

Our ref: 2304-02

Your ref.:

General Manager
Northern Beaches (Pittwater) Council
PO Box 882
Mona Vale NSW 1660
Australia

PARTIAL CERTIFICATE STRUCTURAL ENGINEERING

Address: 60 Cabarita Road, Avalon Beach, NSW, 2107

Type of Building Work: *Emergency works*

Subject of this short report: *Partial Certificate*

1. Introduction

This certificate is based on the requirements of Northern Beaches (Pittwater) Council as the certification for the structural integrity, adequacy and construction of the retaining walls at the above address.

The author was engaged to assess the timber retaining walls located on the lower part of the Eastern side at the above address. The retaining timber walls have failed and due to the precarious conditions, I advised the owner and builder of the danger and recommended to demolished them and built new ones.

The original retaining walls were constructed with the uprights (posts) 150UC galvanized at approximately 1.5m spacing and 200x75 treated pine sleepers, however, the posts did not have enough depth, consequently unable to supports the lateral loads.

Due to inclement and unpredictable weather conditions VDM recommended for the immediate demolition and stabilization of the slope until a new design could be completed.

VDM Consulting Engineers P/L was engaged to do the structural design, prepared drawings and inspect the works during its progression up until completion. The owner engaged a qualified builder and the works were completed in February 2024.

2. Design

Pursuant to the provisions of Clause A2.2 of the Building Code of Australia, VDM, hereby certify that the design for the above address is in accordance with normal engineering practice and meets the requirements of the Building Code of Australia, (BCA), relevant Australian Standards and Northern Beaches (NBC) Council DCP (Pittwater 21 DCP). In particular the design is in accordance with the following:

- AS/NZS 1170.0:2002: *Structural design actions – General principles,*
- AS/NZS 1170.1:2002: *Structural design actions – Permanent, imposed and other actions,*
- AS/NZS 1170.1:2002: *Structural design actions – Wind actions,*
- AS 1170.4:2007: *Structural design actions –Earthquake actions in Australia,*

- AS 2159:2009: *Piling design and installation*
- AS 2870:2011: *Residential slabs and footings – Construction*,
- AS 3600:2018: *Concrete Structures Codes*,
- AS 3700:2018: *Masonry structures*,
- AS 4678:2002: *Earth retaining structures*,
- Geotechnical report – *Ascent Geotechnical Consulting – dated 30 March, 2021, AG21211*
- Safe Work Australia – *Safe Design of Structures – Code of Practice*,
- NBC – *Pittwater 21 DCP, LEP 2014*
- BCA - Building Code of Australia
- NCC – National Construction Code,
- Structural drawings – *refer to 60 cabarita rd Avalon beach_struct_A*
- Principles of structural mechanics.

3. Site inspection

Critical stages inspections were carried out as follows:

- 21/03/2023 – Initial inspection – retaining walls
- 13/04/2023 – Shoring and propping of existing retaining walls,
- 17/08/2023 – Demolishing of existing retaining wall,
- 05/09/2023 – Foundation details excavations and soil stabilization,
- 23/01/2024 – Piers & Footings steel reinforcement,
- 06/02/2024 – Steel reinforcement - Dintel retaining walls
- 26/02/2024 – Drainage + backfilling

Other minor inspections were carried out but no dates were recorded.

4. Conclusion

VDM hereby certifies that, the structural components associated with the construction of the tiered retaining walls, at the above location, comply with the above mentioned standards and regulations.

This report, assessment, analyses and certification has been based on areas inspected in the building in consideration, any attempt to place these comments elsewhere shall require further analysis to ensure the integrity, adequacy and stability of the structure is maintain.

This certificate shall not construe as relieving any other party of their responsibilities, liabilities, or contractual obligations.

CERTIFICATION

Responsibility for this report is acknowledged as follows:

Name of person signing – Mario F. Benitez,
B.E.(Struct), MIEAust, 418917, DEP0003222

Position –Senior Structural Engineer

Name of responsible firm for and on behalf of person is signing for – VDM Consulting Engineers Pty. Ltd.



Digitally signed by Mario F. Benitez
DN: cn=Mario F. Benitez, o=VDM
Consulting Engineers P/L, ou,
email=vdml@optusnet.com.au, c=AU
Date: 2024.09.04 13:48:23 +10'00'

Signature