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**FLOOD RISK ASSESSMENT REPORT**

**FOR**

**102 OLD PITTWATER ROAD, BROOKVALE**

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**REPORT NO. R02388-FRA**

**REVISION B**

**MARCH 2023**

## PROJECT DETAILS

Property Address: 102 Old Pittwater Rd, Brookvale

Development Proposal: Fitness Centre

## REPORT CERTIFICATION

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## DOCUMENT CONTROL

REVISION	ISSUE DATE	ISSUED TO	ISSUED FOR
A	June 2022	Northern Beaches Council	DA Submission
B	March 2023	Northern Beaches Council	DA Submission

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## 1. INTRODUCTION

### 1.1 General

This Flood Risk Assessment Report has been prepared to support the Development Application to Northern Beaches Council for the re-use of an existing building for a fitness studio and a cafe at 102 Old Pittwater Rd, Brookvale.

The proposed development drawings are included in Appendix A.

The scope of this report is to assess the flood risk for the major storm events within or adjacent to the development.



The site is located on the western side of Old Pittwater Road, Brookvale. The subject building is a disused building located in front of the main warehouse building on site.

The site is located within the Brookvale Creek which is a Manly Lagoon catchment. The site is affected by flooding from the 1 in 100 year ARI event as the existing floor level (RL 14.21m AHD) is below the adopted 1 in 100 year ARI flood level for the area of 14.84m AHD.

It is proposed to re-construct an awning over the existing hardstand.

## **1.2 Relevant Guidelines and Requirements**

The re-development of sites should comply with the requirements set in the Pittwater Local Environmental Plan 2014 (LEP), and Pittwater 21 Development Control Plan (DCP).

## **1.3 Referenced Plans**

The survey plan provided by Total Surveying Solutions (Registered Surveyor) is a reasonable representation of the site levels and layout.

Architectural Drawings for the Development Application submission prepared by Nordon Jago Architects were used for this report. A reduced copy of the architectural drawings is in Appendix A.

For flood levels, Flood Certification from Northern Beaches Council, issues 30/10/2020 has been used. Copy of the certificate is included in Appendix B.

## 2. FLOOD INVESTIGATION

### 2.1 Flood Levels

From the Flood Certificate issued by Northern Beaches Council the site is affected by the 1 in 100 year ARI flood event.

Flood Event	Flood Level (m AHD)	Flow Velocity
1 in 20 year ARI (5% AEP)	14.70	-
1 in 100 year ARI (1% AEP)	14.84	1.22
Probable Maximum Flood	15.44	2.90

The flood levels indicate that the site is affected by the 1 in 20 year ARI event.

### 2.2 Risk Assessment

As mentioned above, the site is affected by the 1 in 100 year ARI event and is part of the floodway and is in High Risk area.

Below is a customised Flood Risk Planning Matrix. The proposed development is re-use of the existing building the planning and development controls adopted were generally addressing the safety of the users and structures.

Planning Consideration	Planning Controls	Planning Assessment
Floor Level	A building shall not be erected on any land below the 1 in 100 year flood level.	The building is an existing building therefore this clause does not apply.
Building Components	All structures to have flood compatible building components below the 100 year flood level plus freeboard	The new building components will be flood compatible.
Building Services	All services including electrical equipments, wiring, fuel lines on any other service pipes or connections to be flood compatible.	All electrical wiring and outlets below the 100 year ARI flood levels will be both water proofed and automatic circuit disconnection installed which will trigger in the events of flooding.
Structural Soundness	Demonstrate that the structure can withstand the forces of floodwater, debris and buoyancy up to and including the 100 year flood plus freeboard	The new building components (awning) will be designed to withstand the forces of floodwater.
Flood Affection	The impact of the development on flooding elsewhere to be considered, having regard to : i) loss of flood storage; ii) changes in flood levels, flows and velocities cause by alteration to flood flows; and iii) the	The development does not include any new building that may cause flood impact. There is a deck proposed on the eastern side of the building. The deck will be suspended to minimise the flood impedance. The loss of flood storage due

	cumulative impact of multiple potential development in the vicinity	to the volume of the deck is negligible to the total flood storage. However, the ground under the deck should be trimmed to maintain the flood storage. These works should be done at Construction Certificate stage.
Evacuation	Demonstrate the development is consistent with any relevant flood evacuation strategy or similar plan	Evacuation plan to be prepared that is consistent with existing flood evacuation strategies for the surrounding area
	Reliable access for pedestrians required during flooding	The site is closely located to non-flood areas of the site.
	Site Emergency Response Flood plan required where the site is affected by the 100 year ARI flood level.	Site Emergency Response Flood plan to be prepared
Management & Design	Demonstrate that area is available to store goods above the 100 year flood level plus freeboard	All goods to be stored on site will be secured safely.
	No hazard materials to be stored below the 100 year ARI flood level	All hazard materials including to be stored on site will be stored in locked areas above the 100 year flood level.

### **3. CONCLUSION**

The proposed development is subject to the 1 in 100 year ARI flood level and as a result a number of the planning and development controls are best applied to the site.

The proposed development is re-use of the existing building and replacing the awnings. The development will not alter the existing ground conditions and does not include any additional building structures that may affect the flood regime.

The proposed development, however, needs to be planned to ensure the building and its services are flood compatible and provide clear evacuation plan.

It is our opinion that the proposal should be approved as its benefit to the community is far outweigh than what appears to be negligible flood affectation.



#### **4. REFERENCES**

- Northern Beaches Council –*Development Control Plan*,
- Northern Beaches Council – *Local Environmental Plan*, 2014
- Institute of Engineers, Australia - *Australian Rainfall and Runoff*, 1987, 3rd edition
- NSW Government – *Floodplain Development Manual*, April 2005

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**PROPOSED DEVELOPMENT**

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**FLOOD CERTIFICATE**