

WATCH HOUSE

FLOOD RISK ASSESSMENT

02/06/2025

Link to application: <https://scilly.gov.uk/planning-application/planning-application-p25020hh>

Ref: P/25/020/HH

Site: Watch House, Raven's Lane, Old Grimsby, Tresco, Isles of Scilly

Proposal: Replacement of an existing single storey conservatory. Addition of a new internal wall to divide the internal area into two separate spaces, connected to the existing living area and kitchen respectively. Demolition of a small area of existing internal wall to combine the existing living room with the conservatory. Addition of a small lean-to utility room.

I. DEVELOPMENT SITE AND LOCATION

I.1 SITE LOCATION

Watch House is sited on Tresco in Old Grimsby, adjacent to Tresco Sailing Centre at Raven's Porth Sand. The house is situated on the beachfront overlooking Old Grimsby Harbour. The site lies within the Isles of Scilly AONB and Conservation Area.



Figure 1. Site Location Plan

I.2 EXISTING BUILDING USE

Watch House is a converted boathouse, used as rental accommodation for holiday makers. The building is constructed from granite, with a slate roof and a painted white east elevation facing the beach. The house has 3 bedrooms and a bunk room, accommodating 8 guests. Outside, the property has a large private garden to the southern side.



Figure 2. Watch House



Figure 3. East elevation

I.3 SUMMARY OF PROPOSALS

The proposals include the replacement of an existing single storey conservatory on the south elevation, within the footprint of the existing conservatory. The existing conservatory roof will be demolished and replaced with a new

roof and rooflights. The proposed roof is equivalent in width to the existing, with matching slate tiles. The eave will be raised in height circa 0.5m in order to increase internal head height to improve the internal space, and to allow a roof pitch of 12 degrees. The existing door, windows and low wall will be demolished and replaced with new glazed doors and windows.

Internally, a new wall will divide the conservatory into two separate spaces, connected to the kitchen and the living area respectively. A small section of existing wall currently separating the kitchen and conservatory will be demolished, and a steel beam inserted to support the structure above. This will create a larger open plan space by combining the existing kitchen and new conservatory into an open-plan living area.

A small utility room lean-to extension is proposed in the SE corner of the plot, to remove the noise and moisture associated with washing from the primary living spaces.

The alterations are vernacular in style, and respect the conservation area. The proposed materials reflect the existing building and its surroundings.

Accommodation is provided for 8 holiday makers. This will remain unchanged with the proposals.

Existing access to the plot will be unchanged.

