



# 3 Clytha Crescent - Flood Consequences Assessment

**Draft**

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# Contract

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This report describes work commissioned by Sandeep Grewal, on behalf of GSG Property Ltd by an instruction dated 7th of May 2026. George Williams of JBA Consulting carried out this work.

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## Abbreviations

|        |                                                                      |
|--------|----------------------------------------------------------------------|
| AEP    | Annual Exceedance Probability                                        |
| BGS    | British Geological Survey                                            |
| CIRIA  | Company providing research and training in the construction industry |
| CIWEM  | The Chartered Institution of Water & Environmental Management        |
| DTM    | Digital Terrain Model                                                |
| FCA    | Flood Consequence Assessment                                         |
| FFL    | Finished Floor Level                                                 |
| FMfP   | Flood Map For Planning                                               |
| LFRMS  | Local Flood Risk Management Strategy                                 |
| LiDAR  | Light Detection And Ranging                                          |
| mAOD   | metres Above Ordnance Datum                                          |
| NRW    | Natural Resources for Wales                                          |
| PFR    | Property Flood Resilience                                            |
| PFRA   | Preliminary Flood Risk Assessment                                    |
| PPW    | Planning Policy Wales                                                |
| TAN-15 | Technical Advice Note 15: Development and Flood Risk                 |
| TUFLOW | Two-dimensional Unsteady FLOW (a hydraulic model)                    |

# 1 Introduction

## 1.1 Terms of Reference

JBA Consulting were commissioned by GSG Property Ltd to prepare a Flood Consequences Assessment (FCA) for the proposed refurbishment of 3 Clytha Crescent, Newport. This FCA assesses and demonstrates the suitability of the proposed development within its location.

## 1.2 FCA Requirements

This FCA follows the Welsh Government guidance on development and flood risk set out in the Technical Advice Note 15: Development, Flood Risk and Coastal Erosion (TAN-15). TAN-15 states that:

'The prime objective of a Flood Consequences Assessment is to develop a full appreciation of:

- The risks and consequences of flooding on the development; and
- The risk and consequences (i.e. the overall impacts) of the development on flood risk elsewhere.'

To achieve this, the FCA should establish if suitable avoidance and mitigation measures can be incorporated, in a manner compatible with the placemaking aims of Planning Policy Wales, within the site design to ensure that development is safe and there is:

- Minimal risk to life;
- Minimal disruption to people living and working in the area;
- Minimal potential damage to property; and
- Minimal disruption to the sustainable management of natural resources.

## 2 Site Description

### 2.1 Site Summary

The site is located on Clytha Crescent, Newport, NP20 2EY as shown in Figure 2-1. The site is approximately 550m to the south of Newport City Centre. The site is approximately 0.014ha in area and is currently used for residential purposes.

The proposed site currently comprises a four-storey residential building providing four bedrooms. Due to the sloping nature of the site, the property includes a ground-floor level, accessible from the rear, which provides habitable space in the form of one of the four bedrooms, and direct access to the garden. The first floor is accessed from street level, and elevated above the garden, and provides a kitchen, living room and lounge. The second floor and third floor (loft conversion) provide the additional three bedrooms.

Access to the site is via Clytha Crescent, directly onto the first floor, with a threshold level of 10.43 mAOD. Access to the garden is via the ground floor with a threshold level of 7.91 mAOD.

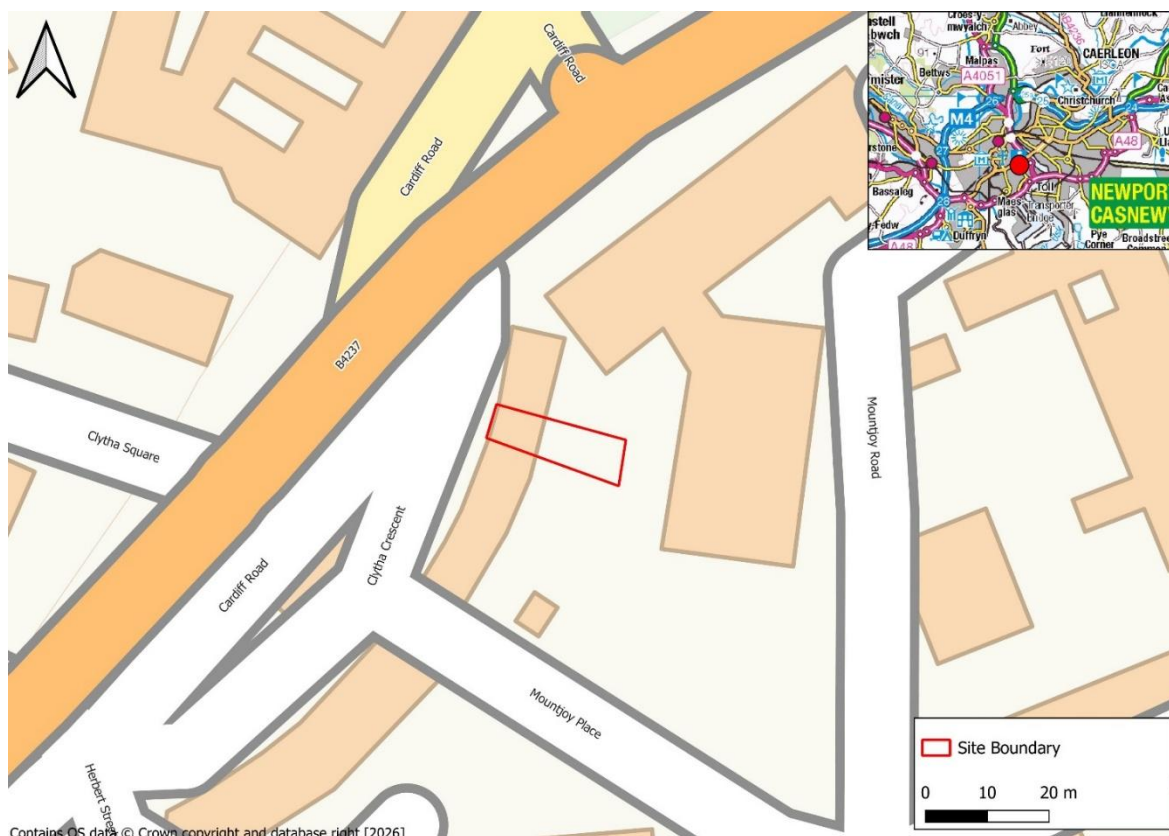


Figure 2-1 Site Location

## 2.2 Site Topography

A threshold survey of the existing levels within the building was undertaken by Skerryvore Design Ltd in May 2025. The key levels identified are contained in Table 2-1.

Table 2-1 Key Site Levels

| Location               | Level (mAOD) |
|------------------------|--------------|
| Garden Patio           | 7.91         |
| Ground Floor threshold | 7.91         |
| Street Ground Level    | 9.96         |
| First Floor threshold  | 10.43        |
| Second Floor           | 13.43        |
| Third Floor (attic)    | 16.22        |

Natural Resources Wales (NRW) Open Source 1m Light Detection and Ranging (LiDAR) data has been used to show the surrounding topography to the site and is shown in Figure 2-2.

The site has a general west-to-east slope, with the rear levels lower than those on Clytha Crescent. Street level is noted at 9.96mAOD and the far east of the garden, at the eastern boundary of the site, has an approximate ground level of 7.73mAOD.

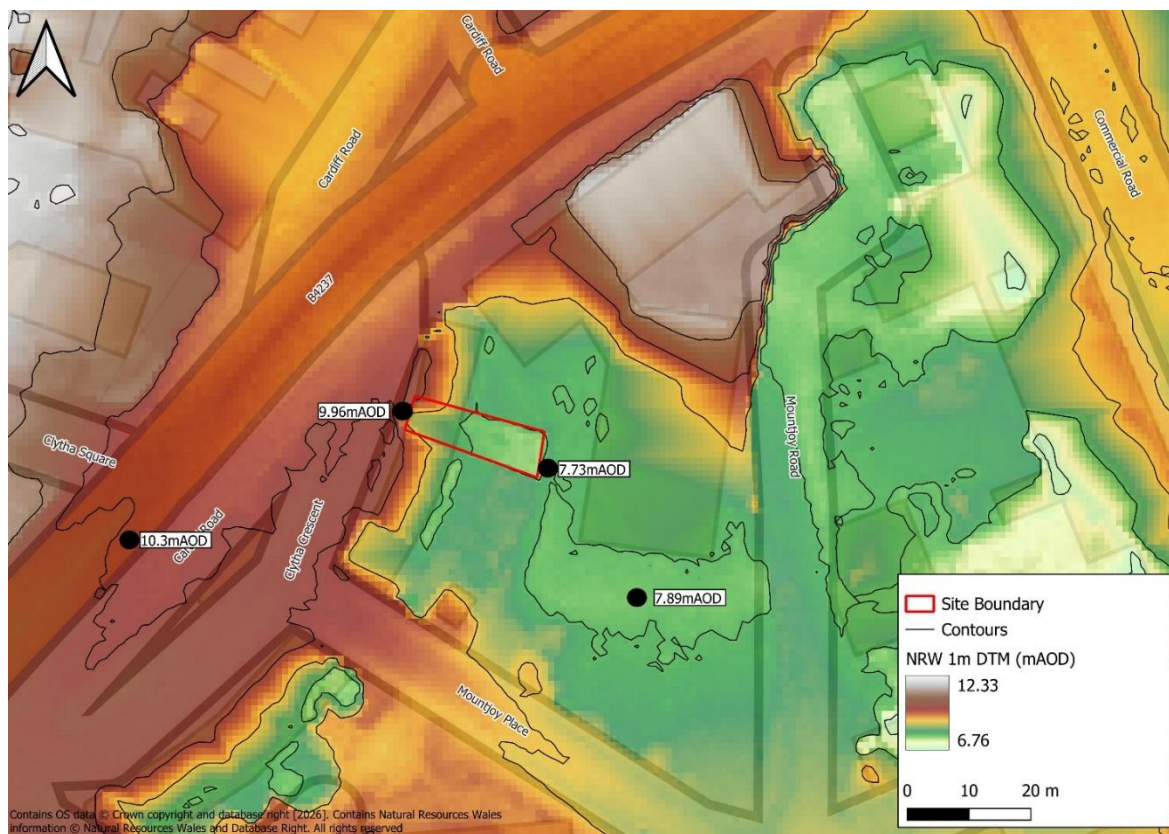


Figure 2-2 NRW 1m LiDAR DTM

### 2.3 Watercourses and Flood Defences

No watercourses cross the proposed development site. As shown in Figure 2-3, the nearest NRW designated Main River is the River Usk, located approximately 700m to the northeast of the proposed site.

The site is not located within an area that benefits from the presence of defences, as is typical for the west of the city, with NRW defences providing protection to the east of the city.



