

Flood Consequences Assessment

Change of use of the former Howfields bakery Merthyr Tydfil



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1 Introduction

1.1 Background

This Flood Consequences Assessment has been produced to support a Planning Application for a development at: 40-42 High Street, Merthyr Tydfil

The Planning Application is to support the change of use application.

The Flood Consequences Assessment has been based on guidance within Planning Policy Wales Technical Advice Note 15; (TAN 15 Development and Flood Risk). It also follows the guidance in the PPS25 Practice Guide referring to suggested the content of a Flood Consequences Assessment

Flood Consequences Assessment

2.1 Proposed Development

The Planning Application is for the refurbishment of an existing bakery and shop into a A3 development.

Current use: retail and residential.

Proposed use: retail and residential.

2.2 TAN 15 Zonation

The welsh Assembly Government provides Flood Zone advice in Technical Advice Note 15. Development and Flood Risk (TAN15) (July 2004)

2.3 Development Advice Map

The Welsh Assembly Government Produces Development Advice Maps (DAM) to accompany TAN15. These maps show the degree of flood risk which is to be applied to development sites for the planning process and thus establish the suitability of the site for development. Examination of the TAN 15 Development Advice Maps (DAM) indicates that the retain units are in the flood zone, while most of the residential part of the development site **not** in the flood risk area. Its noted that the bank between the site and River Taf rates from High at the point of source, to very Low at the top of the bank. A copy of the Development Advice Map is attached (Appendix B).

2.4 Development within DAM zone C2

TAN15 indicates that only less vulnerable development should be considered in zone C2 subject to the application of the justification test, including acceptability of consequences.

2.5 Development Category

TAN15 indicates that less vulnerable developments are defined as:

General Industrial, Employment, Commercial and Retail development, Transport and Utilities Infrastructure, Car Parks, Mineral extraction site and associated processing facilities (excluding waste disposal sites).

The proposed development falls within the less vulnerable category.

3. Flood Risk

3.1 Natural Resources Wales Flood Data

A data request was submitted to Natural Resources Wales asking for details of their most recent modelled flood levels for the site.

Unfortunately they do not have any detailed Flood Modelling in this area, the following information regarding flood risk was provided:

The proposed application site lies entirely within Zone C2 as defined by the Development Advice Map (DAM) referred to under Technical Advice Note 15: Development and Flood Risk (TAN15) (July 2004). Our Flood Map information, which is updated on a quarterly basis, confirms the site to be within the 1% (1 in 100 year) and 0.1% (1 in 1000 year) annual probability fluvial flood outlines of the River Taff, a designated main river.

3.2 Flood Event

1 in 100 Year/1 in 200 year event

TAN15 (A1.14) requires that industrial developments remain flood free for the following flood events,

The 1% AEP/1 in 100 year event (Fluvial Flood)

The 0.5% AEP/1 in 200 year event (Tidal/Costal Flood)

Examination of the data obtained from the DAM and Natural Resources Wales indicates that the development site would be liable to flooding in the following events, 1% 1 in 100 year and the 0.1% AEP/1 in 1000 year event.

The Owners/Developers are aware of the possibility and consequences of flooding in the extreme event and will ensure mitigation measures are in place to deal with any flooding issues.

3.3 Surface Water Run-Off

The development proposal will be refurbished space for units. The stormwater from the buildings will be via existing drainage and/or via other sustainable systems.

3.4 Adverse Effects of Development

The proposed development will not have an increased area on the site, however it should be noted that it is outside the area of flooding, and that the drainage will be controlled and dispersed into an existing combined Welsh Water system. The development will have no adverse effect as regards flooding on the neighbouring properties or the surrounding area.

3.5 Site Topography

A topographic survey was completed in 2011 as part of the River Taff Central Link (Gyratory) FCA which included the River Taff and the Nant Morlais. Survey of the proposed development area was carried out in 2011. The site of the proposed bus station is reasonably flat, sloping downwards towards the River Taff in the western half of the site. The maximum elevation difference from the east to the west of the site is 2m. LiDAR, flown in 2011, was provided for the study with a resolution of 2 m. The ground levels fall from approximately 170 mAOD at the Nant Morlais to 165.5 mAOD at the northern end of the site. The ground level falls further downstream; there is a 4m elevation difference from the Bus Station site, for which we are basing our conclusion on to the A4102 Bridge 250 m downstream. Topographic survey was collected in September 2014 following the demolition of the Health Centre and in May 2015 following the demolition of the Police Station. This survey, as well as the 3D ground model of the proposed Bus Station was used to amend levels in the hydraulic model. The new bus station is proposed to be set at 168.48m AOD.

