

COUNCIL ASSESSMENT SUPPLEMENTARY REPORT - FEMP

Panel Reference	PPSNTH-129
DA Number	DA2021/0558
LGA	Clarence Valley Council
Proposed Development	Multi Dwelling Housing (136 Dwellings, one exhibition home, community facilities including clubhouse, swimming pool, gym and cinema, associated infrastructure and landscaping)
Street Address	Park Avenue, Yamba NSW 2464
Applicant/Owner	Applicant: Hometown Australia Management Pty Ltd Owner: Parkes Menai P/L

This supplementary report is provided in response to the Independent Peer Review of the Flood Emergency Management Plan (FEMP) undertaken by Rhelm on behalf of the Department of Planning and Environment relating to the abovementioned development.

Background

The Northern Regional Planning Panel on 10 March 2022 deferred the determination of the application to allow the preparation of a detailed Flood Emergency Management and Evacuation Plan to satisfy the relevant requirements of the Clarence Valley Local Environmental Plan 2011 (the LEP) and Residential Zones Development Control Plan (DCP).

In response to the Northern Regional Planning Panel deferral, a FEMP and a supplementary Flood Risk Assessment was submitted by the applicant to satisfy Clause 5.21 of the LEP and the Lower Clarence River Floodplain, Yamba Floodplain and other Floodplain controls set out in Schedule D4 of the Residential Zones DCP.

The FEMP was prepared by Bewsher Consulting Pty Ltd in consultation with the State Emergency Services (SES). The Clarence Valley SES Local Controller is responsible for managing floods as detailed in the State Flood Plan and the Clarence Valley Local Flood Plan 2017 (CVLFP). The FEMP sets out a preparedness approach in the event of a flood emergency and addressed Council's local controls. It should be considered along with the CVLFP which is the overarching flood plan that provides for response arrangements in a flood emergency. The CVLFP is a subplan of the Clarence Valley Local Disaster Plan and the Clarence Valley Emergency Management Plan and has been issued under the *State Emergency and Rescue Management Act 1989*. It is currently under review, however will need to incorporate changes resulting from the Flood Inquiry.

A supplementary report assessing the additional information was prepared by Council for the Panel's consideration. On 27 July 2022 the Panel agreed to defer the determination of the matter until and independent assessment of the flooding risk and evacuation procedures is undertaken.

The Peer Review, undertaken by Rhelm, was provided to Council on 30 September 2022.

Points of note

- The adopted 1:100 year flood level for the site is 2.51m AHD.
- The site is generally filled to a level of 2.8m AHD
- Council's adopted Habitable Flood Level requirement is 500mm above the 1:100 level i.e. 3.01m AHD
- Current flood modelling from the Clarence Valley Flood mapping shows the Probable Maximum Flood level to be 3.56 - 3.68m AHD towards the Western half of the site and 3.33 -

3.45 AHD for the Eastern half. The Probable Maximum Flood level is an event that is the largest flood that could conceivably be expected to occur at a particular location. This is a very rare event with a probability of occurrence of approximately once 100,000 years.

- The applicant amended the design height to provide the floor level of the Community Centre building located in an area above the Probable Maximum Flood (PMF) (3.63 metres AHD) in line with Council's Floodplain Management Controls under Schedule D4 of the DCP. This was considered in the FEMP to provide a 'fully equipped community refuge on the site above the reach of the largest possible flood'.
- The Peer Review has adopted an additional 0.9m for Climate Change on top of Council's adopted levels that have already considered climate change into a projected 1% AEP event and relies on limited information to make this assumption.

Comments to recommendations of the Peer Review

The FEMP under review considered Council's adopted flood management controls and historical flood history data. The model that has been adopted by Council forms the basis for establishing flood planning levels (residential floor levels). This is adopted into Council's Development Control Plan and considered by Clarence Valley Council when determining a development application under section 4.15 of the *Environmental Planning and Assessment Act 1979*. The FRMP demonstrated that it met Council's flood management controls. A valley wide flood study review was completed in 2013 to provide more accurate survey data than previous models and was also able to incorporate extensive information from the January 2013 major flood event where the Clarence River peaked at a new recorded height of 8.09m. The peak of the flood in Yamba from this flood event was 1.23m AHD on 30 January 2013.

The Lower Clarence Flood Model Update (BMT WBM, 2013) undertook a climate change assessment for the catchment which considered climate change scenarios for the 2050 planning horizon (PH) and the 2100 planning horizon. The peak levels for Yamba 2050 PH were estimate at an additional 0.3m - 0.5m between Yamba and Ulmarra and for the 2100 PH were estimated at an additional 0.4m – 0.9m between Yamba and Maclean. The flood study used a very conservative assumption regarding elevated ocean levels of 2.6m AHD, noting that (as outlined in the 2004 Flood Study Review) "for coastal areas, high ocean levels in design flood events dominate flood behaviour, resulting in flat flood gradients with levels similar to the ocean levels." Council is currently undertaking inundation assessments as part of its Stage 2 to 4 Coastal Management Program, and preliminary assessment are that the predicted 2023 RCP8.5 1% AEP storm tide height is 2.75m AHD. The existing flood model is thus considered to incorporate predicted sea level rise to 2100.