Figure 2-3 Watercourses

### 2.4 Soils and Geology

The geology of the site has been assessed using the BGS GeoIndex<sup>1</sup>. The bedrock geology is shown to comprise of the Freshwater West Formation. This is interbedded argillaceous rocks and sandstone. Superficial deposits in the area are made up of Tidal Flat Deposits (TFD)

<sup>1</sup> <https://www.bgs.ac.uk/map-viewers/geoindex-onshore/>

The soils on site have been assessed on the Cranfield University Soils Vues Viewer<sup>2</sup> The underlying soils are shown to be loamy and clayey soils of coastal flats with naturally high groundwater.

## 2.5 Proposed Development

The proposed development results in a change of use to a House of Multiple Occupancy (HMO). Reworking of the internal layout of the property to facilitate this change of use results in the removal of the bedroom from the ground floor, with conversion of this area to a living room and kitchen/diner. Two bedrooms are proposed to the first floor, along with provision of a bike store, and access from street level leading to stairs up to the rest of the property. An additional three bedrooms are proposed to the second floor, with a single bedroom and bathroom retained on the third floor (attic).

The proposed building threshold and Finished Floor Levels are not proposed to change from their present levels as quoted in Section 2.2 and shown in Figure 2-4.

A copy of the proposed layouts are included within Appendix A.

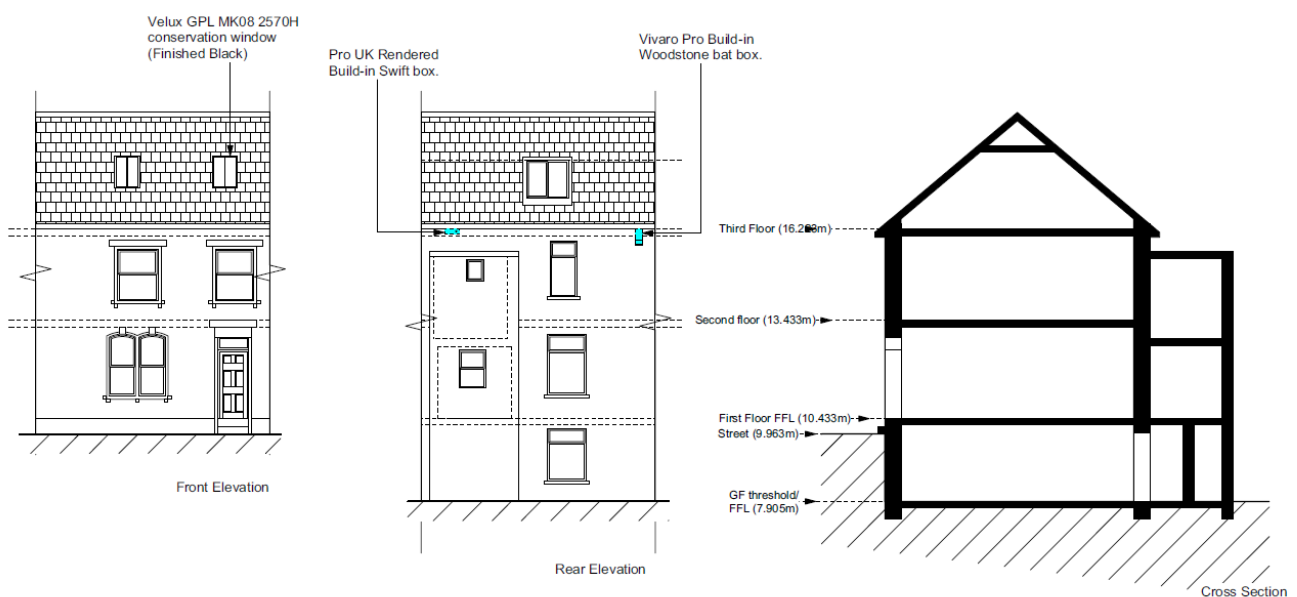


Figure 2-4 Surveyed and Proposed Elevations

<sup>2</sup> Soils Vues soil types viewer - Cranfield Environment Centre. Cranfield University (landis.org.uk)

## 3 Planning Policy and Flood Risk

### 3.1 Planning Context

Planning Policy Wales (PPW) sets out the land use planning policies of the Welsh Government. It is supplemented by a series of Technical Advice Notes (TANs), Welsh Government Circulars, and policy clarification letters, which, together with PPW, provide the national planning policy framework for Wales. These policies aim to make all development in Wales sustainable and improve the social, economic, environmental, and cultural wellbeing of Wales as set out in the Wellbeing of Future Generations Act 2015.

Technical Advice Note 15 (TAN-15), originally introduced by the Welsh Government in 2004 and most recently updated in March 2025, provides technical guidance relating to development planning and flood risk in Wales. TAN-15 provides a framework within which the flood risks arising from rivers, the sea and surface water, and the risk of coastal erosion can be assessed. The approach set out in the most recent update to TAN-15 ensures flooding and coastal erosion are accorded appropriate consideration in plan making and development management decisions.

### 3.2 Form of Development

"The National Strategy is clear that risk needs to be managed appropriately, and the TAN requires a proportionate response depending upon that risk. It is evident that many communities are located in areas at higher risk from flooding, but these communities must be allowed to adapt, change and regenerate in the knowledge of what the science is showing." TAN15 Section 8.3.

Consequently, TAN-15 recognises two key forms of development: New development and Redevelopment. The definition of both terms is provided in Table 3-1.

Table 3-1 Form of Development

| Form of Development | Definition                                                                        |
|---------------------|-----------------------------------------------------------------------------------|
| New Development     | Any development on greenfield land                                                |
| Redevelopment       | Any development on previously developed land as defined in Planning Policy Wales. |

As detailed in Section 2.5, development proposals are for the change of use of the existing building at 3 Clytha Crescent. Therefore, the proposed development is classified as a Redevelopment.

### 3.3 Vulnerability Classification

TAN-15 assigns one of three flood risk vulnerability classifications to development, as shown in Table 3-2. The proposal is for a residential development and thus classified as residential use and **Highly Vulnerable**.

Table 3-2 Vulnerability Classification

| Development Category          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Highly vulnerable development | <p><b>All residential premises</b> (including hotels, Gypsy and Traveller sites, caravan parks and camping sites).</p> <p>Schools and childcare establishments, colleges and universities. Hospitals and GP surgeries.</p> <p>Especially vulnerable industrial development (e.g. power generating and distribution elements of power stations, transformers, chemical plants, incinerators), and waste disposal sites.</p> <p>Emergency services, including ambulance stations, fire stations, police stations, command centres, and emergency depots.</p> <p>Buildings are used to provide emergency shelter in times of flood.</p> |
| Less vulnerable development   | <p>General industrial, employment, commercial and retail development. Transport and utilities infrastructure.</p> <p>Car parks.</p> <p>Mineral extraction sites and associated processing facilities (excluding waste disposal sites).</p> <p>Public buildings, including libraries, community centres and leisure centres (excluding those identified as in the Highly Vulnerable category and emergency shelters).</p> <p>Places of worship.</p> <p>Cemeteries.</p> <p>Equipped play areas.</p> <p>Renewable energy generation facilities (excluding hydro generation).</p>                                                        |
| Water Compatible Development  | <p>Boatyards, marinas and essential works are required at mooring basins.</p> <p>Development associated with canals.</p> <p>Flood defences and management infrastructure. Open spaces (excluding equipped play areas).</p> <p>Hydro renewable energy generation.</p>                                                                                                                                                                                                                                                                                                                                                                 |

### 3.4 Lifetime of Development

An FCA should help the planning authority determine whether the risk and consequences of flooding are acceptable over the lifetime of development. TAN-15 states:

Generally, it is appropriate to think of new dwellings as having a lifetime of 100 years. Lifetimes for other types of development will vary, but 75 years is considered a reasonable rule of thumb'.

As the proposal is for a residential development, a 100-year development lifetime has been considered in this assessment.

### 3.5 Flood Map for Planning

The Flood Map for Planning (FMfP) is the starting point for consideration of flood risk. The map uses flood zones to indicate the degree to which land is at risk of flooding from rivers, the sea, surface water and small watercourses. The zones are Zone 1, Zone 2, Zone 3 and the TAN-15 Defended Zone. The FMfP displays predicted future flood risk with an allowance made for climate change over a 100-year lifetime of development.

Where a site falls partly or wholly into any flood zone other than Flood Zone 1, an FCA is required to support development proposals.

#### 3.5.1 Flood Map for Planning - Flood Risk from Rivers

The site is shown to be in Flood Zone 1 of the NRW FMfP - Flood Risk from Rivers, as shown in Figure 3-1. Flood Zone 1 represents an area with a less than 0.1% AEP chance of fluvial flooding in any given year, including an allowance for climate change.

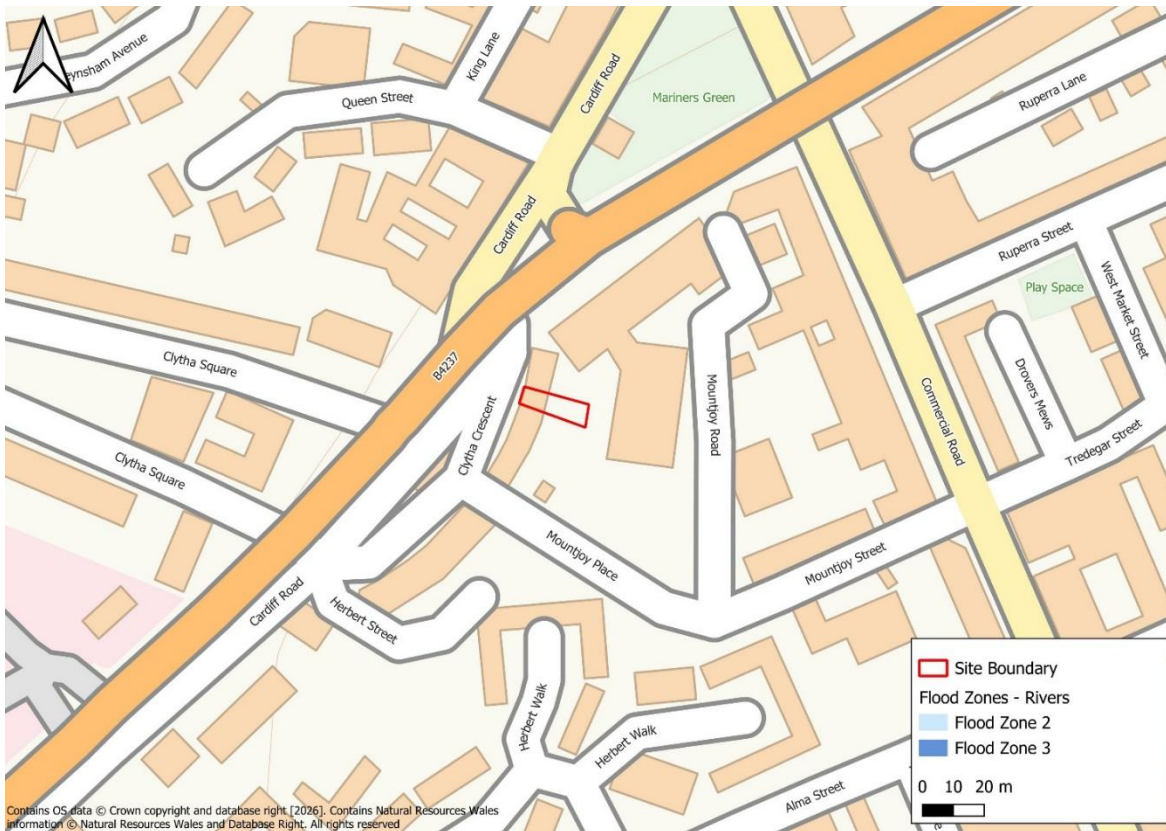


Figure 3-1 FMfP- Flood Risk from Rivers

### 3.5.2 Flood Map for Planning - Flood Risk from the Sea

The site is shown to be predominantly located within Flood Zone 3 of the NRW FMfP- Flood Risk from the Sea, as shown in Figure 3-2. Flood Zone 3 represents an area with a greater than 0.5% AEP chance of flooding from tidal mechanisms in any given year, including an allowance for climate change.