We use this data above to give us an understanding of the level of the River Taff and not compare the scheme with the new bus station.

Google earth pin drop confirms that there is at least 4m difference between the River Taff and unit that Vale Consultancy converted. An extract (below) of an approved FCA from Vale set the finished floor level at 168.5m.

The property entrance is from High Street, the finished floor level of the building is 168.5m AOD. Level threshold, the gradient of High Street slopes up John Street to the north (Ref OS BM 175.10mAOD at Church Street) The site is currently located within and is served by significant and long-established infrastructure, the existing building is a three two storey building and the impermeable area is a mix of building roof with concrete hard standing to the rear of the property. The site area is approximately 0.087 ha and the principle access to the property is via a level threshold step directly off the pedestrian footway frontage on High Street 168.5 m AOD. *Appendix A*

We undertook a level survey taking points on the FFL of the Café, the Retail unit and the rear annex, using this datum as a starting point. The following was recorded

Starting point, being

43 - 45 High Street base zone – 168.500

40 High Street CAFÉ – 168.200

42 High Street RETAIL UNIT – 168.100

Rear Annex – 168.200 - existing

Rear Annex – 168.500 – proposed once a new slab and insulation is constructed.

Therefore the proposed finished floor level is the same as 43 - 45 High Street.

Further investigations show that there's been a FCA report to the building next door. We would assume that the finish floor level is the same, if not higher than 43-45 High Street. Therefore would conclude that the finished floor level is at least 3 meters above the Nant Morlais

4 Justification Test

4.1 Justifying the location of the development TAN15 (sec 6)

TAN15 states that new developments should be directed away from zone C and towards suitable land in zone A or otherwise zone B. Developments within zones C1 and C2 will only be permitted if determined by the Planning Authority to be justified in that location.

Development will only be justified if it can demonstrate that:

Its location in zone C is necessary to assist, or be part of, a local authority regeneration initiative or a local authority strategy to sustain an existing settlement; or

its location in zone C is necessary to contribute to key employment objectives supported by the local authority and other key partners, to sustain an existing development or region.

and,

it concurs with the aims of PPW and meets the definition of previously developed land (PPW fig 2.1) and,

The potential consequences of a flooding event for the particular type of development have been considered and found to be acceptable.

Proposed Development

The proposed development is located on an existing high street within a primary growth area as defined in the adopted LDP.

The development is for the change of use of an existing building. The change of use will help to sustain an existing development.

The development meets the definition of previously developed land

The potential sources of flooding have been considered and found to be acceptable

4.2 Assessing Flooding Consequences TAN15 (sec 7)

If a development proposal located in zone C2 is defined as being of low vulnerability the Justification will be in the knowledge that the development will flood and will be planned accordingly. The development should be planned to ensure that is as safe as possible and there is:

Minimal risk to life

Minimal disruption to people living and working in the area

Minimal potential damage to property

Minimal impact on flood risk general

Minimal disruption to natural heritage

The development is contained within an existing industrial unit and will have no adverse consequences on flood risk for the surrounding area.

4.3 Mitigation Measures

Having regard to the information within NRW response it is recommended that the developers undertake the following measures to mitigate the consequences of flooding.

Where practical consideration should be given to the incorporation of flood resistance/resilience measures within the fabric of the building.

- a) The Owner/Developer should ensure that a safe and accessible evacuation route is designed and maintained from the unit to a point which is higher than the 1 in 1000 flood level as indicated in the Development Advice Map. The Owner/Developer is to produce an evacuation route from the building to the nearest point which is higher than the predicted 1 in 1000 flood level. A copy of this Evacuation Route is to be displayed at the development. A copy of the evacuation route leading to land higher than the 1 in 1000 flood level event.
- b) Sign up to the NRW flood warning service (0345 988 1188) <http://naturalresourceswales.gov.uk/flooding-and-water/floodline-warnings>

Further advice and information on protection from flooding is available in the ODPM publication 'Preparing for Floods: Interim Guidance for Improving the Flood Resistance of Domestic and Small Business Properties', which is available from the Planning Portal website: www.planningportal.gov.uk

5. Summary

This flood Consequences Assessment is provided as support for the planning application for the change of use of a shop and store into A3 development. Having regard to all available data the FCA demonstrates that:

There is no increase in the surface water run-off from the development site due to the compact nature of the existing site.

