

Bwthyn Brudyn

Flood Consequence Assessment 02.04.19



Peter Wray RIBA

1 Details of project

1.1 Details of property

Address: Bwthyn Brudyn, Lon Bridin, Morfa Nefyn. LL53 6BY

1.2 Details of development

Permission is sought to use existing outbuilding at Bwthyn Brudyn as an Annexe to the main house providing guest accommodation for my client's extended family.

The outbuilding will always remain part of the residential unit of Bwthyn Brudyn and will not be sold or used as a separate dwelling without applying for further planning permission from Gwynedd Council.

2 Flood risk

Part of the site on which Bwthyn Brudyn stands is within the C1 flooding boundary. The risk is from tidal flooding.

Using the extreme sea levels obtained from NRW (appendix A) and site levels taken from the nearest OS benchmark it can be demonstrated that the water level at the outbuilding will be as follows:

Flood Consequence assesment calculations for Bwthyn Brudyn

02.04.19

Levels as measured by Peter Wray 2019 from OS benchmark E2831 N4050

	metres
Level at Threshold of Ground floor of Outbuilding (GF)	3.911 AOD
Level of Intermediate floor (IF)	4.561 AOD
Level of Intermediate floor +250mm built up floor (IF+)	4.811
Level of first floor (FF)	6.095 AOD

Extreme sea levels at site (NRW data)

	T200	T1000	T200 = 1 in 20	T1000 = 1 in 2
Still water level now (2016)	3.700	4.000		

In 100 years time...

Still water level in 100 years time (2119)	4.800	5.100
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Depth of floodwater at GF level	0.889	1.189
Depth of floodwater at IF level	0.239	0.539
Depth of floodwater at IF+ level	-0.011	0.289
Depth of floodwater at FF level	-1.295	-0.995

Negative numbers above indicate the level is above the floodwater level

2.1 Wave surge

Wave action has not been taken into account in this report. Still water values only have been used.

3 Consequences and mitigation

3.1 Water levels

To ensure that no water enters the living areas of the building (i.e. the intermediate and upper levels) during the 1:200 event the intermediate floor level will be raised by 250mm. This will also ensure that the water level in the intermediate level during the 1:1000 event will be well below 600mm.

The bathroom on the lower floor may flood as there is no risk of anyone sleeping in that area and escape can be made quickly to the upper levels.

3.2 Escape

Escape is provided via a high level doorway in the top floor gable. This door opens over the yard of the main house allowing safe passage to the entrance of Bwthyn Brudyn main house. (A short ladder of approx. 1m will lead down to the yard)

3.3 Warning

My clients will sign up for the local flood warning scheme

3.4 Damage limitation

- All electrical installations will be kept at a minimum of 1200mm above the floor level. Electrics in the bathroom level will be just below the ceiling.
- The floor of the barns will be a ground bearing concrete slab with a free draining sub-base.
- Flooring will be slate or ceramic tile.
- Skirtings will be UPVC
- The lower portion of the walls will be finished with cement render.
- All internal partitions will be concrete block.
- Careful consideration will be given to the choice of doors to ensure they will be resistant to water damage
- Flood valves will be fitted to foul drainage

3.5 Flood Defences

There are no proposals to provide flood defences within the site