

2838 - Corporation Road, Newport
Mixed-use Development

Antonio Borg

Flood Consequences Assessment

1st Issue

July 2026



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Definitions and Abbreviations

TAN15: Technical Advice Note 15: Development, Flooding, and Coastal Erosion (2025): An updated version of the Welsh Government guidance document published on 31 March 2025. The new TAN15 and the Flood Map for Planning supersede TAN14 and TAN15 (2004) along with accompanying Development Advice Map.

NRW: Natural Resources Wales. The governing body responsible for environmental regulation in Wales.

DAM: Development Advice Map. Now superseded by Flood Map for Planning.

Zone A: Considered to be at little or no risk of fluvial or tidal/coastal flooding (DAM).

Zone B: Areas known to have been flooded in the past evidenced by sedimentary deposits (DAM).

Zone C: Based on Environment Agency extreme flood outline, equal to or greater than 0.1% (river, tidal or coastal) (DAM)

Zone C1: Areas of the floodplain which are developed and served by significant infrastructure, including flood defences (DAM).

Zone C2: Areas of the floodplain without significant flood defence infrastructure (DAM).

FMfP: Flood Map for Planning. A map produced by NRW as part of TAN15 guidance, outlining flood zones across Wales to accompany TAN15. The Flood Map for Planning includes climate change information to show how this will affect flood risk extents for rivers, the sea and surface water and small watercourses over the next century. It shows the potential extent of flooding assuming no defences are in place.

AEP: Annual Exceedance Probability. The probability of a flood of a certain size or larger occurring in any given year.

FFL: Finished Floor Level.

CC: Climate Change. Used in the context of assessing the impact of climate change on flood risk models.

Flood Zone 3 (FMfP): displays the extent of flooding from:

Rivers with a 1% (1 in 100) chance or greater of happening in any given year, including an allowance for climate change.

the sea with a 0.5% (1 in 200) chance or greater of happening in any given year, including an allowance for climate change.

Surface water & small watercourses with a 1% (1 in 100) chance or greater of happening in any given year, including an allowance for climate change.

Flood Zone 2 (FMfP): displays the extent of flooding from:

Rivers with less than 1% (1 in 100) but greater than or equal to 0.1% (1 in 1,000) chance of happening in any given year, including an allowance for climate change.

the Sea with less than 0.5% (1 in 200) but greater than or equal to 0.1% (1 in 1,000) chance of flooding in any given year, including an allowance for climate change.

Surface water & small watercourses with less than 1% (1 in 100) but greater than or equal to 0.1% (1 in 1,000) chance of happening in any given year, including an allowance for climate change.

Flood Zone 1 (FMfP): Less than 0.1% chance of flooding in a given year plus climate change.

TAN15 Defended Zones (FMfP): shows areas that benefit from risk management authority owned flood defence infrastructure, that have a minimum, Present Day level of protection of:

1% AEP for rivers, or

0.5% AEP for the sea.

1. Introduction

PHG Consulting have been commissioned to undertake a Flood Consequences Assessment in support of a planning application for a mixed-use development at the site of 264 Corporation Road, Newport, currently comprising a ground floor retail unit with first floor office space.

The FCA is compliant with Technical Advice Note 15 Development, flooding and coastal erosion, last updated on 31 March 2025. The Flood Map for Planning has been assessed and the site is located within TAN15 Defended Zones.

Existing Site

The existing site is previously developed land and covers an area of 0.011 ha. The site is located on Corporation Road, Newport at the National Grid reference ST322878. Its location is presented in Figure 1 below.



Figure 1. Site Location Plan. OS Grid Reference ST322878

Development Proposals

The proposed development comprises the change of use of the first floor from office to residential accommodation, while retaining the existing ground floor retail use. The proposal constitutes redevelopment in accordance with paragraph 8.3 of Technical Advice Note (TAN) 15. The development

results in a change in vulnerability classification at first floor level, from Less Vulnerable to Highly Vulnerable development.



Figure 2. EXISTING PLAN: Extract from SD1142-01 Existing



Figure 3. PROPOSED PLAN: Extract from SD1142-02 Proposed.pdf

2. Flood Consequences Assessment

This assessment has been prepared to examine potential sources of flooding pertaining to the site and the immediate vicinity, determine the likelihood (flood frequency) and the impact (flood consequences) of flooding. In Wales, planning policy relating to flooding is governed by Technical Advice Note (TAN) 15: Development, Flooding and Coastal Erosion. This assessment has been prepared in accordance with latest version of TAN15 published on 31 March 2025, which replaces Technical Advice Note 14, published in 1998 and Technical Advice Note 15, published in 2004.