The development will have no adverse effects on the neighbouring properties, surrounding area or natural heritage

The proposed development meets the requirements of the TAN15 Justification test

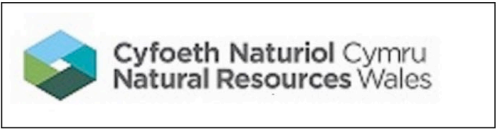
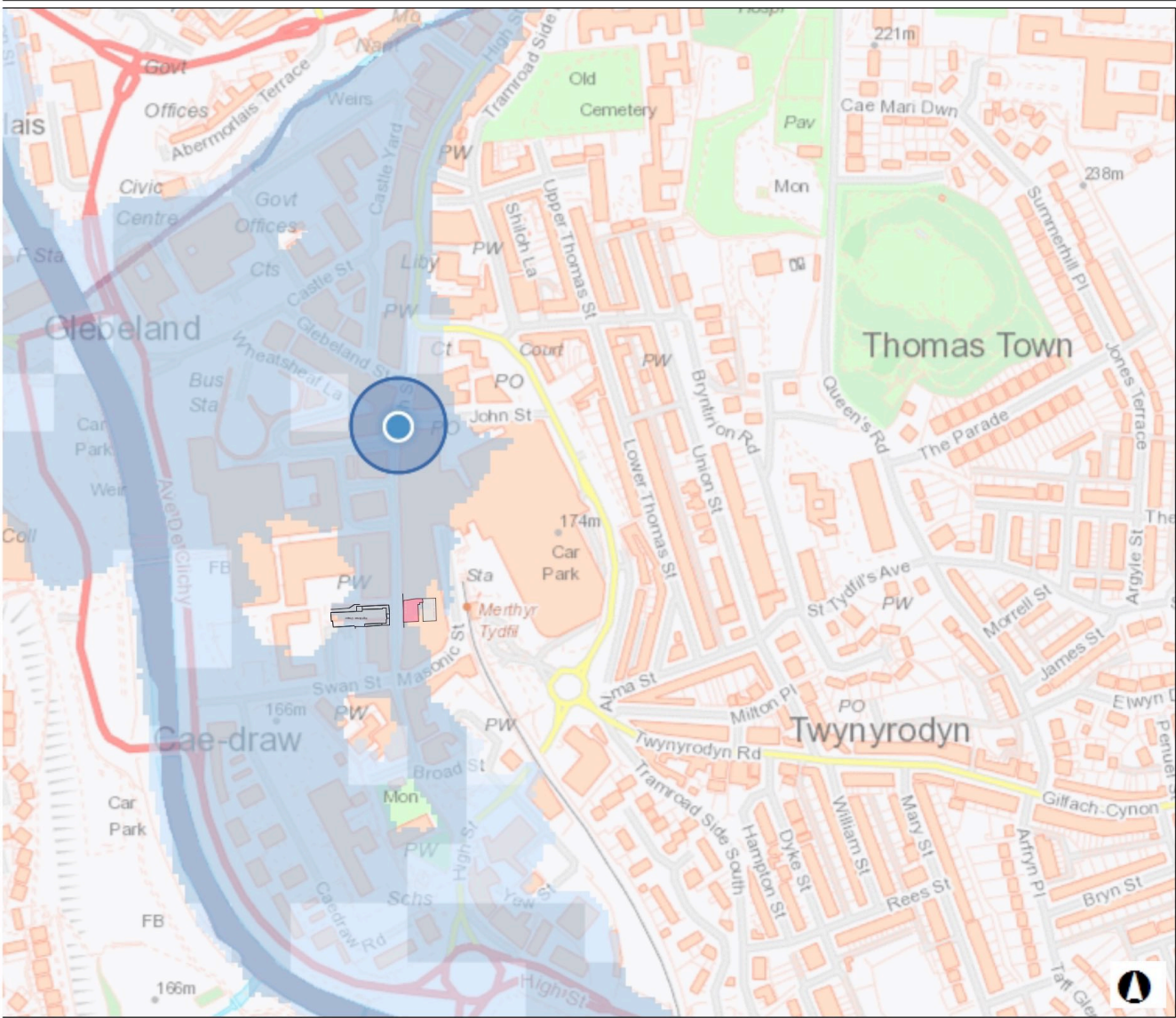
The Developer is aware of the consequences of flooding at the development site and the development will be planned accordingly

Confirmation that the finish floor level of the flats are above the 1 in 100yrs flood level.

