

Brendan Pratt  
Director  
Alphitonia  
*Supplied by email*

23 August 2021

**Re: Koala Assessment Report, Hastings Secondary College, Owen Street, Port Macquarie, NSW**

Dear Brendan,

In response to comments from Port Macquarie-Hastings Council on the proposed development at Hastings Secondary College, Port Macquarie, please find following a Koala Assessment Report. This report should form an addendum to the Biodiversity Assessment previously prepared by Ecoplanning (2021) for the proposal.

Should you have any questions, please do not hesitate to contact me.

Yours sincerely,

Bruce Mullins

**Director and Principal Ecologist**  
**BSc, MSc.**  
**Accredited BAM Assessor (#17024)**  
**M: 0497 888 225**  
**E: [bruce.mullins@ecoplanning.com.au](mailto:bruce.mullins@ecoplanning.com.au)**

# 1 Assessment of Koala habitat equivalent to Koala SEPP 2021

## 1.1 Introduction

Port Macquarie-Hastings Council have requested that environmental assessment include an assessment of Koala habitat equivalent to that required for council-approved development under the *State Environmental Planning Policy (Koala Habitat Protection) 2021* (Koala SEPP 2021).

Koala SEPP 2021 replaces previous state environmental planning policies for Koala protection on lands to which it applies. The Koala SEPP 2021 applies to land within local government areas (LGAs) listed within Schedule 1 of the Koala SEPP 2021, which includes Port Macquarie-Hastings LGA. For land that (1) has an area of at least 1 ha (including adjoining land within the same ownership), and (2) does not have an approved Koala Plan of Management applying to the land, council must assess whether the development is likely to have any impact on Koalas or Koala habitat.

The Hastings Secondary School site is approximately 3.453 ha in size, and Port Macquarie-Hastings LGA does not have an approved Koala Plan of Management. Accordingly, if this were a council-approved development, council would be required to assess the impacts on Koala habitat under the Koala SEPP 2021.

Under clause 11 of the Koala SEPP 2021, if a council is satisfied that the development is likely to have low or no impact on Koalas or Koala habitat, the council may grant consent to the development application. If council is satisfied that the development is likely to have a higher level of impact on Koalas or Koala habitat, the council must take into account a Koala Assessment Report (KAR) for the development. In addition, council may grant consent if they are satisfied that the land:

- does not contain any trees belonging to the Koala use trees listed in Schedule 2 of the Koala SEPP 2021, or
- is not core Koala habitat, or
- does not include trees >10 cm diameter at breast height, or
- includes only horticultural or agricultural plantations.

The SEPP defines core Koala habitat as:

- an area of land which has been assessed by a suitably qualified and experienced person as being highly suitable Koala habitat and where Koalas are recorded as being present at the time of assessment of the land as highly suitable Koala habitat, or
- an area of land which has been assessed by a suitably qualified and experienced person as being highly suitable Koala habitat and where Koalas have been recorded as being present in the previous 18 years.

The Koala SEPP 2021 does not provide a definition of what is “highly suitable Koala habitat”. The Koala SEPP 2021 defines “Koala habitat”, stating that the term is defined in plans of management prepared under the policy, previous Koala SEPPs and core Koala habitat.



Previous Koala SEPPs define “core” and “potential” Koala habitat, which are the presence of a resident population and native vegetation composed of at least 15% of the total number of trees are feed trees, respectively.

Prior to the issue of the Department of Planning, Industry and Environment (DPIE) Koala Habitat Protection Guideline which will provide further guidance for developments to which the Koala SEPP 2021 applies, an interim Factsheet has been released (DPIE 2021a). The Factsheet defines “highly suitable habitat” as habitat where 15% or greater of the total number of trees within a Plant Community Type are regionally relevant species of those listed in Schedule 2 of the Koala SEPP 2021.

Based on these definitions above and the information presented in Ecoplanning (2021), trees on site constitute Koala habitat, however, because the site does not contain a Plant Community Type, the habitat is not considered to be highly suitable Koala habitat and, therefore, is not likely to be core Koala habitat (see also Section 1.2).

The mechanism by which councils assess impacts on Koalas and their habitat is known as a KAR. The Koala Habitat Protection Guideline that DPIE is developing will guide the development of KARs. *Appendix A – Koala Assessment Report detailed criteria* of the interim Factsheet to guide Koala assessment under the Koala SEPP 2021 provides that KARs must address the following principles:

1. Understand Koala habitat values
2. Avoid intensifying land use in Koala habitat areas through appropriate landscape planning and site selection
3. Encourage the proper conservation and management of areas of natural vegetation that provide habitat for Koalas
4. Minimise potential direct impacts to Koalas through Koala sensitive design
5. Implement best practice measures for the management of identified risks to Koalas
6. Use compensatory measures only where they can be shown to better promote the aim of the SEPP
7. Use adaptive management strategies to monitor, evaluate and deliver appropriate planning outcomes for Koalas.

As per Port Macquarie-Hastings Council’s request, this report provides an assessment of Koala habitat that is equivalent to that required under Koala SEPP 2021. It finds, consistent with the findings of the Biodiversity Assessment completed for the project (Ecoplanning 2021), that the development is likely to have low or no impact on Koalas or Koala habitat.