Development Category – Flood Zones Compatibility to Flood Map for Planning

The development site is classified as Less Vulnerable development at ground floor level and *Highly vulnerable development*¹ at first floor level. TAN15 encourages mixed-use design with less vulnerable development located on ground floor and highly vulnerable development on the upper floors (see TAN15, paragraph 13.4). The Flood Map for Planning maps, which fully supersede Development Advice Map (which accompanied the previous version of TAN15), have been included in the assessment.

Flood Map for Planning – Rivers

The site is located in Flood Zone 1. No further investigation is needed regarding flooding from rivers.

¹ Technical Advice Note15 (2025): Figure 4- Development vulnerability categories

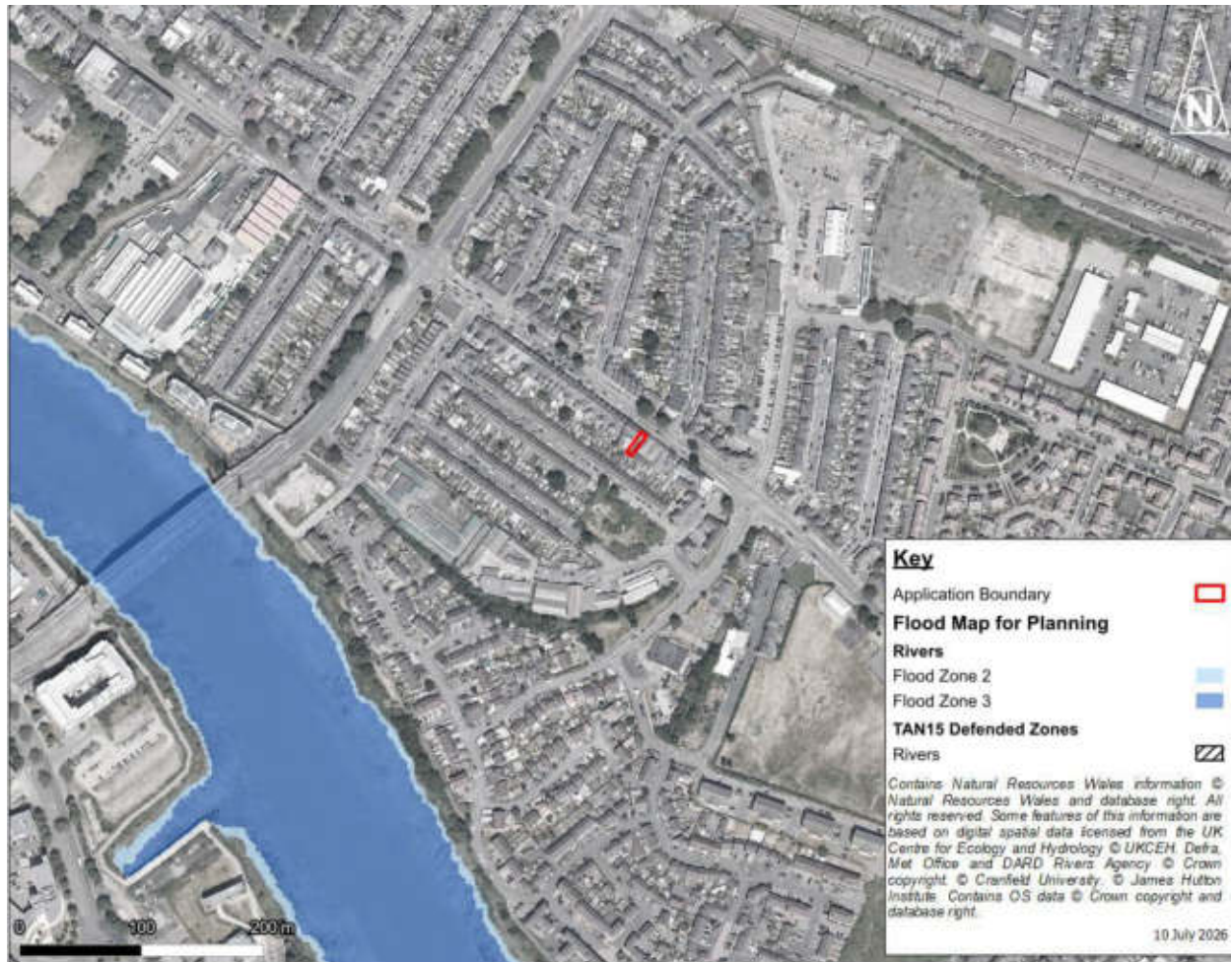


Figure 4. NRW – Flood Map for Planning - Flood Zone Rivers

Flood Map for Planning – Surface Water and Small Water Courses

The site is located within Zone 2 from Surface Water and Small Watercourses Flood Zones. The extents of Flood Zone 2 are outside the building and are likely due to localised ponding.



