

Department of Planning and Environment

Our ref: DOC22/763278

Your ref: DA 10693

Michael Doyle
Planning Group
Department of Planning and Environment
4 Parramatta Square, 12 Darcy Street
Parramatta NSW 2150

Subject: Request for advice on amended application - extension of the Great River Walk, Nepean Business Park (DA 10693)

Dear Mr Doyle

I refer to your email received on 23 August 2022 requesting comments from the Environment and Heritage Group (EHG) regarding an amended development application (DA) for an extension of the Great River Walk within the Nepean Business Park (DA 10693) for which the Minister for Planning is the consent authority.

According to the Statement of Environmental Effects, the proposed development is for the extension of the Great River Walk from the boundary of the Nepean Business Park near Cassola Place to a point approximately 320m to the northwest. Proposed works include the construction of a 3m wide concrete shared path.

It also noted that the Vegetation Management Plan provided with the subject DA 10693 (attachment 7) has already been approved as part of DA 9876 for the Nepean Business Park subdivision.

As requested, EHG has reviewed the relevant information and provides comments in Attachment 1 in regard to biodiversity and flooding.

If you have any queries please contact Marnie Stewart via marnie.stewart@environment.nsw.gov.au or 02 9995 6868.

Yours sincerely,



14/09/22

Susan Harrison
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Department of Planning and Environment

Attachment 1 – EHG comments - extension of the Great River Walk, Nepean Business Park (DA 10693)

Flood risk management

EHG understands that development application (DA) 9876 for the Nepean Business Park subdivision has been approved and included the vegetation management plan submitted with the subject DA 10693 (Attachment 7). It should be noted that DA 9876 was not referred to EHG for assessment and comments.

The current subject DA 10693 includes the following within the Nepean Business Park site:

- Construction of a 3m wide in-situ brushed concrete shared path, minimum 1m set back from top of the Nepean riverbank.
- Existing trees retained, with weedy understorey cleared adjacent to the path and supplementary planting where significant gaps in vegetation exist and native grass and ground cover infills near top of riverbank.

The above proposed work is likely on the floodway i.e., the flood conveyance area. Accordingly, the impacts of this work on flood behaviour needs to be assessed. The flood assessment should be built on the assessment undertaken for the original DA 9876.

EHG highlights that, the Hawkesbury Nepean flood modelling undertaken by Infrastructure NSW provides evidence that changes in vegetation density and changes in roughness downstream of Victoria Bridge have resulted in notable changes in design flood levels along sections of the Nepean River in Penrith.

Biodiversity

Summary and recommendations

Since part of the proposal is located on the biodiversity values map and native vegetation will be cleared, the Biodiversity Offsets Scheme has been triggered. EHG therefore recommends that consideration be given to the following options :

- requesting a map review, see <https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity-offsets-scheme/about-the-biodiversity-offsets-scheme/when-does-bos-apply/biodiversity-values-map/biodiversity-values-map-review>, or
- completely avoiding the area mapped on the biodiversity values map.

EHG acknowledges that the proposal seeks to use an existing informal track, and that the location and design has been recently changed to prevent the clearing of trees and potential damage to root zones.

The type and extent of impacts have not been made clear in the documentation provided, although the retention of all trees on the site is consistent between the Biodiversity Threshold Test Nepean Business Park – Great River Walk Extension (EcoResolve Pty Ltd, 8 June 2022) and the Statement of Environmental Effects Extension of the Great River Walk (within Nepean Business Park site) (Planning Ingenuity, 6 August 2021). It also seems highly likely that the vegetation to be directly impacted is dominated by exotic grasses and forbs, however, the presence of threatened species cannot be ruled out based on the information and data currently given in the Biodiversity Threshold Test report.

These issues are discussed in more detail below.

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Vegetation descriptions

There are various descriptions about the vegetation across several different documents which, together with the absence of detailed survey data in the Biodiversity Threshold Test report, makes it difficult to clearly understand the identification, composition, and condition of the vegetation, for example:

- The Biodiversity Threshold Test report states (page 9) “The existing vegetation condition was disturbed and primarily dominated by non-native species many of which are listed weed species. However, the native vegetation community (PCT 835) that does persist in the area is considered to be commensurate with the BC Act Listed Endangered Ecological Community (EEC) River-Flat Eucalypt Forest on Coastal Floodplains of the New South Wales North Coast, Sydney Basin and South East Corner Bioregions. This community is also potentially commensurate with the EPBC Act listed Critically Endangered Ecological Community (CEEC) known as River-flat eucalypt forest on coastal floodplains of southern New South Wales and eastern Victoria.”
- The *Statement of Environmental Effects Extension of the Great River Walk (within Nepean Business Park site)* (Planning Ingenuity, 6 August 2021) (the SEE) states (page 15) “Vegetation in the area of the proposed development includes planting that is mostly self-regenerated.”
- The *Arboricultural Impact Assessment Nepean Business Park – Great River Walk* (Truth About Trees Pty Ltd, 17 December 2021) states (page ii) “There is a good mix of both juvenile and established native trees present.”