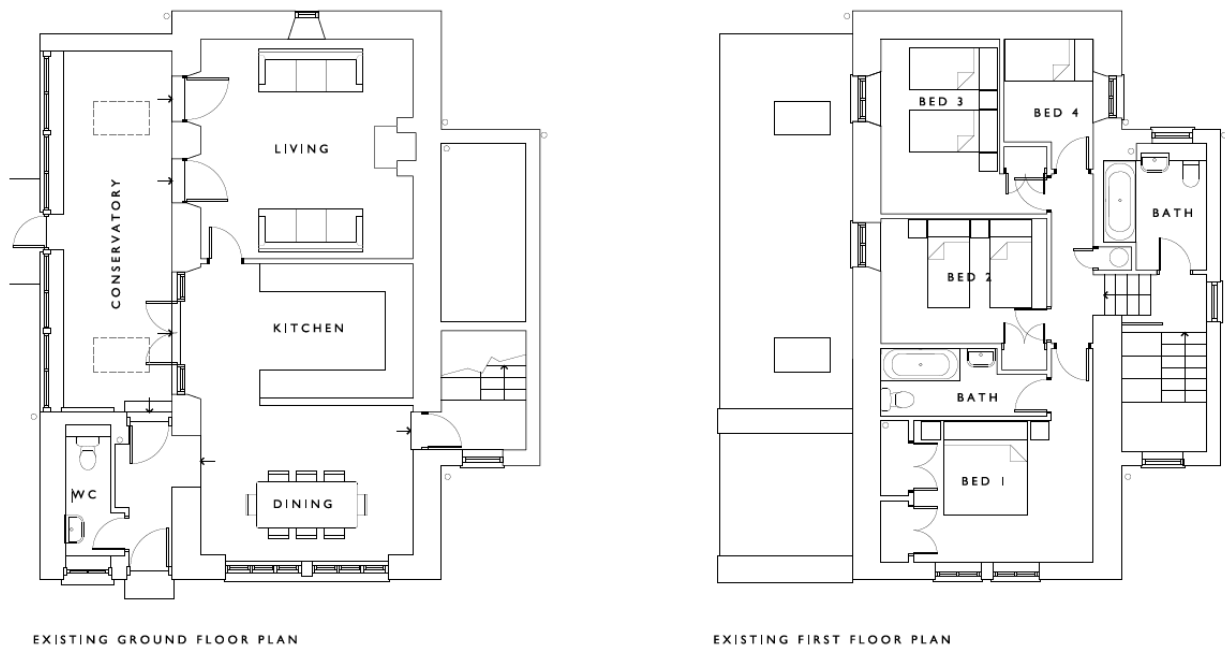


Figure 4. Existing Plans

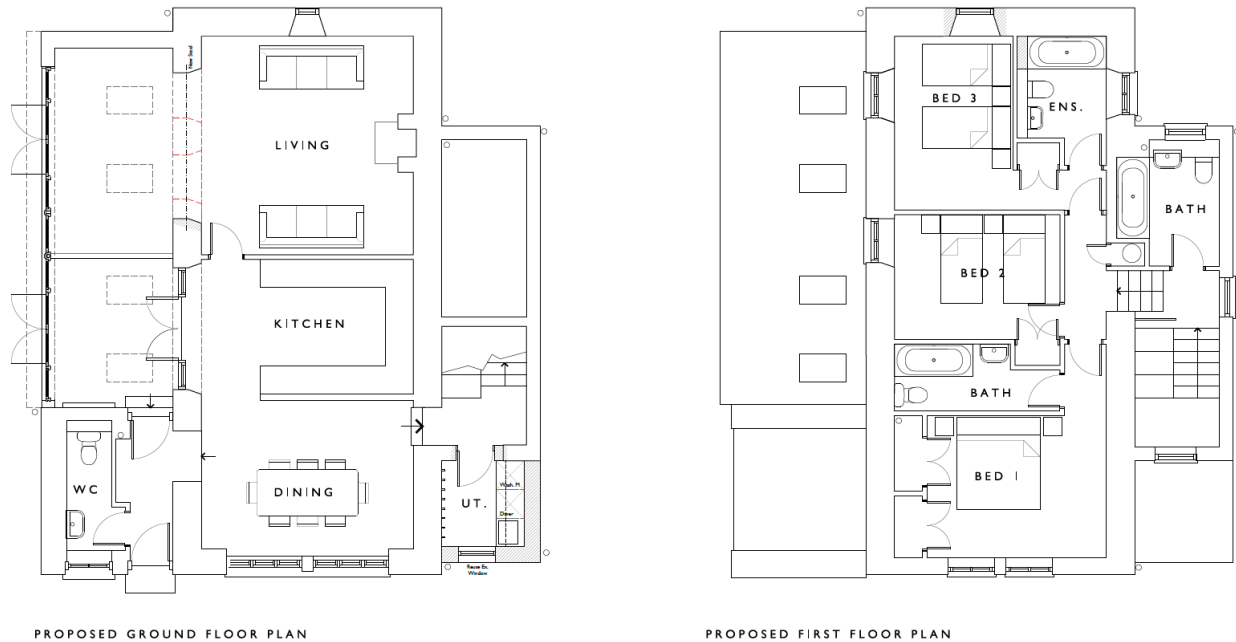


Figure 5. Proposed Plans

2. FLOOD RISK ASSESSMENT

2.1 VULNERABILITY TO FLOODING

The building is classed as 'more vulnerable' as defined by The National Planning Policy Framework's Annex 3: Flood risk vulnerability classification.

2.2 SEQUENTIAL TEST

The developments are submitted under a householder development application and are not subject to the sequential test:

'Applications for some minor development and changes of use⁶² should also not be subject to the sequential test, nor the exception test set out below, but should still meet the requirements for site-specific flood risk assessments.'

(62) This includes householder development.

(National Planning Policy Framework. 14. Meeting the challenge of climate change, flooding and coastal change, Paragraph 176.)

2.3 FLOOD ZONE

The site lies within Flood Zone 3, indicated on the Environment Agency's Flood Map for Planning (Figure 6). A flood risk assessment is therefore required.

