



Development in Flood Zone 3 - where the flood zone is generated by an 'ordinary watercourse'¹

Process: Formal EA response for Green Box on the local matrix = 'LPA to use the advice below'.

This standing advice applies to applications, in Flood Zone 3, where the provision of '**less vulnerable**' and '**water compatible**'² building(s) footprint (**or change of use**) is **less than 1000m²** and **proposals (including change of use) for less than 10 dwellings/caravan or camping pitches.**

However, it excludes 'essential' and 'highly vulnerable' developments; and the following 'more vulnerable' development types: Hospitals, Residential Institutions (including student halls of residence) and hazardous waste management sites.

These and larger scale applications would still be subject to 'Red Box' consultation.

ADVICE NOTE: We suggest consultation with your Lead Local Flood Authority (LLFA) and/or Local Land Drainage section, to provide information/data to support the production of the Flood Risk Assessment (FRA).

Fluvial risk - There may be information within your Preliminary FRA, Strategic FRA, including data on ordinary watercourses/historical flooding.

Other sources of flooding that may affect the site now or in the future including surface water may also be relevant.

Works affecting an Ordinary Watercourse may require consent from the LLFA or your local IDB. This consenting role ceased to be a responsibility of the Environment Agency in April 2012.

Requirement for a Sequential Test: Prior to investing resources in completing a detailed FRA, it is recommended that applicants are advised to contact the Local Planning Authority (LPA) and discuss how the flood risk Sequential Test (ST), as set out in the National Planning Policy Framework (NPPF) and its accompanying National Planning Practice Guidance (NPPG), will affect the proposed development. It is possible that the development will be inappropriate and be refused planning permission irrespective of any detailed FRA.

The NPPF details the requirement for a risk-based ST in determining planning applications. See paragraphs 173 – 176 of the NPPF and paragraphs 023, 024 and 027-029 within the Flood Risk and Coastal Change Section of the NPPG.

Paragraph 174 of the NPPF requires decision-makers to steer new development to areas at the lowest probability of flooding by applying a ST. It states that 'Development should not be allocated or permitted if there are reasonably available sites appropriate for the proposed development in areas with a lower risk of flooding'.

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Paragraph 177 states that 'If it is not possible for development to be located in areas with a lower risk of flooding (taking into account wider sustainable development objectives), the exception test (ET) may have to be applied. The need for the ET will depend on the potential vulnerability of the site and of the development proposed, in line with the Flood Risk Vulnerability Classification set out in Annex 3 of the NPPF'.

Paragraphs 031, 032 and 35-38 of the NPPG and also paragraphs 177 – 179 of the NPPF outline the requirements of the ET. See also Table 2 in paragraph 079 of the NPPG which, for example, confirms that the ET is required for 'more vulnerable' development in Flood Zone 3.

We would not make any bespoke comments on the ST, in this instance. The fact that we are not providing comments does not mean that there are no ST issues, but we leave this for your Council to consider.

As detailed in the NPPG (paragraph 29) you should seek evidence that the ST has been properly applied and your Council's Strategic Flood Risk Assessment (SFRA) may have detail relating to this element to inform your consideration of this matter.

Requirement for a FRA: The NPPF (paragraph 181) requires that, where appropriate, a planning application should be accompanied by a FRA. Where a FRA is not submitted with the application, or the FRA is not accepted by the LPA, the Environment Agency (EA) objects to the application and requests that the LPA either defers the application or refuses planning permission.

For 'highly vulnerable', 'more vulnerable', or 'less vulnerable' development², if the FRA confirms that the development is within **Flood Zone 3b** (functional floodplain), as defined in Table 1 in the NPPG (paragraph 078) then depending on the site specifics, for example the potential impact upon flows, the proposal may be incompatible. This is in accordance with NPPG Table 2 (paragraph 079) which states that such development "should not be permitted.

