

Our Ref: ID 1708
Your Ref: PEX2022/0001

6 February 2023

[REDACTED]
Northern Beaches Council
PO Box 82
Manly NSW1655

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Dear Paula,

Planning Proposal for 10-12 Boondah Road Warriewood

Thank you for the opportunity to provide further advice on the Planning Proposal for 10-12 Boondah Road Warriewood. It is understood that the planning proposal seeks to:

- rezone the site from RU2 Rural Landscape to R3 Medium Density Residential and C2 Environmental Conservation
- increase the maximum building height from 8.5m to 15m over the R3 zoned land
- remove the minimum subdivision lot size
- amend the Urban Release Area Map and clause 6.1(3) to apply a dwelling yield range of 40-45 dwellings.

NSW State Emergency Service (NSW SES) is the agency responsible for dealing with floods, storms and tsunami in NSW. This role includes, planning for, responding to and coordinating the initial recovery from floods. As such, the NSW SES has an interest in the public safety aspects of the development of flood prone land, particularly the potential for changes to land use to either exacerbate existing flood risk or create new flood risk for communities in NSW.

The consent authority will need to ensure that the planning proposal is considered against the relevant Ministerial Section 9.1 Directions, including 4.3 – Flood Prone Land and is consistent with the NSW Flood Prone Land Policy as set out in the NSW Floodplain Development Manual, 2005 (the Manual). Complementary to our previous correspondence dated 31 , we would like to provide the following advice in relation to our role and the principles outlined in the Manual:

- **Zoning should not enable development that will result in an increase in risk to life, health or property of people living on the floodplain.**

- Risk assessment should consider the full range of flooding, including events up to the Probable Maximum Flood (PMF) and not focus only on the 1% AEP flood.
- Risk assessment should have regard to flood warning and evacuation demand on existing and future access/egress routes. Consideration should also be given to the impacts of localised flooding on evacuation routes.

We understand that the applicant believes that they have correctly applied Flood Risk Management Guide EM01 (Figure 20, p.59). Firstly, this guideline is still draft, unfortunately the exhibition page of the website did not have the draft stamp. Nevertheless, NSW SES does not agree that the applicant has satisfied the conditions outlined in the Guide EM01, as detailed below:

The proposed development is a Low Flood Island

Noting that Boondah Road will be raised to the level of 1% AEP plus climate change, this area will still be a Low Flood Island. Low Flood Islands represent the highest risk to life.

The proposed development does not have sufficient time to evacuate

There is not sufficient time to evacuate, given there is no formal warning system in the catchment. The Flood Planning Assessment identifies 4.5 hour travel time as “significant”. Based on research, including [Oppen et al 2010](#) and a number of [publications](#) on the NSW SES website and recent post flood surveys, 4.5 hours is generally an insufficient amount of time to enact evacuation successfully.

This site is also not an area that is warned to by the Bureau of Meteorology. It is noted that a sensor is proposed to warn the community (Water Management Report).

The NSW SES issues warnings that describe the expected consequences for communities and what impacted people should do. Forecasts and flood warnings from the Bureau of Meteorology, flood plans, historical impact data and community sourced input are all used to determine the types of warnings issued. The NSW SES adopted the Australian Warning System (AWS) in September 2022; a hazard-agnostic, three-tiered warning system to encourage a nationally consistent approach to warnings for natural hazards. The warning system comprises warning levels, calls to action, hazard icons, colours and shapes, and was endorsed by the Australia New Zealand Emergency Management Committee (ANZEMC) in March 2021. All warnings issued by the NSW SES are considered official warnings and will be viewed on the SES website and HazardWatch. If the early warning system is pursued, the Australian Warning System terminology will not be able to be adopted unless it is an established warning system within the NSW SES framework.

It is stressed that although warning technology applications could be developed, they cannot be relied upon to guarantee a faster response from the community. In the planning context the NSW SES argues for the warning time frame for a development to be determined on the assumption that every dwelling must also be warned by an NSW SES team knocking on the door. No matter how many warning technologies are used, door knocking is the only way of ensuring everyone has been warned. Any time advantage is gained by the application of warning technology should be considered as a safety factor, not a potential for increasing the scale of the development and simply wiping out the safety factor with more risk exposure.

