To	Adam Iskander- Senior Planning Officer, DPE Planning Proposal PP-2021-5837 Western Sydney
Subject	University Campus, Milperra – Response to Item 2 email dated 1 March 2023
Date	13 April 2023
From	Theo Zotos- Senior Development Manager, Mirvac

Thank you for undertaking the review of the public authority responses in relation to planning proposal PP-2021-5837 for the former Western Sydney University Campus, Milperra.

In reference to your email dated 1st March 2023, please find below a response to Item 2 which provides further clarification to assist your assessment and reporting to the Planning Panel:

> *Item 2. Preservation of existing trees and Cumberland Plain Woodland (CPW) – The Panel in its rezoning review decision and the Environment and Heritage Group (EHG) in their submission have raised* ***concerns about tree removal****. EHG has also raised* ***concerns that the CPW on site has been underestimated.*** *We request further detailed information and possibly maps demonstrating how tree retention in the proposed residential and recreational zones will be maximised by the proposed scheme for the site.*

1 Tree removal

The masterplan has been refined over several iterations in consideration of several key factors including optimum site grading levels, maintaining existing access/egress points, limitation of south facing residential lots, retention of key vegetation groups and efficient alignment of utilities infrastructure.

The retention of large, consolidated areas of vegetation have been prioritised as they provide a favourable edge to area ratio enhancing the probability of long-term tree survival and improved habitat for local species. This has informed the proposed conservation area measuring over 2ha and the realignment of the proposed central park in post lodgement changes to the Planning Proposal Refer to figure .

1.1 Additional tree retention

Since public exhibition, further detailed stormwater drainage analysis has been conducted (under the guidance of Council) with the aim to consolidate the proposed stormwater detention and water quality measures.

A particular focus of the drainage analysis was to reduce the footprint of the proposed drainage facility proposed within the northern open space located adjacent to Bullecourt Avenue. Refer to Figure 1 for site area identification.