FRA requirements: Planning applications must be accompanied by a FRA that is submitted to the Local Planning Authority (LPA). The NPPG contains a useful checklist for FRAs (paragraph 080). To be acceptable as a FRA the applicant should confirm as a minimum:

1. A level survey to Ordnance Datum/GPS showing the known or modelled 1% (1 in 100 chance each year) river flood level, including **climate change***, or where relevant 0.5% (1 in 200 chance each year) tidal & coastal flood level relative to proposed site levels. For sites in Flood Zone 3, this should include an assessment of functional floodplain i.e. 3.3% (1 in 30 year) flood event, or equivalent. Information regarding any defences and their standard of protection should also be included where appropriate.
2. An assessment of the risks posed to the site including that based on 1% modelled flooding (including climate change), breach and overtopping scenarios where necessary, any documented historic flooding and risks associated with surface water run off from the site (including climate change).
3. Flood Risk to the development and users - Proposed mitigation measures to control those risks for the lifetime of the development, based on a 1% event, including

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climate change, e.g. setting appropriate floor levels**, providing 'flood proofing'; safe access & egress*** for occupiers (**essential where 'more vulnerable' uses include overnight accommodation and a less critical risk for other 'more vulnerable', 'water compatible' and 'less vulnerable' uses**).

4. Impact on flood risk elsewhere – The NPPG indicates that developers and local authorities should seek opportunities to reduce the overall level of flood risk in the area (flood risk betterment). Issues to consider include providing 'level for level, volume for volume' flood storage compensation (further details of this is included within the NPPG paragraph 049 and our FRA Guidance Note). Where it is not possible to provide compensatory storage on site, it may be acceptable to provide it off-site if it is hydraulically and hydrologically linked. Also to be considered is reducing the impact on storage and flow routes through the layout and design of the building/structure and by providing surface water disposal****.
5. Residual risks after mitigation, including risk during an extreme 0.1% (1 in 1000 year) event.

NOTES:

* The NPPG refers to Environment Agency guidance on considering **climate change** in planning decisions which is available online: <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances> (new allowances were published on 27 July 2021).

Please refer to our 'Area Climate Change Guidance' for more information on how to consider and incorporate allowances in development proposals. This advises that an allowance should be added to 'peak river flows' to account for 'climate change' which should be specific to a river 'management catchment'.

The design flood (1% with climate change) should be used to inform the sequential test including appropriate location of built development and ensure 'safe' development.

** For '**more vulnerable**' development e.g. housing it is advised that **Finished Floor Levels** should be set no lower than 600mm above the 1% river flood level plus climate change with flood proofing techniques considered (where appropriate). For more information on property resistance and resilience techniques see the Ciria Guidance: [New guidance: Code of practice for property flood resilience \(C790\) \(ciria.org\)](#) and also:

http://www.planningportal.gov.uk/uploads/br/flood_performance.pdf

Some **water compatible** and **less vulnerable** development such as agricultural developments/structures, or stables etc, by their nature may be floodable and therefore the raising of floor levels may not be feasible/practicable. In these cases, we would suggest that any storage in these buildings, including any flood susceptible electrics, or items that may be damaged should be sited above possible flood levels, in order to prevent flood risk and associated pollution.

*** For '**more vulnerable**' development, where overnight accommodation is proposed, the FRA should demonstrate that the development has **safe, pedestrian access** above the 1% river flood level plus climate change. Pedestrian access should preferably remain

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flood free in a 1% river flood event plus climate change. However, in cases where this may not be achievable, the FRA may demonstrate that pedestrian access is acceptable based on an appropriate assessment of 'hazard risk' including water depth, velocity and distance to higher ground (above the 1% river flood level plus climate change). Reference should be made to DEFRA Hazard risk (FD2320) – 'Danger to People for Combinations of Depth & Velocity' (see Table 13.1 – DEFRA/EA Flood Risk Assessment Guidance for New Development FD2320, page 118, at:

https://assets.publishing.service.gov.uk/media/602d040fd3bf7f721a23a993/Flood_risk_assessment_guidance_for_new_development_-_phase_2_technical_report_Full_Documentation_and_Tools.pdf

Given our role and responsibilities we would not make comment on the safety of the access or object on this basis. This does not mean we consider that the access is safe or the proposals acceptable in this regard. We recommend you consult with your Emergency Planners and the Emergency Services to determine whether they consider this to be safe in accordance with the guiding principles of the NPPG.

Furthermore access and egress by vehicular means is also a matter for your Emergency Planners and the Emergency Services.

A Flood Evacuation Management Plan may also be appropriate, see note below.