Figure 5. NRW – Flood Map for Planning - Surface Water and Small Watercourses.

Flood Map for Planning - Seas

The site is located within TAN15 Defended Zone, and Flood Zone 3. Further assessment is required.



Figure 6. NRW – Flood Map for Planning - Flood Zone Seas

Impact on flooding elsewhere

In line with TAN15, the development must ensure no increase in flooding elsewhere.

Given the lack of structural alterations, the footprint and levels retained, the development will not result in any change in flood volume during a flood event.

It is therefore considered that in the event of flooding, the development will not result in an increase of flooding elsewhere.

Coastal Design Sea Levels adjusted by Flood Consequences Assessments: Climate change allowances to extrapolate flood levels

Given the site's proximity to the coastline and its location approximately 7.5 km from the nearest Level Point within the Environment Agency's Coastal Design Sea Levels dataset (see Figure 7), it is considered appropriate to utilise this dataset to estimate potential flood extents, levels, and depths. The assessment applies the level values from the nearest points, with climate change allowances incorporated in line with Table 3 of Flood Consequences Assessments: Climate Change Allowances. The upper allowance (95th percentile) values for the year 2130 have been adopted for both the 0.1% AEP and 0.5% AEP events (Flood Consequences Assessments: Climate change allowances, section 3.3. Sea level rise allowances).



Figure 7. Site location and nearest Level Points of Coastal_Design_Sea_Levels dataset

Methodology

The datapoints come in the following format as outlined in the below table. The maximum levels do not account for climate change allowance and need to be adjusted.

LOCATION	UK MAINLAND
CHAINAGE	_398
X_BNG	331707.5
Y_BNG	180331.9
BASE_YEAR	2017
HAT_OD	7.57
MHWS_OD	6.35
T1	7.38
T2	7.49
T5	7.63
T10	7.74
T20	7.85
T25	7.89
T50	7.99
T75	8.06

T100	8.12
T150	8.19
T200	8.25
T250	8.29
T300	8.33
T500	8.44
T1000	8.59

Data Point attribute values for the relevant return periods were reviewed (t200 and t1000, representing the 0.5% AEP and 0.1% AEP events, corresponding to FMfP Zone 3 and Zone 2 respectively). Climate change allowances for Newport area were then applied in line with Table 3 of *Flood Consequences Assessments: Climate Change Allowances*.

A spatial data analysis exercise was undertaken to delineate the flood zone extents, based on the Digital Elevation Model derived from the LiDAR DTM (1m resolution) dataset provided by the Welsh Government under the Open Government Licence for Public Sector Information (OGL).

We note a limitation in our analysis regarding the extrapolation of flood levels. This approach inherently assumes a uniform rise in sea levels. However, this does not directly imply that the extents of the flood zone will increase proportionally, as the impact of topography, local geographical features, and existing flood defences etc. have not been taken into account.

Spatial Data Analysis

0.5%AEP +CC depths

The present day 0.5% tidal level is 8.25 m AOD. When climate change allowances are applied by 1.68 m (for the 2130 event), the flood level increases to 9.93 m AOD under the 95th percentile (upper) allowance. The approximate finished floor level assumed from DTM LiDAR 1m information, is approximately set at ~7.20 m AOD, the site is likely to flood during the 0.5% AEP event with the 95th percentile climate change allowance. The depth of flooding is projected to be up to 2.68 m (2680 mm) within the building footprint.



Figure 8. Flood Map for Planning- Zone 3 (left) and delineated 0.5% AEP CC event (right)

0.1%AEP +CC depths

The present day 0.1% tidal level is 8.59 m AOD. When climate change allowances are applied by 1.68 m (for the 2130 event, 95th percentile), the flood level increases to 10.26 m AOD. With the FFL at 7.20 m AOD, the site is likely to flood during the 0.1% AEP climate change allowance (95th percentile). The worst case scenario flood depth is 3.06 m (3060 mm) which is over the allowable conditions 600 mm flood depth. The upper floors are set above the maximum flood level.



Figure 9. Flood Map for Planning- Zone 2 (left) and delineated 0.1% AEP CC event (right)

Proposed Evacuation Route

The existing development is already positioned in the TAN15 Defended Zone (from Sea) and Zone 3 from Sea. The proposed evacuation route in Figure 10 is approx. 200 m long.



