



Our ref: DOC20/974475-1

Your ref: MP 10_0137 MOD14

Ms Emma Butcher

Senior Planner
Regional Assessments
Department of Planning, Industry and Environment
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Dear Emma

Huntlee New Town Residential Subdivision Stage 1 (MP 10_0137 MOD 14) – Review of Modification

I refer to your email dated 24 November 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 to comment on the response to submissions for the modification 14 of the Huntlee New Town Residential Subdivision Stage 1 (MP 10_0137 MOD 14), located at Branxton; in the Cessnock local government area.

BCD has reviewed the response from Urban Ethos titled '*RE: Response to request for additional information – Mod 14 to MP_10_0137 Huntlee New Town, Branxton*' (dated 11 November 2020), including relevant appendices, annexures and attachments in relation to impacts on biodiversity and flooding and flood risk.

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, on 4927 3140 or via email at rog.hcc@environment.nsw.gov.au

Yours sincerely

A handwritten signature in black ink that reads 'Joe Thompson'.

JOE THOMPSON
Director Hunter Central Coast Branch
Biodiversity and Conservation Division

Date: 13/01/2021

Enclosures: Attachments A and B

BCD's recommendations

Huntlee New Town Residential Subdivision Stage 1 MOD 14

Biodiversity

1. BCD is unable to assess the impacts of the proposed MOD 14 project until sufficient information is provided by the proponent addressing recommendations 1 to 4 of BCD's letter dated 17 September 2020.
2. BCD recommends that approval conditions C9(c) and C10 are retained.

Flooding and flood risk

3. Recommendation 6 from BCD's original letter should be adequately addressed. In addition, a copy of the data obtained from the ARR 2019 data hub should also be provided with the revised assessment.
4. Recommendation 7 from BCD's original letter should be adequately addressed.
5. Recommendation 8 from BCD's original letter should be adequately addressed.
6. The subdivision should be designed so that flood-free access is provided to all lots for the 1% AEP event. Rising road access is also required to permit evacuation to a place of safety for all events up to and including the PMF event. The proponent should also determine if the diversion of flows for Lots 56 and 57 will impact the level of service of the road.
7. Recommendation 10 from BCD's original letter should be adequately addressed. In addition, the proponent should review the roughness values used in its hydrological model and outline how these values will be maintained in riparian areas in private ownership.
8. Recommendation 11 from BCD's original letter should be adequately addressed.

BCD's detailed comments

Huntlee New Town Residential Subdivision Stage 1 MOD 14

Biodiversity

1. Insufficient information has been provided to address BCD's recommendations

The proponent has not provided sufficient information (response dated 11 November 2020) to address BCD's recommendations 1 to 4 in BCD comments on the MOD 14 project (letter dated 17 September 2020). Until the information requested (see recommendations 1 to 4 of BCD's letter dated 17 September 2020) is provided, BCD is unable to assess the impacts of the proposed modification on biodiversity.

Recommendation 1

BCD is unable to assess the impacts of the proposed MOD 14 project until sufficient information is provided by the proponent addressing recommendations 1 to 4 of BCD's letter dated 17 September 2020.

2. Conditions C9(c) and C10 should be retained

Consent condition C10 required a 30 metre buffer around the *Persoonia pauciflora* plants in the north-east corner of the site remain as *Persoonia pauciflora* habitat even after the mature plant dies. Removal of conditions C9(c) and C10 and clearing of this habitat area would be an additional impact to biodiversity, which is not covered by the original consent. In the absence of any additional compensatory measures being proposed, BCD does not support the removal of either Condition C9(c) or C10.

Recommendation 2

BCD recommends that approval conditions C9(c) and C10 are retained.

Flooding and flood risk

The proposed modification seeks to change the layout of Substage 5 of the Huntlee Subdivision and includes changes to the lot layout and road alignments, resulting in an overall reduction of 10 residential allotments. The modification would also remove on-site detention of stormwater and result in a loss of 15.03 hectares (ha) of riparian corridor. New stormwater management plans, flood maps and constraints maps are provided as part of the modification.

BCD previously made comments on flooding and drainage issues associated with the proposed modification in its letter of 17 September 2020 (DOC20/714725-1). The proponent has not addressed any of the matters. The following findings provide further commentary on these issues and the proponents response to submissions, including a response to flooding issues provided by Northrop.

3. The flooding assessment is inadequate

The data referred to in the response to submissions is inconsistent with Australian Rainfall and Runoff (ARR) 2019 and the NSW Specific Guidance for Use of ARR data in flood assessment for this location. It is also inconsistent with the two flood studies carried out on behalf of Cessnock City Council in the area. Initial losses used in flood modelling prepared for the

proposed are much larger than indicated in either of these flood studies. Hydraulic roughness values used for Black Creek are also much lower than was used in the Council studies.

