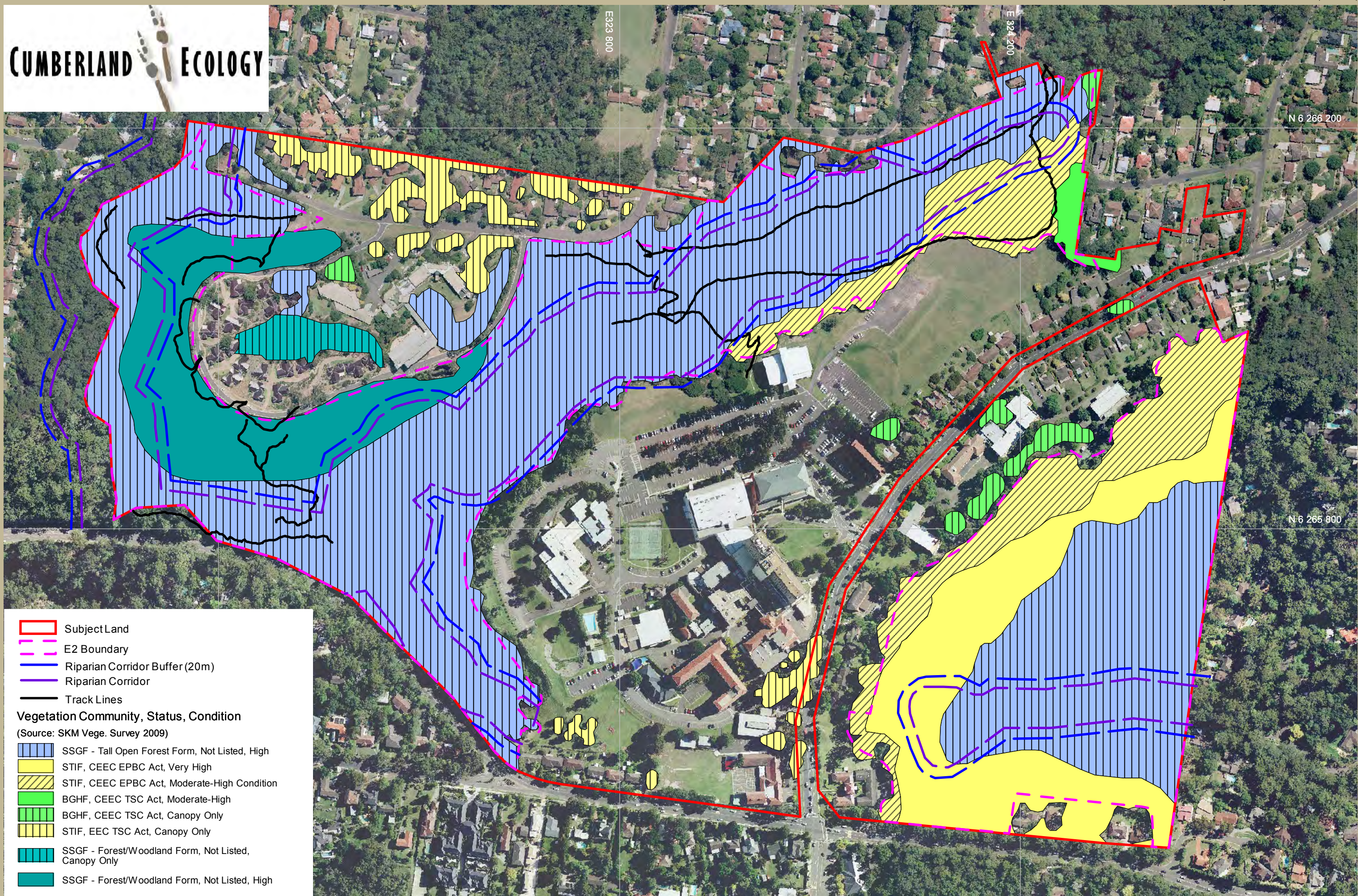
SKM (2009) *Wahroonga Estate Redevelopment: Ecological Assessment Report*, Sinclair Knight Merz Pty. Ltd. St Leonards.

Cumberland Ecology (2009). *The proposed redevelopment of “Wahroonga Estate” Fox Valley Road and Comenarra Parkway, Wahroonga: Flora and Fauna Assessment for a Part 3A Assessment*. Cumberland Ecology Pty. Ltd. Epping.

Urbis (2009) *Wahroonga Estate Redevelopment, incorporating Sydney Adventist Hospital Environmental Assessment and Concept Plan*. Urbis Pty. Ltd. Sydney

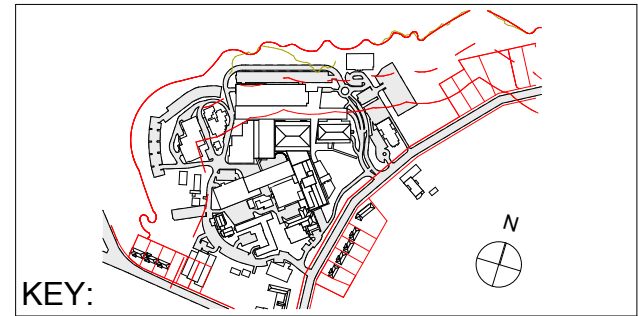
Appendix B

**SKM Vegetation Mapping of the Subject
Land**



Appendix C

Masterplan dwg A/EA-P03



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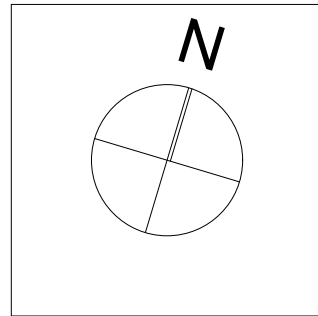
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	P03	MB	23.06.10	Information		
	P02	MB	22.06.10	Information		
	P01	MB	16.06.10	Information		

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