Figure 10. Proposed Evacuation Route

Resilience measures – effect of proposed works on flood risk within the property

As part of the proposed works, a number of flood resilience measures have been recommended, which are in accordance with the Communities and Local Government document 'Improving the Flood Performance of New Buildings Flood Resilient Construction'. These measures will reduce the risk to life and ensure, during and after a flood event, the consequences are reduced as far as practical.

- Flood proof doors to be used as external doors; these doors would be self-sealing when left shut. This means that in the event of flooding occurring, no additional actions would need to be undertaken to protect doorways.
- Where practical, kitchen appliances should be kept above the floor level.

- A sump pump should be considered to help manage any flood water that enters the building by pumping it out and reducing potential damage.
- Any plasterboard fitted at ground floor internally shall be placed horizontally, given the poor post-flood integrity, these sections can be removed should flooding occur.

Mitigation measures

The following mitigation measures are proposed:

1. Easy access to the first floor to be provided for safe refuge in the event of extreme flood.
2. Proposed evacuation route to be used in case of emergency due to flooding. The Flood Evacuation Route drawing is included in Appendix D.
3. NRW Flood Warning Service can be used by end users of the residential and commercial units to receive warnings regarding flood risk on site.
4. Resilience measures to be introduced, i.e., raised electrics where practical, and hard surfaced flood resilient flooring within areas susceptible to flood risk.

