

Appendix D – EA Guidance Notes

‘Thames Area Climate Change Allowances – Guidance for their use in Flood Risk Assessments’ (August 2016)

‘Thames Guidance Statement – Safe access/egress for LPAs’ (August 2016)

Thames Area Climate Change Allowances

Guidance for their use in flood risk assessments

August 2016

We recently updated our national guidance on climate change allowances for Flood Risk Assessments. This document should be used together with that guidance to inform developments within our Thames area boundary.

Climate change allowances - overview

The government's Planning Practice Guidance refers planners, developers and advisors to the Environment Agency to our guidance on considering climate change in Flood Risk Assessments. We updated this guidance in February 2016 and it should be read in conjunction with this document to inform planning applications, local plans, neighbourhood plans and other projects. It provides:

- Climate change allowances for peak river flow, peak rainfall, sea level rise, wind speed and wave height
- A range of allowances to assess fluvial flooding, rather than a single national allowance
- Advice on which allowances to use for assessments based on vulnerability classification, flood zone and development lifetime

Updated climate change allowances guidance:

<https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>

Planning Practice Guidance:

<http://planningguidance.communities.gov.uk/>

Assessing climate change impacts on fluvial flooding

Table A below indicates the level of technical assessment of climate change impacts on fluvial flooding appropriate for new developments depending on their scale and location (flood zone). Please note that this should be used as a guide only.

Ultimately, the agreed approach should be based on expert local knowledge of flood risk conditions, local sensitivities and other influences. For these reasons we recommend that applicants and consultants contact the Environment Agency at the pre-planning application stage to confirm the assessment approach on a case-by-case basis.

Table A defines three possible approaches to account for flood risk impacts due to climate change in new development proposals:

1. **Basic**

Developer can add an allowance to the 'design flood' (i.e. 1% annual probability) peak levels to account for potential climate change impacts. The allowance should be derived and agreed locally by Environment Agency teams.

2. **Intermediate**

Developer can use existing modelled flood and flow data to construct a stage-discharge rating curve, which can be used to interpolate a flood level based on the required peak flow allowance to apply to the 'design flood' flow.

3. **Detailed**

Perform detailed hydraulic modelling, through either re-running Environment Agency hydraulic models (if available) or construction of a new model by the developer.

Table A – Indicative guide to assessment approach

Vulnerability classification	Flood zone	Assessment by development type		
		Minor	Small-Major	Large-Major
Essential infrastructure	Zone 2	Detailed		
	Zone 3a	Detailed		
	Zone 3b	Detailed		
Highly vulnerable	Zone 2	Intermediate/Basic	Intermediate/Basic	Detailed
	Zone 3a	Not appropriate development		
	Zone 3b	Not appropriate development		
More vulnerable	Zone 2	Basic	Basic	Intermediate/Basic
	Zone 3a	Basic	Detailed	Detailed
	Zone 3b	Not appropriate development		
Less vulnerable	Zone 2	Basic	Basic	Intermediate/Basic
	Zone 3a	Basic	Basic	Detailed
	Zone 3b	Not appropriate development		
Water compatible	Zone 2	None		
	Zone 3a	Intermediate/Basic		
	Zone 3b	Detailed		

Definitions of terms in Table A

Minor

1-9 dwellings/less than 0.5 ha; office/light industrial under 1ha; general industrial under 1 ha; retail under 1 ha; travelling community site between 0 and 9 pitches.

Small-Major

10 to 30 dwellings; office/light industrial 1ha to 5ha; general industrial 1ha to 5ha; retail over 1ha to 5ha; travelling community site over 10 to 30 pitches.

Large-Major

30+ dwellings; office; light industrial 5ha+; general industrial 5ha+; retail 5ha+; gypsy/traveller site over 30+ pitches; any other development that creates a non-residential building or development over 1000 sqm.

Further info on vulnerability classifications:

<http://planningguidance.communities.gov.uk/blog/guidance/flood-risk-and-coastal-change/flood-zone-and-flood-risk-tables/table-2-flood-risk-vulnerability-classification/>

Further info on flood zones:

<http://planningguidance.communities.gov.uk/blog/guidance/flood-risk-and-coastal-change/flood-zone-and-flood-risk-tables/table-2-flood-risk-vulnerability-classification/>

Specific local considerations

Where the Environment Agency and the applicant or their consultant has agreed that a basic level of assessment is appropriate, the figures in Table B below can be used as an allowance for potential climate change impacts on peak design (i.e. 1% annual probability) fluvial flood level rather than undertaking detailed modelling.