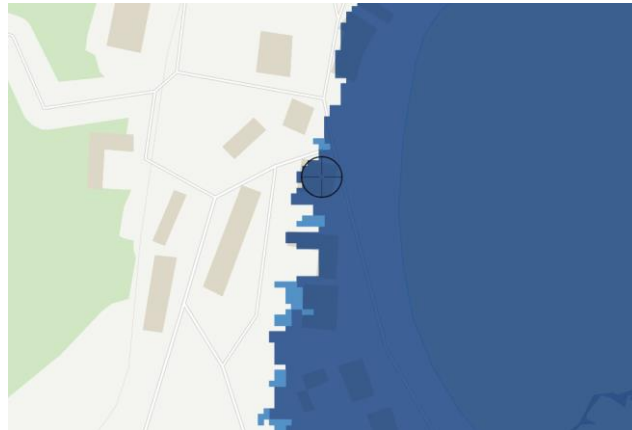
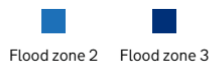


Figure 6. Flood Map for Planning, Environment Agency.

Key



2.4 PAST FLOOD EVENTS

The Isle of Scilly Local Flood Risk Management Strategy notes:

There have been no significant past local events from local sources of flooding, namely surface water and groundwater. The risk from fluvial and pluvial flooding is considered to be very low. During periods of heavy rain, water is held within the heathland areas (and some of the permanent grassland areas on St. Mary's) or runoff either feeds into wetland areas such the Higher and Lower Moor areas on St Marys' and the Great Pool area on Tresco, away from residential areas, or it finds its own way to the coast.

The Watch House is elevated approximately 4.5m above sea level. Surface water drains directly to the beach and into the sea.

2.5 SITE SPECIFIC FLOOD RISK

The Isle of Scilly Local Flood Risk Management Strategy notes:

The only significant threat of flooding to the Islands is from coastal flooding. There is the potential for coastal flooding when the tides are particularly high and if they coincide with bad weather conditions such as high winds and wave surges. Properties at or below sea level are most at risk.

2.5.1 Present day flooding from the sea

The greatest risk of flooding comes from the sea. The present day annual exceedance probability (AEP) of flooding from the sea (with defences) is 3.3% chance of flooding each year (Figure 7).

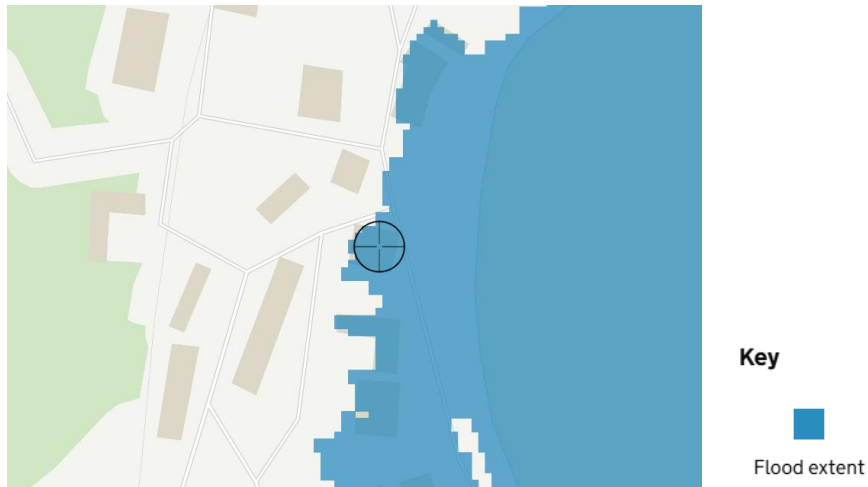


Figure 7. 3.3% AEP of flooding from the sea

2.5.3 Present day flooding from surface water

Surface water presents a lesser risk of flooding. The present day annual exceedance probability (AEP) of flooding from surface water is 0.1% each year across the site (Figure 8), increasing to 1% each year at the south east corner of the site (Figure 9).

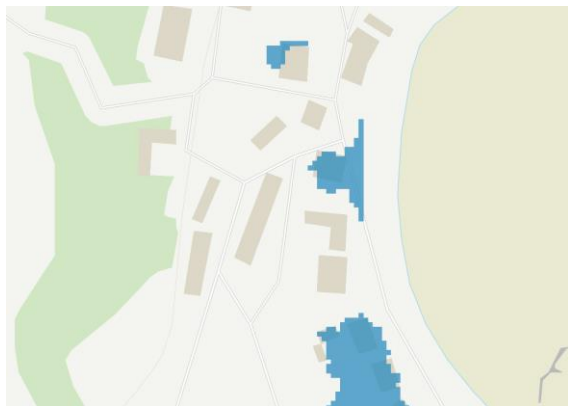


Figure 8. 0.1% AEP of flooding from surface water.