## 1.2 Native vegetation and Koala habitat on site

A Biodiversity Assessment of the site was previously conducted for the proposed development, based on a literature review and visit to the site to identify biodiversity values (Ecoplanning 2021). Aerial imagery from 1956, 1979, 1981 and 1989 was also viewed online to understand the land use history of the study area and to determine the presence of remnant native vegetation. A search of relevant databases (DPIE 2021c) identified numerous (5,624) records of Koalas recorded within the urban landscape within 5 km of the study area. This included two records of Koalas on the site of the proposed development, one from 2004 and one from 2006 (Ecoplanning 2021).

The field visit for the Biodiversity Assessment was conducted on 9 December 2020 by Ben Brown for a period of four daylight hours (Ecoplanning 2021). During the field inspection the vegetation and threatened species habitat was assessed both within and directly adjacent to the study area. An assessment was conducted to determine the presence of any Plant Community Type (PCT) within the study area and observations were made on the likely habitat available for threatened species, including Koalas.

The field survey found the site to be characterised by planted urban vegetation, with some planted native species (Ecoplanning 2021). A review of historical aerial imagery showed the study area was cleared land in 1956. The current composition of the vegetation on site, when considered in conjunction with the clearing of the land as of 1956, indicates that the majority of vegetation in the area has been planted in landscaped gardens for aesthetics and visual amenity, with some species potentially colonising the area over time (potentially through birds dispersing seed). Native species on site are not remnant individuals of an ecological community, and the native vegetation on site does not resemble a recognised native PCT.

The field assessment found that Koalas have the potential to use the area (Ecoplanning 2021). The site was found to contain limited, fragmented habitat in the form of scattered trees including *Eucalyptus microcorys* (Tallowwood), *Corymbia maculata* (Spotted Gum), *Corymbia intermedia* (Pink Bloodwood), *Eucalyptus saligna* (Sydney Blue Gum) and *Melaleuca quinquenervia* (Broad-leaved Paperbark), all of which are species listed as Koala use tree species for the North Coast Koala Management Area in Schedule 2 of the Koala SEPP 2021. These field findings are consistent with the numerous records of Koalas within the urban landscape of Port Macquarie and the existing records, albeit from 2004 and 2006, of Koalas on site.

The findings of the Biodiversity Assessment are supplemented by those of the Arboriculture Impact Assessment Report (Arboriculture Report) prepared for the proposed development (Woodvale Tree Services 2021). The Arboriculture Report assessed 71 trees on the site for their health and retention value, and recommended removal or retention accordingly. Of the 71 trees assessed, 19 of those, or approximately 27%, were species listed in Schedule 2 of the Koala SEPP 2021 as Koala use trees. The proposal will remove nine Koala use trees, but will plant 20 Koala use trees (5x *Eucalyptus robusta* [Swamp Mahogany], 3x *E. grandis* [Rose Gum], 3x *E. microcorys* [Tallowwood] and 9x *Melaleuca quinquenervia* [Broad-leaved Paperbark])) in the landscape plan for the proposed development.

### 1.3 Impacts of the proposed development on native vegetation and Koala habitat

The proposed development includes refurbishment of two existing buildings (Buildings L and B), a new performing arts building and a fitness centre. The proposal will remove approximately 0.062 ha of planted vegetation from a modified, landscaped garden within the front setback of the school. It will remove nine trees that are listed in Schedule 2 of the Koala SEPP 2021 as Koala use trees (Woodvale Tree Services 2021) (**Table 1**). The proposal will remove a total of 26 of the 71 trees on the school campus (Woodvale Tree Services 2021). Therefore, the site will retain a high proportion (22%) of Koala feed trees on site.

**Table 1: Koala use trees proposed for removal.**

Tree No.	Species	Height (m)	Diameter at Breast Height (m)
9	<i>Corymbia maculata</i>	20-25	0.9
11	<i>Corymbia maculata</i>	15-20	0.58
12	<i>Melaleuca quinquenervia</i>	15-20	0.48
15	<i>Eucalyptus saligna</i>	20-25	0.42
17	<i>Eucalyptus pilularis</i>	20-25	1
18	<i>Corymbia maculata</i>	10-15	0.3
20	<i>Corymbia maculata</i>	20-25	0.6
31	<i>Melaleuca quinquenervia</i>	10-15	
33	<i>Melaleuca quinquenervia</i>	10-15	

## 1.4 Koala Assessment Report

Interim guidance published by DPIE provides detailed criteria for addressing the principles required to be addressed in a KAR prepared under the Koala SEPP 2021 (DPIE 2021b). Those criteria are applied to the impacts of the proposed SSD in **Table 2**.