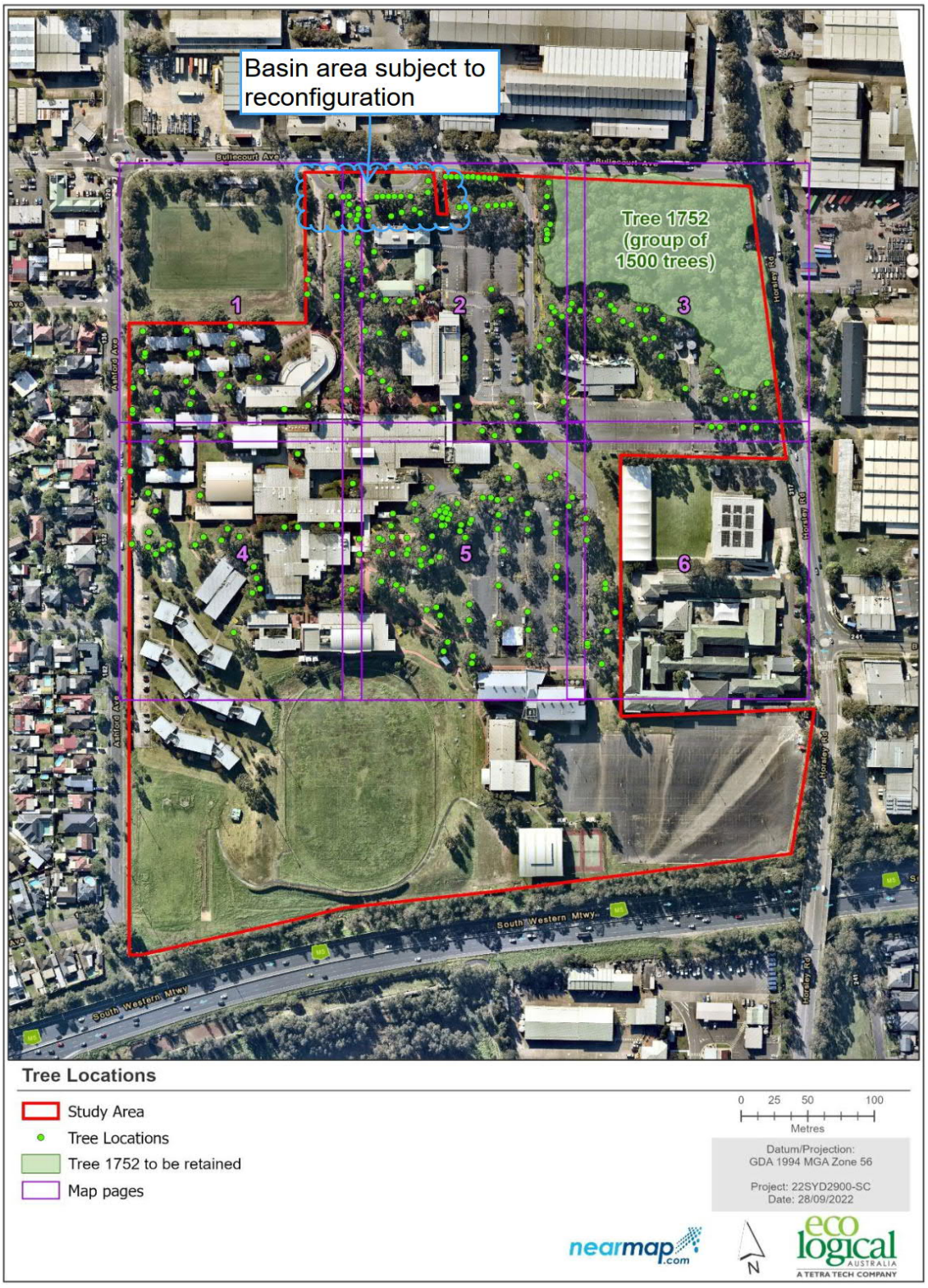

Figure 1. Site identification and tree location map
(Source: Western Sydney University Milperra Campus Arboricultural Impact Assessment, Ecological Australia Sept 2022)

The re-alignment of drainage catchment areas and further detailed drainage modelling has resulted in a significantly reduced northern basin area. Subsequently, this facilitates the retention of a further 17 mature trees of which the majority are classified within the Arboricultural Impact Assessment (Ecological Australia, Sept 2022) as being in good health and assessed as either medium or high retention value. The drainage footprint design iterations are provided in Figures 2-5.

