

Our Ref 4 Wallaroy Drive, Burrill Lake – Lot 41 DP209662
Your Ref DA17/2060

1st May 2020

Planning Environment & Development Group
Shoalhaven City Council
PO Box 42
NOWRA NSW 2541

Attention: Brendan Lampard (Building Surveyor)

Dear Sir,

Re: Drainage Report – 4 Wallaroy Drive, Burrill Lake – Lot 41 DP209662

Further to the request within the approved Development Consent we have addressed the flood requirements outlined within Section 5 of the notice for the above property. Post-development flood requirements are hereby met by following report.

Background:

According to the *Burrill Lake Floodplain Risk Management Study and Plan (2013)* the subject allotment is affected by the 1% AEP flood event and is summarised by the following flood information:

Year	Existing	Projected 2050	Projected 2100
Flood Planning Level	Not applicable	3.4m AHD	3.9m AHD
Hazard Category	High	High	High
Hydraulic Category	Flood Storage	Flood Storage	Flood Storage
1% AEP Flood Level	2.6m AHD	2.9m AHD	3.4m AHD

In accordance with the Flood Certificate, all applications for buildings must take into account the projected 2050 flood information. Currently under pre-development conditions not all of the property is categorised high hazard flood storage. The property is categorised in part 'low hazard flood storage', in part 'low hazard flood fringe' and in part 'above the flood planning level'.

Under pre-development conditions Shoalhaven City Council considers the subject lot to be below the flood planning level and therefore subject to flood related development controls.

Pre-development conditions:

The existing conditions of the site include a sloping allotment with vegetation throughout, adjoining a low-lying heavily treed area to the west that provides separation of the allotment from the lake. The subject allotment is neighboured by existing residential dwellings on both sides to the north and south and is serviced by a sealed road to the east for local traffic. The existing surface levels range between RL 1.50m (AHD) and RL 3.50m (AHD) between the western (treed area) boundary and eastern (sealed road) property boundaries respectively.

This is the plan referred to in
D & C Ferguson BIS P/L's consent

Dated: 12/05/2020
File No.: CC20/113
Plan No.: 113/20A
DA No.: DA17/2060

Officer: Don Ferguson
Accreditation No.: BPB0117

The pre-development conditions show that in a major (1% AEP) flood event a portion of the site would be inundated by flood waters on the western side of the site. Under pre-development conditions the Hazard Category can be separated into the following:

- High hazard flood storage – North/west boundary adjoining treed area.
- Low hazard/Low hazard fringe flood storage – Middle part of the site.
- Above flood planning level – South/east boundary adjoining property access.

Post-development conditions:

All proposed habitable structures have Finished Floor Levels (FFL) greater than projected 2050 Flood Planning Level RL 3.4m (AHD). All proposed non-habitable structures have Finished Floor Levels (FFL) greater than projected 2050 1% AEP Flood Level RL 2.9m (AHD).

The proposed residential dwelling and shed have design FFL of RL 3.20m (AHD) and RL 3.50m (AHD) respectively. Earthworks are proposed on the western side of the site to increase the site levels to RL 3.10m (AHD) to match with the neighbouring residential properties and to provide flood immunity to the site for a 1% AEP flood level (Projected 2050) of RL 2.9m (AHD).

The adopted FFL for the structures and associated earthworks ensure that the buildings will be able to withstand the force of flowing water, including debris and buoyancy forces up to & including 1% AEP flooding scenario (RL 2.9m) in accordance with the Flood Certificate. The proposed earthworks allows for a minimum of 200mm freeboard across the site in the 1% AEP scenario.

The proposed FFL of the residential dwelling and associated driveway levels provide a permanent, fail-safe, maintenance-free access to the street to allow for orderly and safe evacuation of people from within the residence in the case of a flood event as all levels are greater than the 1% AEP flood level (Projected 2050) of RL 2.9m (AHD).

The proposed earthworks for the site are primarily within the north/west and middle of the site which under pre-development conditions had high hazard categories. Importation of fill material to these parts of the site shall result in a reduction in the hazard category, revising the hazard category to “Above flood planning level” to over 90% of the site under post-development conditions. There will be no adverse effects to adjoining properties as the subject site is not developed and currently behaves as a low point by allowing flood ingress from the western boundary. Importation of fill to the site will provide greater flood immunity to not only the subject site but to the neighbouring properties by filling the void that is present by the existing low surface levels and reduces the risk of further ingress to properties on Wallaroy Drive.

In summary there will be no detrimental effect to the subject or adjoining properties as a result of the approval of the proposed development. This drainage report has provided sufficient evidence to addresses the requirements outlined within Section 5 of the Development Consent.

Yours faithfully,
RYGATE & WEST



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