**Table 2: Koala Assessment Report (principles outlined in the Koala Habitat Protection Guidelines 2020)**

Principle	Response
<b>1. Understand Koala habitat values</b>	
Criteria 1 - The site is established as containing core Koala habitat if a site area survey undertaken by a suitably qualified and experienced person has identified the presence of core Koala habitat.	<p>Core Koala habitat is defined under the Koala SEPP 2021 as “an area of land which has been assessed by a suitably qualified and experienced person as being highly suitable Koala habitat and where Koalas have been recorded as being present in the previous 18 years.”</p> <p>The Factsheet prepared by DPIE to provide guidance on the Koala SEPP 2021 defines “highly suitable [Koala] habitat” as “where 15% or greater of the total number of trees within any Plant Community Type (PCT) are the regionally relevant species of those listed in Schedule 2 of the SEPP (DPIE 2021b).”</p> <p>The Biodiversity Assessment prepared for the proposal by Ecoplanning (2021) reported Koalas were recorded on site in 2004 and 2006, 15 years ago at most recent. This report also determined the vegetation at the subject site did not resemble a PCT. While the site contains Koala habitat, the</p>

Principle	Response
	<p>absence of a PCT means that the Koala habitat does not satisfy the definition of highly suitable Koala habitat and, therefore, is not likely to be core Koala habitat under the Koala SEPP 2021.</p> <p>Additionally, the Port-Macquarie-Hastings Draft Coastal Koala Plan of Management (PMHC 2018a) does not map the site as core Koala habitat. Although the Draft Plan of Management has not been adopted and will not progress due to changes in the various Koala SEPPs, its mapping of core Koala habitat is based on principles similar to those in Koala SEPP 2021 and remains a useful source of guidance.</p> <p>Notwithstanding the above, under precautionary principles this KAR has been prepared to address concerns raised by council.</p>
<p>Criteria 2 - Further analysis is undertaken in order to understand the broader values of the core Koala habitat, including information about the Koala population using the habitat and any specific ecological functions the habitat might serve.</p>	<p>The Port Macquarie-Hastings Koala population has undergone extensive surveys (PMHC 2018b). Port Macquarie-Hastings supports a nationally significant population of Koalas which is one of the largest populations remaining on the east coast of Australia.</p> <p>Koala use trees as listed in Schedule 2 are found at the site; however, Koala use of these trees within the school is infrequent, given the low number of records on site with the most recent being 2006. The Biodiversity Assessment (Ecoplanning 2021) reported that the extent of the vegetation on site was confined to garden beds due to the built infrastructure within the site and beyond the boundary and this vegetation was subject to ongoing management and maintenance as part of the existing school's grounds maintenance.</p> <p>The site is located near the coast, is fragmented and somewhat isolated from areas of native vegetation by urbanisation. The site is not likely to provide a key link or stepping stone between areas of remnant core Koala habitat within the LGA. The site may be used infrequently by dispersing young male Koalas. The scattered Koala use trees on the site are not likely to have a substantial ecological function in supporting the local Koala population compared to the larger patches of vegetation throughout the Port</p>

Principle	Response
	Macquarie-Hastings area that have the attributes of core Koala habitat.
<b>2. Avoid intensifying land use in Koala habitat areas through appropriate landscape planning and selection</b>	
Criteria 3 – Site selection takes into account Koala habitat values.	<p>The proposal will remove nine of the 19 planted trees that are listed as Koala use trees. Given the limitations of the existing school campus, trees have been retained in the proposed development, wherever possible, which includes ten Koala use trees.</p> <p>At council's request, the landscape plan has been amended and the planting schedule will include 20 Koala use trees (5x <i>Eucalyptus robusta</i>, 3x <i>E. grandis</i>, 3x <i>E. microcorys</i> and 9x <i>Melaleuca quinquenervia</i>). This amendment achieves 29.7% of the trees on site as Koala use trees.</p>
<b>3. Encourage the proper conservation and management of areas of natural vegetation that provide habitat for Koalas.</b>	
Criteria 4 – Development avoids the direct loss of core Koala habitat within the site survey area and avoids fragmentation.	<p>The Biodiversity Assessment prepared for the proposal by EcoPlanning (2021) reported Koalas were recorded on site in 2004 and 2006, 15 years ago at most recent. This report also determined the vegetation at the subject site did not resemble a PCT. While the site contains Koala habitat, the absence of a PCT means that the Koala habitat does not satisfy the definition of highly suitable Koala habitat and, therefore, is not likely to be core Koala habitat under the Koala SEPP 2021.</p> <p>The proposal will remove nine of the 19 planted trees that are listed as Koala use trees. The existing school campus is currently fragmented from areas of native vegetation, therefore, the proposal will not further fragment a patch of Koala habitat, or alter the potential function of trees within the school grounds.</p> <p>At council's request, the landscape plan has been amended and the planting schedule will include 20 Koala use trees (5x <i>Eucalyptus robusta</i>, 3x <i>E. grandis</i>, 3x <i>E. microcorys</i> and 9x <i>Melaleuca quinquenervia</i>). This amendment achieves 29.7% of the trees on site as Koala use trees.</p>