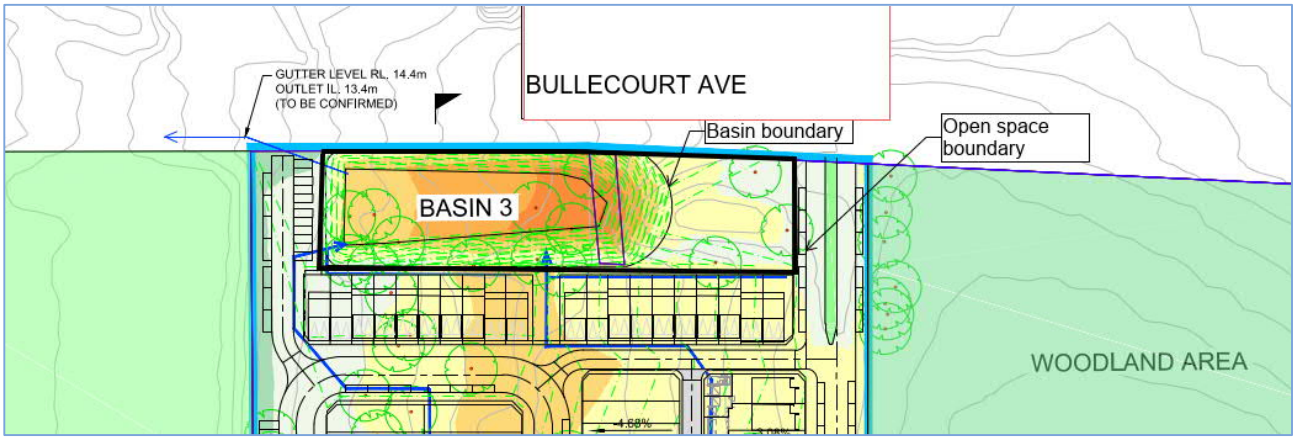

Fig 2. Northern open space drainage basin footprint 2022

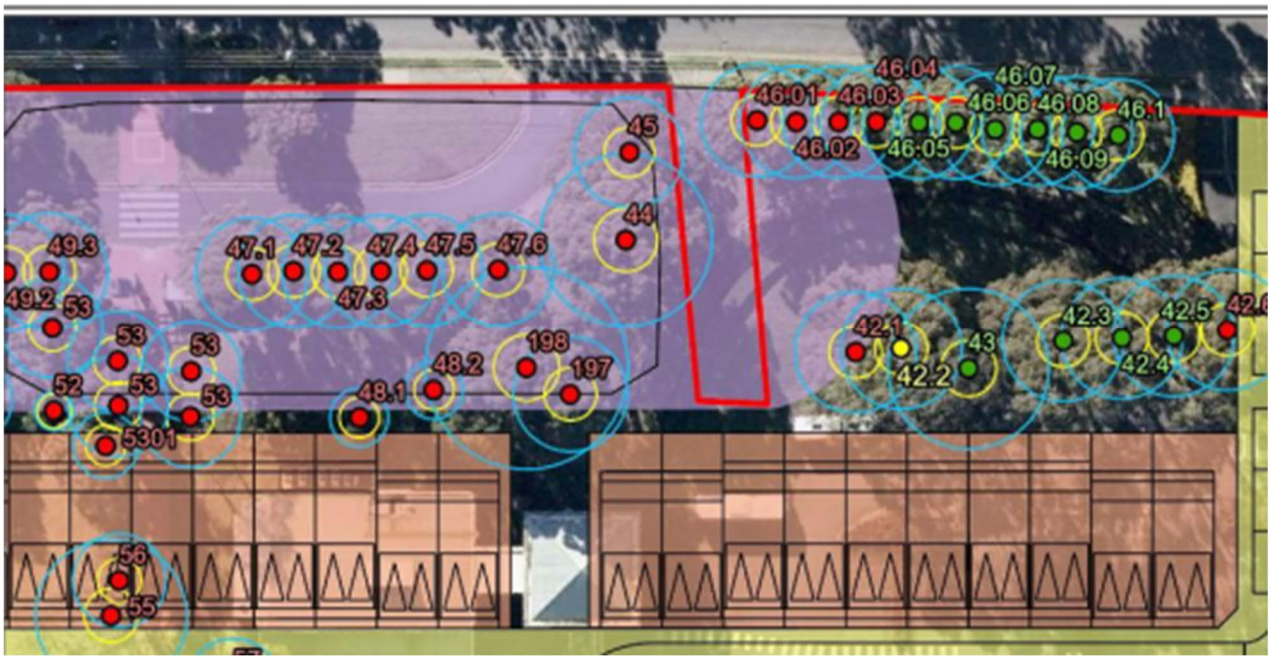

Fig 3 – Tree identification and retention plan and Basin 3 footprint*
(Source: Western Sydney University Milperra Campus Arboricultural Impact Assessment, Ecological Australia Sept 2022)

Note* Red trees to be removed, yellow potential for retention pending protection measures during construction and the green notation indicates trees to be retained

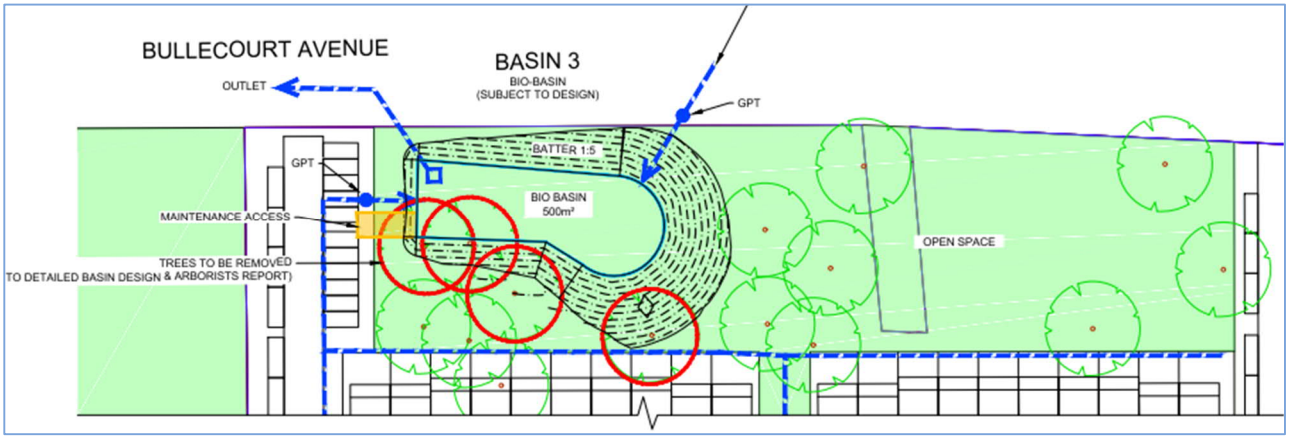

Figure 4 – Revised Basin Layout & Overlay

Fig 5 – Tree identification and retention plan revised basin footprint (Source: Ecological Australia email to Mirvac April 2023)

A breakdown of the additional trees to be retained due to the revised drainage layout are listed in Table 1 below.