Appendix A



Appendix B

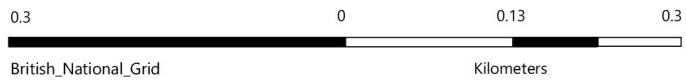


Map Title
Map Perygl Llifogydd / Flood Risk Map

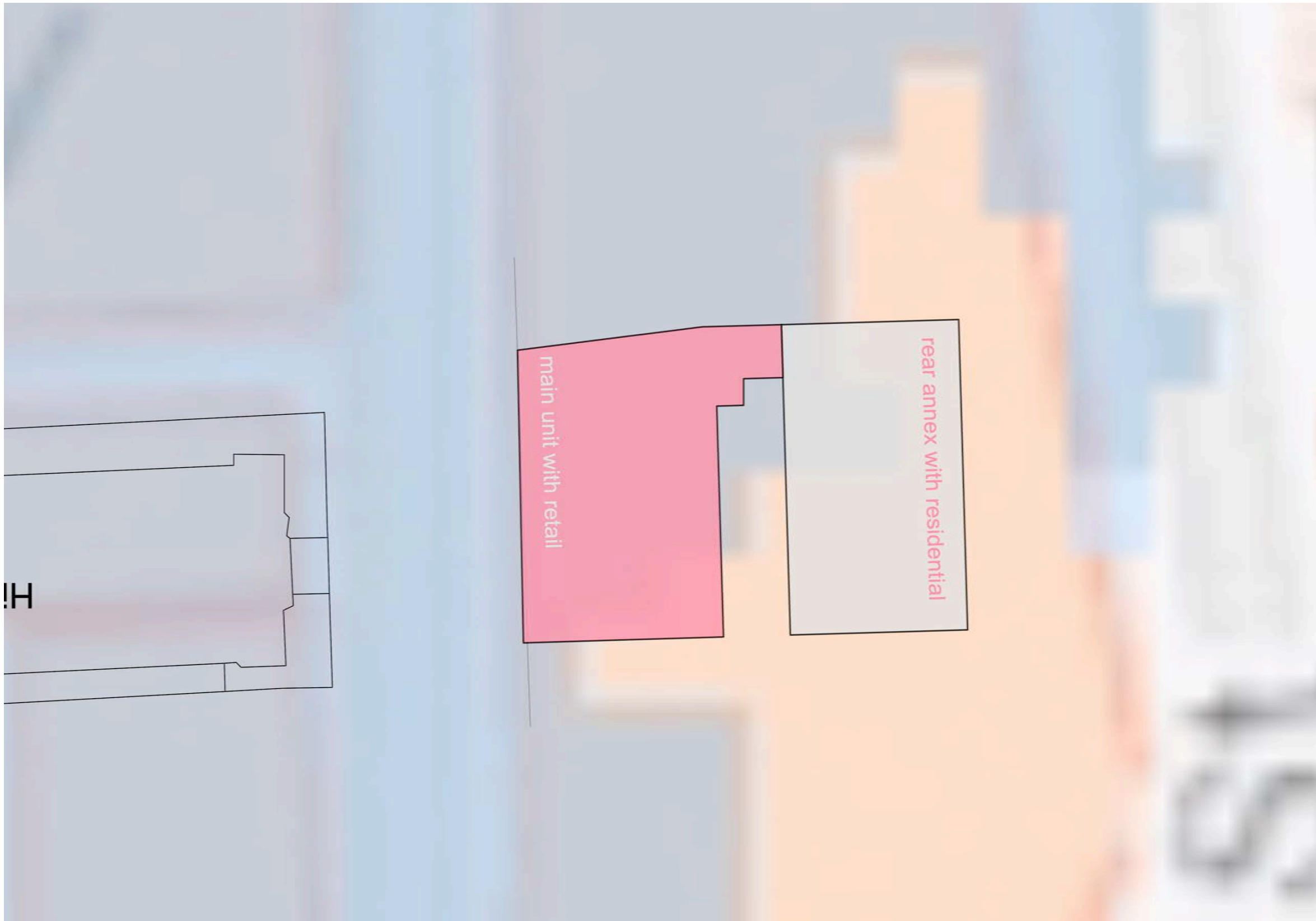
- Allwedd / Map Key**
- Flood Defences
 - Risk of Flooding from Rivers & Sea
 - High
 - Medium
 - Low
 - Very Low