Principle	Response
Criteria 5 – Core Koala habitat is excluded from the development footprint	<p>As outlined above in Criteria 1, the site does not contain highly suitable Koala habitat and, therefore, is not likely to be core Koala habitat under the Koala SEPP 2021. As such, core Koala habitat has been excluded from the development footprint.</p> <p>However, nine Koala use trees within the school grounds are located within the development footprint. Ten Koala use trees (and 35 non-Koala use trees) outside the development footprint will be retained. Given the limitations of space within the existing school grounds, tree removal has been minimised as much as practicable as trees provide important aesthetic and amenity value to the school community.</p> <p>At council’s request, the landscape plan has been amended to include an additional Koala use tree. A total of twenty (20) Koala use trees have been included in the landscape plan.</p>
<b>4. Minimise the potential direct impacts to Koalas through Koala sensitive design.</b>	
Criteria 6 – Development avoids direct impacts to core Koala habitat within the site area	<p>As outlined above in Criteria 1, the site does not contain highly suitable Koala habitat and, therefore, it is unlikely to contain core Koala habitat under the Koala SEPP 2021. As such, the proposed development is likely to avoid direct impacts to core Koala habitat within the site area.</p> <p>However, nine Koala use trees within the school grounds are located within the development footprint. Ten Koala use trees (and 35 non-Koala use trees) outside the development footprint will be retained. Given the limitations of space within the existing school grounds, tree removal has been minimised as much as practicable as trees provide important aesthetic and amenity value to the school community.</p> <p>At council’s request, the landscape plan has been amended to include an additional Koala use tree. A total of twenty (20) Koala use trees have been included in the landscape plan.</p>
Criteria 7 – Where some loss of habitat cannot be avoided (and providing it is consistent with all other criteria), development is designed in a way that retains higher value areas across the site	The proposal will remove nine of the 19 planted trees that are listed as Koala use trees. The school campus is currently fragmented from other nearby areas of native vegetation,



Principle	Response
and avoids fragmentation of habitat within the site area and more broadly within the region.	<p>therefore, the proposal will not further fragment a patch of Koala habitat, or alter the potential function of retained Koala use trees within the school grounds.</p> <p>Further, at council's request, the landscape plan has been amended and the planting schedule will include 20 Koala use trees (5x <i>Eucalyptus robusta</i>, 3x <i>E. grandis</i>, 3x <i>E. microcorys</i> and 9x <i>Melaleuca quinquenervia</i>).</p>
Criteria 8 – Development is undertaken in a way that maintains the potential function of the core Koala habitat.	<p>As outlined above in Criteria 1, the site does not contain highly suitable Koala habitat and, therefore, is not likely to contain core Koala habitat under the Koala SEPP 2021.</p> <p>The potential function of the limited Koala habitat within the site area will be maintained following development as the proposal will retain ten Koala use trees outside the development footprint and the amended landscape plan includes the planting of three Koala use trees.</p> <p>During construction, fencing should be used to exclude Koalas from the construction area, but allow them access to use trees outside the construction footprint.</p>
<b>5. Implement best practice measures for the management of identified risks to Koalas</b>	
Criteria 9 – All relevant indirect impacts to Koalas and Koala habitat associated with the development are identified.	<p>As the proposed development will maintain an existing use of the site, there are not anticipated to be increased indirect impacts to Koalas or Koala habitat from dog attacks, increased fire risk, vehicle strike, disturbance, edge effects or impediments to movement.</p> <p>During construction, fencing should be used to exclude Koala from construction areas, but Koala should be allowed access to use trees elsewhere within the school grounds should they wander into the local area.</p>
Criteria 10 - Development uses best practice management measures to address the potential impacts considered likely to pose an increased risk to Koalas or their habitat.	<p>As the proposed development will maintain an existing use of the site, there are not anticipated to be increased risks to Koalas or their habitat from the proposed development.</p> <p>During construction, fencing should be used to exclude Koala from construction areas, but Koala should be allowed access to use trees</p>

Principle	Response
	elsewhere within the school grounds should they wander into the local area.
<b>6. Use compensatory measures only where they can be shown to better promote the aim of the SEPP</b>	
Criteria 11 – Compensatory measures are only used once it has been demonstrated that options to avoid, minimise and manage impacts to core Koala habitat have been exhausted.	<p>As outlined above in Criteria 1, the site does not contain highly suitable Koala habitat and, therefore, is not likely to contain core Koala habitat under the Koala SEPP 2021.</p> <p>In consideration of the aims of the policy, the proposed development is situated on the grounds of an existing and operational school site. The proposal has been deemed necessary for the educational establishment to provide high quality teaching and learning to the school community of Hastings Secondary College.</p> <p>The proposal will require nine Koala use trees to be removed, but ten Koala use trees (and 35 non-Koala use trees) will be retained at the site. Given the limitations of space within the existing school grounds, tree removal has been minimised as much as practicable as trees provide important aesthetic and amenity value to the school community.</p> <p>Further, at council's request, the landscape plan has been amended and the planting schedule will include 20 Koala use trees (5x <i>Eucalyptus robusta</i>, 3x <i>E. grandis</i>, 3x <i>E. microcorys</i> and 9x <i>Melaleuca quinquenervia</i>).</p>
Criteria 12 – Where there is any direct loss of habitat or compromise in the potential function of a Koala habitat area (and providing it is consistent with all other criteria outlined here), suitable compensatory measures are provided.	<p>The proposal requires the removal of nine planted Koala use trees (as listed in Schedule 2) from the school grounds. The potential function of the ten Koala use trees to be retained is not likely to change.</p> <p>As outlined in criteria 2, the site is 1) fragmented and somewhat isolated from areas of native vegetation by urbanisation, 2) not likely to provide a key link or stepping stone between areas of remnant core Koala habitat within the LGA, 3) contains scattered Koala use trees that are not likely to have a substantial ecological function in supporting the local Koala population compared to the larger patches of vegetation throughout the Port Macquarie-Hastings area that have the attributes of core Koala habitat.</p>

