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29 January 2024

Project/File: 301351131

Stephen Edwards Constructions
140 Wicks Rd,
Macquarie Park NSW 2113

Hi Charie,

Reference: Cronulla High School Flood Impact Assessment

The site has been identified in the Woolooware Bay Catchment Flood Map (2021), as being within 0.1 to 0.2m water depth in the 1% AEP event 2019 AR&R and in the peak flood depth and level contour PMF event 1987 AR&R. These flood extents are located along the first 1000mm of the Captain Cook Drive property boundary. Refer to the below figures.

Figure 1- Woolooware Bay Catchment Peak Flood Depth and Level Contour 1% AEP Event

As can be seen from the flood mapping, the site is currently subject to flooding in the 1% AEP storm event, with the majority of floodwater affecting the North-western and Southern boundary of the site. Flooding is not observed where the proposed buildings or carparks are to be located as part of the proposed site.

Integrating the flood modelling for the PMF storm event and the proposed development, it can be seen that a small section of proposed works enters into the existing PMF flood extents. This work is largely minor adjustments to existing topography in the range of up to 500mm and in currently battered

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landscaping zones free of critical infrastructure. Flood depths adjacent to proposed school works are minimal (up to 250mm) and considered low risk, flood fringe characteristics. Minor topographical adjustment works within PMF flood extents are expected to have minor flood level changes in areas of the filling works up directly upstream and downstream up to 5m.

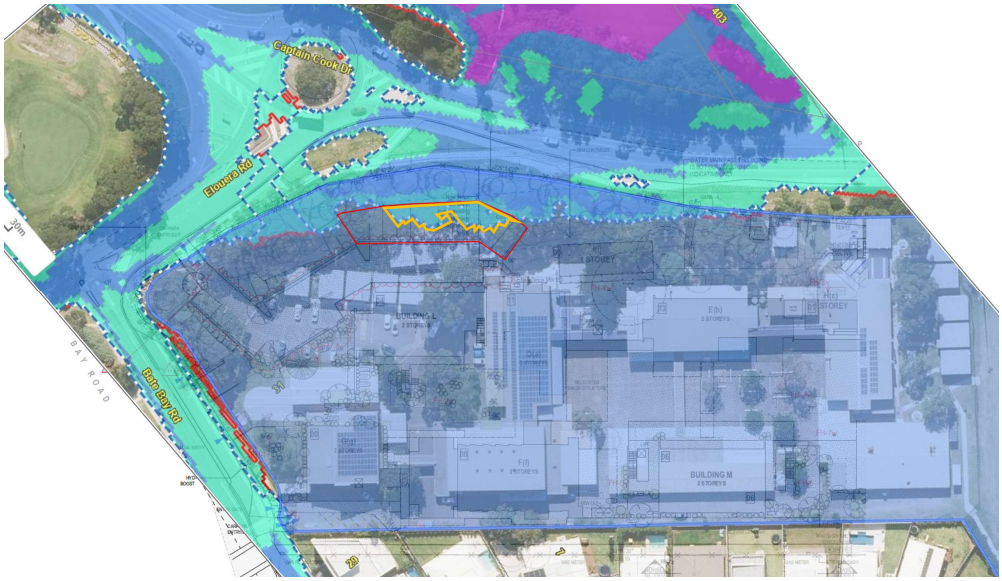

Figure 2- PMF Flood Extents overlayed with proposed school upgrades

Whilst Sutherland Shire Council, nor the Sutherland Shire Local Environmental Plan 2015 explicitly nominate what storm event should be used to assess development-based earthworks, the *Considering flooding in land use planning: Guidance and statutory requirements* (2021) guideline does note that PMF flood extents be adopted only for sensitive or hazardous developments. It nominates the following: *Special Flood Considerations apply to sensitive and hazardous development in areas between the FPA and the PMF and to land that may cause a particular risk to life and other safety considerations that require additional controls.*

As the proposed landscaped batter is located within the low risk, flood fringe extents of the PMF storm event, earthworks have no functional use outside of dense landscaping, whilst also having no change in flood conditions to properties directly either side of the zone undergoing earthworks, the assessment on flood impact should be based around the 1% AEP flood extents. This is based on the works to the proposed zone not being sensitive or hazardous to nearby development.

It should be noted that the flood modelling undertaken does not take into account any existing stormwater infrastructure or potential proposed infrastructure upgrades which would have a beneficial effect on flood levels internal and external to the site. This flood modelling is considered the worst-case scenario.
Following the overlay of the proposed topographical design of the school upgrade works, it was viewed that within the 1% AEP storm flood extents, the topographical surface adjustments were negligible and would not change flooding conditions in the areas around the property boundary. As design adjustments are negligible along the site boundary, flood storage is also not impacted. NSW Flood Risk Management Manual is considered as part of this assessment, however contents within this publication focus on setting flood planning levels and management strategies for Council's to follow. Flood

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conditions in the road do not have impact on the planning for the school development due to clearance above PMF level and low hazard flood classification for egress for vehicles in the 1% AEP storm.

Regards,

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Attachment: [Attachment]

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