

FLOOD RISK MANAGEMENT REPORT

**FOR PROPOSED SWIMMING POOL AT
15 GONDOLA ROAD, NORTH NARRABEEN
NSW 2101**



**July 2020
(Photo: Google Maps)**

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1. Introduction

This report is prepared to support the proposed development at 15 Gondola Road, North Narrabeen. It has been proposed by the owner of the property to construct a new swimming pool at the rear of the above-mentioned property.

According to Northern Beaches Council's Flood Advice dated 5 June 2017, that is attached in the Flood Risk Management Report by Northern Beaches Consulting Engineers Pty Ltd, the site is affected by mainstream flooding. Therefore, a new Flood Risk Management Report must be prepared and submitted for Council's review, as the previous proposal of a first floor addition is postponed and changed to construction of a new swimming pool.

The Flood Enquiry Information issued by the Council has shown that 1:100 year ARI flood is RL 3.0m AHD. The Probable Maximum Flood (PMF) level in this area is RL 4.9m AHD.

Adopting a 500 mm freeboard, the Flood Planning Level for the construction of any new floors is 3.5m AHD.

This paper will report our flood risk emergency assessment for the proposed development, particularly in relation to the evacuation strategies and flood risk to life. The assessment has been carried out in accordance with requirements of Pittwater 21 Development Control Plan (**Appendix 15**) and the NSW Government Floodplain Management Manual (Jan 2005).

We refer to the following documents:

1. Floodplain Development Manual 2005 by NSW State Government;
2. Pittwater 21 Development Control;
3. Architectural Plans by Jamie King Landscape Architect, Project No. 21011, Issue B, dated 13 August 2020;
4. Narrabeen Lagoon Flood Study by BMT WBM Pty Ltd (September 2013); and
5. Flood Risk Management Report by Northern Beaches Consulting Engineers Pty Ltd, Job No. 191044, dated 22 November 2019.

2. Flood Risk Identification and Assessment

Site investigation has found the site to be located within the proximity of Narrabeen Lagoon. In major storm events, flooding may be caused by upstream runoffs.