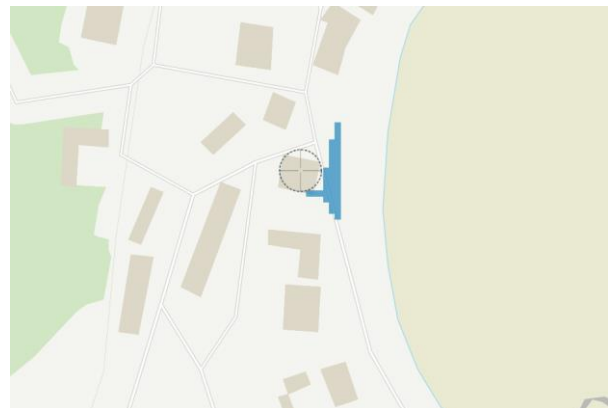


Figure 9. 1% AEP of flooding from surface water.

2.6 CLIMATE CHANGE

Climate change allowances have been taken from the Environment Agency's Flood Risk Assessment. River flooding uses the 'central' allowance, based on the 50th percentile for the 2080s epoch. Sea and tidal flooding uses the 'upper end' allowance, based on the 95th percentile for 2125.

2.6.1 Climate change flooding from the sea

The future (climate change) annual exceedance probability (AEP) of flooding with defences is 3.3% chance of flooding each year (Figure 10).

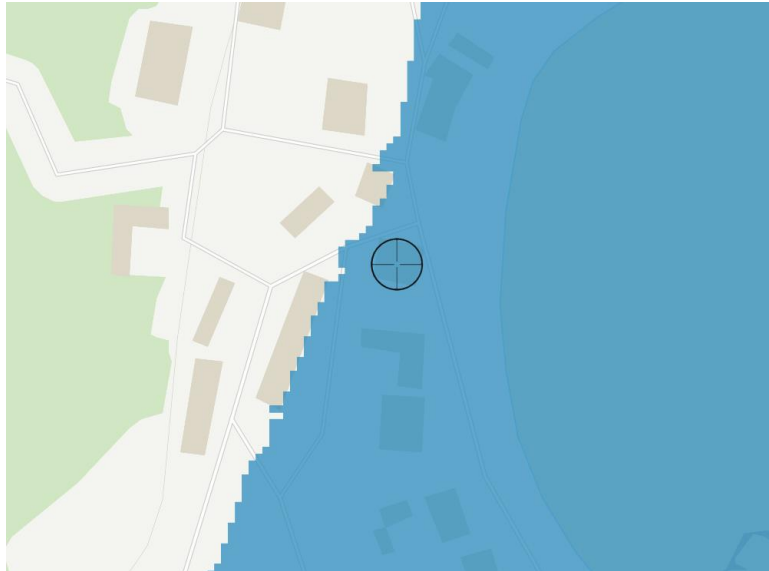


Figure 10. 3.3% future AEP of flooding from the sea.

2.7 POSSIBLE FLOOD DEPTHS FROM THE SEA

The risk of flooding is shown below using the UK Government's flood risk ratings.

High:	More than 3.3% chance of a flood each year
Medium:	Between 1% and 3.3% chance of a flood each year
Low:	Between 0.1% and 1% chance of a flood each year
Very low:	Less than 0.1% chance of a flood each year

2.7.1 Chance of flooding from the sea to 20cm

At this location there is a **Low** chance of flooding to **20cm** (Figure 11).

Between 2036 and 2069 this increases to a **High** chance of flooding to **20cm** (Figure 11).

At 20cm, flood water can get into some homes and buildings, especially if the property has a basement. At this level, water can also damage your car or cause a breakdown.

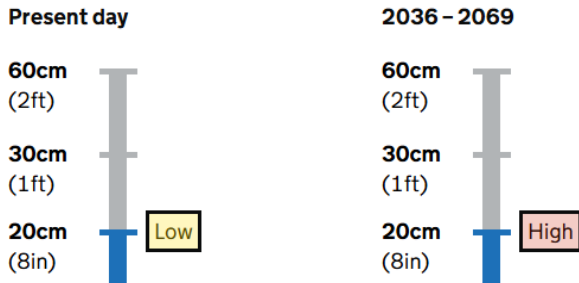


Figure 11. Chance of flooding from the sea to 20cm

2.7.2 Chance of flooding from the sea to 30cm

At this location there is a **Very low** chance of flooding to **30cm** (Figure 12).

