

17/09/2019

191583 CAAA

Centurion Group
Level 25, 88 Phillip Street
Sydney NSW 2000

Attention: Nick Winberg

SummitCare Casula Flood Assessment

Dear Nick,

TTW has undertaken a flood assessment for 18 Randwick Close, Casula as part of the proposed SummitCare Casula development. The site is affected by floodwaters flowing east into the Daruk Park flood basin via both the site and Kurrajong Road to the north. As a result, the development will have to comply with the flood related development controls outlined in Liverpool City Council's Development Control Plan.

Flood Related Development Controls

Liverpool City Council (Council) sets Flood Related Development Controls depending on:

- “1. Sensitivity of a land use to flooding
2. Severity of flood impact on site
3. Specific Floodplain in which a site is located”

Flood modelling undertaken for the SummitCare Casula site (discussed in more detail below) classify it within the Medium Flood Risk Category according to Council's DCP, which “*means land below the 1% AEP flood that is not subject to a high hydraulic hazard and where there are no significant evacuation difficulties.*”

The proposed development is classified as sensitive use under Council's Land Use Risk Category. The site is subject only to local overland flooding. Flood related development controls for the development are included as Appendix A, but a brief summary is provided below:

- Floor Levels to be no lower than the PMF level unless justified by a site-specific assessment;
- The development must not increase flood affectation elsewhere;
- For proposed carparks:
 - Basement parking shall be protected from inundation by the 1% AEP flood;
 - Basement carpark below the 5% AEP level or 0.8 m below the 1% AEP level shall have adequate flood warning systems, signage and exits;
 - Barriers will need to be provided to prevent floating vehicles leaving a site during the 1% AEP flood;
- Evacuation requirements of the development are to be considered up to the PMF level.

Flood Modelling Summary

Council has previously undertaken a broad-scale catchment-wide overland flow flood study within which the proposed development area is located. Council's flood modelling indicates the presence of ponding flood waters to the south and north-east of the site in both the 100-year and PMF Flood Events, but does not accurately detail flood conditions on the site itself. (Council acknowledges in their DCP that “*flood risk mapping prepared by Council has been developed at a broad scale for the purpose of undertaking Floodplain Risk Management Studies...[and] is considered preliminary and can be subject to refinement as part of the assessment of individual properties*”. This is fairly standard practice for catchment-wide flood

studies, which are generally undertaken with the intent of highlighting problem flood areas, not necessarily to provide detailed flood information for individual lots.)

TTW has undertaken a site-specific flood study for the proposed development to determine peak flood affectation and levels within the site boundary. The study was undertaken using:

- ALS data from NSW Land and Property Information (now known as NSW Land Registry Services);
- Rainfall data from the Bureau of Meteorology;
- Observations from a site visit; and
- Australian Rainfall and Runoff 2016 principles.

Peak 100y and PMF flood levels and depths for the site are shown in the images below.