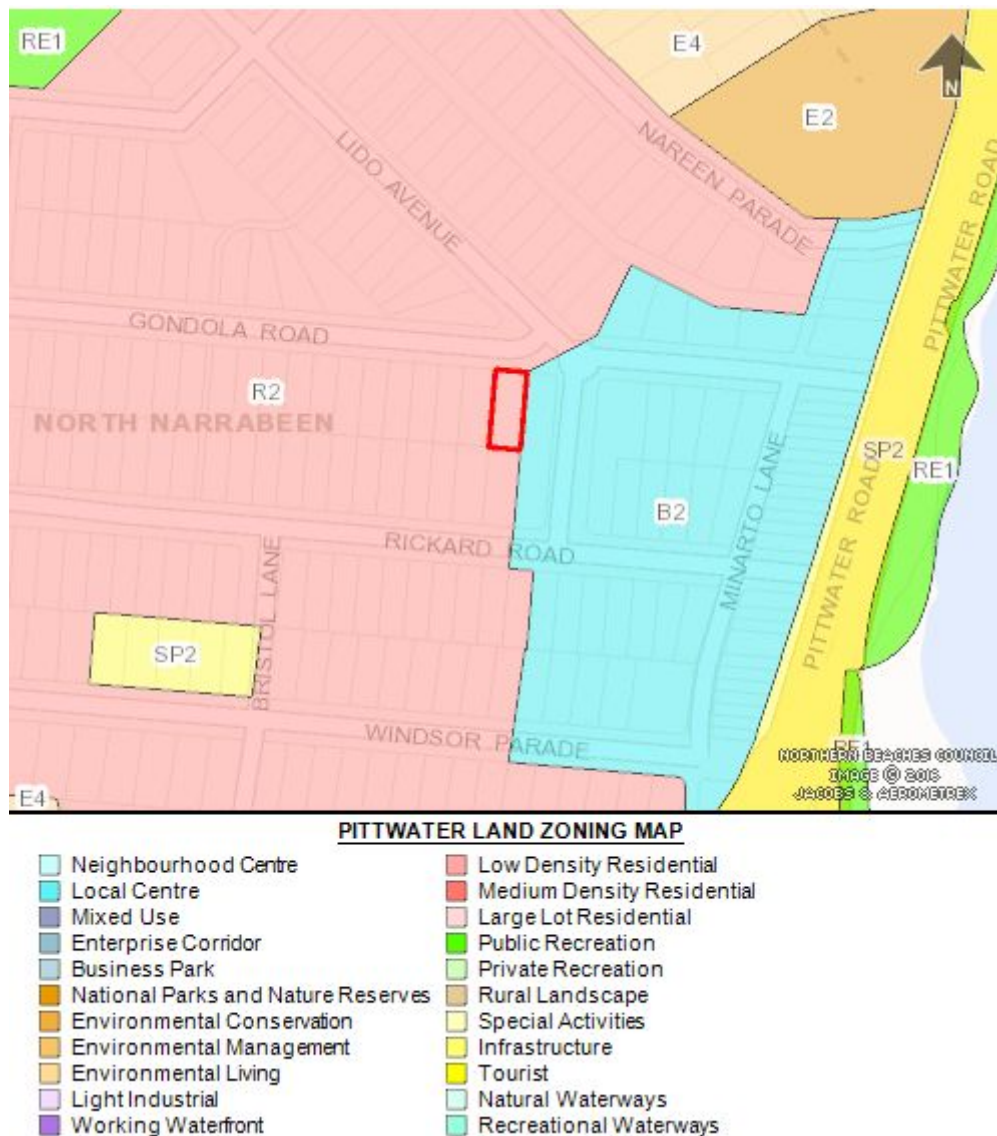


Figure 1: The locality of 15 Gondola Road, North Narrabeen.

According to Pittwater Flood Life Hazard Map (Figure 2), the subject property resides in category H3&H4.



Figure 2: Flood Life Hazard Map.

According to the flood life hazard category (Figure 3), the proposed development falls under the tolerable risk category, therefore, a “Shelter In Place” flood emergency response planning policy applies. As indicated in Section B3.13 Flood Hazard - Flood Emergency

Response Planning of Pittwater 21 DCP, controls Flood Risk Emergency Assessment (Control 1b), Minimum Floor Level (Control 2), Floor Space Requirement (3), Accessibility (4), Building Stability (5a) and Serviceability (6a) are applicable. In this instance, the proposed development being a new swimming pool, the existing dwelling at the above-mentioned property acts as the “Shelter In Place”, thus, meeting the requirements of the applicable controls.

Table 1 Flood Risk to Life Development Matrix

Adopted Emergency Response	Land Use Group	Flood Life Hazard Category			
		H1-H2	H3-H4	H5	H6
Evacuation	All	No controls	1a	1a	1a
Shelter-in-Place	Recreational and environmental	No controls	1b, 2, 3, 4, 5a	1b, 2, 3, 4, 5b	Development not permitted
	Concessional	No controls	1b, 2, 3, 4, 5a	1b, 2, 3, 4, 5b	Development not permitted
	Residential	No controls	1b, 2, 3, 4, 5a, 6a	1b, 2, 3, 4, 5b, 6a	Development not permitted
	Business and Industrial	No controls	1b, 2, 3, 4, 5a, 6a	1b, 2, 3, 4, 5b, 6a	Development not permitted
	Vulnerable Uses	No controls	1b, 2, 3, 4, 5a, 6b	1b, 2, 3, 4, 5b, 6b	Development not permitted
	Critical	No controls	1b, 2, 3, 4, 5a, 6b	1b, 2, 3, 4, 5b, 6b	Development not permitted

Where,

- Green = Acceptable risk;
- Yellow = Tolerable risk; and,
- Orange = Unacceptable risk.

Figure 3: Flood Life Hazard Categories.

3. Prescription Controls

Based on the Flood Risk Precinct Map (Figure 4), the proposed development falls under the category of a High Flood Risk Precinct with partly Medium Flood Risk Precinct. The following prescriptive controls that follow may be applied to the proposed development.