Table B – Local allowances for potential climate change impacts

Watercourse	Central	Higher central	Upper
Thames	500mm	700mm	1000mm

Use of these allowances will only be accepted after discussion with the Environment Agency.

Fluvial food risk mitigation

Please use the [national guidance](#) to find out which allowances to use to assess the impact of climate change on flood risk.

For planning consultations where we are a statutory consultee and our [Flood Risk Standing Advice](#) does not apply, we use the following benchmarks to inform flood risk mitigation for different vulnerability classifications.

These benchmarks are a guide only. We strongly recommend you contact us at the pre-planning application stage to confirm this on a case-by-case basis.

Please note you may be charged for pre-planning advice. For planning consultations where we are not a statutory consultee or where our Flood Risk Standing Advice does apply, we recommend local planning authorities and developers use these benchmarks but we do not expect to be consulted.

Essential Infrastructure

For these developments, our benchmark for flood risk mitigation is for it to be designed to the **upper end** climate change allowance for the epoch that most closely represents the lifetime of the development, including decommissioning.

Highly Vulnerable

For these developments in flood zone 2, the **higher central** climate change allowance is our minimum benchmark for flood risk mitigation. In sensitive locations it may be necessary to use the **upper end** allowance.

More Vulnerable

For these developments in flood zone 2, the **central** climate change allowance is our minimum benchmark for flood risk mitigation. In flood zone 3 the **higher central** climate change allowance is our minimum benchmark for flood risk mitigation. In sensitive locations it may be necessary to use the **higher central** (in flood zone 2) and the **upper end** allowance (in flood zone 3).

Water Compatible or Less Vulnerable

For these developments, the **central** climate change allowance for the epoch that most closely represents the lifetime of the development is our minimum benchmark for flood risk mitigation. In sensitive locations it may be necessary to use the **higher central** to inform built in resilience, particularly in flood zone 3.

Further info on our Flood Risk Standing Advice:

<https://www.gov.uk/guidance/flood-risk-assessment-local-planning-authorities>

There may be circumstances where local evidence supports the use of other data or allowances. Where you think this is the case we may want to check this data and how you propose to use it.

For more information

Please contact our Thames area Customers and Engagement team:

WTEquiries@environment-agency.gov.uk



The applicant should demonstrate that a safe access and egress route with a 'very low' hazard rating in accordance with the 'Framework and Guidance for Assessing and Managing Flood Risk for New Development' (FD2320/TR2) and the National Planning Policy Framework (NPPF) can be provided from the development to an area wholly outside of the 1% annual exceedance probability (AEP) plus an appropriate allowance for climate change flood extent. Any other classification of route, for example 'danger for some' or 'danger for most', will place future occupants of the development, including vulnerable people, at risk from potential flood water depths and flows. Vulnerable occupants include children, the infirm and the elderly. Where this cannot be achieved there will be an increased burden placed on your authority, the emergency services and other associated parties during times of flood.

It should be noted that during a prolonged flood event, safe refuge in the development may not be suitable due to lack of supplies (i.e. fresh drinking water and food), power supply or sanitary provision and these issues should be considered. Generally in previous flood events some foul sewage networks have not been functioning correctly due to capacity issues and/or their outlets/pumping stations being offline.

All local authorities are 'category one responders' under the Civil Contingencies Act. As you know this means you must have plans in place to respond to emergencies, and control or reduce the impact of an emergency. The approval of development within flood risk areas increases this future burden on your authority.

Therefore, it is essential that a safe route of access and egress can be provided and maintained during flood events up to and including the 1% AEP plus an allowance for climate change flood event. If a safe route cannot be provided your authority should consider refusing the application in accordance with paragraph 103 of the NPPF and your local flood risk planning policy. Please note, safe access and egress applies to all forms of development and not solely those which are required to pass the exception test.

Where a route with a 'very low' hazard rating is not possible the local authority may deem an evacuation plan a suitable approach to mitigate the risk posed. Paragraph ID 7-057-20140306 of the National Planning Practice Guidance (NPPG) states that those proposing developments should take advice from

the emergency services when producing an evacuation plan for the development as part of the flood risk assessment.

However, this is for you the Local Planning Authority (LPA) to assess and determine. If this option is proposed you should be satisfied that the hazards associated with the proposed development can be managed for its' lifetime. Additionally you must accept any increased burden, including any financial or other resourcing matters, on the emergency services.

The Environment Agency does not comment on or approve the adequacy of flood emergency response procedures accompanying development proposals, as we do not carry out these roles during a flood. Our involvement with this development during an emergency will be limited to delivering flood warnings to occupants/users covered by our flood warning network.