Issue ID	Description	No. of Credits Available	Mandatory Elements
Sur 2	Flood Risk	2	No

Aim

To promote housing development in low *flood risk* areas, or to take measures to reduce the impact of flooding on houses built in areas with a medium or high risk of flooding.

Assessment Criteria*

Criteria	Credits
EITHER Two credits are available for developments situated in Zone 1 – *low annual probability of flooding* (as defined in PPS25 *Development and Flood Risk*) and where the site-specific *Flood Risk Assessment (FRA)* indicates that there is low risk of flooding from all sources.	2
OR One credit is available for developments situated in Zones 2 and 3a – *medium* and *high annual probability of flooding* where the finished ground floor level of all habitable parts of dwellings and access routes to the ground level and the site, are placed at least 600 mm above the *design flood level* of the *flood zone*. The Flood Risk Assessment accompanying the planning application must demonstrate to the satisfaction of the local planning authority and statutory body that the development is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any *residual risk* can be safely managed.	1
Default Cases None	

* Supplementary guidance will be published by the Welsh Assembly Government to reflect planning policy and practice in Wales. The guidance which will not materially affect the aims and objectives of the Surface Water Run Off requirements of the Code, will be based on Technical Advice Note 15 (TAN 15) which supplements Planning Policy Wales, and surface management techniques currently in force in Wales.

Information Required to Demonstrate Compliance

<table>
<tr><th colspan="2">Schedule of Evidence Required</th></tr>
<tr><th>Design Stage</th><th>Post Construction Stage</th></tr>
<tr><td>For developments situated in Zone 1:

• A Flood Risk Assessment (prepared according to good practice guidance as outlined in PPS25 Development and Flood Risk) which shows that there is a low risk of flooding from all sources.</td><td rowspan="2">Written confirmation from the developer that the evidence submitted at the design stage has not changed

OR

Where different from the design stage, provide evidence (as listed for the design stage) representing the dwellings as built

OR

When at post construction stage assessment only, provide evidence (as listed for the design stage) representing the dwellings as built.</td></tr>
<tr><td>For medium (Zone 2) or high (Zone 3a) flood risk areas:

• A Flood Risk Assessment (prepared according to good practice guidance as outlined in PPS25 Development and Flood Risk) which shows there is a medium or high risk of flooding

AND

• Site plans indicating the design flood level, the range of ground levels of the dwellings, car parking areas and site access (lowest to highest), showing that the criteria (finished floor levels of all habitable rooms and access routes being at least 600 mm above the design flood level) are met, along with any notes explaining the function of any areas lying below the design flood level

AND

• Confirmation from the local planning authority that the development complies with PPS25 and is appropriately flood resilient and resistant, and has managed any residual risk safely.</td></tr>
</table>

Where the site is under the protection of flood defences and the flood risk category of the site is reduced: • Written confirmation from the Environment Agency of the reduction in flood risk category *. *Note: There are many defences, owned by third parties, which, owing to their location, act as a defence by default, e.g. motorway and railway embankments, walls. Confirmation is required that these defences will remain in place for the lifetime of the development if a significant risk is predicted.	Where more than five years have passed since the Flood Risk Assessment was carried out: • Confirmation that the basis of the Flood Risk Assessment has not changed.

Definitions

Design flood level

The maximum estimated water level during the design storm event. A site's design flood level can be determined through known historical data or modelled for the specific site.

Flood probability

The estimated probability of a flood of given magnitude occurring or being exceeded in any specified time period. For example, the 100-year flood has a 1% chance of occurring in any given year.

Flood protection measures

This covers the range of flood protection measures which can be employed to protect individual dwellings and developments from the effects of flooding.

Flood resilient construction

Buildings that are designed to reduce the consequences of flooding and facilitate recovery from the effects of flooding sooner than conventional buildings.

Flood resistant construction

Buildings that prevent the entry of water or minimise the amount of water that may enter a building where there is flooding outside.

Flood Risk Assessment (FRA)

A study to assess the risk of a site flooding and the impact that any changes or development on the site will have on flood risk on the site and elsewhere. A flood risk assessment must be prepared according to good practice guidance as outlined in PPS25 *Development and Flood Risk: Practice Guide* (available from www.communities.gov.uk).

For developments of less than 1 ha (10,000 m²), the level of detail required in an acceptable FRA (for Sur 1) will depend on the size and density of build. This will range from a brief report for small, low-density developments, to a more detailed assessment for a high-density development of 2000–10,000 m². For example, for very small developments (2000 m² and less), an acceptable FRA could be a brief report carried out by the contractor's engineer confirming the risk of flooding from all *sources of flooding*, including information obtained from the Environment Agency, water company/sewerage undertaker, other relevant statutory authorities, site investigation and local knowledge.