A small proportion of the western extent of the site is located in Flood Zone 1. Flood Zone 1 indicates little to no risk of flooding.

As the site is located within Flood Zone 3, it triggers the requirement for an FCA to be undertaken.

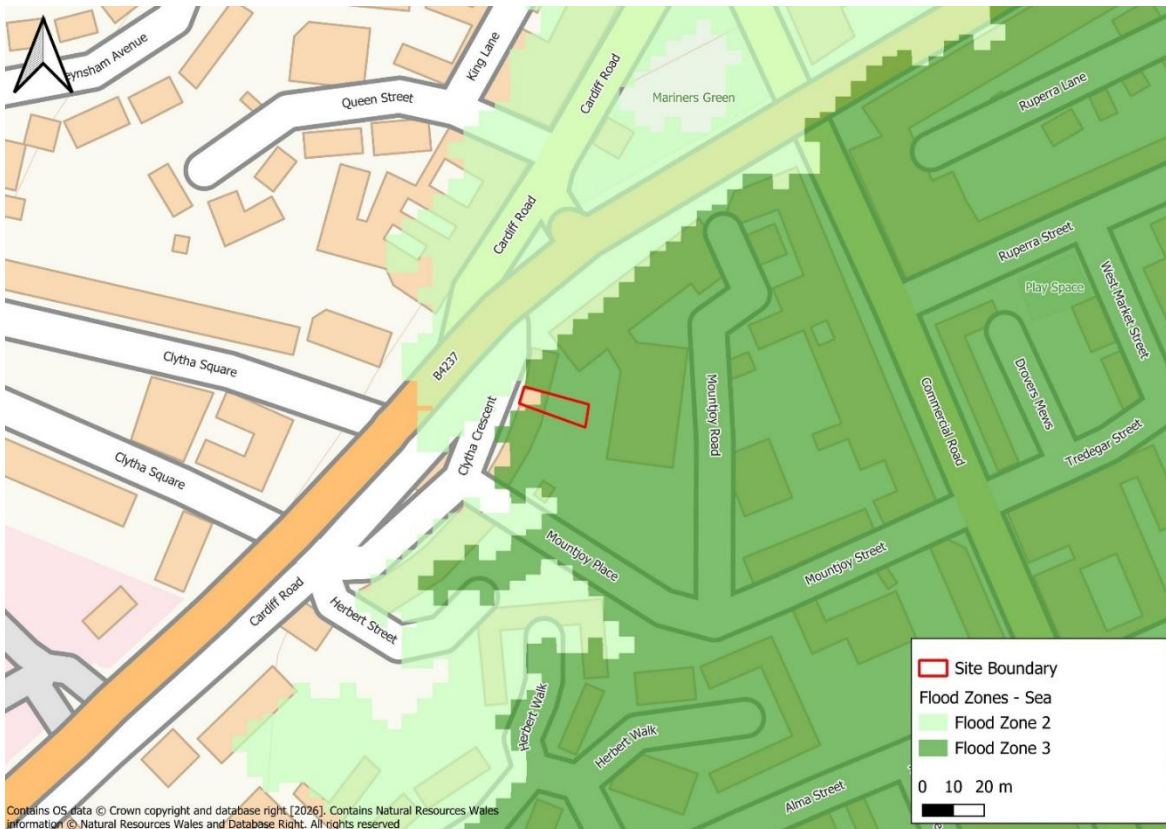


Figure 3-2 FMfP- Flood Risk from the Sea

### 3.5.3 Flood Map for Planning - Flood Risk from Surface Water and Small Watercourses

The site is partially located within Flood Zone 2 of the FMfP- Flood Risk from Surface Water and Small Watercourses, as shown in Figure 3-3. Flood Zone 2 represents areas with a 0.1% (1 in 1000) to 1% (1 in 100) AEP chance of flooding in any given year, including an allowance for climate change. The western area of the site, including the proposed building, is shown to be located within Flood Zone 1, an area of the lowest risk and defined as having a less than 0.1% AEP chance of flooding from surface water and small watercourses.

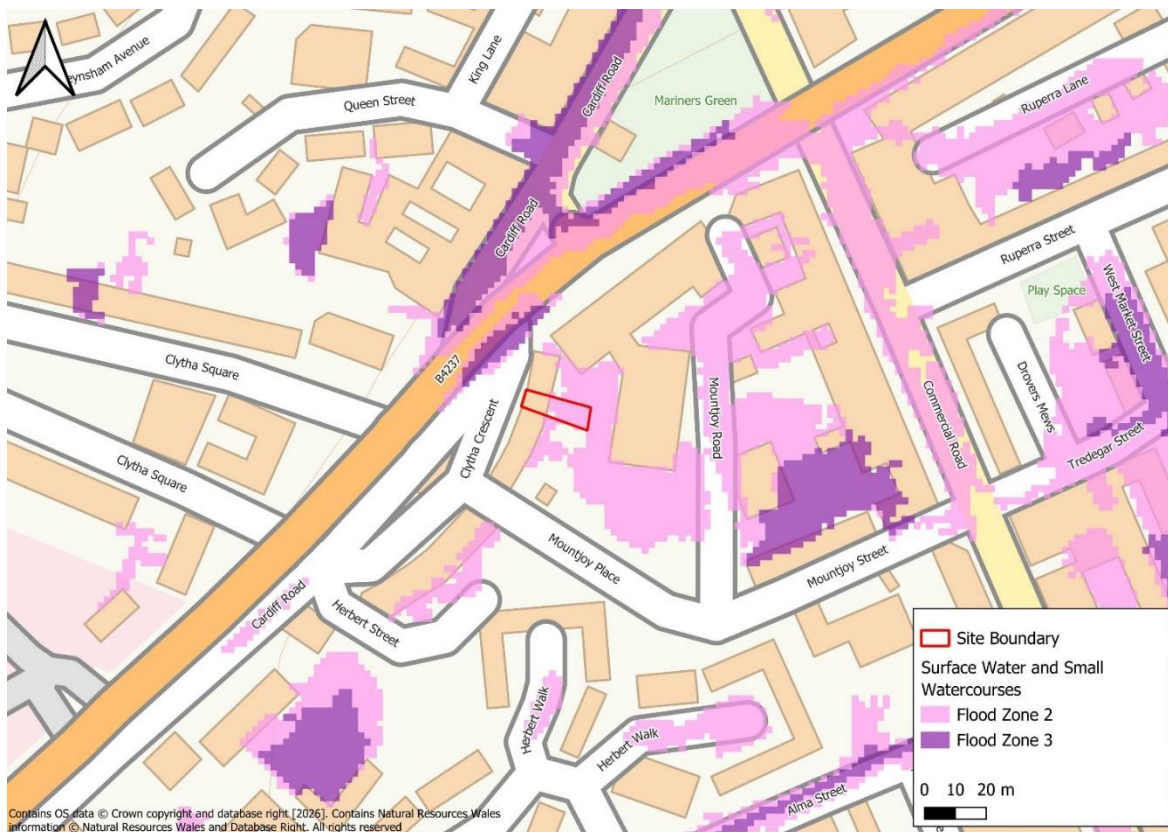


Figure 3-3 FMfP- Flood Risk from Surface Water and Small Watercourses

### 3.6 Newport City Council Local Development Plan

The Newport Local Development Plan 2011 - 2026<sup>3</sup> is designed to guide development within Newport up to 2026. The plan's vision is to make Newport "a centre of regeneration that celebrates its culture and heritage, while being a focus for varied economic growth that will strengthen its contribution to the region". The plan has ten detailed objectives to achieve this vision.

Objective 1 is the "Sustainable Use of Land". These objective plans to ensure that "development makes the most efficient use of natural resources by seeking to locate development in the most sustainable locations". Specifically, Newport City Council wants to make use of the numerous brownfield/redevelopment sites that exist around the city, such as this site.

Objective 4 sets out plan for housing provision "to ensure there is an adequate supply of land for housing in the most sustainable locations, and to ensure that the quantity, and quality and variety of housing provision meets the needs of the population". It has also provided a target to deliver approximately 10,350 new homes by 2026, to cope with the population increase of Newport.

<sup>3</sup> <http://www.newport.gov.uk/documents/Planning-Documents/LDP-2011-2026/LDP-Adopted-Plan-January-2015.pdf>

## 4 Flood Risk Assessment

### 4.1 Review of Existing Flood Risk Data

This section assesses the risk to the proposed development from all sources of flooding, the risk of increased flooding to others, and how flood risks can be managed. This section is based on publicly available data published by NRW and the Local Authority.

The latest available information on flood risk at the site is summarised in Table 4-1 below.

Table 4-1 Summary of Flood Risk

| Source of Flooding                                   | Onsite Presence | Description                                                                                    |
|------------------------------------------------------|-----------------|------------------------------------------------------------------------------------------------|
| Flood Risk from Rivers                               | ✗               | The site is at very low risk of fluvial flooding (Section 4.3).                                |
| Flood Risk from the Sea                              | ✓               | A detailed assessment of the flood risk from the sea has been undertaken in Section 5.         |
| Flood Risk from Surface Water and Small Watercourses | ✓               | The site is at low risk of surface water flooding (Section 4.4).                               |
| Flood Risk from Groundwater                          | ✗               | The site is at low risk of flooding from groundwater flooding (Section 4.5).                   |
| Flood Risk from Reservoirs                           | ✗               | The site is at very low risk of flooding from reservoirs. (Section 4.6)                        |
| Flood Risk from Sewers                               | ✗               | There is no evidence to suggest that the site is at risk of flooding from sewers (Section 4.7) |

### 4.2 Historical Flooding

NRW's map of recorded flood extents shows no evidence of historic flooding at the site. Newport Council's Local Flood Risk Management Strategy<sup>4</sup> (LFRMS) also identified no records of historic flooding at the site. However, the Newport Preliminary Flood Risk Assessment<sup>5</sup> (PFRA) indicates that there have been three flood incidents near the site. Two of these incidents have been logged by South Wales Fire and Rescue, and the other is labelled as a Dŵr Cymru Welsh Water incident. Despite these instances occurring near the site, the mapping provided in the PFRA is not detailed enough to confirm whether they affect the proposed development site, and there is no further evidence to suggest that the site has previously flooded.