Notably, the Peer Review of the FEMP also provides suggested amended levels to Council's relevant planning controls, and that different flood levels should be adopted and goes on to consider the *Support for Emergency Management Planning* (DPE, 2022) as well as other reference documents for flood emergency responses.

It is noted that Rhelm may not be aware that BMT has been engaged recently by Council to review the current Clarence Flood model. Draft climate change flood scenarios for Yamba, which are yet to be finalised or adopted by Council, were provided for discussion between Council and the Department of Planning & Environment (DPE) on 30/09/2022 and suggest that the 1% AEP flood level under a Climate Change scenario is either 2.85m AHD or 3.05m AHD depending on the ocean boundary adopted. What Council staff are currently discussing with DPE is whether the "Type B" boundary is overly conservative (see Figure 1 below).

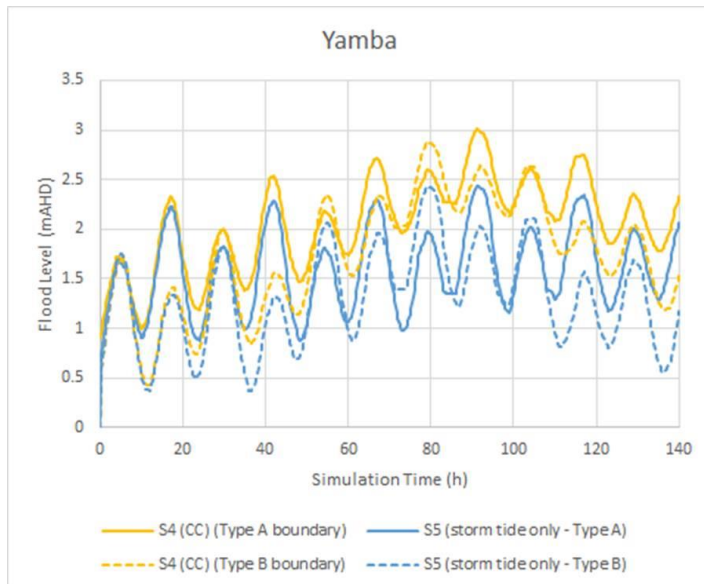


Figure 1: Draft climate change flood modelling scenarios for Yamba.

The Peer Review has recommended an additional 0.9m for Climate Change on top of Council’s adopted levels from the 2013 Flood Model which, as noted above, used an ocean storm tide level of 2.6m AHD compared with a predicted 2023 RCP8.5 1% AEP storm tide height of 2.75m AHD. Council staff note that the peer review recommendation to add 0.9m onto a projected 1% AEP event, which already incorporates predicted sea level rise, could be considered to be overly conservative and not supported by an updated flood model.

Furthermore, the Peer Review comments on the *Support for Emergency Management Planning 2022* which would consider much of Yamba to be considered a ‘low flood island’, including the existing site, though goes on to identify the site as a ‘high flood island’ because it has been filled and would act as an isolated flood island in an extreme flood event. Raising the land further to ensure that the whole site / community shelter area is above higher flood planning levels creates a higher likelihood that people will choose to shelter in place during larger flood events, when a shelter in place strategy is generally not supported by the NSW SES.

The Peer Review identifies two categories ‘Urban residential and Associated Uses’ for residential uses and ‘Sensitive Uses & Facilities’ from the Prescriptive controls under Schedule D4 of the Residential Zones Development Control Plan (DCP). The community facilities are grouped into ‘sensitive uses & facilities’ category. The Peer Review applies the prescriptive controls of ‘sensitive uses and facilities’ for the community facilities which are more onerous than for residential development. The applicant has sought approval for Multi Dwelling Housing and the community facilities are ancillary to this use of Multi Dwelling Housing, and as such it should be classed as ‘Urban residential and associated uses’.

The relevant prescriptive control’s for evacuation are listed in Part D – Floodplain Management Controls, Schedule D4 considerations for Urban Residential and Associated Uses are items 1 & 3 or 2 & 3 and the prescriptive control’s for Sensitive Uses & Facilities’ are items 1 & 2 or 3 & 5.