Between 2036 and 2069 this stays at a **Very low** chance of flooding to **30cm** (Figure 12).

At 30cm, flood water can get into homes and buildings. Water at this level can also move a car, damage roads and cause major traffic disruption.

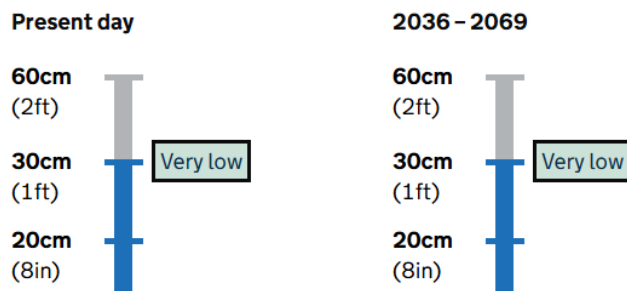


Figure 12. Chance of flooding from the sea to 30cm

2.7.3 Chance of flooding from the sea to 60cm

At this location there is a **Very low** chance of flooding to **60cm** (Figure 13).

Between 2036 and 2069 this stays at a **Very low** chance of flooding to **60cm** (Figure 13).

At 60cm, we expect flood water to get into homes and buildings. Water at this level can float most vehicles, including 4x4s.

Flood protection measures are usually effective up to 60cm. You should not try and keep flood water out of buildings if it's over 90cm. Water at this level can cause collapse or permanent structural damage.

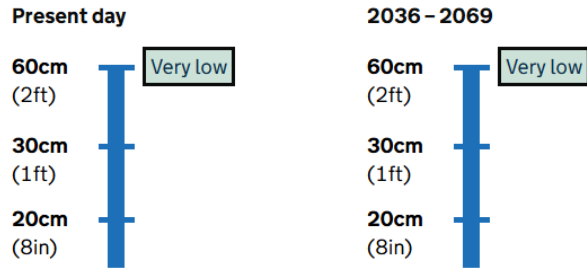


Figure 13. Chance of flooding from the sea to 36cm

2.8 POSSIBLE FLOOD DEPTHS FROM SURFACE WATER

2.8.1 Chance of flooding from surface water to 20cm

At this location there is a **Low** chance of flooding to **20cm** (Figure 14).

Between 2040 and 2060 this stays at a **Low** chance of flooding to **20cm** (Figure 14).

At 20cm, flood water can get into some homes and buildings, especially if the property has a basement. At this level, water can also damage your car or cause a breakdown.

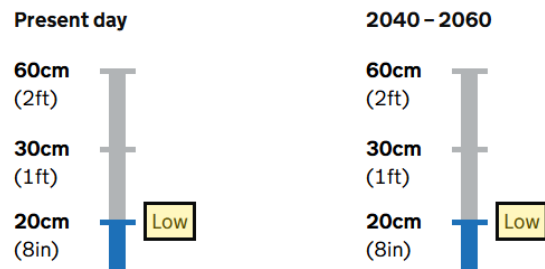


Figure 14. Chance of flooding from surface water to 20cm

2.8.2 Chance of flooding from surface water to 30cm

At this location there is a **Very low** chance of flooding to **30cm** (Figure 14).

Between 2040 and 2060 this stays at a **Very low** chance of flooding to **30cm** (Figure 14).

At 30cm, flood water can get into homes and buildings. Water at this level can also move a car, damage roads and cause major traffic disruption.

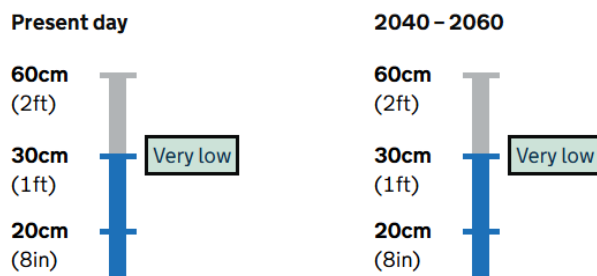


Figure 14. Chance of flooding from surface water to 30cm

2.8.3 Chance of flooding from surface water to 60cm

At this location there is a **Very low** chance of flooding to **60cm** (Figure 15).