Graddfa / Scale 1:5,001

Dyddiad / Date
25/07/2019

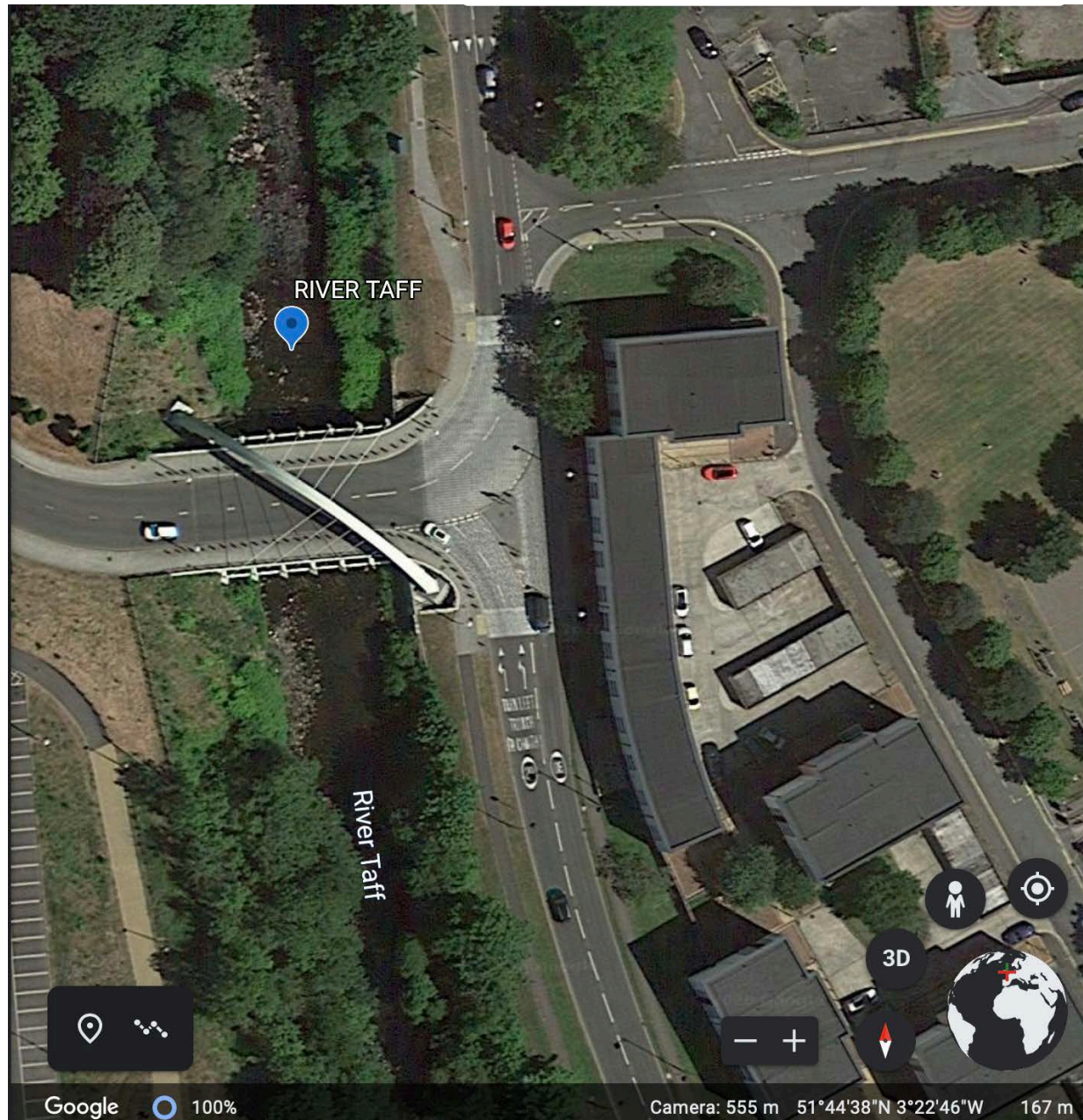


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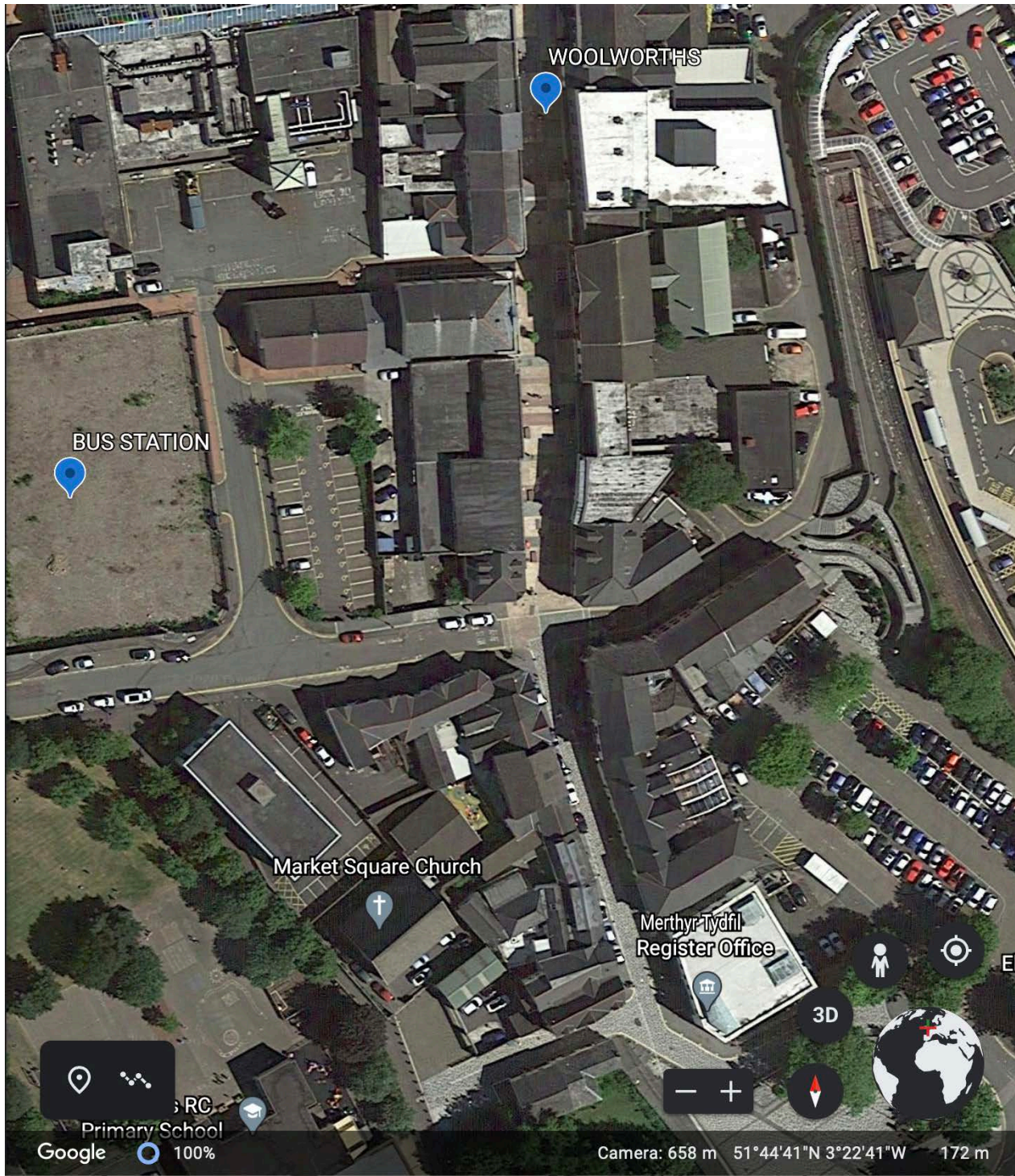


Note residential is within the first floor area

Appendix C



River Taff



Old Woolworths

Appendix D

Evacuation Route

The nearest point of ground higher than the 1 in 1000 year storm event is located at: rear of 40-42 High Street, or to the north of 40-42 high street

In the event of an extreme flood event the occupants should leave the property and follow the route indicated below.

1. Exit Unit by safe exit, **20 ft**