Table 1 – Number of additional trees being retained under revised drainage design

Tree ID	Botanical Name	Health	Retention Value
42.1	Corymbia citriodora	Good	High
44	Eucalyptus microcorys	Good	High
45	Angophora costata	Good	Medium
46.01	Eucalyptus microcorys	Good	High
46.02	Eucalyptus microcorys	Good	High
46.03	Eucalyptus microcorys	Good	High
46.04	Eucalyptus microcorys	Good	High
47.6	Eucalyptus microcorys	Good	Medium
51	Stenocarpus sinuatus	Good	Medium
52	Stenocarpus sinuatus	Fair	Low
53 (Group of 5)	Eucalyptus sideroxylon	*Poor	Medium
197	Eucalyptus microcorys	Good	Medium
198	Eucalyptus microcorys	Good	High

*Further assessment to be undertaken at DA stage in relation to tree's health & retention value

As per the exhibited Aboricultural Impact Assessment report the proposed central park had been realigned and the cut and fill plan developed to ensure several mature trees are retained as shown in Figure 6 below

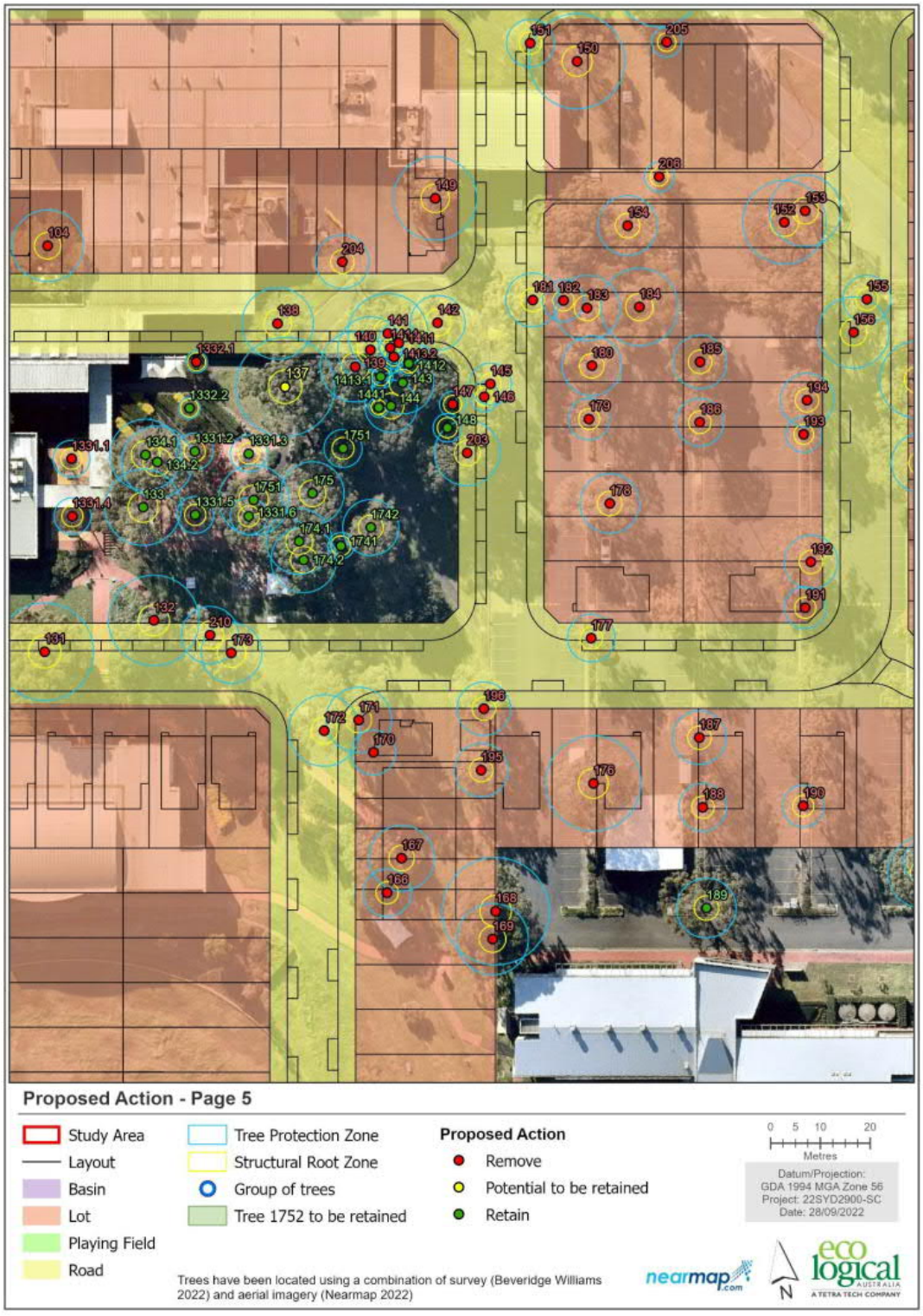

Figure 6 Tree retention, proposed central park
(Source: Western Sydney University Milperra Campus Arboricultural Impact Assessment, Ecological Australia Sept 2022)

1.2 Tree canopy assessment

In addition to the assessment of further tree retention opportunities, a calculation of proposed tree canopy has been undertaken to provide the complete perspective of the existing landscaping conditions compared to the proposed tree canopy cover associated with the redevelopment of the site.