Evacuation

1	Reliable access for pedestrians or vehicles required during a 100 year flood to a publicly accessible location above the PMF.
2	Reliable access for pedestrians or vehicles is required from the building, commencing at a minimum level equal to the lowest habitable floor level to an area of refuge above the PMF level, or a minimum of 20% of the gross floor area of the dwelling to be above the PMF level.
3	The development is to be consistent with any relevant flood evacuation strategy, Flood Plan adopted by Council or similar plan.
4	The evacuation requirements of the development are to be considered. An engineers report will be required if circumstances are possible where the evacuation of persons might not be achieved with the effective warning time.
5	Safe and orderly evacuation of the site (in any size flood) has been demonstrated in a regional evacuation capability assessment prepared to the satisfaction of Council and the SES. Where such an assessment has not been prepared, development will only be permitted where, in the opinion of Council, safe and orderly evacuation can occur (in any size flood).
6.	Adequate flood warning is available to allow safe and orderly evacuation (in any size flood) without increased reliance upon the SES or other authorised emergency services personnel.

The Yamba township has land well above the PMF level including recreation areas, an extract of PMF levels is shown below. As per the CVLFP, the CBD and the Bowling Club which is used as an evacuation centre during an emergency disaster is less than 3km from the site and evacuation would be expected to occur on warning notices of a flood event above the 1:100. The DCP has adopted the relevant Flood Management Controls and the development meets or can be conditioned to meet the DCP provisions to satisfy Council's requirements.

The NSW 2022 Flood Inquiry Volume Two Full report, 20 July 2022, provides commentary regarding this, stating that:

Evacuation is now considered to be almost as important as understanding the flood behaviour on a given site, as it is a primary mechanism for reducing the risk to life arising from flooding.

The Inquiry report (pg. 285) goes on to explain that there is a policy gap around the concept of 'shelter in place' and it is up to the consent authority to make a decision on this. Some assistance has been provided through the collaboration between floodplain management experts and the SES and resulted in specific guidance being developed incorporating a Flood Emergency Response Classification Guidance on support for emergency management planning has been updated in 2022 as part of the draft Floodplain Risk Management Manual.

The Peer Review also notes the more intensive controls under the Local Government Regulation 2021 (ref. pg 6). While it is agreed that the applicant seeks to approve dwellings as 'Moveable Dwellings' by way of a Section 68 Approval under the Local Government Act 1993, Council would ordinarily apply the area specific adopted DCP controls to the R3 Medium Density Zoned land.

Page 16 of the peer review; Rhelm's comments about telecommunications indicate they are unaware that triggers 1,2,3 and 5 are regularly broadcast on radio by the Emergency Broadcaster (ABC). It is noted that as part of emergency management the SES advise that people should have a battery powered radio in order to listen to the Emergency Broadcaster if telecommunications are not available.

Under Part 8 of the peer review – Fill impacts and Stormwater Management, it is mentioned that flood modelling has not been provided to assess flood impacts on neighbouring properties "due to the proposed fill and retaining walls on the conveyance of stormwater flows within the existing or proposed perimeter stormwater drains". It is noted that the retaining walls shown on the plans are existing and flood flows would be identical to the current situation up until the 1% AEP flood event as existing ground levels below the 1% AEP flood level are not being significantly altered. If a flood modelling was to be undertaken, it is anticipated that the impacts would be negligible up to and including the 1% AEP flood. The modelling would be considering impacts due to filling beyond the 100 year flood level i.e., flood impacts for events between the 1% AEP flood and the PMF events. Given

the extent of floods above a 1% AEP event, Council officers were previously of the view that such flood modelling would have limited benefit.

The sizing of the currently proposed stormwater basin is supported by DRAINS modelling which has been assessed by Council's suitably qualified engineers and is considered acceptable. If required, Council officers are not opposed to the storage being increased. It is noted that the southern drain mentioned is existing and will not be modified.

Overall, in response to the recommendations of the peer review, changes to the development application appear to be required, and such changes will have likely impacts that need to be assessed.

If additional filling, changes to increase floor levels and/or other changes to the proposed design are required by the panel, or proposed by the applicant, it is Council's officers' view that a change to the development application must be made. Council officers must assess any such changes and the community should get another opportunity to provide meaningful submissions on any modified proposal in line with Council's Community Participation Plan.

Conclusions

The previous comments from Council provided to the Panel in the NRPP Addendum Report regarding the FPRMP provide a full assessment of the FEMP and Council staff remain satisfied that the FEMP is adequate for the proposed development. With this said, Council officers are supportive of a changed development application that improves flooding and stormwater impact assessment and risk management.

The recommended filling or raising buildings to a higher minimum flood 1% AEP flood planning level and PMF level could be overly conservative and do not appear to be supported by an updated flood model.

The review of Council's flood risk management controls and flood model is currently being undertaken. An updated flood model, informing an updated Council policy position about flood planning, should determine if the adopted 1% AEP and PMF flood planning levels, and relevant DCP provisions need updating.