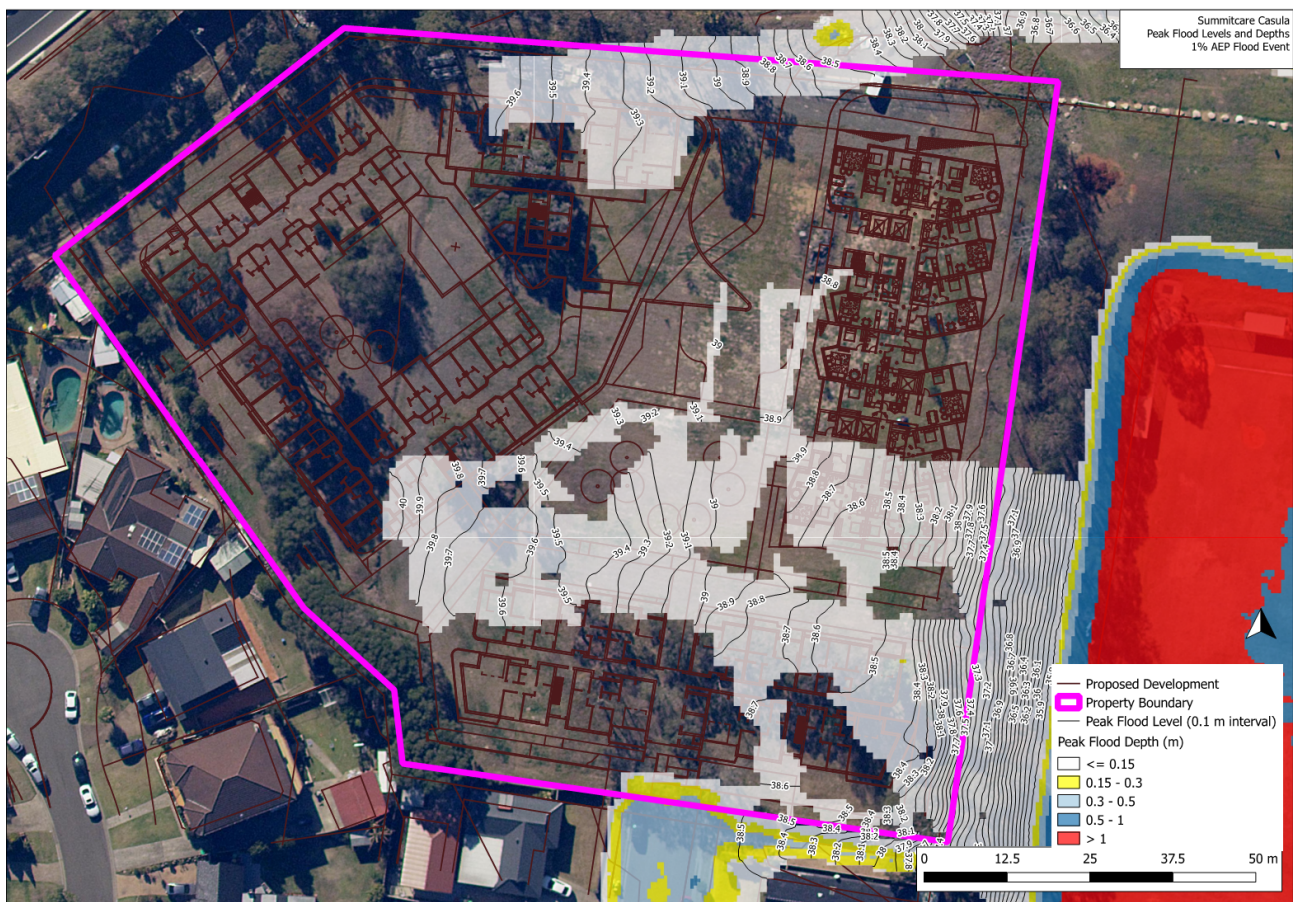


Figure 1: Peak 1% AEP Flood Levels and Depths SummitCare Casula Site

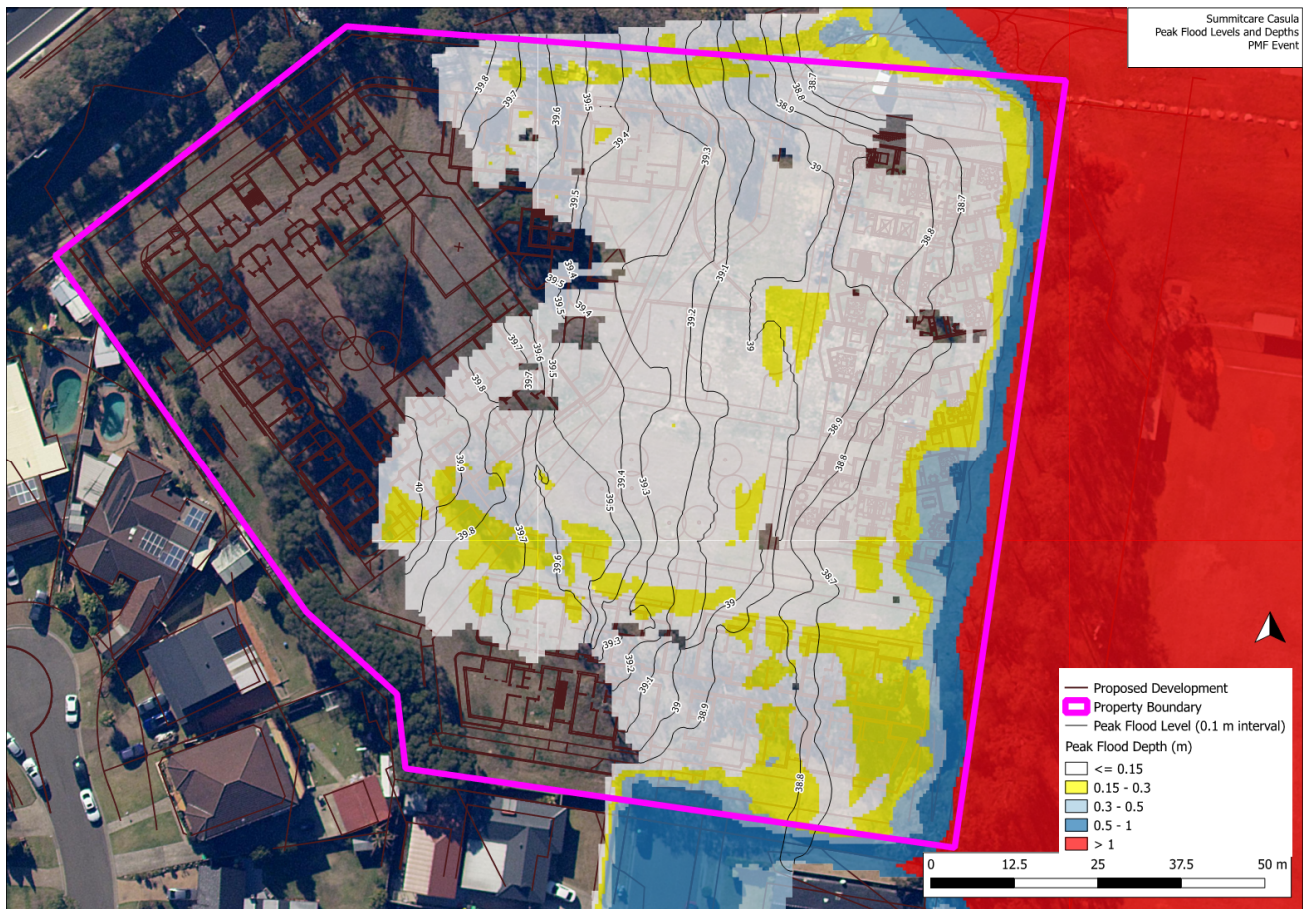


Figure 2: Peak PMF Flood Levels and Depths SummitCare Casula Site

As per Figure 1, the site is affected only by nuisance overland flooding in the 1% AEP event. If driveway access to a basement carpark is proposed from Kurrajong Road, driveway crest levels must be set at **37.6 mAHD** in order to comply with Council's flood related controls.

As per Figure 2, the site is affected by local runoff in the PMF flood event. It is recommended that floor levels for the site be set above the PMF level to comply with Council's flood related controls. Finished Floor Levels for each of the three buildings is shown in Figure 3 below