It is noted however, that the species list in Table 2 of the Biodiversity Threshold Test report is dominated by exotic grasses and forbs, with both the Biodiversity Threshold Test report (page 12) and the SEE (page 10) stating that no trees are proposed to be cleared.

Description of works, including construction and operational footprints

There appears to be no detailed description of the proposed works in the Biodiversity Threshold Test report or the SEE, and the SEE has not been updated to account for recent changes to location and design e.g., inclusion of the ramp and/or addition of cut/fill depths.

The Biodiversity Threshold Test report shows the 3m wide operational footprint in Figures 2, 3 and 4. The Concept Civil Design for Proposed Shared Cyclepath Nepean Business Park Great River Walk (GCA Engineering Solutions, Preliminary Issue) appears to show a construction footprint of approximately 7-8 m wide, with the last sheet showing cut/fill depths across the site. It is noted the arboricultural impact assessment states (page ii) “should tree retention be required, this can be achieved ... by placing the footpath above grade with the use of minor fill in the form of road base” and (page 28) “Grade changes within the TPZ, shall be restricted to a maximum 200mm depth above current grade”. However, it is not known if the cut/fill depths shown in the civil design relates to this or if they follow the recommended maximum depth. In addition, while the construction footprint appears to occur on both sides of the proposed path in the civil design, this is different to the recommended buffer in the arboricultural impact assessment, where page 28 states “A 3m construction buffer corridor will be required to allow for access and egress of works vehicles and machinery” and “The corridor is to run adjacent to, and along the Southern alignment of the proposed footpath as shown in Figure 7 above.”

The Biodiversity Threshold Test report has calculated the estimated area for potential impact to be (page 14) “approximately 0.12 ha of compacted root zone”. Given the information available in the report, it is not known how this figure was calculated, or where this impact will occur. That said, it does not appear to encompass the construction and operational footprints (for example, if the

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construction footprint was 7m wide and 320m long, the impacted area would be 0.224 ha, not including any additional space required by the ramp shown in Figure 4).

Information and data for surveys

Page 7 of the Biodiversity Threshold Test report states, “A scheduled site inspection was performed by Arne Bishop on 16 November 2021 Brea Heidke on the 12 April 2022. The site inspections aimed to identify the flora species present (including any threatened species) and to validate the Plant Community Type (PCT) extents, for the purposes of accurately assessing the threshold criteria.” “This assessment is based on flora transects and meanders of the site only, with the potential for threatened flora and fauna detection limited to opportunistic surveys and habitat analysis.”

Page 9 of the report states, “To identify and map the existing vegetation species and communities, a record of the Flora species onsite was undertaken by Rapid Data Points (RDPs).” And “Searches for Threatened species were conducted in accordance with the ‘parallel field traverses’ method outlined in the NSW Surveying Threatened Plants and the Habitats (DPI&E 2020). These searches were undertaken for all known threatened flora species to occur within the habitat types and locality of the Project.”

This information is confusing because

- although PCT extent was reportedly validated, it has not been mapped in the report
- it is not known how the potential for threatened flora species is limited to opportunistic surveys, if targeted surveys (parallel field traverses) were carried out
- no details are given for the rapid data points method, and there is no map of where these points occurred
- it is not known which flora species were targeted for surveys
- there is no map showing where the meanders and parallel field traverses took place, and the transect separation distances for each species are also not given.

In addition, Table 2 (page 10) lists flora species and their Braun-Blanquet cover score, but it is not known where these species were measured, or the area over which they were measured e.g., were the rapid data points associated with circles of fixed diameters, or with quadrats of a certain size? Where did the cover of *Microlaena stipoides*, for example, range from 5 to 25%? Also, what was its actual cover? The Braun-Blanquet scores tend to include large ranges, as shown on page 12 of the report, and it is noted that the BAM (DPIE 2020) does not accept this method for recording foliage cover (see page 17 of the BAM).

Following on from these points, it is not clear if the grassed areas adjoining the informal track form part of the PCT. It is also not clear if these grassed areas provide habitat for threatened flora species.