Principle	Response
	<p>At council's request, the landscape plan has been amended and the planting schedule will include 20 Koala use trees (5x <i>Eucalyptus robusta</i>, 3x <i>E. grandis</i>, 3x <i>E. microcorys</i> and 9x <i>Melaleuca quinquenervia</i>). This amendment achieves 29.7% of the trees on site as Koala use trees.</p> <p>No additional compensatory measures are deemed necessary for the proposal.</p>
<p><b>7. Use adaptive management strategies to monitor, evaluate and deliver appropriate planning outcomes for Koalas.</b></p>	
<p>Criteria 13 – Development application includes a monitoring, adaptive management and reporting component against the key outcomes.</p>	<p>There are significant monitoring and management strategies at the state and local government level, such as the NSW Koala Strategy (OEH 2018) and the Port Macquarie-Hastings Council Koala Recovery Strategy (PMHC 2018b), for Koalas in the Port Macquarie-Hastings area. As the proposed development will have low or no impacts on Koalas or Koala habitat, it is not considered necessary to develop monitoring, adaptive management or reporting strategies for Koalas specific for the proposal.</p>

## 1.5 Conclusion

This report has assessed the impacts of the State Significant Development at Hastings Secondary College on Koalas and Koala habitat, including core Koala habitat, using an assessment equivalent to that required for council-approved development under the Koala SEPP 2021. This report has been prepared on a precautionary basis in order to address concerns raised by council in light of the new Koala SEPP 2021 and should form an addendum to the Biodiversity Assessment previously prepared by Ecoplanning (2021) for the proposal.

This report confirms that under the Koala SEPP 2021, although there was a Koala record from 2006 (most recently) and the site does contain Koala use trees as listed in Schedule 2 of the SEPP, it does not contain vegetation that resembles any Plant Community Type (PCT) (Ecoplanning 2021). The site contains Koala habitat, however, it does not contain highly suitable Koala habitat and, therefore, is not likely to contain core Koala habitat. Furthermore, the site was not identified as core Koala habitat in the Port-Macquarie-Hastings Draft Coastal Koala Plan of Management (PMHC 2018a).

An arborist report (Woodvale Tree Services 2021) identified 71 trees within the school site, and 26 will be removed for the proposed development. Nine of the trees to be removed are Koala use trees. The school will retain 10 Koala use trees representing >15% of trees on site.



The proposal will not affect the long term function that trees on site may have for Koala. The number of Koala use trees on site will be increased by implementing the landscape plan.

During construction, a fence should be erected around the construction area to prevent Koala access. Fencing should allow Koala access to use trees outside the construction footprint.

At council's request, the landscape plan has been amended and the planting schedule will include 20 Koala use trees (5x *Eucalyptus robusta*, 3x *E. grandis*, 3x *E. microcorys* and 9x *Melaleuca quinquenervia*). This amendment achieves 29.7% of the trees on site as Koala use trees.

The proposed development will maintain the existing use of an established and operational school and will have low or no impact on Koala or Koala habitat.



## 2 References

DPIE (NSW Department of Planning, Infrastructure and Environment) (2021a). Koala SEPP 2021 – Frequently Asked Questions. Accessed at: <https://www.planning.nsw.gov.au/-/media/Files/DPE/Factsheets-and-faqs/Policy-and-legislation/Frequently-Asked-Question--State-Environmental-Planning-Policy-Koala-Habitat-Protection-2021.pdf?la=en>

DPIE (NSW Department of Planning, Infrastructure and Environment) (2021b). Koala SEPP 2021: Fact Sheet – Development applications: State Environmental Planning Policy (Koala Habitat Protection) 2021. Accessed at: <https://www.planning.nsw.gov.au/-/media/Files/DPE/Factsheets-and-faqs/Policy-and-legislation/Fact-Sheet-Development-Applications-State-Environment-Planning-Policy-Koala-Habitat-Protection-2021.pdf?la=en>

DPIE (NSW Department of Planning, Infrastructure and Environment) (2021c). BioNet Atlas. Accessed at: [http://www.environment.nsw.gov.au/atlaspublicapp/UI\\_Modules/ATLAS\\_/AtlasSearch.aspx](http://www.environment.nsw.gov.au/atlaspublicapp/UI_Modules/ATLAS_/AtlasSearch.aspx)

Ecoplanning (2021). Biodiversity Assessment – Hastings Secondary College, 16 Owen Street, Port Macquarie, NSW. Prepared for Alphitonia.