Between 2040 and 2060 this stays at a **Very low** chance of flooding to **60cm** (Figure 15).

At 60cm, we expect flood water to get into homes and buildings. Water at this level can float most vehicles, including 4x4s.

Flood protection measures are usually effective up to 60cm. You should not try and keep flood water out of buildings if it's over 90cm. Water at this level can cause collapse or permanent structural damage.

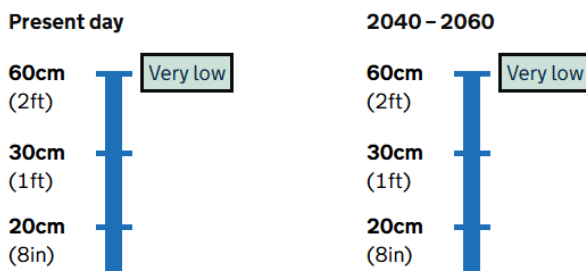


Figure 15. Chance of flooding from surface water to 60cm

2.9 OTHER SOURCES OF FLOODING

The Isles of Scilly Local Flood Risk Management Strategy outlines the Preliminary Flood Risk Assessment (JBA Consulting, 2011) completed as part of the duties established under the Flood Risk Regulations 2009 and Flood and Water Management Act 2010 for managing local flood risk. This involved a review of past floods and the potential for future floods as well as determining and reviewing the presence of any “areas of significant flood risk”. No Flood Risk Areas were proposed as a result of that study and the Preliminary Flood Risk Assessment confirmed;

- There are no ordinary watercourses or main rivers on the Isles of Scilly
- There are no flood maps for fluvial flood risk
- There have been no significant past flood events from local sources (Ordinary Watercourse, Groundwater or Surface Water).

2.9.1 River (Fluvial) Flooding

Risk from fluvial flooding is not applicable as there are no ordinary water courses or main rivers on the Isles of Scilly.

2.9.2 Reservoirs

There are no water reservoirs on the Isles of Scilly of sufficient size to pose a significant flood risk, all being considerably below the risk threshold of 25,000 cubic metres of water above natural ground level.

3. MANAGING FLOOD RISK

3.1 PRINCIPLE ACTIONS

The Isles of Scilly Local Flood Risk Management Strategy outlines the following principal actions of owners of property at risk of flooding or which is flooded:

- Prepare a personal emergency plan.
- Move to a safe area if life is at risk.
- Prevent water from entering property if possible.
- Switch off electricity and gas at supply.
- Move valuable possessions above floor areas liable to be flooded.

3.2 FLOOD RISK MANAGEMENT STRATEGY

A flood risk management strategy is illustrated in figures 16 and 17.

3.2.1 Surface water

Rainwater (and stormwater) on the south side of the property is discharged to a soakaway beneath the lawn. This will remain unchanged with the proposals.

Rainwater (and stormwater) to the north side of the property discharges onto a concrete surface which slopes away from the property and drains directly towards the sea. The proposed utility extension will be located on this part of the site.

The proposed extension replaces an existing section of the impermeable concrete road apron, there is consequently no increase in impermeable surface area, and the discharge of water will continue as existing. There is no change to rain water management with the new proposals.

3.2.2 Floor levels

The existing stair hall floor, and the new utility extension floor, will be constructed at +4.68m AOD, this is 360mm above the existing ground floor level. The flood risk assessment in section 2 shows a **very low** chance of flooding **above 300mm** from the sea between the present day and 2069, and a **very low** chance of flooding **to 300mm** from surface water between the present day and 2060.

The conservatory floor level will remain unchanged from the extant condition.

3.2.3 Electrics

New electric services to the utility extension will be distributed through the ceiling void to mitigate against damage in the event of a flood. New electrics would be positioned at least 450mm above finished floor level to provide resilience in case of flooding.

3.2.4 Hydrophilic stopping

Hydrophilic water stops will be installed at masonry abutments between the new utility extension and the existing building to provide resilience against water ingress in the event of a flood.

3.2.5 Foul drainage

Existing foul water drains to a man hole to the north of the building. This will remain unchanged with the proposals.

3.2.5 Means of escape

Existing means of escape uphill is via the conservatory doors. This will remain unchanged with the proposals.

3.2.6 Primary entrance

The existing primary entrance is on the east elevation. This will remain unchanged with the proposals.

