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Your ref: SSD-9832

Ms Ingrid Berzins

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Department of Planning, Industry and Environment

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Dear Ingrid

University of Newcastle STEMM Building, UoN, Callaghan (SSD-9832) – Review of Environmental Impact Statement

I refer to your email dated 13 March 2020 in which Planning and Assessments Group (P&A) of the Department of Planning, Industry and Environment (the Department) invited Biodiversity and Conservation Division (BCD) of the Department for advice in relation to the University of Newcastle (UoN) Science, Technology, Engineering, Maths and Medicine (STEMM) Building at their Callaghan Campus, at University Drive, Callaghan (Lot 1 Deposited Plan 1188100).

BCD has reviewed the *'The University of Newcastle Callaghan Campus – STEMM Building: Environmental Impact Statement – State Significant Development Application'* (prepared by Urbis Pty Ltd and dated 25 February 2020), including relevant appendices, annexures and attachments in relation to impacts on biodiversity, Aboriginal Cultural Heritage and flooding.

BCD's recommendations are provided in **Attachment A** and detailed comments are provided in **Attachment B**. If you require any further information regarding this matter, please contact Steven Cox, Senior Team Leader Planning, on 4927 3140 or via email at rog.hcc@environment.nsw.gov.au

Yours sincerely

LUCAS GRENADIER
Acting Director Hunter Central Coast Branch
Biodiversity and Conservation Division

Date: 2 April 2020

Enclosure: Attachments A and B

BCD's recommendations

University of Newcastle STEMM Building, UoN, Callaghan (SSD-9832) – Review of Environmental Impact Statement

Biodiversity

1. BCD recommends the BAM accredited assessor submits the credit calculator via the NSW Biodiversity Accredited Assessor System.
2. BCD recommends the BAM accredited assessor includes the biodiversity credit report in the submitted BDAR.
3. BCD recommends the BAM accredited assessor includes the plot field data sheets in the submitted BDAR.
4. BCD recommends the BAM accredited assessor includes a physical description of the exotic vegetation zone in the submitted BDAR.

Aboriginal Cultural Heritage

5. BCD have no comments to make in relation to the Aboriginal cultural heritage.

Flooding

6. The proponent should assess the potential for stream bank erosion in receiving streams in accordance with the Stormwater & Water Efficiency for Development Technical Manual, CoN, 2017. A Stream Erosion Index (SEI) of no greater than 2 should be achieved under that manual.
7. The proponent should ensure that the OSD is effective for all storms up to and including the 1% AEP storm event.
8. Local overland flow paths should be identified, and impacts associated with flooding when the capacity of the drainage system is exceeded should be assessed.
9. The proponent should provide MUSIC data files.
10. The proponent should provide details of how the Jellyfish® filtration device will be configured, including how it was configured in the MUSIC model.

BCD's detailed comments

University of Newcastle STEMM Building, UoN, Callaghan (SSD-9832) – Review of Environmental Impact Statement

Biodiversity

1. The Accredited Assessor should submit the credit calculator via the NSW BAAS

The credit calculator used in the Biodiversity Development Assessment Report (BDAR) to determine the credit requirements (both ecosystem and species) has not been submitted via the NSW Biodiversity Accredited Assessor System (BAAS). This is required to finalise BCD's assessment of the BDAR.

BCD reviews an accredited assessors credit calculator files to determine if the Biodiversity Assessment Method (BAM) has been applied correctly, that the BDAR and calculator use the same data and selected parameters (i.e. 'drop down menus'), and that the biodiversity credit requirements (both ecosystem and species) are consistent between the BDAR and the credit calculator.

Recommendation 1

BCD recommends the BAM accredited assessor submits the credit calculator via the NSW Biodiversity Accredited Assessor System.

2. The Accredited Assessor should include the credit report in the BDAR

The BAM credit report which details the credit requirements (both ecosystem and species) has not been included in the BDAR. Appendix D (Biodiversity Credit Report) of the submitted BDAR did not include a copy of the credit report.

Including the credit report is a requirement of the BAM (OEH 2017, see Appendix 10). The BAM credit profile is used to check that the biodiversity credit requirements detailed in the BDAR match that of the report.