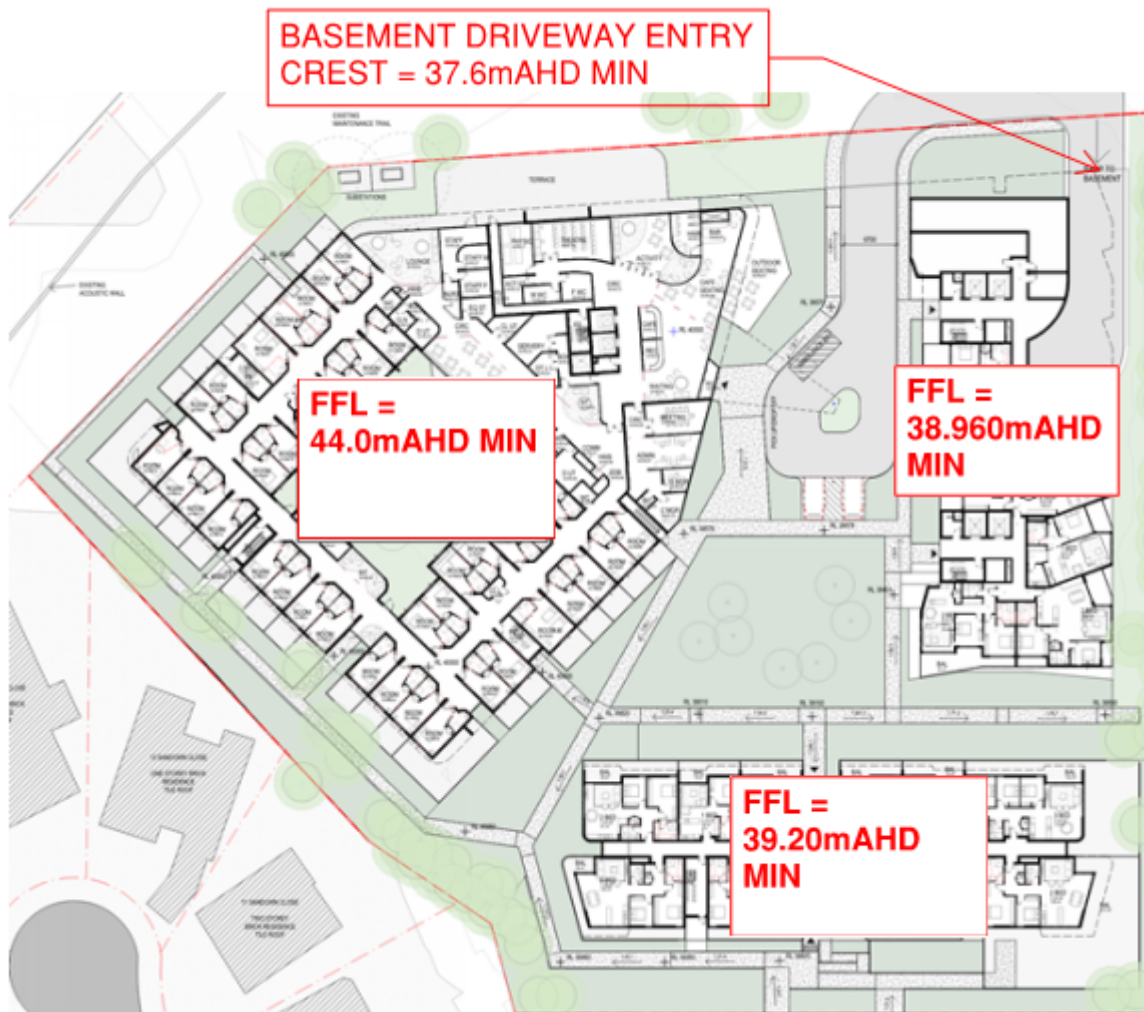


Figure 3: Finished Floor Levels For Development

If finished floor levels are set at or above the levels shown above, and safe egress is provided from basement carpark to areas above the PMF, evacuation in place during major flood events is considered appropriate for the development

Should you require anything further please contact the undersigned.

Yours faithfully,
TAYLOR THOMSON WHITTING (NSW) PTY LTD
in its capacity as trustee for the
TAYLOR THOMSON WHITTING NSW TRUST

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Associate Director

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