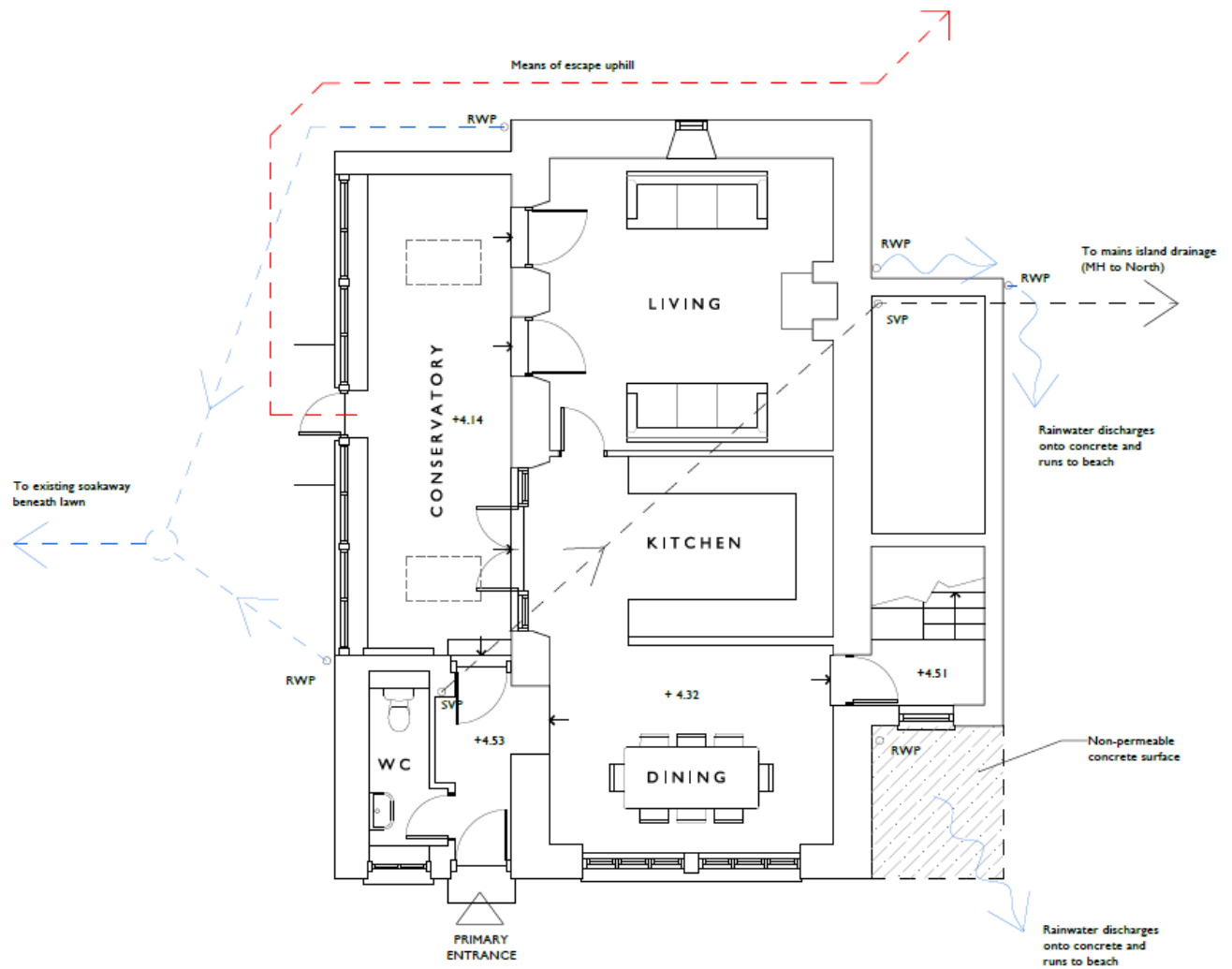


Figure 16. Existing flood risk management strategy (ground floor plan)