The land proposed to be rezoned to C2 Environmental Conservation contains the majority of significant tree species. Although this area will be conserved and notably enhanced under a Vegetation Management Plan, to simplify comparison, it has been left out of the *existing and proposed* tree canopy calculations. Similarly, vegetation within the land proposed to be zoned B1 Neighbourhood Centre is being retained and therefore also omitted from the calculations.

Existing tree canopy

The Ecological and Arboricultural report placed on public exhibition provides an approximate calculation of existing tree canopy of 3.2ha (19%) within the residual site area calculation of 16.76ha. (i.e. total site area minus land to be zoned B1 and C2). Of the 3.2ha, 0.44ha is classified as exotic vegetation.

Proposed canopy cover- Public domain

Based on the current masterplan and maximum lot yield of 430 residential lots, the proposal will include the planting of approximately 672 trees within the public domain, that is, within the proposed open space/parks, Milperra Reserve and street verges.

Street trees will range from 5m canopy for narrow lots to 8m canopy for the remainder of the street network. The proposed planting will consist of Cumberland Plain Woodland species and other native species including eucalypts moluccana, fibrosa and tereticornis.

Proposed canopy cover- Residential lots

Proposed planting within residential lots consists of a range of endemic species which will be planted within the front and rear setback of all residential lots. Canopy spread calculations have been based on the following planting guidelines;

- Terrace style housing lots under 6m wide; two trees each with a minimum 3m canopy spread
- Terrace and semi-detached lots between 6-8m wide: pending dwelling length and orientation, either two 4m or one 4m and one 5m canopy tree
- Lot widths over 8m; 4m canopy tree within the front yard and 6-8m canopy spread tree in rear yards depending on lot width ie. wider lots to incorporate 8m tree canopy

In total, the above public domain and residential planting equates to 4.64 hectares of canopy spread at maturity. This equates to an additional 1.44 ha (or 31%) of additional canopy compared to the existing setting, which has been described as leafy and heavily vegetated within public submissions.

Note that the proposed planting calculations are conservative, as larger canopy trees can be selected within and adjacent to public parks with Councils endorsement, while the number of street trees will increase subject to Councils acceptance of the proposed Green Streets, designs which include additional tree planting within road reserves. (Refer to Figure 7 and 8 for concept Green Streets).

Further, the additional planting within the proposed C2 conservation area has not been incorporated into the proposed canopy calculations. The extend of planting will be subject to a VMP being prepared and implemented as a requirement of the Voluntary Planning Agreement.