OEH (NSW Office of Environment and Heritage) (2018). NSW Koala Strategy. Accessed at <https://www.environment.nsw.gov.au/-/media/OEH/Corporate-Site/Documents/Animals-and-plants/Threatened-species/nsw-koala-strategy-18250.pdf>

PMHC (Port Macquarie-Hastings Council) (2018a). Draft Coastal Koala Plan of Management. Accessed at [https://ehq-production-australia.s3.ap-southeast-2.amazonaws.com/30850bf25cbc4d9300369299ad9307fb2265fad3/documents/attachments/000/074/529/original/Document - DRAFT CKPoM - February 2018 - version 3 - \\_post\\_Dept\\_feedback.pdf?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIBJCUK4ZO4WUUA%2F20210803%2Fap-southeast-2%2Fs3%2Faws4\\_request&X-Amz-Date=20210803T012944Z&X-Amz-Expires=300&X-Amz-SignedHeaders=host&X-Amz-Signature=51ab842c709049247fbd4246f00d377c3c62011a3588124611d873807993e84f](https://ehq-production-australia.s3.ap-southeast-2.amazonaws.com/30850bf25cbc4d9300369299ad9307fb2265fad3/documents/attachments/000/074/529/original/Document - DRAFT CKPoM - February 2018 - version 3 - _post_Dept_feedback.pdf?X-Amz-Algorithm=AWS4-HMAC-SHA256&X-Amz-Credential=AKIAIBJCUK4ZO4WUUA%2F20210803%2Fap-southeast-2%2Fs3%2Faws4_request&X-Amz-Date=20210803T012944Z&X-Amz-Expires=300&X-Amz-SignedHeaders=host&X-Amz-Signature=51ab842c709049247fbd4246f00d377c3c62011a3588124611d873807993e84f)

PMHC (Port Macquarie-Hastings Council) (2018b). Port Macquarie-Hastings Council Koala Recovery Strategy 2018. Accessed at [https://www.pmhc.nsw.gov.au/files/assets/public/services/environment/wildlife/koalas/adopted-pmhc-koala-recovery-strategy-sept-2018\\_web.pdf](https://www.pmhc.nsw.gov.au/files/assets/public/services/environment/wildlife/koalas/adopted-pmhc-koala-recovery-strategy-sept-2018_web.pdf)

Woodvale Tree Services (2021) *Arboriculture Impact Assessment Report*. Site Assessment conducted and report prepared by: The Tree MD Pty. Ltd. Geoffrey Ashton AQF 5 in Arboriculture. Hastings Secondary College Port Macquarie Campus, Owen St Port Macquarie, NSW.





ABN 48 612 666 172

Sydney | Brisbane | Melbourne

Level 23, 101 Miller St  
North Sydney NSW 2060

PO Box 3  
North Sydney NSW 2059  
Ph (02) 94371000

17 August 2021

SINSW  
c/- Currie & Brown  
Suite 2, Level 10, 3 Spring Street  
Sydney NSW 2000

Attention: Mr. M. Havdahl

Dear Martin,

**RE: Hastings SC | SSDA Acoustic Addendum**

**JOB NO.: 200360**

**REVISION NO.: [F]**

This acoustic letter has been prepared as an addendum to the Acoustic Report for SSDA (ref. 200360-AC-SSDA [F]) in order to respond to comments from the DPIE in regards to the SSDA submission. This addendum addresses further comments provided in addition to Addendum Revision C.

**Comment:** *Confirm that use of the multi-purpose sports court is expected to meet the required operational noise criteria during the evening time at residential receivers if windows and doors are closed and whether this is feasible.*

**Response:** Based on the noise assessment, with windows and doors closed the noise levels at residential receivers is expected to meet the operational noise criteria as stated in the Acoustic Report for SSDA during the evening period (6pm to 10pm).

**Comment:** *Provide further details in relation to sound insulation of openings to achieve noise levels at receivers and confirm that they are feasible and would be implemented.*

**Response:** Openings for mechanical ventilation have been provided only on the North and East façade, with none located on the West façade which faces the residential receivers, as an acoustic control measure. Based on this, the mechanical ventilation openings are not expected to result in an exceedance of the noise criteria stated in the Acoustic Report for SSDA.

**Comment:** Concerns have been raised in relation to the noise implications caused by an increase in vehicle and pedestrian flow as a result of the Stage 3 Multi-purpose sports facility.

**Response:** As per Section 5.4 of the Acoustic Report for SSDA, for existing residences and other sensitive land uses affected by additional traffic on existing roads generated by land use developments, any increase in the total traffic noise levels should be limited up to 2.0dB above the existing noise levels. Predicted increase in the total traffic noise levels due to the development – including the Multi-purpose sports facility – is 0.85dB. Therefore, traffic generated as a result of the proposed development is not expected to exceed the noise criteria stated in the NSW RNP and the Acoustic Report for SSDA.

