

12 December 2019

NL190382-00

ADW Johnson
Zac Smurthwaite
7/ 335 Hillsborough Road
Warners Bay NSW 2282

Dear Zac,

Re: Lee 5 Mixed Use Development (SSD 9827) – Response to RFIs

Northrop Consulting Engineers, being a Civil engineering consultant for this project, provide the following comment to assist you in addressing Item 1, 2 and 3 of the Biodiversity and Conservation Division review of the Environmental Impact Statement dated 23 September 2019.

Item 1 – Demonstrate that the underground carpark can be safely evacuated during an extreme flood event.

Response

The entry ramp to the basement car park has been designed to the Flood Planning Level (FPL), in accordance with Item 3 of Section 4.01.03 of City of Newcastle DCP. We understand the reference to “extreme flood events” to mean those above the 1%AEP and up to the PMF. In this instance it is likely that inundation of the two basement levels will occur. The proposed management of this risk is as follows:

- Early warning system – when the flood water level exceeds the 1% AEP flood level it is proposed that an evacuation warning is sounded in the basement levels directing anyone in the basement to move to the ground level via stair wells. The basement and stairwells will be immune to flood waters up to the FPL (1%AEP + freeboard).
- The basement stair wells will be clearly identified and are not intended to be locked at any time.
- One of the three tower stair wells will be pressurised and will therefore have airtight doors. The remaining two stair wells won't be airtight and will allow hydrostatic pressure to equalise on both sides of the doors as the basements become inundated. These doors will therefore be able to open during inundation of the basement. Flood evacuation signage in basement levels will direct people to the two non-pressurised stair wells.
- On-site refuge access is via the stair wells and will be clearly marked so people evacuating basement levels will have direct access to refuge above the PMF level.

		Date
Prepared by	CP	12/12/2019
Checked by	AB	12/12/2019
Admin	HB	12/12/2019

Item 2 – Demonstrate that flood egress routes, from the public retail areas to the on-site flood refuge, are fail safe, plainly evident and self-directing.

Response

It is noted that the preparation of a Flood Emergency Response Plan (FERP) is a requirement of the draft Conditions of Consent and will be prepared prior to award of Construction Certificate. This will detail egress paths and signage locations.

On site refuge will consist of the foyer areas on Level one and above, accessible via stair wells. Clear signage will be provided to direct public from the retail areas to the stair wells. Foyer doors are expected to be locked to public for security, however, will be automatically unlocked in the event of an emergency. Further details will be provided in the FERP.

Item 3 – Assess coastal hazards over the life of the development, particularly with regard to coastal and tidal inundation taking into account the effects of climate change.

Response

The development is situated several meters behind a seawall recently constructed by Hunter and Central Coast Development Corporation (HCCDC).

As noted in Council's Flood Information Certificate FL2019/00060 included in the Flooding Assessment (Northrop Consulting Engineers, 2019), the 1% AEP and PMF from Ocean Flooding and Hunter River Flooding are at or below the levels from Local Catchment Flooding. The Ocean Flood Level estimates include a sea level rise relative to 1990 mean sea levels of 90cm by 2100, as used in the Newcastle City-wide Floodplain Risk Management Study and Plan (June 2012). Similarly, the Property Hazard Category and Life Hazard Category from Local Catchment Flooding is higher than that for Ocean Flooding and Hunter River Flooding.

Inundation from Local Catchment Flooding is therefore more critical to the development than inundation from Hunter River and Ocean Flooding. The development has been designed to account for Local Catchment Flooding as noted in the Flooding Assessment (Northrop Consulting Engineers, 2019).

We trust that this meets your requirements, however, should you require anything further, please do not hesitate to contact the undersigned.

Yours sincerely,

Author:



Chris Piper
Associate | Civil Engineer

Reviewer:



Angus Brien
Associate | Flood Engineer