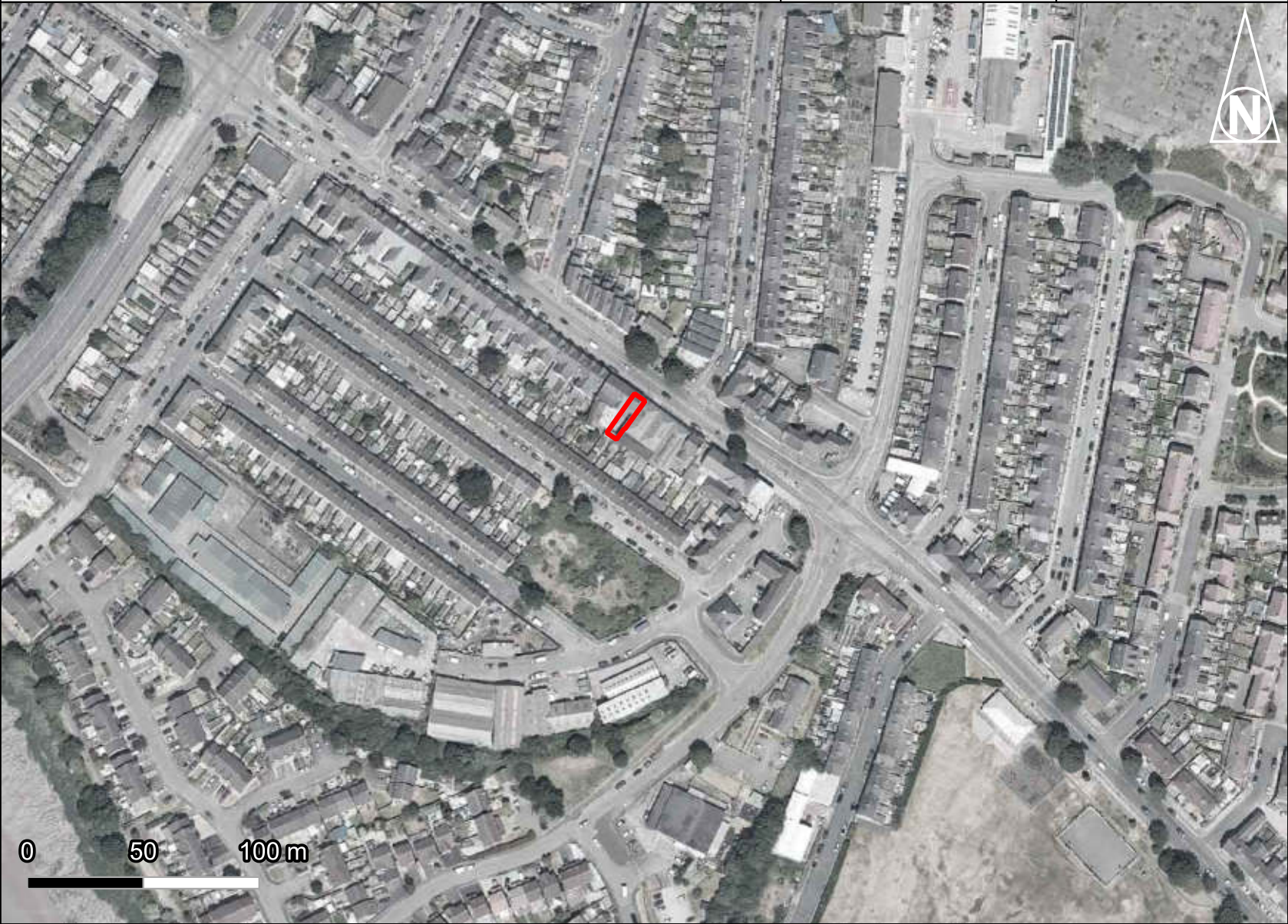
3. Conclusions

- The proposed development constitutes redevelopment comprising the change of use of the first floor from office to residential accommodation, while retaining the existing ground floor as retail and office unit. The application site covers approximately 0.011 hectares.
- Flood Map for Planning identifies the site within the TAN15 Defended Zone from the Sea, and within Flood Zone 2 and Flood Zone 3 (Sea). The site is located within Flood Zone 1 for Rivers and Flood Zone 2 for Surface Water and Small Watercourses.
- Flood levels have been derived using the Environment Agency's Coastal_Design_Sea_Levels dataset, adjusted in accordance with Flood Consequences Assessments: Climate Change Allowances. This approach provides a reasonable basis for assessing the potential flood levels for the proposed development.
- The proposed development is very unlikely to result in an increase in flooding elsewhere.
- Resilience and mitigation measures have been recommended.
- Flooding is projected to reach a level of 10.26 m AOD during the 0.1% AEP tidal event with the 95th percentile climate change allowance. This corresponds to approximately 3060 mm of flooding within the building footprint (in exceedance of the 600 mm allowable conditions threshold).
- A viable evacuation route has been proposed.

Appendix A Site Location Plan

Site Location Plan

Site Location Plan			1 in 2500 @ A4		Key Application Boundary 
Project: 2838 - Corporation Road, Newport	Address: 264 Corporation Road, Newport	OS Grid Reference: ST322878	PHG Consulting 107 Cowbridge Rd East, Cardiff CF11 9AG		



Appendix B NRW Maps

Flood Map for Planning

Flood Map for Planning

PHG Consulting
107 Cowbridge Rd East,
Cardiff
CF11 9AG



Address: 264 Corporation Road, Newport
OS Grid Reference: ST322878
Nearest Postcode: NP19 0DZ

Application Boundary

Flood Map for Planning

Rivers

Flood Zone 2

Flood Zone 3

Seas

Flood Zone 2

Flood Zone 3

Surface Water and Small Watercourses

Flood Zone 2

Flood Zone 3

TAN15 Defended Zones

Rivers

Sea

Flood Zone 2 displays the extent of flooding from:

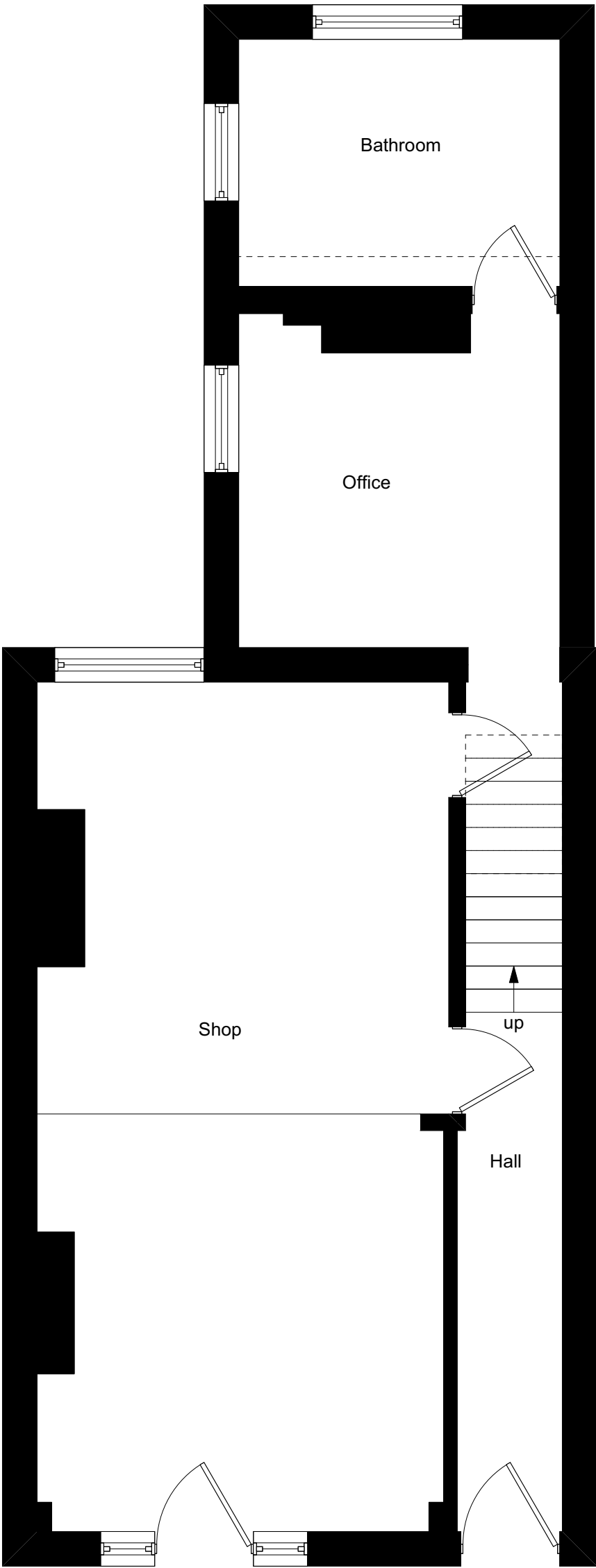
- Rivers with less than 1% (1 in 100) but greater than or equal to 0.1% (1 in 1,000) chance of happening in any given year, including an allowance for climate change.
- the Sea with less than 0.5% (1 in 200) but greater than or equal to 0.1% (1 in 1,000) chance of flooding in any given year, including an allowance for climate change.
- Surface water & small watercourses with less than 1% (1 in 100) but greater than or equal to 0.1% (1 in 1,000) chance of happening in any given year, including an allowance for climate change.