Flood zones – PPS25

These zones relate to flooding from the sea and rivers only and do not take into account flood defences. These are defined in PPS25.

Zone 1: Low annual probability of flooding

Zone 2: Medium annual probability of flooding

Zone 3a: High annual probability of flooding

Zone 3b: Functional flood plain (where water is stored in times of flood)

Functional flood plain (Zone 3b)

This land is where water flows or is stored in times of flood.

High annual probability of flooding (Zone 3a)

An area where the chance of river flooding in any year is >1% (1 in 100) and the chance of flooding from the sea is >0.5% (1 in 200) or greater.

Low annual probability of flooding (Zone 1)

An area where the chance of both river and sea flooding each year is <0.1% (1 in 1000) or less.

Medium annual probability of flooding (Zone 2)

An area where the chance of river flooding in any year is 1% (1 in 100) or less but greater than 0.1% (1 in 1000), and the chance of flooding from the sea is 0.5% – 0.1% (between 1 in 200 and 1 in 1000).

Residual risk

The risk which remains after all risk avoidance, reduction and mitigation measures have been implemented.

Sources of flooding and flood risk

Streams and Rivers: Flooding that can take place from flows that are not contained within the channel due to high levels of rainfall in the catchment.

Coastal or Estuarine: Flooding that can occur from the sea due to a particularly high tide or surge, or combination of both.

Groundwater: Where the water table rises to such a height where flooding occurs. Most common in low-lying areas underlain by permeable rock (aquifers), usually due to extended periods of wet weather.

Sewers and highway drains: Combined, foul or surface water sewers and highway drains that are temporarily over-loaded due to excessive rainfall or due to blockage.

Surface water: The net rainfall falling on a surface (on or off the site) which acts as runoff which has not infiltrated into the ground or entered into a drainage system.

Infrastructure failure: Canals, reservoirs, industrial processes, burst water mains, blocked sewers or failed pumping stations.

Assessment Methodology

The assessment criteria should be read with the methodology and the definitions in this section. Credits are awarded where the performance requirements (set out in the assessment criteria table) have been met.

Design Stage

- The assessor should confirm that a Flood Risk Assessment has been carried out. This is necessary to ensure that other *sources of flooding* (other than river and sea) are also a low risk. For small developments in low flood risk areas, this will be a relatively brief report.
- If the development is in Zone 1 and the Flood Risk Assessment shows low risk overall, two credits can be awarded. It should be noted that the flood map accessible from the Environment Agency website gives only a rough estimation of flood risk and is not used for planning submission. A Flood Risk Assessment requires contact with the local planning authority to discuss the site, and benefit from the information available.
- If the development is in Zone 2 or 3a, the assessor should check that the Flood Risk Assessment submitted with the planning application has demonstrated to the relevant authorities that the development is appropriately designed, as detailed in the criteria. If the evidence shows that the finished floor levels and

all access routes comply with the criteria and any residual risks can be safely managed, one credit can be awarded.

Post Construction Stage

- For developments in Zone 1, the assessor should simply check that the Flood Risk Assessment submitted at the design stage (or, if no design stage report was completed, the Flood Risk Assessment used to gain planning consent) still represents an accurate assessment of flood risk. Whilst this can be assumed in most cases, some sites can take 10 years to build out and during this time many factors can change. Where the time lapse since the original report is more than five years, or does not include an allowance for climate change, ask the consultant to confirm that the basis on which the design was completed has not changed.
- For developments in Zones 2 and 3a, the assessor should check the Flood Risk Assessment as above and ensure that the as-built plans confirm the correct levels of the floors and access routes above the design flood levels.
- Where applicable, check that the specified *flood protection measures* have been designed and built according to the consultant's recommendations.

Calculation Procedures

None.

Common Cases of Non-Compliance

Credits cannot be awarded where the assessed development has proceeded against the recommendation of the Environment Agency on the basis that the flooding implications are too great.

Credits will also be withheld if flood defence schemes considered for this issue would reduce the performance of *functional flood plains* elsewhere.

Special Cases

A site's flood risk may be downgraded to a lower flood risk category as a result of flood defence installations. This may occur in the following circumstances:

[1] Where permanent new flood defences are planned* to minimise the risk of flooding to the site and its locality.

* Mentioned in formal planning documents with budgets allocated.

OR