4 <https://www.newport.gov.uk/documents/Policies/Newport-LFRMS-Report-Issue-Rev.pdf>

5 <https://www.newport.gov.uk/documents/Planning-Documents/Flood-risk/Preliminary-Flood-Risk-Assessment-Report-April-2011.pdf>

### 4.3 Flood Risk from Rivers

As mentioned in Section 3.5.1, the site is located within Flood Zone 1 of the NRW FMfP- Flood Risk from Rivers. As this represents a less than 0.1% AEP chance of flooding in any given year, including an allowance for climate change, the flood risk to the site from this source has been assessed as **very low**.

### 4.4 Flood Risk from Surface Water and Small Watercourses

The eastern extent the proposed development site (the garden) is shown to be within Flood Zone 2 of the Flood Map for Planning for Surface Water and Small Watercourses. This represents a range between 0.1% AEP (1 in 1000 year) and 1.0% (1 in 100 year) chance of flooding in any given year, including an allowance for climate change.

The rear garden is located at a topographic low point relative to the surrounding area, creating a bowl-like effect within the context of the neighbouring properties. Consequently, surface water will naturally flow towards such a location, potentially resulting in ponding, dependent on the ability of the ground to infiltrate and the antecedent condition of soils. The potential for surface water flows to reach this location are also dependent on the private and public urban drainage infrastructure in place to intercept such flows and positively drain them towards a wider surface water drainage network. Given the residential and well-established area in which the site is located, it is likely that such urban drainage infrastructure exists.

The Flood Map for Planning for surface water and small watercourses is derived from broadscale modelling. The model is derived from a generalised national scale model which does not always accurately define surface water and small watercourse risk, particularly where sub-surface drainage features are present, such as culverts or urban drainage systems are present and not modelled accurately, if at all. This can lead to both overestimation and underestimation of flood risk at the site. Given the context of the urban setting at this proposed development site, and no known flood history, it is considered that the flood risk to the site may be overestimated.

The existing property building is located in Flood Zone 1 and is therefore predicted to be flood free in all design events. The garden is located in Flood Zone 2, predicted to flood in only the extreme event. It has been assessed that the flood risk to the site from this source is **low**.

### 4.5 Flood Risk from Groundwater

Groundwater flooding is caused by unusually high groundwater levels. It occurs as excess water emerges at the ground surface or within manmade structures such as basements. Groundwater flooding tends to be more persistent than surface water flooding, sometimes lasting weeks or months, and can cause property damage. The risk of groundwater flooding depends on the nature of the geological strata underlying the site and the local topography.

Newport City Council's Local Flood Risk Management Plan (2015)<sup>6</sup> states that groundwater flooding is not considered to be a significant flood risk, and there are very few instances of groundwater flooding in Newport. Therefore, the groundwater flood risk to the proposed development site is assessed to be **very low**.

#### 4.6 Flood Risk from Reservoirs

The site is shown to be located in an area not at risk of reservoir flooding. No figure has been provided, as those areas not at risk are shown as transparent on the map. Therefore, the risk of flooding from a reservoir failure has been assessed as **very low**.

#### 4.7 Flood Risk from Sewers

Newport's PFRA states that 'Data provided by DCWW indicates a total of 78 locations across the council area that have suffered from historical sewer flooding.' However, there is no evidence to suggest previous flooding at the development site. The report also concluded that flooding from sewers does not have significant consequences at a strategic scale, so the risk of sewer flooding at the site is concluded to be **low**.

---

<sup>6</sup> <https://www.newport.gov.uk/documents/Council-and-Democracy/Consultations/Newport-Flood-Risk-Management-Plan-Report-Issue-for-Consultation.pdf>

## 5 Detailed Flood Risk Assessment

### 5.1 Model Availability

As tidal flooding is shown to be the predominant source of flooding at the site. The most recent Newport Tidal Modelling has been used to further assess the site.

The original modelling was based on version 7.0 of NRW's Newport Tidal Flood Model (June 2020), which was prepared by JBA Consulting for a successful Flood Map Challenge at the time. The version 7.0 model was further updated in 2022. The 2022 NRW tidal model of the Usk was further updated by JBA Consulting in 2025 to support a Flood Consequences Assessment for the proposed Newport Leisure Centre development.

The model grid resolution of 10m and model timesteps have been retained from the original model, as these are considered appropriate and provide an acceptable balance between model run times.

The updates below were applied to the 2025 model update:

- The revised model has been simulated using the latest available TUFLOW version at the time this project was commissioned (2025.1.0-iSP).
- The model has incorporated the latest available LIDAR data using the Natural Resources Wales 2023 LiDAR DTM dataset.
- Climate change uplifts have been applied to the previous 2022 model. A range of epochs were run, including the 2025 present day, 2075, and 2100 events.

### 5.2 Modelling Results

#### 5.2.1 2125 0.5 % AEP Event

Detailed flood modelling shows that the eastern extent of the site is predicted to flood during the 2125 0.5% AEP event, as shown in Figure 5-1. During this event, the rear garden is predicted to flood significantly, with a modelled maximum depth of 1.37m. The predicted flood level is 9.10 mAOD. A comparison to the FFL of the ground floor (7.91 mAOD) suggests a predicted flood depth of 1.19m across the ground floor (proposed for kitchen and living space).

A comparison of the maximum modelled flood level and the ground / FFL across the site is shown in Table 5-1. Whilst the ground floor (kitchen/diner) is predicted to flood to depths of 1.19m, the first floor (bedrooms) is predicted to be flood free, with flood free access and egress onto Clytha Crescent.

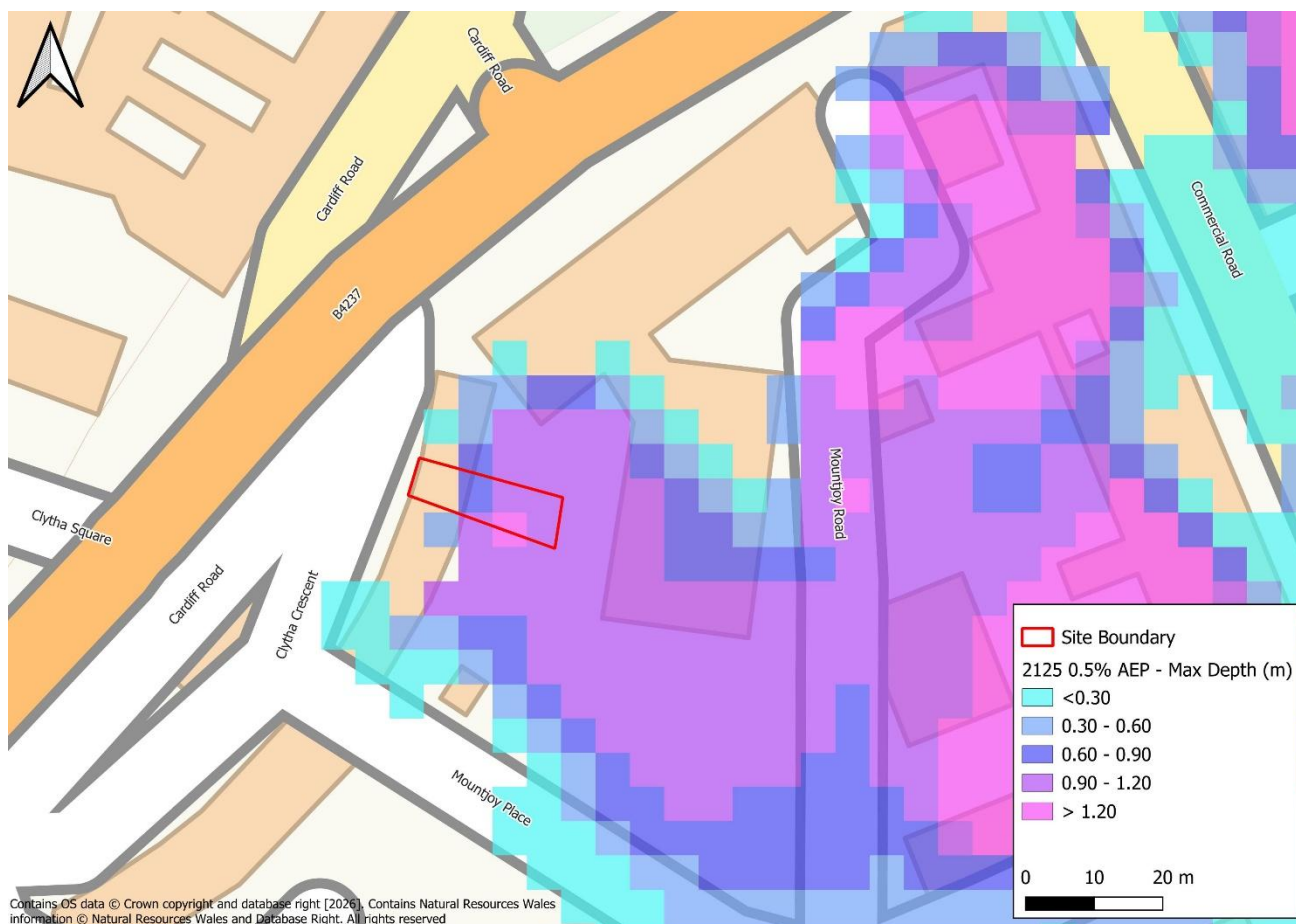


Figure 5-1 2125 0.5% AEP + Climate Change Event Max Depth.

Table 5-1 2125 0.5% AEP Plus Climate change Event Flood Level Comparison

| Area of Proposed Development | FFI / Ground Level (mAOD) | Flood Level (mAOD) | Maximum Flood Depth (m) |
|------------------------------|---------------------------|--------------------|-------------------------|
| Eastern Boundary             | 7.73                      | 9.10               | 1.37                    |
| Garden Patio                 | 7.91                      |                    | 1.19                    |
| Ground Floor                 | 7.91                      |                    | 1.19                    |
| Street Level                 | 9.96                      |                    | Flood Free              |
| First Floor                  | 10.43                     |                    | Flood Free              |

### 5.2.2 2125 0.1% AEP Event

Detailed flood modelling shows that the site floods during the 2125 0.1% AEP event, as shown in Figure 5-2. Compared to the 0.5% AEP event, both the predicted flood extent and depth have increased. During this event, the maximum modelled depth shown on the site is 1.84m and is located within the rear garden of the site.

A comparison of the maximum modelled flood level (9.69mAOD) and the ground / FFL is shown in Table 5-2Figure 5-2, with the ground floor predicted to experience a maximum

flood depth of 1.78m. The rest of the building, including the bedrooms and main access located on the First Floor, is shown to be flood-free. Flood free access and egress to Clytha Crescent is retained in this event.