This figure is an aerial photograph of a coastal region, likely in the UK, showing a residential area in the bottom left corner and a large green field to the right. The map is overlaid with a green hatched pattern covering most of the land area, and a pink hatched pattern covering a large portion of the green field. A red rectangle is drawn on the green field, indicating a specific area of interest. A scale bar at the bottom left shows distances of 0, 100, and 200 meters. A north arrow is located in the top right corner.

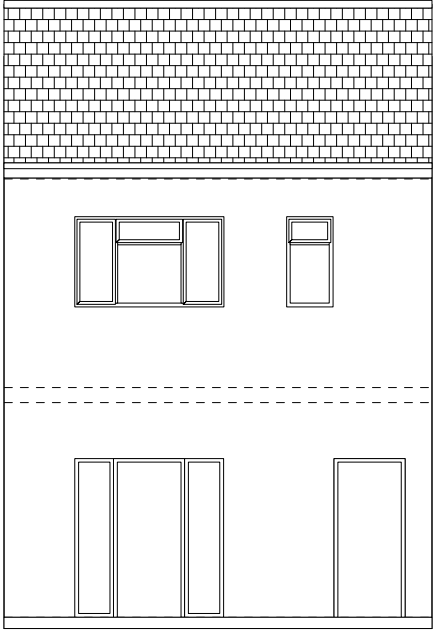
Appendix C Architect Drawings

SD1142-01 Existing.pdf

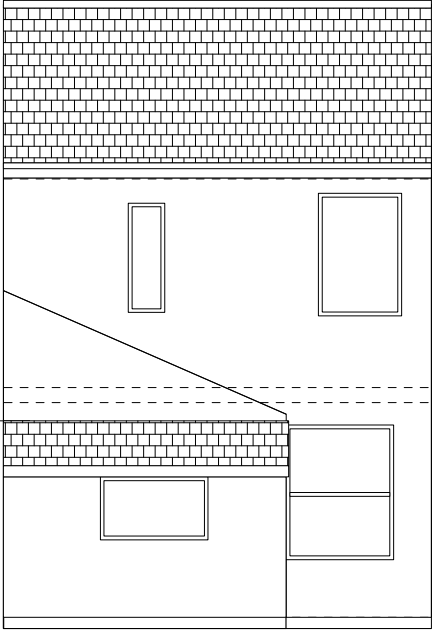
SD1142-02 Proposed.pdf



Ground Floor Plan



Front Elevation



Rear Elevation



First Floor Plan



Skerryvore Designs Ltd
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contact@skerryvoredesigns.co.uk