Recommendation 2

BCD recommends the BAM accredited assessor includes the biodiversity credit report in the submitted BDAR.

3. Copies of plot field data sheets should be provided

The plot field data sheets have not been included in the BDAR. Providing field data sheets is a requirement the BAM (OEH 2017, see Appendix 10). BCD reviews the plot field data sheets to ensure consistency between the data sheets, the BDAR and the credit calculator.

Recommendation 3

BCD recommends the BAM accredited assessor includes the plot field data sheets in the submitted BDAR.

4. The BDAR needs to provide a description of the exotic vegetation zone.

The BDAR indicates that part of the development site contains 'exotic vegetation', as shown on Figure 5 (Plant Community Types and native vegetation extent). However, the BDAR does

not contain any physical description of this vegetation zone, namely species present, size of the zone (hectares), and justification for their exclusion.

The BDAR should contain physical descriptions of all vegetation zones present, including exotic ones. This will allow BCD to check the veracity of the exclusion of these zones.

Recommendation 4

BCD recommends the BAM accredited assessor includes a physical description of the exotic vegetation zone in the submitted BDAR.

Aboriginal cultural heritage

5. BCD have no comments in relation Aboriginal cultural heritage

BCD has reviewed the Aboriginal Cultural Heritage Assessment Report: STEMM Building, Callaghan Campus, University of Newcastle (Urbis September 2019) and have reviewed the Aboriginal cultural heritage of the EIS prepared by Urbis (February 2020) for the same project. BCD is satisfied with the Aboriginal cultural heritage assessment undertaken.

Recommendation 5

BCD have no comments to make in relation to the Aboriginal cultural heritage.

Flooding and flood risk

6. Receiving streams have not been assessed for potential for erosion

The site drains to Hexham Swamp which is a protected coastal wetland. The proposal has the potential to cause stream bank erosion in downstream areas and this should be assessed further with consideration to the requirements of the *Stormwater & Water Efficiency for Development Technical Manual, CoN, 2017*.

Recommendation 6

The proponent should assess the potential for stream bank erosion in receiving streams in accordance with the *Stormwater & Water Efficiency for Development Technical Manual, CoN, 2017*. A Stream Erosion Index (SEI) of no greater than 2 should be achieved under that manual.

7. Runoff may bypass the onsite detention (OSD) system in large storm events

During large storm events, the proposed onsite detention (OSD) may not achieve off-site flow targets if significant volumes of runoff bypass the OSD. The OSD is designed to reduce off-site flows to the pre-development state for a 1% Average Exceedance Probability (AEP) storm event. The OSD receives all flows from the roof, via the 100kL reuse tank. Roof gutters are typically designed for a 5% AEP storm event. Runoff will bypass the OSD if the capacity of the roof gutters is exceeded such as during a 1% AEP storm event.

Recommendation 7

The proponent should ensure that the OSD is effective for all storms up to and including the 1% AEP storm event.

8. Local overland flow paths have not been identified

The flooding assessment has not identified local overland flow paths. In large storm events, runoff will run along these flow paths after the capacity of the piped drainage system is exceeded. This could result in flooding impacts in and adjacent to the proposed development.

Recommendation 8

Local overland flow paths should be identified, and impacts associated with flooding when the capacity of the drainage system is exceeded should be assessed.

9. The MUSIC data files have not been provided

MUSIC modelling was undertaken by the proponent to assess potential water quality impacts. The data files associated with this modelling have not been provided and therefore the underlying assumptions and details of the assessment are unknown. The assessment therefore cannot be verified as accurate. The Stormwater Management Plan provides the MUSIC link report, but the data files have been omitted.

Recommendation 9

The proponent should provide MUSIC data files.

10. The configuration of the stormwater filtration device has not been provided

The proposed stormwater treatment system relies on a proprietary filtration device (Jellyfish® from Ocean Protect) to achieve the required water quality targets. However, no information has been provided on how the Jellyfish® device was configured in the MUSIC model used to model water quality impacts. This information is required to assess the adequacy of the proposed filtration device and determine if it can meet the site-specific requirements for flowrate, hydraulics, accessibility and footprint restrictions.

Recommendation 10

The proponent should provide details of how the Jellyfish® filtration device will be configured, including how it was configured in the MUSIC model.