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Our ref: Calderwood Concept Plan Mod 4 –  
Response To Submissions

Your ref: MP09\_0082 MOD 4

File: DOC19/610492

Dear Ms Joshua

**Subject:** Calderwood Concept Plan Mod 4 – Response To Submissions

Thank you for your e-mail of 20 June 2019 requesting input into the abovementioned Response To Submissions (RTS). Please note that our previous comments still remain valid, and further advice on flooding as a result of the RTS is now provided for consideration.

The Water Cycle and Flood Management Strategy Updates Post-Exhibition Report (J. Wyndham Prince, 2019) provides additional information in response to comments raised. The report clarifies the proposed approach, however some comments raised by OEH (now Department of Planning, Industry and Environment – Environment, Energy & Science) have not been addressed, as follows:

- The report notes that portions of the proposed high school site are affected by the Probable Maximum Flood (PMF) event and contends that this can be managed through appropriate land use or raising the site. However, no specifics are provided on how this would be achieved. Further details are required to ensure that an appropriate solution is achievable. This should include a description how the high school would be designed to ensure appropriate land use in the probable maximum flood (PMF), modelling of any landform modifications to the site for assessment of flood impacts and an assessment of public safety including flood access and emergency response.
- Flood modelling figures provided in Appendix C of the report indicate that areas beyond the educational precinct are also affected by the PMF, including residential lots and roads. As advised previously, this is not consistent with the approved concept, in which all development areas were flood free up to the PMF. The report notes that a 'shelter in place' policy is proposed during extreme flood events, however this approach is only effective where occupants can safely shelter above the PMF. Such an approach typically includes a requirement for raised floor levels (i.e. above the PMF), however no such confirmation has been provided.
- It would also require consultation with Council and the State Emergency Service (SES) to establish emergency access requirements and any modifications to the Local Flood Plan. It remains unclear in the documentation as to why development areas which were previously raised above the PMF are now proposed to be flood affected. An outcome where all development areas are flood free (as per the approved concept plan) would be preferable, however if this is no longer achievable an assessment of the emergency management issues including flood access requirements and emergency response arrangements is required to ensure public safety outcomes.
- The report advises that safe access for emergency services is provided to all areas of the development, as bridges across the Macquarie Rivulet (constructed) and Marshall Mount Creek (proposed) provide PMF access. However this does not address the concern of whether flood access is available to areas within the development which are now subject to PMF affectation. As previously advised, flood maps indicate depths which are not trafficable for most vehicles and therefore issues relating to public safety remain unaddressed.

- Climate change modelling has been provided under the assumption of a 15% increase to rainfall intensity. Justification is required as to the appropriateness of this increase and how it was determined.

As the issues regarding large floods and associated impacts including public safety have not yet been addressed we maintain that Planning and Assessment seek clarification on these matters prior to determination. This may require further consultation with Shellharbour and Wollongong City Councils and the SES.

Please do not hesitate to contact Calvin Houlison, Senior Conservation Planning Officer or 4224 4179 or via e-mail [calvin.houlison@environment.nsw.gov.au](mailto:calvin.houlison@environment.nsw.gov.au) should you have any further queries.

Yours sincerely,

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