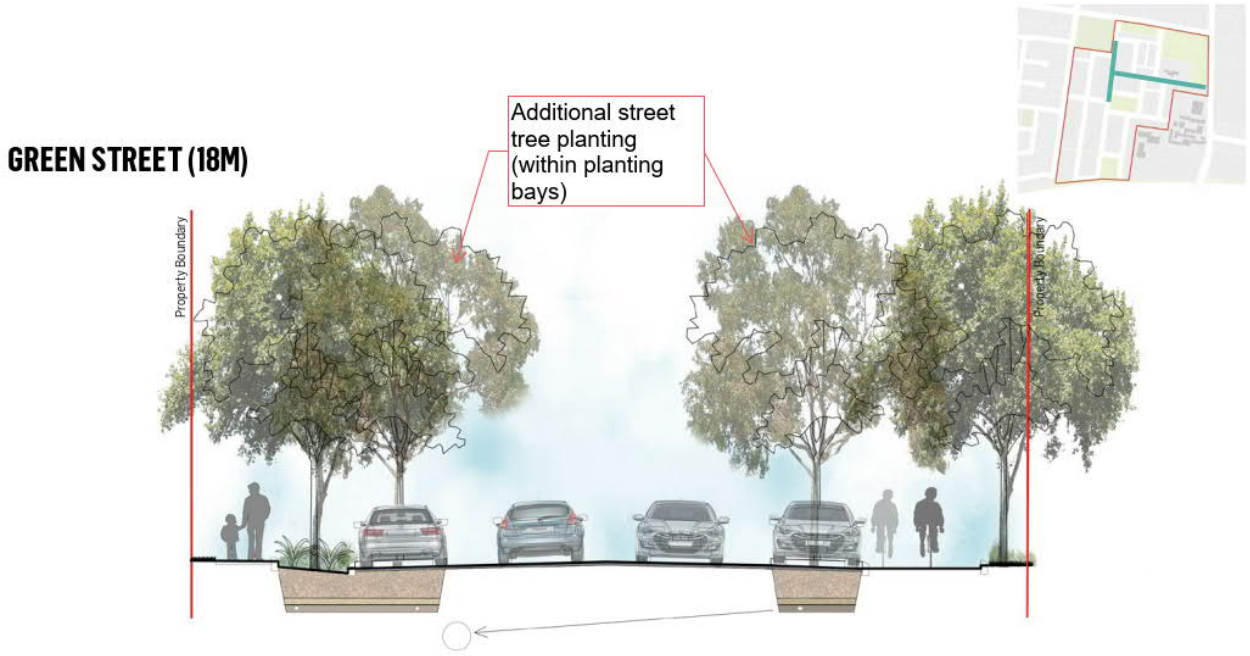

Figure 7. Concept Green Street- Local Road

Figure 8. Concept Green Street- Local Road minor

2 CPW Community classification and ecological value

Ecological Australia (EA) have provided a response to EHG's comments regarding the vegetated area containing tree no's 58, 62, 63 and 199 as shown in the letter by Ecological Australia (Refer to Attachment 1). Specifically, the letter responds to the questioning of whether the vegetation in question CPW has been correctly classified as 'CPW – Landscaped'. EA also provided further assessment of the ecological value of this stand of vegetation as a point of relevance to the assessment.

In addition to EA's assessment, Cumberland Ecology has also conducted a review of this vegetated area and their conclusions have been included within the summary below.

- A review of the historical aerials from 1951 and 1978 indicates that the extent of native vegetation at that time covers most of the area in question (refer to area which includes tree no's 58,62,63 and 199 outlined in Attachment 1). However, many trees in the photographs provided are small in size and are unlikely to be "remnant"; and either grown since the majority of the rest of the vegetation was cleared sometime after 1978 or have been planted.
- One the one hand, there are a few large individuals that may be original remnant trees, for example the ironbark (likely E. crebra) shown in Image 1805 (tree with dark trunk in the background). However conversely, it is difficult to conclusively determine the age of trees due to its high degree of degradation and the vegetation in the area in question does not comprise of the listed CEEC. Further, this area has been subject to filling which provides further evidence that the vegetation in question is unlikely to be remnant.

- The geotechnical report borehole logs (included in the attached EA letter) show that this area has fill of at least 0.6 metres while an adjacent area shows filing of over 2m. The fill which creates the existing landform was most likely placed during the development of the site over the decades.
- The vegetation in question is in a highly modified condition and presents in a more linear arrangement. The diversity of native species present is extremely low and occurs in an extensively landscaped setting amongst buildings, mulched garden beds, introduced turf and paved footpaths. No midstory plant species are present and few native groundcover species are present. The ecological value of the vegetation in this area is therefore relatively low. The vegetation is therefore best categorised as CPW Landscaped (i.e. planted).
- The vegetation in the area in question is relatively isolated from other areas of native vegetation which reduces its conservation value further. The nearest patch of native vegetation is the patch of PCT 849 that is being retained in the north-east corner (adjacent to the childcare building).
- Due to its high degree of disturbance, this area does not represent a viable patch of PCT 849 and without substantial investment of time and effort, this area will not represent a high-quality example of the PCT, contributing little to its conservation in the long term.
- Notwithstanding the ecological value of the area in question is relatively low, the vegetation characteristic of PCT 849 is present, and as such the EA proposes that 13 ecosystem credits be retired to offset the impacts.

3 Conclusion

The recent review by Ecological Australia and additional peer review by Cumberland Ecology concludes that, with all things considered, it is unlikely that the vegetated area in question is considered remnant. However, noting that determining the age of certain trees is challenging, the analysis also focused on the value of retaining the vegetation in question and revisited the appropriateness of the proposal in securing ecosystem credits.

The conclusion from both ecologists is that due to several factors, the ecological value of the vegetation is considerably compromised and as such, the proposed retiring of credits is an acceptable proposal.

In terms of the impact of removing the vegetation in question, the landscaped setting in the northern portion of the masterplan is improved from that shown in the planning proposal placed on public exhibition. This is due to a focused redesign of the drainage facility contained within the northern open space which allows for the retention of between 17 mature trees located immediately north of the vegetated area in question.

The retention of additional existing trees, combined with proposed tree planting of native species characteristic of PCT 849 (which at maturity, will increase canopy cover compared to existing levels by over 30%) is considered a practical outcome within the proposed urban context.

Please don't hesitate to contact the undersigned on 9080 8062 if you have any queries in relation to the above.

Regards

Theo Zotos
Senior Development Manager
Development

Attachment 1

Response to Submissions: Planning Proposal 2021-5837, letter by Ecological Australia dated 21 March 2023.