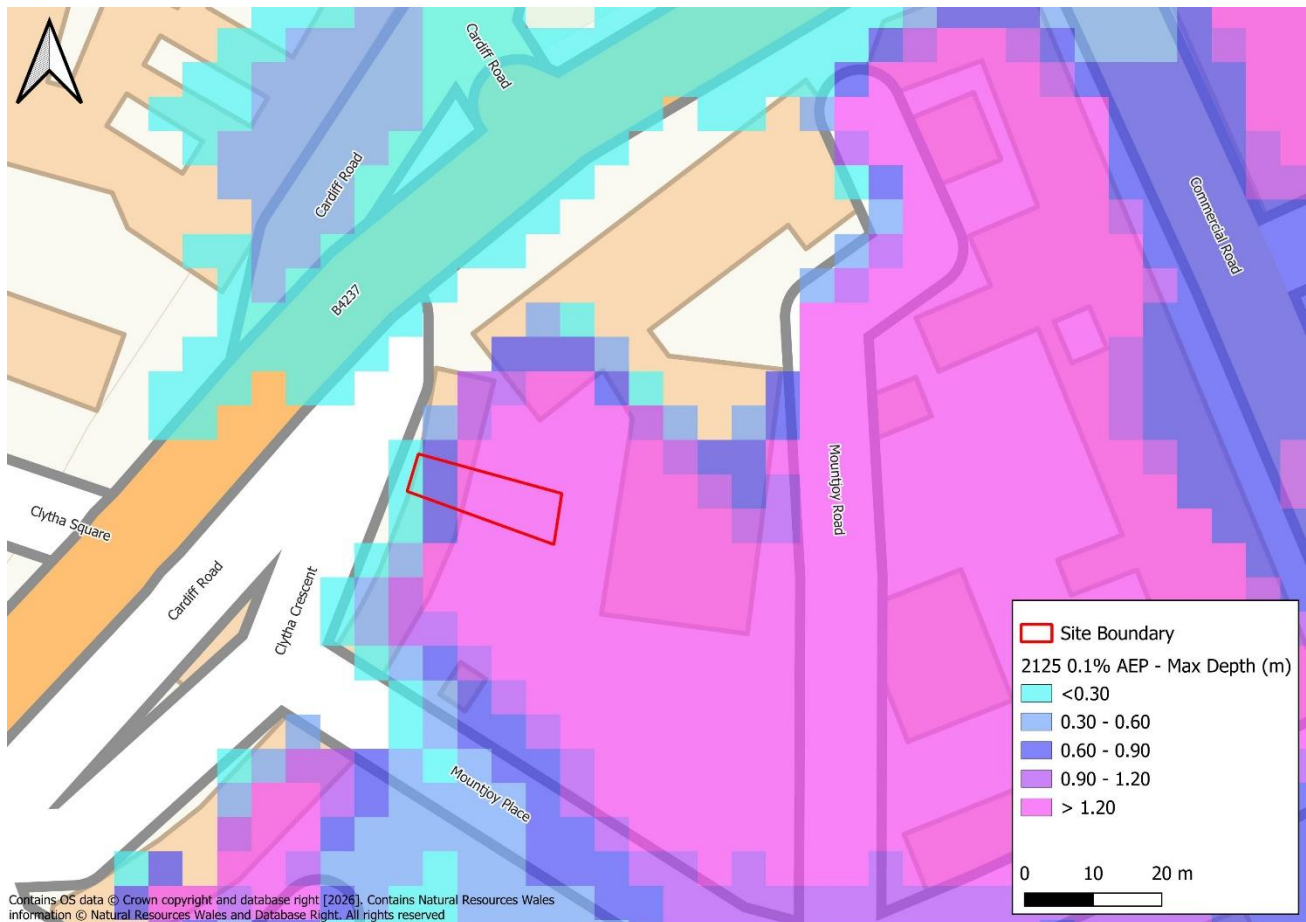


Figure 5-2 2125 0.1% AEP + Climate Change Event Max Depth.

Table 5-2 2125 0.1% AEP Plus Climate change Event Flood Level Comparison

| Area of Proposed Development | FFI / Ground Level (mAOD) | Flood Level (mAOD) | Maximum Flood Depth (m) |
|------------------------------|---------------------------|--------------------|-------------------------|
| Eastern Boundary             | 7.73                      | 9.69               | 1.96                    |
| Garden Patio                 | 7.91                      |                    | 1.78                    |
| Ground Floor                 | 7.91                      |                    | 1.78                    |
| Street Level                 | 9.96                      |                    | Flood Free              |
| First Floor                  | 10.43                     |                    | Flood Free              |

## 6 Flood Resilience

TAN-15 promotes the flood resilience of existing communities and the incorporation of flood resilience measures for redevelopment sites where there remains an element of flood risk. The redevelopment site is shown to be at risk of tidal flooding during the 0.5% AEP, and 0.1% AEP plus climate change events, and flood resilience is therefore integral to whether the consequences of flooding can be safely managed at the site.

Section 13.6 of TAN-15 provides industry standard guidance on incorporating resistance and resilience into development through design. This section has therefore been prepared in accordance with the CIWEM Code of Practice for Property Flood Resilience and the Ciria Code of Practice for Property Flood Resilience. The code of practice sets out recommendations for mitigation in the categories of realignment, resistance, resilience, and response. Mitigation for each category and how it can be applied to the proposed development are considered below.

### 6.1 Realignment

Opportunities to realign the flood receptor (i.e. the proposed development) and realign the flood pathways are set out in Table 6-1. Given the predicted extent of flooding to the site in and the nature of the proposals as a change of use, there are limited opportunities for realignment.

Table 6-1 Realignment Mitigation

| Measure                | Description                                   | Feasibility                                                                                                                                                                                                                                                              |
|------------------------|-----------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Realign flood receptor | Sequential approach in layout                 | A sequential approach to the layout of the building has resulted in the most vulnerable aspects of the development (the proposed bedrooms) being located above the maximum flood level in all design events .                                                            |
|                        | Raise finished floor levels                   | It is not practical to change the existing FFL as the building is being retained largely in its current form, with no large-scale changes, but rather smaller refurbishments to facilitate the change of use.                                                            |
|                        | Locate vulnerable elements on the first floor | The most vulnerable aspects of the development, i.e., the bedrooms, are located above ground floor level. This means that all the bedrooms are flood free for the lifetime of the development, and safe refuge is provided within the bedrooms in the event of flooding. |

| Measure               | Description                         | Feasibility                                                                                                                                                                   |
|-----------------------|-------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | Restrict use of the building        | All bedrooms are flood free for the lifetime of the development, and safe refuge is provided within the bedrooms in the event of flooding.                                    |
| Realign flood pathway | Redirect flow pathway               | Given the extensive flooding to the wider Newport area and the proposals comprising change of use only, no opportunities arise to redirect flow paths to and around the site. |
|                       | Change ground levels                | Not feasible as the existing building footprint is not proposed to change.                                                                                                    |
|                       | Sustainable Drainage Systems (SuDS) | Given the nature of flooding at the site and across the wider Newport area during all design events, SuDS would not alter flood flows/volumes.                                |

## 6.2 Resistance and Resilience

Further to the consideration of realignment measures, it is recommended that the development incorporate flood-resistance measures in accordance with the CIRIA Property Flood Resilience Code of Practice.

Flood-resistance measures (i.e., keeping water out of the building) are generally feasible for flood depths of less than 0.6m. In some instances, it may be feasible to increase these depths, subject to structural design and sign off by a structural engineer. However, as flood depths on the Ground Floor exceed 0.6 m in both the 2125 0.5% and 0.1% AEP events, this measure is unlikely to benefit the proposed redevelopment. Therefore, no resistance measures such as demountable barriers have been recommended at this site. However, increasing resilience to the ground floor, enabling the site to recover swiftly in the event of a flood may be beneficial. It is noted, however, that flood risk to the site is predicted in the future, with present day flood risk relatively low. It may therefore not be appropriate to implement such measures immediately, but to consider these in the future.

## 6.3 Response

Preparation in how to respond in the event of a flood is a critical mitigation measure.

The site/ building managers should sign up to the NRW's flood warnings to allow the evacuation of the site before a flood event if sufficient warning is provided.

The site is currently not located within an NRW flood alert or flood Warning area. However, as the risk is tidal, it is recommended that the building occupiers and building manager sign up to the following: the Usk Estuary flood alert and the Usk Estuary flood warning area. Flood Warning lead times for tidal flooding are currently around 48 hours. This should be ample time to evacuate in an emergency.

It is recommended that a Flood Response Plan (FRP) is prepared to inform the management company and residents of the risk of flooding and detail actions before, during and after a flood event. At a minimum, the Flood Response Plan should cover adequate flood warning, evacuation and access/egress routes in the event of flooding for the lifetime of the development. NRW provide guidance<sup>7</sup> for the production of flood emergency plans. This guidance should be used to inform flood response procedures at the site.

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<sup>7</sup> <https://naturalresources.wales/flooding/preparing-for-a-flood/?lang=en>

## 7 Acceptability of Flood Consequences

### 7.1 Application of Flood Zones to Development Management Decisions

When considering a site for development, TAN-15 sets out the requirements for the form of development in any given flood zone. For a proposed redevelopment site within Flood Zone 3, Section 10.22 of TAN-15 states:

"Planning applications in Zone 3 require the strongest justification".

With Section 10.23 going on to say

"Proposals will only be appropriate if they are essential to the Development Plan Strategy to regenerate an existing settlement or achieve key economic or environmental objectives. Any redevelopment proposal must be consistent with the acceptability considerations in section 11. In addition, proposals which include residential development must ensure that such uses do not occur at ground floor level".

As the proposed development is already located within a residential area of the city, the redevelopment of this building will help regenerate an existing settlement. Furthermore, as mentioned within Section 3.6, the proposals will help Newport City Council meet its housing requirements, an essential target to meet to cater for the growing population of Newport.

No residential use is proposed for the ground floor of the building, thereby meeting the requirement stated in Section 10.23. All residential bedrooms are located on the First Floor or above and are predicted to be flood free for the lifetime of the development. Whilst it is acknowledged that that ground flood is predicted to flood to significant depths in all design events, the bedrooms shall provide safe refuge in the event of a flood, and flood free access and egress is permissible via Clytha Crescent on the First Floor. The proposed development is unlikely to change the overall flood risk at the site relative to its existing use, with no predicted changes in flood depths, extents, or frequency. The proposals ultimately provide a betterment on the current conditions by removing a bedroom from the ground floor as per the current site layout, providing this to a flood free space on the First Floor instead.