Biodiversity Offsets Scheme threshold tests

The Biodiversity Threshold Test report states two different minimum lot sizes, 18.42 ha on page 14, and 2.87 ha on page 19. Using the Biodiversity Values Map and Threshold Tool, <https://www.lmbc.nsw.gov.au/Maps/index.html?viewer=BOSETMap>, the site does not have a minimum lot size under the relevant Local Environmental Plan (LEP). The area threshold varies depending on the minimum lot size (shown in the Lot Size Maps made under the relevant LEP), or actual lot size (where there is no minimum lot size provided for the relevant land under the LEP), see <https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity-offsets-scheme/about-the-biodiversity-offsets-scheme/when-does-bos-apply>. Using the m2 tool in SIX maps

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(<https://maps.six.nsw.gov.au/>) the approximate lot sizes are 12.24 ha for Lot 1 DP 1263486, 18.32 ha for Lot 2 DP 1263486 and 18.52 ha for Lot 3 DP 1263486.

Page 14 of the Biodiversity Threshold Test report states “the Project does not propose to directly clear any native vegetation communities (only minor impacts associated with compaction of tree root zones and removal of some small areas of mixed native and exotic grasses and weeds).” Page 14 also states “the Project is located within areas mapped on the Biodiversity Values Map (BMV); therefore, the Project has the potential to impact upon threatened species. ... However, no native vegetation is proposed to be removed in the areas mapped by the BV MAP.”

Importantly though, the Biodiversity Offset Scheme (BOS) applies to the clearing of native vegetation and other biodiversity impacts prescribed by clause 6.1 of the Biodiversity Conservation Regulation 2017 on land identified on the biodiversity values map, see <https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity-offsets-scheme/about-the-biodiversity-offsets-scheme/when-does-bos-apply>. Native vegetation is defined under s.60B of the Local Land Services Act 2013 as any of the following types of plants native to New South Wales: trees (including any sapling or shrub or any scrub); understorey plants; groundcover (being any type of herbaceous vegetation); plants occurring in a wetland. As such, since the proposal is (partly) located on the biodiversity values map and native vegetation will be cleared i.e., the “removal of some small areas of mixed native and exotic grasses and weeds” (page 14 of the report), the BOS has been triggered.

If it is considered the biodiversity values are mapped incorrectly a landowner can apply for a map review, see <https://www.environment.nsw.gov.au/topics/animals-and-plants/biodiversity-offsets-scheme/about-the-biodiversity-offsets-scheme/when-does-bos-apply/biodiversity-values-map/biodiversity-values-map-review>. Consideration could also be given to avoiding the area mapped on the biodiversity values map, however, it is acknowledged that: the proposal seeks to utilise an existing, informal, typically well delineated track and the location and design of the proposed shared path has recently been changed to prevent the clearing of trees and potential damage to tree root zones.

Threatened species test of significance

For threatened flora, “the adequacy of survey timing and conditions” were frequently relied on when deciding whether an Assessment of Significance (AoS) was required (see page 58 of the Biodiversity Threshold Test report). However, considerations for AoS need to consider the above-mentioned comments on information and data for surveys. Also, it is noted that no survey conditions are detailed in the report, for example, there is no discussion of rainfall prior to survey for *Pimelea spicata*.

Likelihood of occurrence assessments

The following are noted from the likelihood of occurrence assessments in Table 4.

- *Eucalyptus aggregata* (Black Gum) was considered to have a moderate likelihood of occurrence, however this species is not found in the Cumberland IBRA sub-region. Instead, in “NSW it occurs in the South Eastern Highlands Bioregion and on the western fringe of the Sydney Basin Bioregion”, in the Burragorang, Ettrema, Moss Vale and Wollemi IBRA sub-regions, see <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20128>
- *Eucalyptus benthamii* (Camden White Gum) was considered to have a low likelihood of occurrence, however the site appears to provide suitable habitat for the species, as described in BioNet. That said, this species can be surveyed any time of the year and the site

inspections carried out in April and November did not identify it, and neither did the arboricultural impact assessment (Truth About Trees Pty Ltd, 17 December 2021).