**Extension of Construction Hours:** Based on NSW COVID-19 Health Orders, construction times on Saturday are to be 7am to 1pm (work hours may be altered in accordance with COVID-19 Health Orders at the time of construction).

**Comment:** Address noise from CAPA building on Mainsail building

**Response:** The character of the noise emissions from the use of classrooms, such as sound pressure level and spectra, vary in accordance with the teaching activity. There will not be significant noise emissions from the use of the classrooms as, generally, noise levels within teaching spaces in a school are expected to be low, plus the typical façade sound insulation performance will minimise the noise impacts to the nearest noise sensitive receivers.

In order to achieve a sufficient façade sound insulation performance, surface and sound insulation performance of glazing shall not reduce the overall sound insulation performance of the building façade.

Noise emissions from the use of classrooms of the CAPA building have been assessed to the Mainsail Building in 17-19 Owen Street. The noise assessment has considered the following assumptions:

- Classrooms will be used during school operating hours – i.e. day time period.
- Noise levels have been considered as continuous over a 15-minute assessment period to provide the worst-case scenario.
- Noise levels within the classrooms are based on 'loud' noise levels of teaching activities in the CAPA Building – i.e. dancing class.
- The noise break-out has been assumed through the building envelope construction of the classrooms, being composed by façade wall system (assumed  $R_w45$ ) and glazing (assumed  $R_w30$  for closed windows and  $R_w10$  for open windows). Based on these sound insulation ratings and the area of the elements, the composite sound reduction of the façade with closed windows is  $R_w37$  and  $R_w17$  for windows opened. To provide a worst-case scenario, open windows have been considered for the noise assessment.

The noise impact assessment has been based on the following methodology:

$$L_{\text{ext}} = L_{\text{int}} - R_{\text{comp}} + 10 \log_{10}(S) - 20 \log_{10}(r) - 14$$

where:

$L_{\text{ext}}$  is the resultant sound pressure level at the receiver (dB(A))

$L_{\text{int}}$  is the internal noise level (dB(A))

$R_{\text{comp}}$  is the composite sound reduction for the façade (dB)

$S$  is the surface area of the façade ( $\text{m}^2$ )

$R$  is the distance to the receiver's boundary from the CAPA Building façade (m)

Predicted noise impact assessment at the Mainsail Building is summarised in the following table.

Calculation	Overall A-weighted noise level, in dB(A)
Reverberant Sound Pressure Level ( $L_{int}$ )	85
Composite Sound Reduction of Façade ( $R_{comp}$ )	-17
Correction for Surface Area of Façade ( $S$ )	-15
Correction for Distance to Receiver ( $r$ )	-31
Resulting Sound Pressure Level at Residential Receiver	38
SEPP Criteria Day Time. Complies?	50 / Yes

Based on the results, noise emissions from the CAPA Building to the Mainsail Building are expected to comply with the Educational Establishments and Child Care Facilities SEPP noise level criteria. Acoustic design of the façade, other external building elements and ventilation openings of the school will need to be reviewed during the design stages in order to confirm compliance of the noise level criteria.

**Comment:** Clarification on windows closed to reduce noise and windows open for ventilation

**Response:** Refer to Response 3 above.

**Comment:** The noise research report conducted by JHA Services (see document 20) estimates in Chapter 5.2 Table 16 (page 23) that the decibel emanating from the PCY building during sports games would be 84dB(A) and this would be reduced to 44dB(A) at the La Mer building in the evening due to distance to La Mer and "building fabric sound reduction". Similarly, during dance and disco activities the noise level is estimated to be 94dB(A) (see table 17 on page 24) but somehow the noise is again reduced to 44dB(A). There is inconsistency in the noise reduction based on the distance from La Mer. The noise for sport is claimed to be reduced by 31dB(A), yet despite the fact that the distance to La Mer is the same, the noise reduction for music and disco is reduced by 39dB(A). This discrepancy does not appear to be explained.

**Response:** The report references reduction in noise levels with differing dB(A). The noise reduction varies based on where the activity is being undertaken in the PCYC building and the separation from that activity to the La Mer building. For clarity, refer to below for Table 16 and Table 17 from the NVIA.

Calculation	Sound Pressure Level
Reverberant Internal Noise Level of indoor sport games $L_{Aeq,15min}$ , dB(A)	84
Building fabric sound reduction, dB	-30
Distance attenuation, dB	-31
Predicted noise level at nearest receiver, $L_{Aeq,15min}$ dB(A)	23
Noise Level Criteria (Evening-time), $L_{Aeq,15min}$ dB(A)	44 / Yes

**Table 16:** Predicted noise levels from Multipurpose Sporting Courts during indoor games with spectators.



Calculation	Sound Pressure Level
Reverberant Internal Noise Level of dance / disco event $L_{Aeq,15min}$ , dB(A)	94
Building fabric sound reduction, dB	-30
Distance attenuation, dB	-39
Predicted noise level at nearest receiver, $L_{Aeq,15min}$ dB(A)	25
Noise Level Criteria (Evening-time), $L_{Aeq,15min}$ dB(A)	<b>44 / Yes</b>