TAN-15 advises that residential uses should not occur at ground floor level in Flood Zones 2 and 3. TAN-15 does not define the scope of 'residential use', and whether it includes gardens, garages or non-habitable space. The greater vulnerability of residential properties to flooding is recognised alongside the valuable intention of this advice. However, without a pragmatic framework for applying this aspect of TAN-15, there is a risk that decision-making runs contrary to the risk-based framework of TAN-15 and the placemaking and sustainable development aims and objectives of Planning Policy Wales. Further clarity on this stance has been provided by the TAN-15 FAQs published by Welsh Government in March 2026, which highlight that whilst the intent of national policy is clear, it cannot address every conceivable circumstance. As in this case, where the first floor is shown to be flood-free, with only the ground floor (kitchen/diner space) predicted to flood.

TAN-15 suggests that development proposals on brownfield sites should be considered more favourably where opportunities arise to increase a site's resilience. The removal of a bedroom from the ground floor and the placement of all bedrooms on the first floor or above could be considered to increase the building's resilience. Furthermore, it has been suggested that occupiers and building managers sign up for flood warnings. By implementing both measures, the building is assessed to have increased its resilience compared to its current form.

In accordance with Section 10.23 of TAN-15, any redevelopment proposals must be consistent with the acceptability considerations in Section 11 of TAN-15. This is discussed below.

## 7.2 Acceptability Criteria

Whether a development should proceed or not will depend on whether the consequences of flooding can be safely managed, including its effects on flood risk elsewhere. TAN-15 sets out the key conditions that should be met to demonstrate that development is appropriate for its location. Therefore, the site has been assessed against the acceptability criteria as set out in section 11 of TAN-15 as required for a redevelopment site located within a TAN-15 Defended Zone.

The site has been assessed against the Acceptability Criteria of Section 11 of TAN-15, as shown in Table 7-1 below.

Table 7-1 Assessment of Acceptability Criteria

| TAN-15 Acceptability Criteria                                | Comments                                                                                                                                                                                                                               | Achieved |
|--------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| No increase in flooding elsewhere.                           | The proposed redevelopment does not include any changes to the building's existing footprint. Therefore, the proposal does not increase the flood risk elsewhere.                                                                      | Yes      |
| Occupiers are aware of the flood risk                        | The developer shall provide future occupiers with information on the flood risk in the form of this report.                                                                                                                            | Yes      |
| Escape/evacuation routes present                             | Flood free access and egress is available via Clytha Crescent in all design events.                                                                                                                                                    | Yes      |
| Flood emergency plans and procedures are agreed and in place | Flood free access and egress is available via Clytha Crescent in all design events. However, whilst not strictly necessary, a flood response plan may be beneficial to highlight actions to evacuate/stay put in the event of a flood. | Yes      |

| TAN-15 Acceptability Criteria               | Comments                                                                                                                                                                                                                                                             | Achieved |
|---------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
| Flood-resistant and resilient design        | The site should be carefully designed to provide enhanced flood resilience to the most vulnerable elements of the site. All of the most vulnerable aspects are proposed in areas that are flood free, incorporating resilience into site layout from an early stage. | Yes      |
| Acceptable consequences for the type of use | Detailed in Section 7.3                                                                                                                                                                                                                                              | Yes      |

### 7.3 Frequency Thresholds and Tolerable Conditions

In line with Section 11.7 and Figure 5 of TAN-15, the required design standard for a development is to be flood free during the 0.5% AEP tidal event, with an allowance for climate change over the lifetime of the development. The flood free thresholds relate to very serious but not the most extreme flood extents. During extreme flood events, there is recognition that it may not be possible to keep development flood-free. Figure 6 of TAN-15 provides indicative tolerable flood depth and velocity conditions for the 0.1% AEP event, including an allowance for climate change. Up to 600mm of flooding is considered tolerable within Highly and Less Vulnerable Developments.

As detailed above, the site is predicted to flood during the 2125 0.5% AEP and 0.1% AEP tidal flooding events. However, in accordance with Section 11.8, this threshold may be applied with more flexibility for redevelopment, and the thresholds are to be used as a guide.

As the development proposal represents no change to the footprint of the existing building, the predicted flood frequency has not changed from that of its current use and represents no intensification of the flood frequency at this site. In addition, the majority of the development is expected to be flood free in this event, including all bedrooms, the most vulnerable aspect of the development. Applying the threshold more flexibly, accounts for the fact that there is no discernible change to the risk from its current use.

In both events flood across Newport is predicted to be significant. Redevelopment proposals, when planned well, can provide opportunities to increase awareness of flooding and increase resilience. As the proposed developments are for a minor change of use to amend the residential function of the property and internal layout, it would not be possible to raise the site or drastically alter the finished floor levels.

Increased resilience is provided to the site as a consequence of the removal of the bedroom from the ground floor to the first floor of the property. It is also key to considerations that Section 13 of TAN-15 promotes resilient design, particularly for

redevelopment sites where opportunities to mitigate the risk of flooding are limited. In this instance, the proposed internal configuration changes as a consequence of the proposals result in increased resilience to the most vulnerable aspects of the site.

Given the justified flexibility afforded to redevelopment sites, and the proposed flood resilience measures, it is considered that the proposals align with the aims and objectives as set out in TAN-15 and PPW.

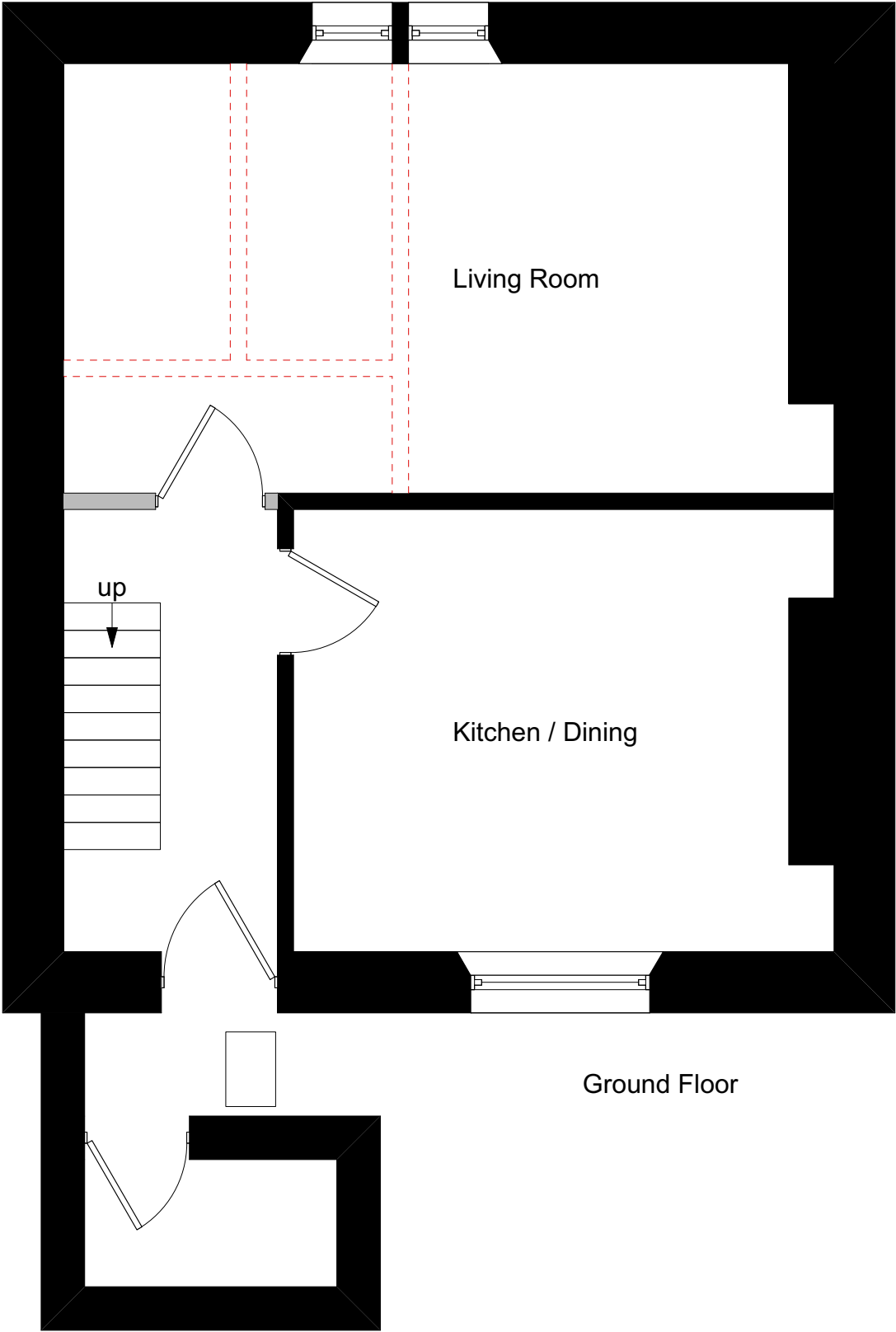
## 8 Conclusion

- JBA Consulting were commissioned by GSG Property Ltd to prepare a Flood Consequences Assessment (FCA) for the proposed refurbishment of 3 Clytha Crescent, Newport. The development proposals are for the refurbishment of an existing residential property into a House of Multiple Occupancy (HMO).
- The 0.014ha redevelopment site comprises a four-storey residential building providing four bedrooms. Due to the sloping nature of the site, the property includes a ground-floor level, accessible from the rear, which provides habitable space in the form of one of the four bedrooms, and direct access to the garden. The first floor is accessed from street level, and elevated above the garden, and provides a kitchen, living room and lounge. The second floor and third floor (loft conversion) provide the additional three bedrooms
- The proposed development results in a change of use to a House of Multiple Occupancy (HMO). Reworking of the internal layout of the property to facilitate this change of use results in the removal of the bedroom from the ground floor with conversion of this area to a living room and kitchen/diner. Two bedrooms are proposed to the first floor, along with provision of a bike store, and access from street level leading to stairs up to the rest of the property. An additional three bedrooms are proposed to the second floor, with a single bedroom and bathroom retained on the third floor (attic).
- The removal of the bedroom from the ground floor will result no bedrooms located below the first floor of the building.
- As a residential development, it is classified as a Highly Vulnerable development under TAN-15 and has an assumed lifetime of development of 100 years.
- The flood risk from rivers, surface water, groundwater, reservoir failure, and sewers has been assessed to be low/very low across the site.
- The predominant flooding mechanism is tidal. Utilising the 2025 Newport Tidal Model, the site is predicted to flood to depths of 1.19m and 1.78m in the 2125 0.5% and 2125 0.1% AEP events, respectively.
- The proposals shall result in no change in flood risk in terms of extent, depth or frequency compared with the existing site use, with flooding restricted to the property's ground floor.
- As a consequence of the development, resilience has been inbuilt by location all bedrooms on the first floor or above, therefore moving the most vulnerable aspects of the development outside of the area at risk with these areas predicted to be flood free for the lifetime of the development, with safe access and egress to Clytha Crescent in all design events.