- *Grevillea juniperina subsp. juniperina* was considered to have a low likelihood of occurrence, with the reason for this including (page 32) “Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state.” However, there are recent records in and around the nearby suburbs of Jordan Springs, Ropes Crossing and the Wianamatta Regional Park, and the species has an ability to persist in disturbed areas, see <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10367>. That said, given the conspicuous nature of this species, and the ability to survey it year-round, it seems likely that it would have been identified by the site inspections if present.
- *Hoplocephalus bungaroides* (Broad-headed Snake) was considered to have a moderate likelihood of occurrence. However, this species “Shelters in rock crevices and under flat sandstone rocks on exposed cliff edges during autumn, winter and spring” and “Moves from the sandstone rocks to shelters in crevices (sic) or hollows in large trees within 500m of escarpments in summer”, see <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10413>, neither of which appears to occur within the site. In addition, in the Cumberland IBRA sub-region, this species is restricted to the south west margins, see <https://www.environment.nsw.gov.au/threatenedspeciesapp/profileData.aspx?id=10413&cmaName=Sydney+Basin>, which would not include the site.
- The *Marsdenia viridiflora subsp. viridiflora* - *endangered population* was considered to have a low likelihood of occurrence, with the reason for this including (page 35) “Vegetation classification based habitat surrogates (i.e. PCT and/ or vegetation formations) are present; however, species specific habitat types (i.e. important habitat features) are either absent, in low abundance and/ or in a disturbed state.” However, there are many BioNet records nearby (e.g. from 2020 in Kanangra Reserve Kingswood, and from 2021 in Wianamatta Nature Reserve) and the site appears to provide suitable habitat.
- *Persoonia acerosa* was considered to have a low likelihood of occurrence. However, the site does not occur within the distribution for this species, for example, the species does not occur within the Cumberland IBRA sub-region, see <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=10591>
- *Pultenaea parviflora* was considered to have a low likelihood of occurrence, however there are recent BioNet records nearby e.g., from 2018 in Wianamatta Nature Reserve.
- *Thelymitra kangaloonica* (Kangaloon Sun Orchid) was considered to have a low likelihood of occurrence. However, the site does not occur within its distribution since “*Thelymitra kangaloonica* (*Thelymitra* sp. Kangaloon) is only known to occur on the southern tablelands of NSW in the Moss Vale / Kangaloon / Fitzroy Falls area at 550-700m above sea level” see <https://www.environment.nsw.gov.au/threatenedspeciesapp/profile.aspx?id=20168>
- The following statement is made for many flora species, including *Acacia pubescens*, *Cynanchum elegans* and *Eucalyptus benthamii*, “If detected, species activity is most likely low and associated with landscape scale habitat use such as movement between areas of higher value habitat, the use of supplementary habitat or reflect the negative effects of active/ uncontrolled KTPs”. This appears to be a typographical error, as it seems to relate to fauna.
- “Area of occurrence” is referred to many times, for example for *Acacia bynoeana* on page 23, but the correct term is area of occupancy (AOO). It is noted that the measurement of AOO is

scale sensitive and both the IUCN Red List for Species (IUCN 2019b) and IUCN Red list for Ecosystems (Bland et al. 2017) recommend the use of fixed grid sizes in the estimation of AOO. However, reference to “standard grid size of 2x2km (IUCN 2017)” in Table 4 is somewhat confusing, for example see the likelihood of occurrence column for the *Marsdenia* on page 35.

- The habitat for *Persoonia hirsuta* (Hairy Geebung) is a typographical error since it states (page 41) “is almost exclusively aerial, from heights of less than 1m up to more than 1000m above the ground (Coventry 1989; Tarburton 1993; Watson 1955). Because they are aerial, ...”.
- For *Ninox strenua* page 57 states “It is most commonly recorded within red turpentine in tall open forests and black she-oak within open forests. Large mature trees with hollows at least 0.12m deep are required for nesting.” However, no references are given for this information, and it does not accord with the information in BioNet which includes:
 - o “The Powerful Owl inhabits a range of vegetation types, from woodland and open sclerophyll forest to tall open wet forest and rainforest”
 - o “The Powerful Owl requires large tracts of forest or woodland habitat but can occur in fragmented landscapes as well. The species breeds and hunts in open or closed sclerophyll forest or woodlands and occasionally hunts in open habitats. It roosts by day in dense vegetation comprising species such as Turpentine *Syncarpia glomulifera*, Black She-oak *Allocasuarina littoralis*, Blackwood *Acacia melanoxylon*, Rough-barked Apple *Angophora floribunda*, Cherry Ballart *Exocarpus cupressiformis* and a number of eucalypt species.”
 - o and “Powerful Owls nest in large tree hollows (at least 0.5 m deep) ...”, see https://www.environment.nsw.gov.au/AtlasApp/UI_Modules/TSM_/LinksEdit.aspx?pld=10562&pType=SpeciesCode.

Credit class and habitat constraints for Micromyrtus minutiflora

Page 61 of the Biodiversity Threshold Test report states “Although this species has a moderate likelihood of occurrence, the site is not mapped as an important area. Therefore, the impacts are unlikely to constitute a SAI for this species as the site would only potentially constitute an Ecosystem credit area (BioNet states June to March).” However, *Micromyrtus minutiflora* is not subject to an important habitat map, and it is a full species credit species. As such, references to a mapped important area and an ecosystem credit area, do not make sense.

END OF SUBMISSION