- Applications involving intensification of use, for example conversion of buildings to provide additional residential units, should consider safe access as a risk. It may be possible to reduce the risk of flooding to an existing access through minor modifications to ground levels or alternative provision.

- For '**less vulnerable**' development (especially those uses where there are people occupying the building and/or vehicles are present, e.g. office, retail) the FRA should consider **safe access** above the 1% river flood level plus climate change. However, given the nature of this type of proposal we would advise that this is considered as a less critical risk i.e. future occupants may not be able to access the proposed development (building and/or any car park) in design flood events. On this basis, this risk could be managed by implementation of a flood evacuation plan (see below) in consultation with your Emergency Planners.

Flood Evacuation Management Plan: The NPPG (paragraph 043) states that one of the considerations for safe occupation is whether adequate 'flood warning' would be available to people using the development.

Flood Warning: For your consideration, where no Flood Warning service is in place we would be unable to offer any notification of potential danger from rising levels.

Where the Flood Warning service consists of a Flood Alert, whilst this gives a level of flood awareness, it will not provide a detailed local warning to comprehensively inform evacuation.

Where a comprehensive Flood Warning service operates, a trigger level may be sought to assist in evacuation.

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For information on developing a Flood Evacuation Management Plan see paragraph 044 the NPPG and our guidance online at: <https://www.gov.uk/browse/environment-countryside/flooding-extreme-weather>

In line with paragraph 045 of the NPPG we recommend you consult with your Emergency Planners and the Emergency Services to determine whether they consider the FEMP secures safe and sustainable development.

Developer Contributions: It may be appropriate for financial contributions to be provided for development, at this location, towards our flood warning service and/or infrastructure.

**** For surface water management advice, please contact your Lead Local Flood Authority (LLFA).

Background: Need for a FRA. There are three main flood risk considerations –

- The flood risk to the site, and any occupiers, resulting from a 1% event and an extreme flood event (i.e. a flood with between a 0.1% and 1% chance each year from rivers or between 0.1% and 0.5% chance each year from the sea) – **including climate change**. The functional floodplain should also be assessed.
- The flood risk resulting from the change of use of greenfield land to developed land which will reduce the natural drainage permeability of that land leading to increased flood risk elsewhere.
- The risk to occupiers and /or others of surface water flooding due to increased run-off. Even at outline stage the applicant needs to be able to demonstrate that surface water balancing can be achieved to a 1% (plus climate change) standard. All sites should aim to provide flood risk reduction/betterment.

The FRA should use available historic information, surveys and local knowledge to establish what the impact of flooding would have been based on previous events. This can then be used to establish any mitigation measures necessary to protect the development from future events.

It is possible that flooding may occur from a source other than that identified by the Environment Agency's Flood Map for Planning, which may occur due to local sewer or other drainage constraints, groundwater and surface water run off problems in the area. These may be identified within Strategic Flood Risk Assessment for the relevant local authority. The FRA will need to investigate the cause and effect of such local flooding as well as identifying appropriate mitigation/flood risk reduction.

FURTHER INFORMATION:

Other flood risk issues to consider for development in Flood Zones 1 or 2 - Dry Islands: There are some areas within Flood Zones 1 or 2 that are surrounded by areas at a higher risk of flooding i.e. areas falling within Flood Zones 3. In certain cases development upon such 'dry islands' can present particular hazards to public safety and risks such as those associated with maintaining safe access and exit for occupants during flood events. The distribution of dry islands and risks posed by them in terms of access/exit vary considerably across the country. (If there is a concern on this issue, contact the local Environment Agency Sustainable Places Team).

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FRA Guidance: More detailed guidance on FRA requirements, to assist developers and consultants, can be found in our FRA Guidance Note and Minor Development Guidance.

¹ Main Rivers are indicated on our Flood Zone Maps by red lines. When determining whether to consult the EA, the LPA will need to check the Flood Zone Maps to see whether the site is affected by the floodplain of a main river (including backing up of any adjacent watercourse). You can also check the classification of the watercourse with the LLFA, some of which have produced Drainage and Flooding Interactive Maps.

² Flood risk 'Vulnerability' classification of development - see Annex 3 of the NPPF. <https://www.gov.uk/guidance/national-planning-policy-framework/annex-3-flood-risk-vulnerability-classification>

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