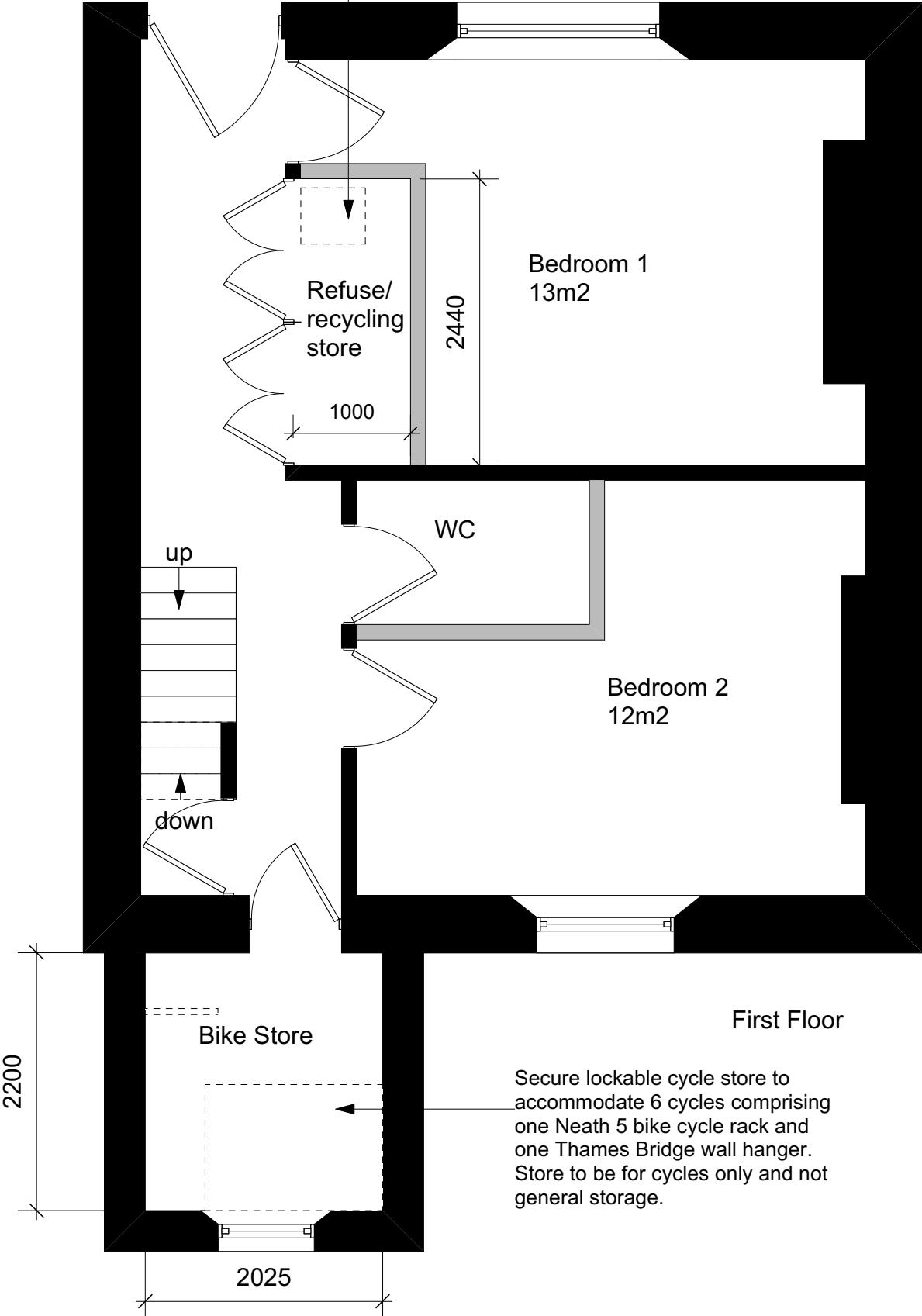
- Section 10.23 of TAN15 outlines that development in Flood Zone 3 must be essential to the Local Development Plan and that development proposals must ensure that residential use does not occur at the ground floor level. The proposed redevelopment results in a change from the existing scenario to remove ground floor bedrooms and place these on the First Floor and above, predicted to be flood free in all design events.
- In line with Section 11.7 and Figure 5 of TAN-15, the required design standard for a development is to be flood free during the 0.5% AEP tidal event, with an allowance for climate change over the lifetime of the development. During extreme flood events, Figure 6 of TAN-15 provides indicative tolerable flood depth and velocity conditions for the 0.1% AEP event, including an allowance for climate change. However, in accordance with Section 11.8 of TAN-15, this threshold may be applied with more flexibility for redevelopment, and the thresholds are to be used as a guide. Applying the threshold more flexibly in this instance, accounts for the fact that there is no discernible change to the risk from its current use.
- Given the justified flexibility afforded to redevelopment sites, and the proposed flood resilience measures, it is considered that the proposals align with the aims and objectives as set out in TAN-15 and PPW.

## Appendix A - Proposed Layout

Refuse and recycling store to be ventilated with wipe clean finishes. Sized for 1 x 180L bin plus recycling boxes. Bins to be presented at kerbside on collection day only and returned immediately after collection. Store retained for refuse and recycling only.



Ground Floor



First Floor

Secure lockable cycle store to accommodate 6 cycles comprising one Neath 5 bike cycle rack and one Thames Bridge wall hanger. Store to be for cycles only and not general storage.



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**JOB**

**TITLE** 3 Clytha Cres,  
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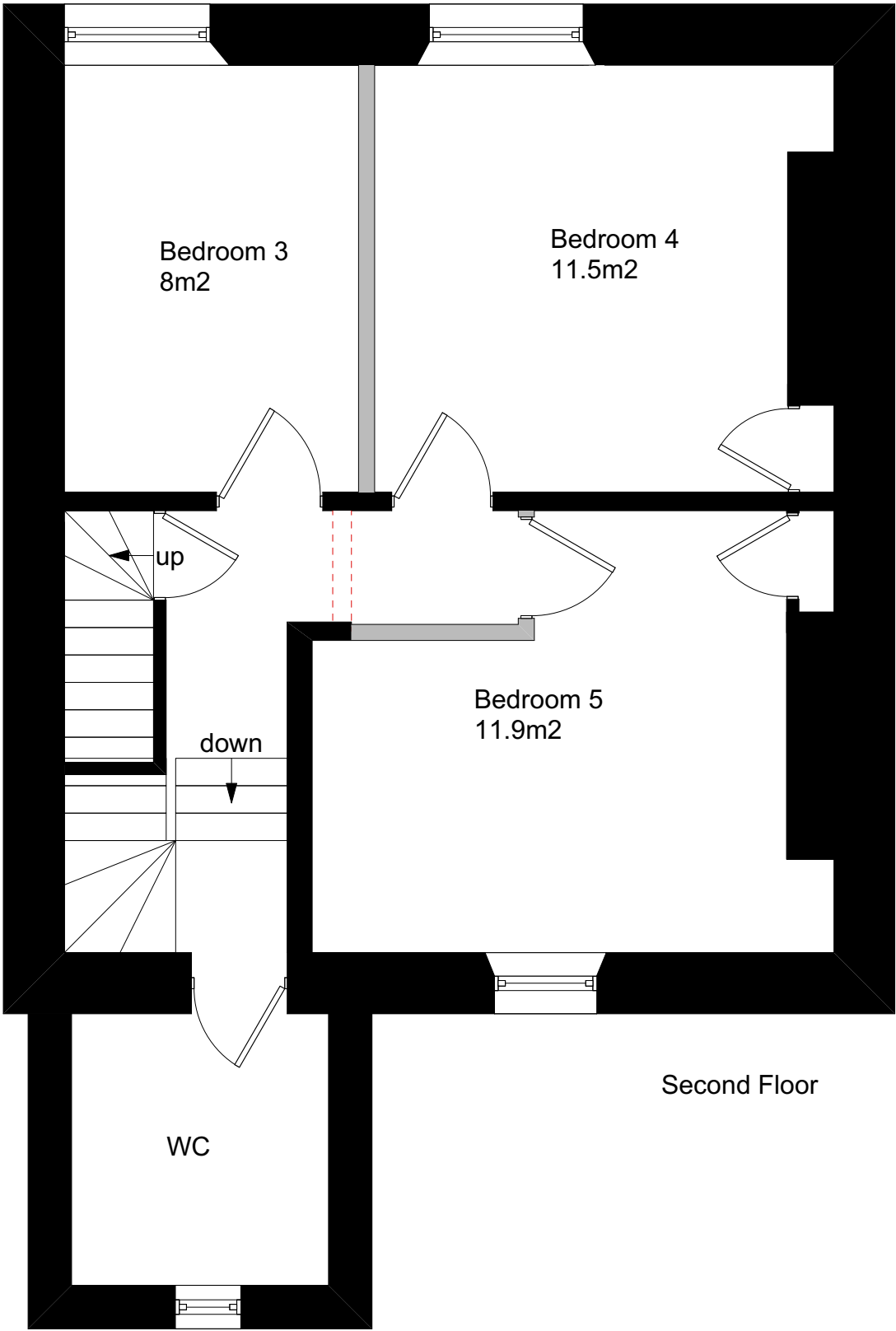
**DRAWING**