Early warning systems will still need to rely on a trigger to evacuate prior to inundation occurring. There is considerable historical evidence that some people, occasionally in large numbers, will not heed the call to evacuate early and will instead wait until they see floodwater in their immediate vicinity. In doing so it is possible that people will not have sufficient time to get off the site before floodwater encroaches around their dwelling or workplace. In addition, if the forecast height does not result, then there is an effect on subsequent evacuation compliance rates due to the “cry wolf” effect.

The proposed modifications do not address the evacuation constraints

The proposed development would need to evacuate prior to the roads being closed. The broader area also needs to be considered, as all other routes out of the area will be closed prior to Boondah Road (after the proposed upgrade) is flooded, for example, Macpherson Street to the north and to the east, Brands Lane and Garden Street. Therefore, the future occupants will still not be able to self-evacuate.

- **In the context of future development, self-evacuation of the community should be achievable in a manner which is consistent with the NSW SES’s principles for evacuation. Future development must not conflict with the NSW SES’s flood response and evacuation strategy for the existing community.**
- **Evacuation must not require people to drive or walk through flood water.**
- **Development strategies relying on deliberate isolation or sheltering in buildings surrounded by flood water are not equivalent, in risk management terms, to evacuation.**

Section 7.4 of the Flood Planning Assessment identifies the option for shelter in place and a complex and high risk strategy detailed on page 54 of the Water Management Report.

'Shelter in place' strategy is not an endorsed flood management strategy by the NSW SES for future development. Such an approach is only considered suitable to allow existing dwellings that are currently at risk to reduce their risk, without increasing the number of people subject to such risk.

The flood evacuation constraints in an area should not be used as a reason to justify new development by requiring the new development to have a suitable refuge above the PMF. Allowing such development will increase the number of people exposed to the effects of flooding.

Other secondary emergencies such as fires (exacerbated by lack of electricity and difficult to extinguish due to isolation) and medical emergencies may occur in buildings isolated by floodwater. During flooding it is likely that there will be a reduced capacity for the relevant emergency service agency to respond in these times. Even relatively brief periods of isolation, in the order of a few hours, can lead to personal medical emergencies that have to be responded to. The occupants are also likely to be without water, sewerage, electricity, communications and other services. These factors can impose additional loads on emergency services during floods. For these reasons, shelter in place is a last resort alternative. In addition, this particular site is adjacent to the sewer treatment works, which is likely to result in contaminated floodwater surrounding the development.

- **Development strategies relying on an assumption that mass rescue may be possible where evacuation either fails or is not implemented are not acceptable to the NSW SES.**
- **The NSW SES is opposed to the imposition of development consent conditions requiring private flood evacuation plans rather than the application of sound land use planning and flood risk management.**

Although we encourage businesses and homes to be prepared for flooding, NSW SES is the legislated authority responsible for ordering flood evacuation. This responsibility cannot be transferred to a reliance on a private evacuation plan.

It should also be noted that the Manual (see sections 3.6, A-5, L-5, L-6.9.6 and N-7) specifically precludes the practice of consent conditions requiring a site plan if that plan is trying to overcome an underlying flood risk that would otherwise be considered too high to permit approval. In other words, if the existence of a flood plan is ignored, is the underlying flood risk unacceptable in the context of the proposed development.

This work is labour intensive and like community flood education must be regularly reviewed and updated for the life of the development. This should include what will be established to ensure ongoing compliance. It is common for consent conditions to be met in the development/construction phase, but not as common for ongoing management to be continued.

- **NSW SES is opposed to development strategies that transfer residual risk, in terms of emergency response activities, to NSW SES and/or increase capability requirements of the NSW SES.**

- **Consent authorities should consider the cumulative impacts any development will have on risk to life and the existing and future community and emergency service resources in the future.**

You may also find the following Guidelines, originally developed for the Hawkesbury Nepean Valley and available on the NSW SES website useful:

- [Reducing Vulnerability of Buildings to Flood Damage](#)
- [Designing Safer Subdivisions](#)
- [Managing Flood Risk Through Planning Opportunities](#)

Please feel free to contact Elspeth O'Shannessy via email at rra@ses.nsw.gov.au should you wish to discuss any of the matters raised in this correspondence. The NSW SES would also be interested in receiving future correspondence regarding the outcome of this referral via this email address.

Yours Sincerely

Peter Cinque
Senior Manager, Emergency Risk Management
NSW State Emergency Service