JOB

TITLE 264 Corporation Road,
Newport, NP19 0DZ

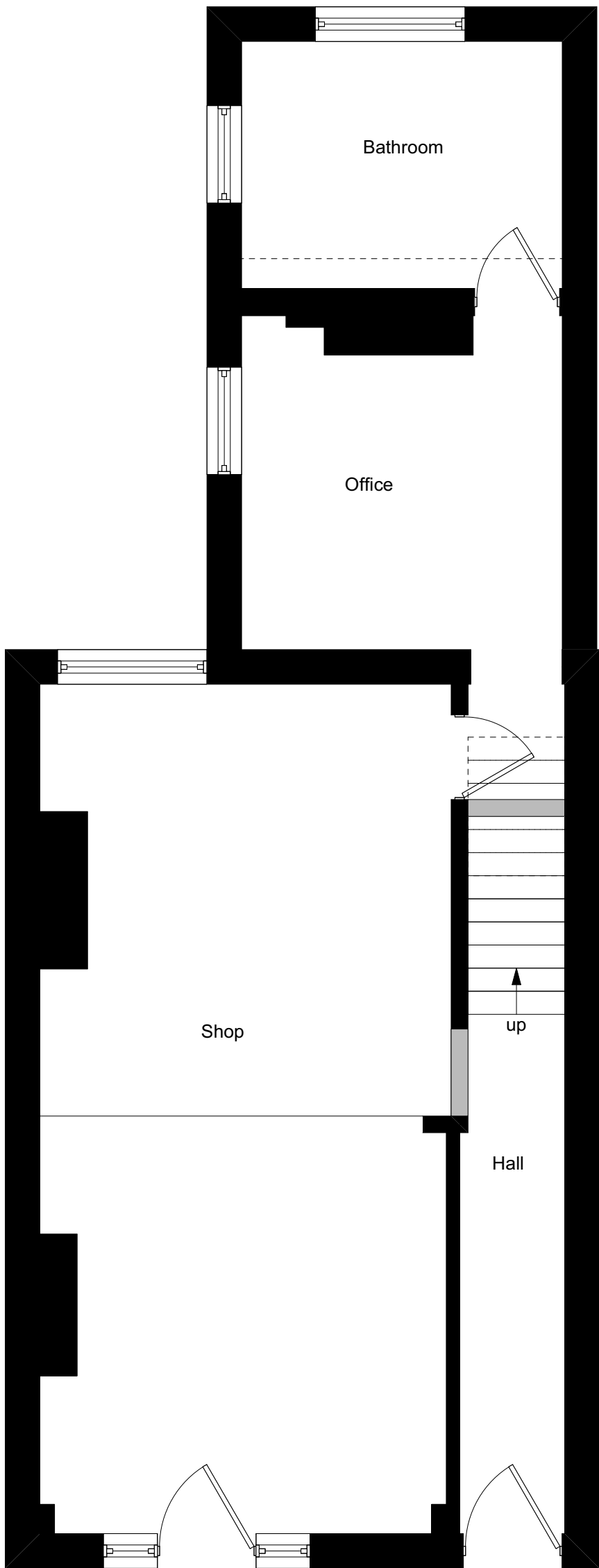
DRAWING

TITLE Existing plans
and Elevations

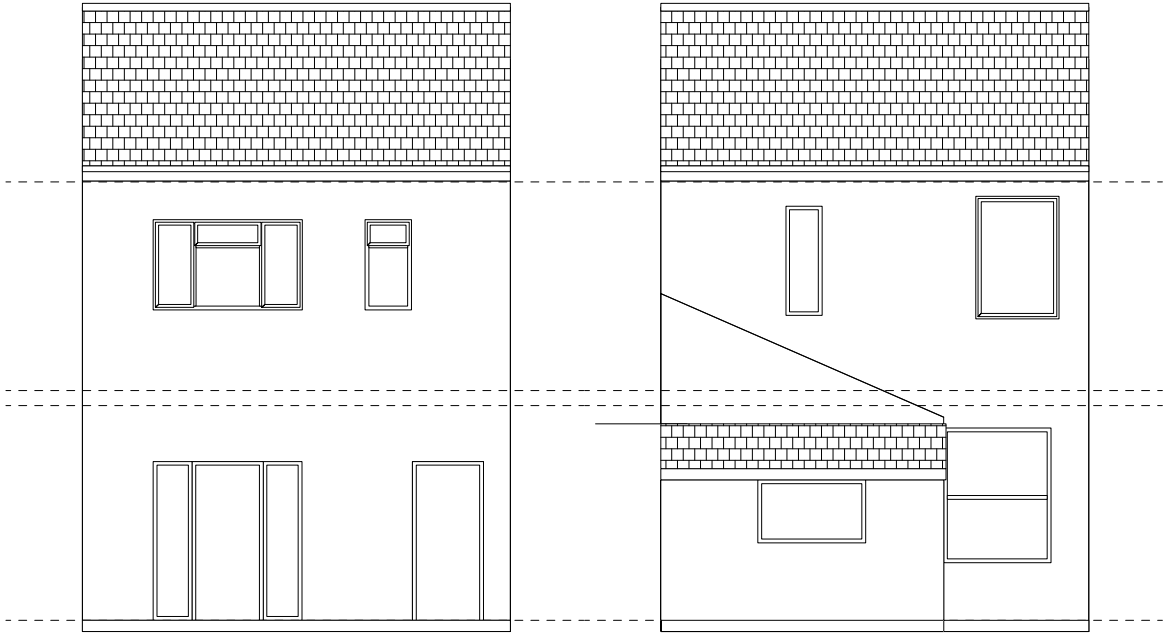
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DATE March 2026