**Table 17:** Predicted noise levels from Multipurpose Rooms during Disco / Dance events.

These tables show the noise impact assessments and shall be interpreted as follows:

- Internal noise levels within the spaces are presented in the first rows.
- Second rows show the composite sound insulation performance of the building façade and it can be noted that similar values are applied.
- Attenuation due to distance are shown in third rows. It can be noted that they are different values as it is understood that Disco and Dance events will be held in the Multipurpose Rooms further than the indoor sport courts (refer to Figure 5 and Figure 6 of the NVIA). Furthermore, there is no a direct line of sight from the Multipurpose rooms to La Mer building as noted in Figure 6, which renders to be shielded and therefore noise impact will be lesser than other receivers with direct line of sight.
- Results of the noise impact at the receivers are presented in the fourth rows which are the sum of the above figures.
- Noise assessment is carried out in the fifth rows which show the noise level criteria during evening time 44dB(A) and the statement if the result of the noise impact at the receivers achieve the noise level criteria.
- **Noise level figures in last rows are not the result of the noise impact assessments.** These are the noise level criteria to be achieved.

Yours sincerely,



Jorge Reverter

Acoustic Group Manager



ABN 48 612 666 172

Sydney | Brisbane | Melbourne

Level 23, 101 Miller St  
North Sydney NSW 2060

PO Box 3  
North Sydney NSW 2059  
Ph (02) 94371000

20 July 2021

SINSW  
c/- Currie & Brown  
Suite 2, Level 10  
3 Spring Street  
Sydney NSW 2000

Attention: Mr. M. Havdahl

Dear Martin,

**RE: Hastings SC | SSSA ESD Addendum**

**JOB NO.: 200360**

**REVISION NO.: [B]**

The purpose of this addendum letter is to provide additional details of proposed ESD initiatives for the Hastings Secondary College development and how they support a more ambitious sustainability strategy. In particular, this letter provides additional details on the following items:

- The response to the microclimate;
- Urban heat island mitigation; and
- Proposed passive design strategies to ensure that access to natural light and ventilation are provided and maximised for all internal spaces.

The proposed Hastings Secondary College development has been designed to a high level of sustainability above and beyond regulatory requirements.

All new buildings are being designed to achieve a 4 Star Green Star rating, representing Australian Best Practice. Furthermore, the current design is targeting 54 Green Star points, which is 9 points above the 45 point requirements to achieve 4 Star, and is therefore approaching the level of 5 Star Australian Excellence.

For existing buildings undergoing alteration and refurbishment, whilst these are not targeting a Green Star rating, a similar sustainability framework in accordance with the EFSG is applied to ensure a similarly high level of sustainable outcome.

This approach aims to deliver new public school facilities that are both sustainable and cost-effective, in construction and during operation. In addition, to provide the best possible learning experience, particular attention has been focused on creating a healthy and thermally comfortable environment for students and staff.

## Microclimate Response

Climate risk assessments, which include a detailed assessment of the local climatic conditions and projections of climatic trends into the future, have been carried out to inform the design of the buildings. Key issues including hotter and dryer conditions and more extreme maximum temperatures have been identified and these issues have been responded to and addressed by the design.

Energy/Thermal modelling using local weather data files have been used to design both the thermal envelope and HVAC systems of the buildings. This is to ensure that the HVAC system is sized correctly and that a high level of thermal comfort can be achieved.

## Urban Heat Island Mitigation

To reduce the contribution of the project sites to the urban heat island effect, the project is committed to ensuring at least 75% of the total project site area comprises of any combination of the following:

- Vegetation;
- Roofing materials with:
  - three year SRI of minimum 64 for roof pitched < 15° and 34 for roof pitched > 15°; or
  - where product's three year SRI is not available, initial SRI of minimum 82 for roof pitched < 15° and 39 for roof pitched > 15°.
- Unshaded hardscaping elements with three year SRI of minimum 34 or initial SRI of minimum 39;
- Hardscaping elements shaded by overhanging vegetation or roof structures, including photovoltaic panels; or
- Areas directly to the south of vertical building elements, including areas shaded by these elements at the summer solstice.

To ensure project meets this requirement, 1 point is targeted for Green Star credit 25 "Heat Island Effect".

## Passive Design

Passive design principles have been employed throughout the design to help minimise the need for active cooling and heating.

Key features include appropriate building orientation and corresponding external shading devices. Windows are sized and located carefully to provide good daylight to rooms but avoiding glare, unnecessary solar heat gain and excessive thermal loss during winter. High thermal performance glazing will be provided throughout. The building envelope, such as walls and roofs, will be provided with appropriate levels of insulation to help ensure energy efficiency and thermal comfort. The colour of building materials will also be selected for their thermal performance, in particular a lighter coloured roof will be used where possible to reduce the unwanted solar heat gains and minimise the roofs contribution to heat island effect.

A high level of natural daylight is targeted via the combination of appropriately sized & located windows and higher VLT glass. Operable window openings will be provided to facilitate natural ventilation, including cross ventilation where possible, for natural comfort in summer and to maintain a healthy indoor environment.

Yours sincerely,



Lawrence Yu

**ESD Group Manager**