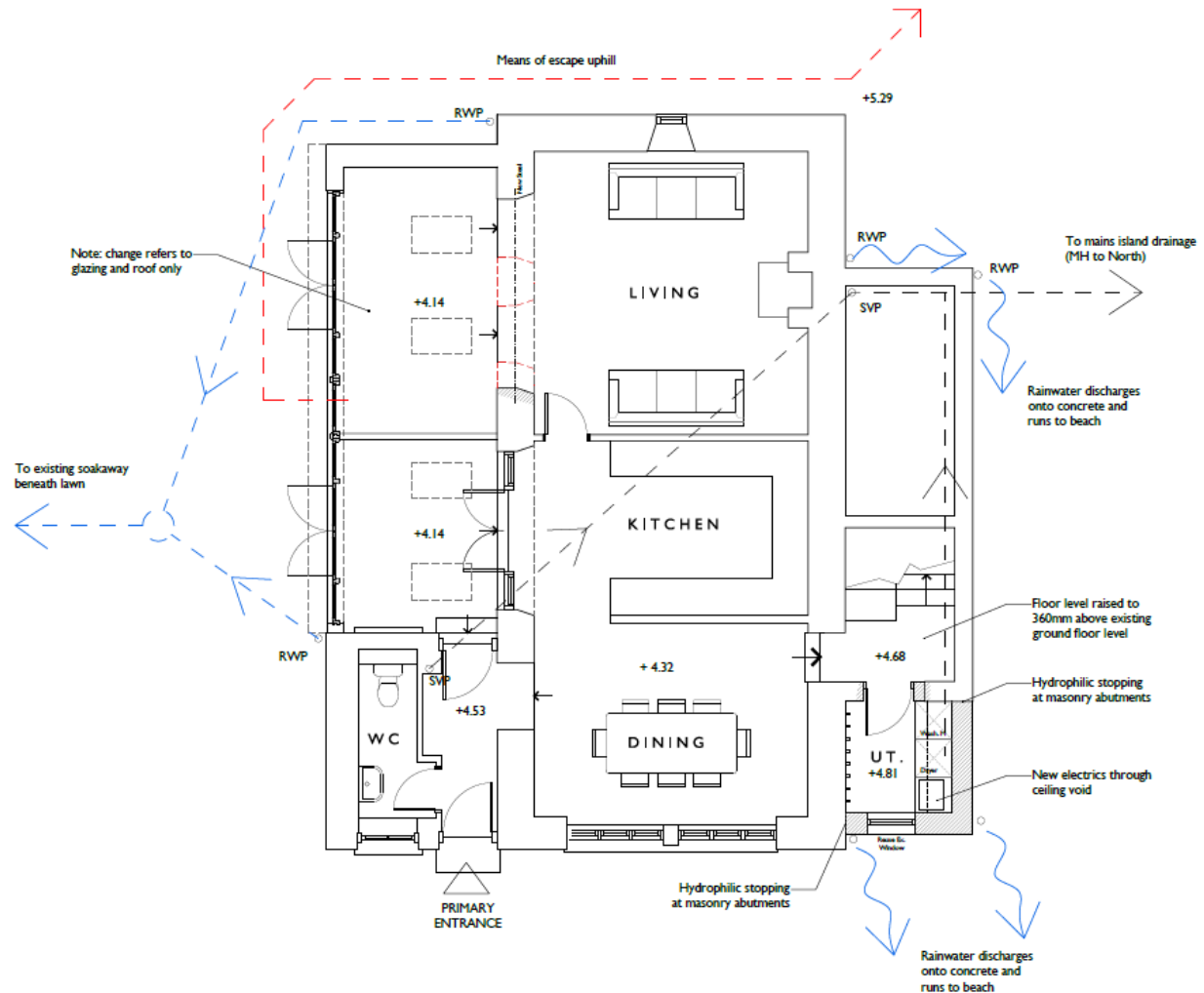


Figure 17. Proposed flood risk management strategy (ground floor plan)

4. CONCLUSION

The proposals to the conservatory result in no impact to the chance of present or future flooding from either the sea or surface water.

The proposed utility extension floor level is 360mm above the existing ground floor level. There is a very low chance of flooding above 300mm from the sea between the present day at 2069, and a very low chance of flooding above 300mm from surface water between the present day and 2060.

There is no material change in the provision for rain water management, foul water management, access, or means of escape with the proposals. Occupancy of the dwelling remains unchanged at 8no. guests.

In the unlikely event of flooding (very low chance), mitigation measures include hydrophilic water stops at new masonry abutments to prevent water ingress, and electrics installed at high level to prevent damage.

Due to the modest scale of the proposals and the implementation of appropriate resilience and drainage measures as detailed above, this minor development would have no impact on the flood risk to The Watch House in comparison to the existing condition.