Level 3
101 Sussex Street
Sydney NSW 2000
t: (02) 9259 3800

21 March 2023

Our ref: 22SYD2900

Mirvac
Level 28, 200 George Street, Sydney

Attention: Theo Zotos

Dear Theo,

Response to Submissions: Planning Proposal 2021-5837 Milperra

The following information is provided for Mirvac consideration in responding to issues raised by the Panel and the Environment and Heritage Group.

Issue	EHG Recommendation	ELA comment
Biodiversity	All attempts are made to avoid all impacts to CPW at the site	The BDAR prepared by ELA currently shows the CPW in good and low condition (ie the remnant CPW) being protected – other than an impact to 0.3 ha. 0.55 ha of CPW in 'landscape' condition is being impacted. To protect this vegetation would require changes to the cut and fill balance such that there is no cut or fill in the Tree Protection Zones of trees that were mapped a CPW – Landscape.
Biodiversity Values Map	That areas on the Biodiversity Values Map will trigger the Biodiversity Offset Scheme	Noted. This is a matter for the DA stage.
Vegetation communities and threatened species	…the proposed structure plan for the site is amended to protect and conserve all existing remnant trees of CPW on the site and that the fragmented patches of CPW are actively managed and linked to improve the prospects of long term survival of the remnants and habitats on site	The EHG response implies that some areas mapped 'CPW – Landscaped' in the BDAR may actually be remnant vegetation. To determine if this is the case, ELA has mapped the extent of native vegetation on two historic aerial photos taken before and after development of the site (1951 and 1978). The aerial photos show that there is an area in the north of the site which has had tree canopy from at least 1951 and could therefore potentially be remnant. See Figure 1-3 below. However the Geotechnical report borehole logs show that this area in the north of the site has fill of approximately 0.6 metres (see

Issue	EHG Recommendation	ELA comment
		extract in figure 4), which was most likely placed during development of the site. The trees are unlikely to be remnant if they have been subject to earthworks and filling. Further, the vegetation in the 1978 photo shows trees in a linear arrangement and current photos demonstrate they sit within an exotic lawn that has been maintained such that there is no understory or midstory in this area. See figure 5 below. ELA therefore believes that the use of a 'landscaped' (i.e planted) vegetation zone is appropriate and should not be changed in the BDAR. The impacts to the vegetation in this zone are being offset in accordance with the BAM. With regard to linking to other vegetation, we note that there is very little opportunity to link to vegetation off site as surrounding land is dense urban development of roads and housing.
	Acacia pubescens: EHG previously advised that as the PEA reports a decline in the population size avoidance of impacts to this population should be a priority for the planning proposal.	The impacts to this species have been assumed due to the loss of two trees (3 and 7) in the east of the site. Depending on the extent of works in this location, it may be possible to avoid impacts to this species. We recommend that the RTS state that detailed design of construction will occur at the DA stage and will attempt to avoid impacts to this species habitat. For context: the species polygon for *Acacia pubescens* is 1.95 ha. The impact to 0.02 ha of this species polygon represents 4% of the extent of this species habitat on the site.
	Cumberland Plain Land Snail: EHG recommends the DCP include a control that native trees that are removed by the development including hollows and tree trunks…and root balls are used to enhance habitat in suitable locations on the site including the north east remnant, rehabilitated CPW patches and terrestrial linkages	ELA agrees that re-use of habitat features in the north-east corner may enhance the habitat values, however we note: • Such matters are usually conditions of consent rather than being a development control; and • It may not be suitable to use all hollows and root-balls. An estimate of the number should be included in the VMP.
PP - Avoiding and minimising	Inconsistency between table 20 and table 22 to be addressed	Table 20 states that 0.58 ha of CPW would be removed and table 22 states that up to 1.75 ha of habitat for four species would be removed. The number in table 22 is an error and should read 0.6 ha as per the BAM Credit Report in Appendix C.
Long term management and protection of CPW	C2 zoning and Terrestrial Biodiversity overlay needs to be applied to additional areas on the site to protect and conserve all existing remnant CPW on the site and the proposed terrestrial link patches of CPW	Biodiversity overlays should be used to identify significant areas that require special protection. As a strategic planning to, they are not usually applied to individual trees. If the additional vegetation being protected is only a small number of trees which are unlikely to be viable as CPW in the long

Issue	EHG Recommendation	ELA comment
		term (and are not connected to the larger patch in the north east), this measure would be of limited value.
	EHGs preference is for the C2 zoned land to be in public ownership to ensure C2 zoned land is protected and managed consistently	Noted.
CPW Buffer	The CPW areas in low condition and landscape are rehabilitated and planted with local native provenance species from the CPW	The current proposal assumes that all of this vegetation is removed and is not rehabilitated. The value of this area from a biodiversity perspective is relatively low compared to the north east corner. Impacts will be offset in accordance with the BAM requirements.
	A permanent barrier (such as a fence) is placed at the outside edge of the CPW…EHG recommend any pathways/walking trails to be located outside the CPW C2 zoned land to minimise impacts.	Fencing and preventing public access would possibly help protect ecological values, but would prevent access to an area of good amenity.
	Local native seed is collected from CPW that is approved for removal and propagated for use in rehabilitation	Seed collection can occur prior to removal of vegetation. This will be detailed in the VMP.
	A Vegetation Management Plan is prepared	This action is supported as the CPW in the north east corner will need to be managed for weeds etc