The response to submissions provided by Northrop indicates that the losses used have been downloaded from the ARR2019 data hub, however; BCD obtained different data when it used the data hub for this location. Under current NSW specific Data info within the ARR Data Hub, losses should be adjusted from the ARR data when used in flood assessment. The WMA water model for Black Creek used calibrated losses and these should be used in flooding modelling for the proposed modification, rather than the global loss data provided in the ARR data hub. DPIE guidance document, (Office of Environment and Heritage, Review of ARR Design Inputs for NSW, Final Report WMA Water Feb 2019) recommend the use of calibration losses over data hub losses wherever these exist. Where calibrated losses are not available ARR data hub losses should be substantially reduced, including use of pre-burst rainfall to reduce initial loss. The Northrop stormwater report has provided very limited information on design storms used within the study and how these were selected.

It appears that through the use of incorrect data for losses, hydraulic roughness and modelling processes that the Northrop study underestimates flood extents and risks at the site.

Recommendation 3

Recommendation 6 from BCD's original letter should be adequately addressed. In addition, a copy of the data obtained from the ARR 2019 data hub should also be provided with the revised assessment.

4. On-site stormwater detention will be removed without justification

The proponent has not justified the removal of on-site detention from its Stormwater Management Strategy and the issues raised under point 7 of BCD's original letter have not been addressed. As outlined in point 1, it appears that flood flows have been underestimated and incorrect roughness values have been adopted, therefore the hydrographs provided in support of the proposed modification are not considered to accurately represent stormwater flows.

Recommendation 4

Recommendation 7 from BCD's original letter should be adequately addressed.

5. The flood prone nature of the site poses significant residual risk to residents in the event of a flood greater than the 1% Annual Exceedance Probability event

The proposed modification would transfer riparian corridors from public to private ownership and place large lots within the probable maximum flood (PMF) extent established by the Black Creek flood study. These lots would need to be evacuated in floods larger than the 1% Annual Exceedance Probability (AEP) and it is likely that a flood warning system would need to be established to ensure this can safely occur.

Recommendation 5

Recommendation 8 from BCD's original letter should be adequately addressed.

6. Flood free access is not provided

As outlined in BCD's original letter, Lots 1 to 11 do not have flood free access in a 1% AEP event. Northrop's response outlines that an access assessment will occur at detail design. BCD does not consider this to be appropriate as a flood assessment undertaken for flood planning purposes should include critical infrastructure such as evacuation routes and road crossings.

Northrop have outlined that flood flows that would be diverted from Lots 56 and 57 to the roadway, however; further information is required to assess if this will impact the level of service of the road.

Recommendation 6

The subdivision should be designed so that flood-free access is provided to all lots for the 1% AEP event. Rising road access is also required to permit evacuation to a place of safety for all events up to and including the PMF event. The proponent should also determine if the diversion of flows for Lots 56 and 57 will impact the level of service of the road.

7. The planning proposal would result in significant loss of riparian land

The response to submissions does not clarify how riparian corridors which serve the subdivision for drainage purposes will be managed when in private ownership, beyond suggesting requirements that would become a condition of development consent. This approach will place additional burden on Council and require covenants to be established on each lot to allow for inspection and maintenance activities.

Riparian areas would need to be maintained as grassed corridors to achieve the roughness values used in flood modelling for the proposal. This is not consistent with best practices and Section 3.3.2 of the Stormwater Management Strategy which refers to vegetated riparian areas. If grassed riparian areas must be established and maintained, it is not clear how this would be achieved if the land is under private ownership.

In addition, Lots 56 and 57 contain a drainage line that will be filled, and flows directed to an underground stormwater pipe. No justification is given to why this is necessary.

Recommendation 7

Recommendation 10 from BCD's original letter should be adequately addressed. In addition, the proponent should review the roughness values used in its hydrological model and outline how these values will be maintained in riparian areas in private ownership.

8. The stormwater report provides minimal information on how water quality and quantity is to be managed.

The proposed modification relies on water treatment devices being established on private property. BCD recommends that adequate stormwater treatment infrastructure is provided in public parts of the subdivision, so that homeowners are not required to install and maintain these devices. The use of oversized rainwater tanks may be an appropriate part of the solution, however; requirements for this would need to become part of a development control plan to ensure that homeowners and development assessors are aware that the site-specific requirements exceed usual BASIX requirements.

Recommendation 8

Recommendation 11 from BCD's original letter should be adequately addressed.