**TITLE** Proposed plans  
Ground and  
first floor

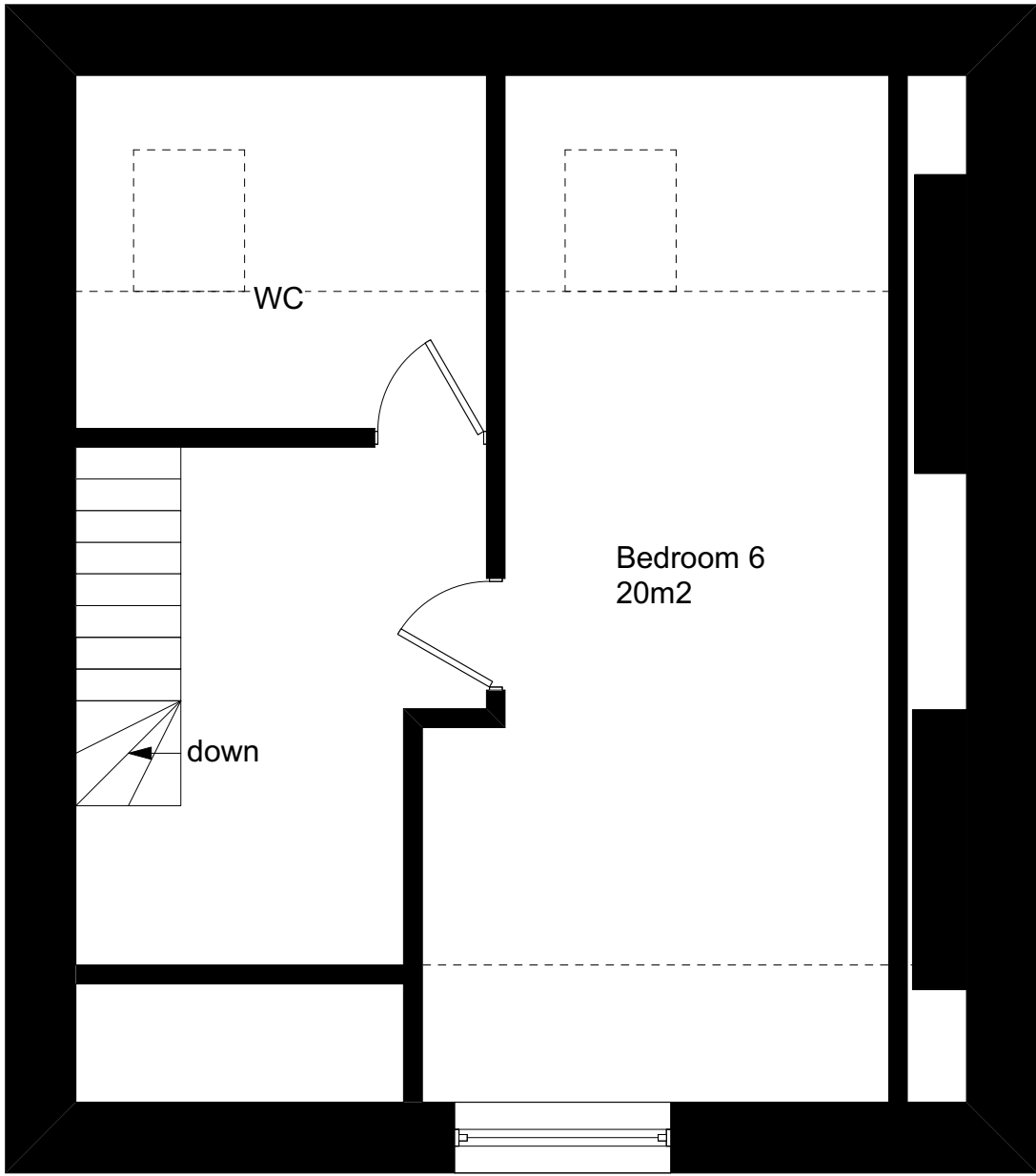
**DRAWING No.** SD1035-04E

**SCALE** 1:50 @ A3

**DATE** June 2026



Second Floor



Third Floor

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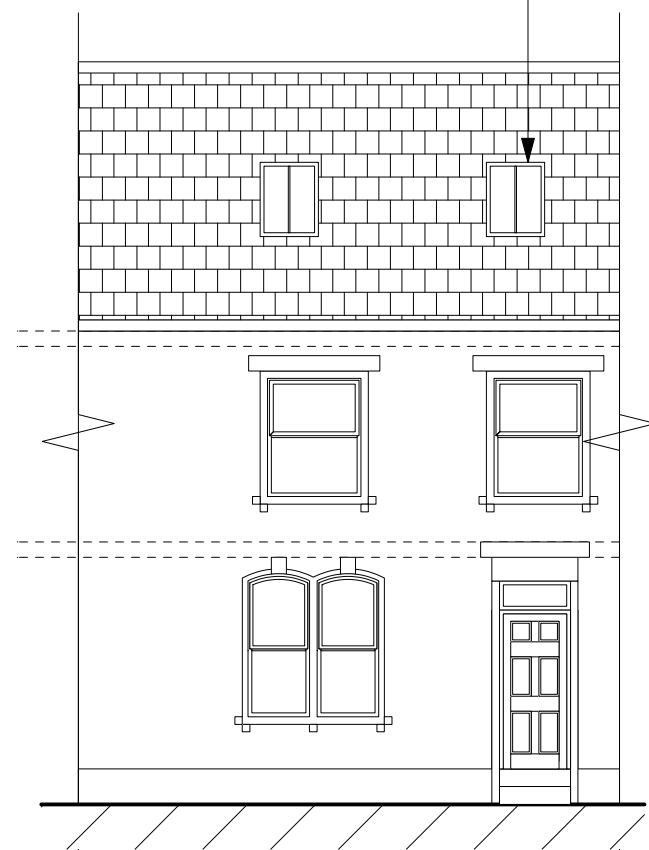
**DRAWING**  
**TITLE** Proposed plans  
Second/ Third floor

|                    |            |
|--------------------|------------|
| <b>DRAWING No.</b> | SD1035-05E |
| <b>SCALE</b>       | 1:50 @ A3  |
| <b>DATE</b>        | June 2026  |

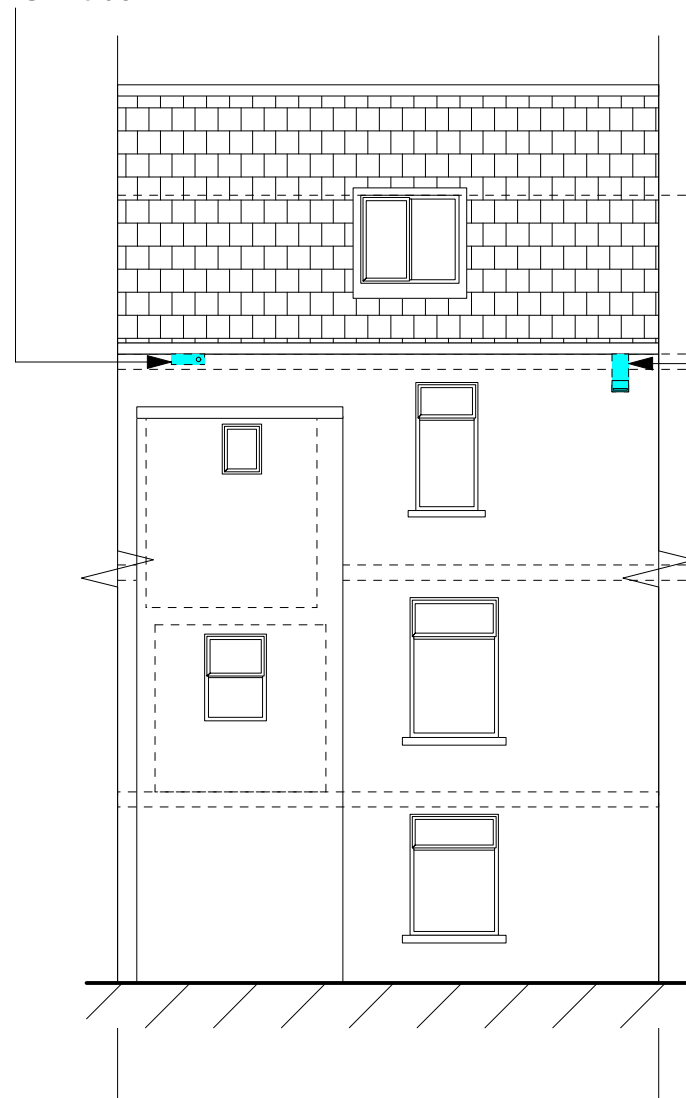
Velux GPL MK08 2570H  
conservation window  
(Finished Black)

Pro UK Rendered  
Build-in Swift box.

Vivaro Pro Build-in  
Woodstone bat box.



Front Elevation



Rear Elevation

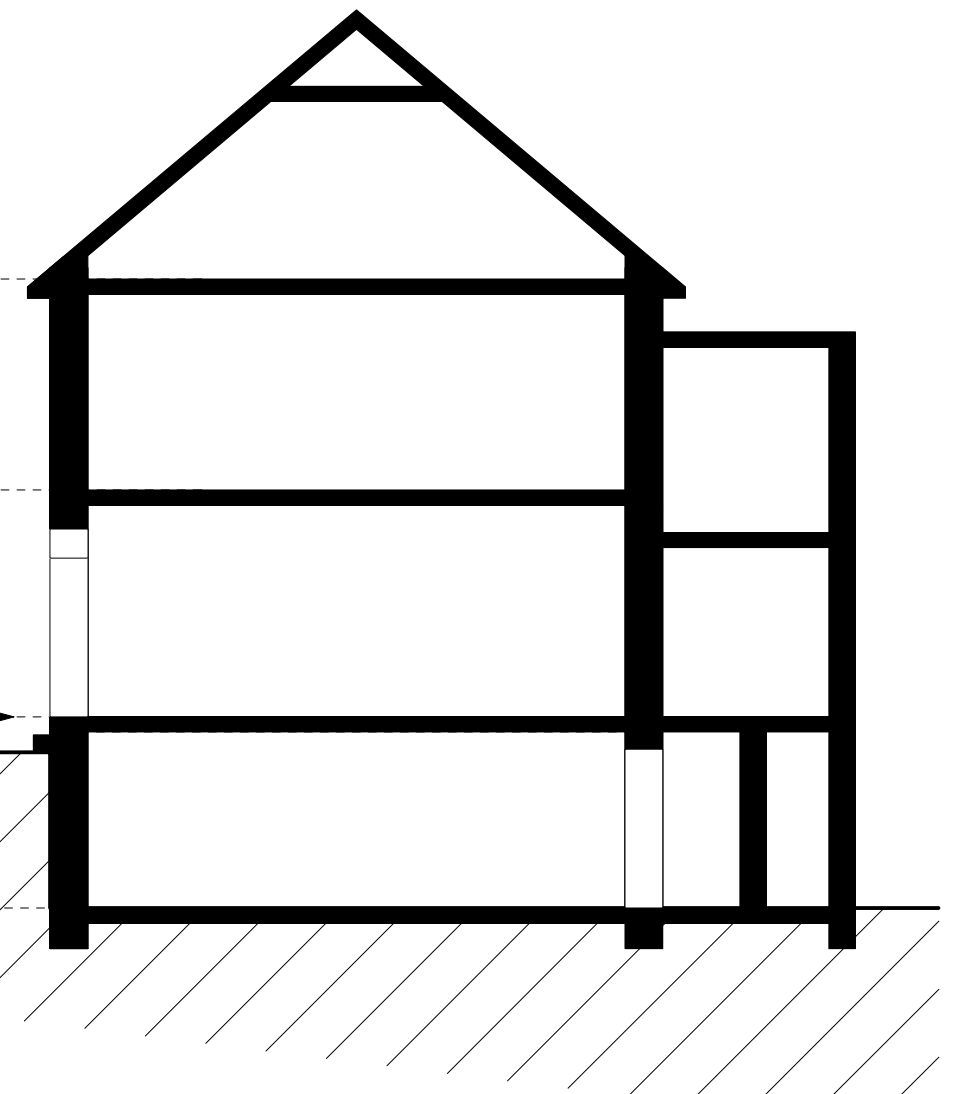
Third Floor (16.223m)

Second floor (13.433m)

First Floor FFL (10.433m)

Street (9.963m)

GF threshold/  
FFL (7.905m)



Cross Section

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**JOB**  
**TITLE** 3 Clytha Cres,  
Newport  
NP20 2EY

**DRAWING**  
**TITLE** Proposed elevations

**DRAWING No.** SD1035-06H

**SCALE** 1:100 @ A3

**DATE** June 2026

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