Regards,

David Bonjer
Principal Planning Consultant / Sydney Region Manager

Figure 1 Extent of canopy 1951

Figure 2 Extent of canopy 1978

Figure 3 Extent of canopy 1951, 1978 and current aerial image

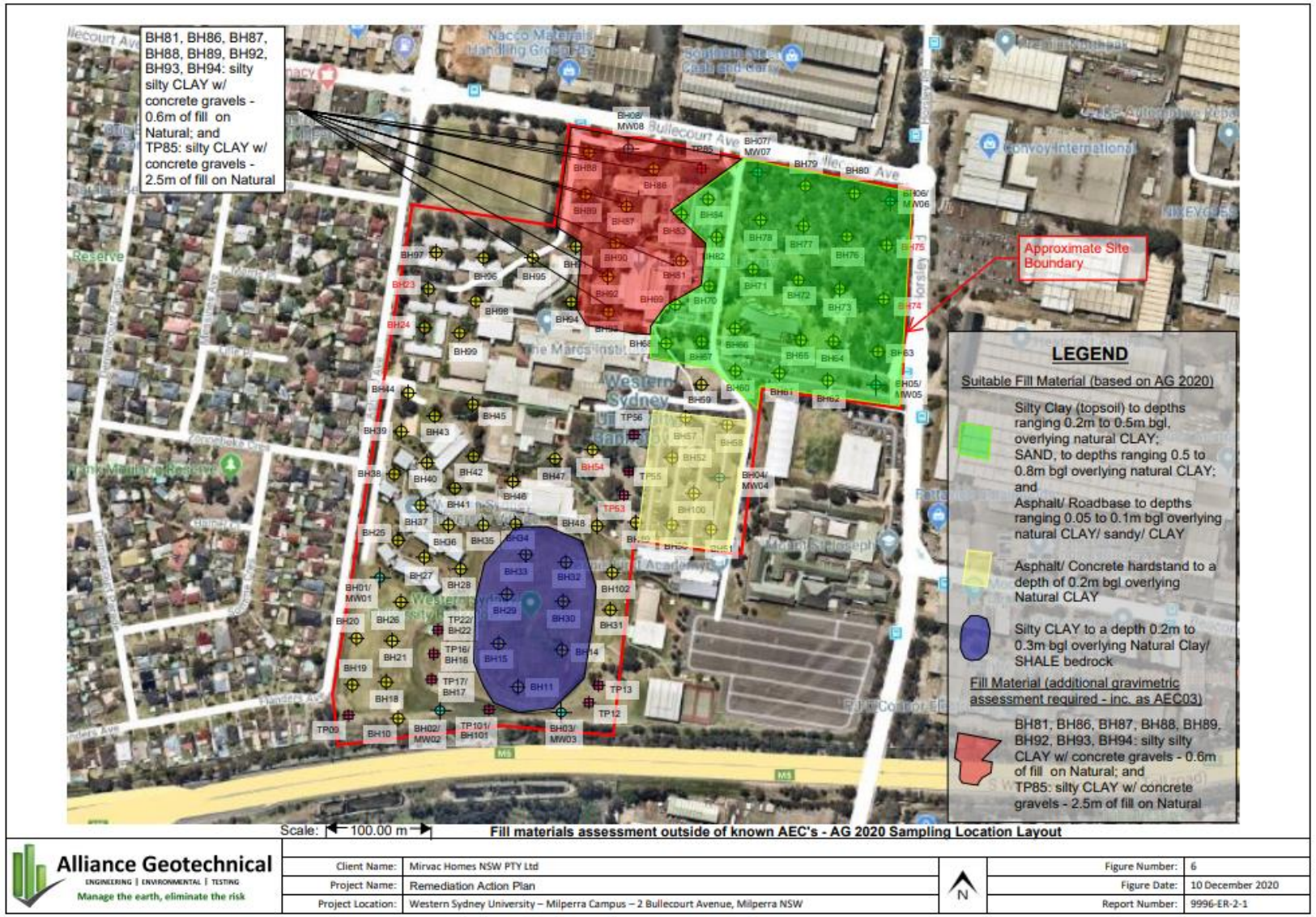

Figure 4 Extract from Geotechnical report

Figure 5 Trees 61 and 62