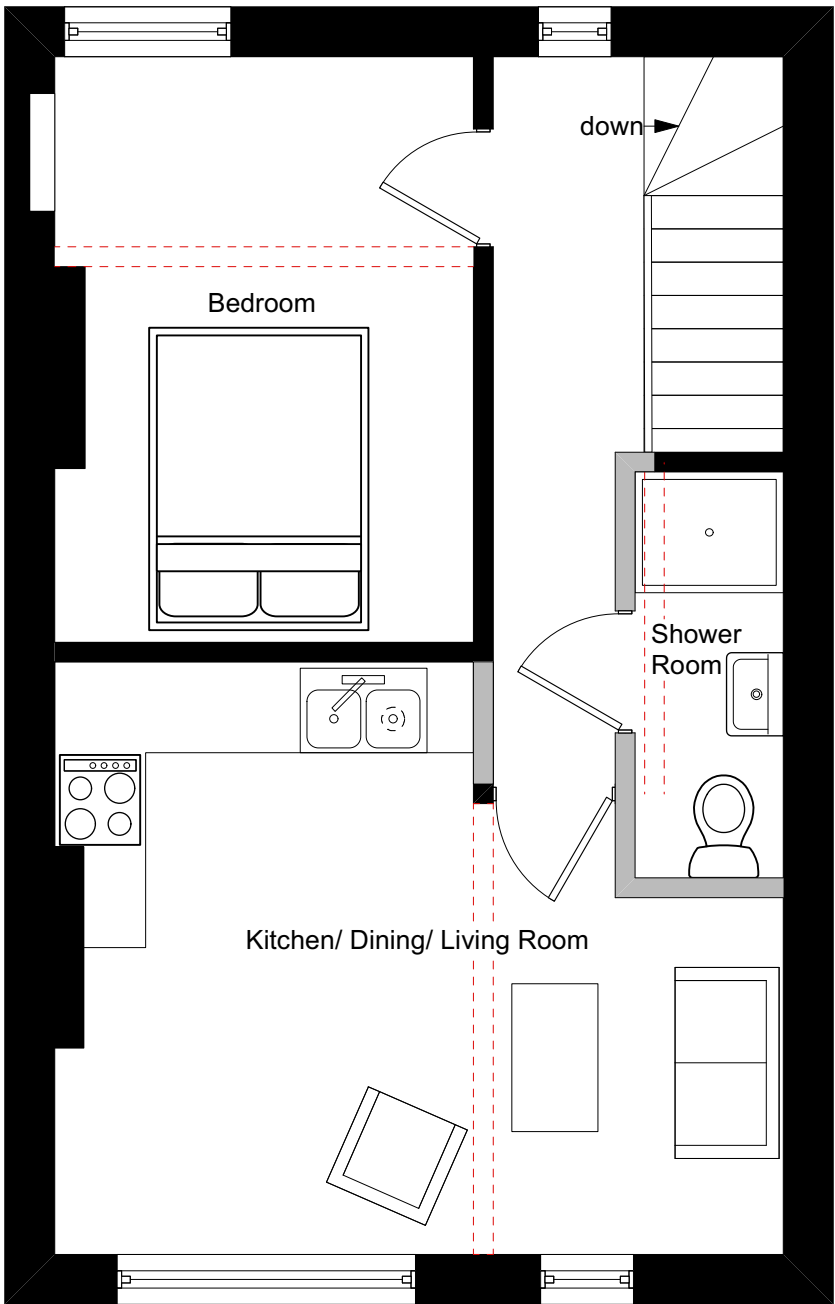


Ground Floor Plan



Front Elevation

Rear Elevation



First Floor Plan



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DRAWING

TITLE Proposed plans
and Elevations

DRAWING No. SD1142-02

SCALE 1:50/ 1:100 @ A3

DATE March 2026

Appendix D Flood Evacuation Route

FMfP and Evacuation Route