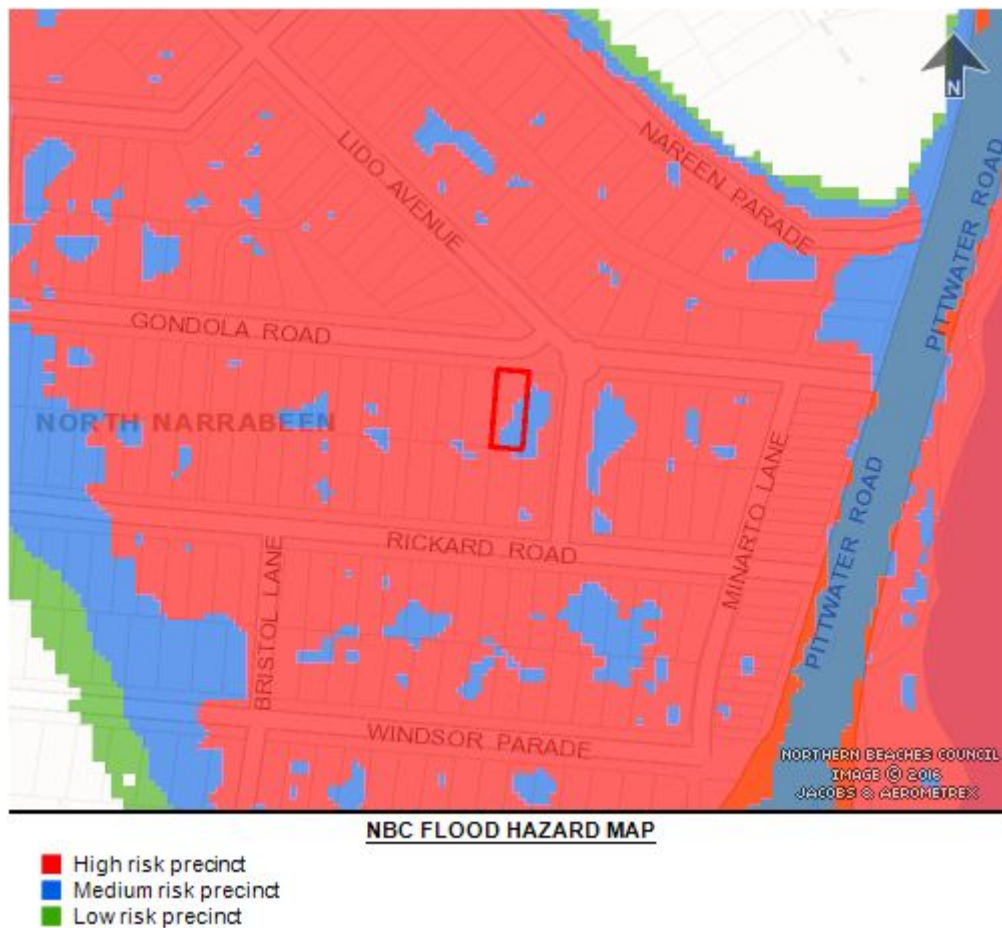


Figure 4: Flood Risk Precinct Map.

3.1 Flood Effects Caused by Development (A1 and A3)

This is not applicable to the proposed development.

3.2 Drainage Infrastructure and Creek Works (B1 and B2)

This is not applicable to the proposed development.

3.3 Building Components and Structural (C1, C2 and C3)

This is not applicable to the proposed development.

3.4 Storage of Goods (D1 and D2)

This is not applicable to the proposed development.

3.5 Flood Emergency Response (E1 and E2)

Development shall comply with Council's Flood Emergency Response Planning for Development in Pittwater Policy and the outcomes of any Flood Risk Emergency Assessment REport where it applies to the land. Existing dwelling at the property will act as the "Shelter In Place".

3.6 Flood Levels (F1, F2, F3, F6 and F8)

This is not applicable to the proposed development.

3.7 Car Parking (G1, G2, G3, G4, G5, G6 and G7)

This is not applicable to the proposed development.

3.8 Fencing (H1)

Pool fencing complies with the Flood Prone Land Design Standard in addition to other regulatory requirements of pool fencing. It is designed not to cause impediment to the flow of flood waters and not to increase flood affectation on surrounding land.

3.9 Pools (I1)

Proposed swimming pool is in-ground and will not cause net loss of flood storage and not impact the flood conveyance on or from the site. Electrical equipment is waterproofed and chemicals associated with the pool are stored above the flood planning level.

4. Conclusions and Recommendations

The proposed development at 15 Gondola Road, North Narrabeen has been found to be located within the 1:100 year ARI flood zone.

Site investigation has found the site to be located within the proximity of Narrabeen Lagoon. In major storm events, upstream runoffs may cause flooding in the property.

The proposed development falls under the tolerable risk category based on the Flood Life Hazard Map and Category and under a High Flood Risk Precinct with partly Medium Flood Risk Precinct based on Flood Risk Precinct Map. Proposed development was found to be compliant with the controls outlined in B3.11 Flood Prone Land and B3.13 Flood Hazard - Flood Emergency Response Planning of the Pittwater 21 DCP.



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