

The Planning System and Flood Risk Management

Arup are experts in the area of
Flood Risk Management



Introduction

In November 2009, the Department of Environment, Heritage and Local Government and the Office of Public Works jointly published a Guidance Document for Planning Authorities entitled 'The Planning System and Flood Risk Management'

The guidelines are issued under Section 28 of the Planning and Development Act 2000 and Planning Authorities and An Bord Pleanála are required to follow these Guidelines when carrying out their functions under the Planning Acts.

The aim of the Guidelines is to ensure that flood risk is neither created nor increased by inappropriate development.

While the Guidelines are intended primarily as a strategic planning tool, they also apply to the assessment of individual development proposals. They are therefore relevant to both planning authorities and prospective developers.

The Guidelines require the planning system to avoid development in areas at risk of flooding, unless such development can be justified on wider sustainability grounds where the flood risk can be reduced or managed to an acceptable level.

They require the adoption of a Sequential Approach (to Flood Risk Management) of Avoidance, Reduction, Justification and Mitigation and they require the incorporation of Flood Risk Assessment into the process of making decisions on planning applications and planning appeals.

Fundamental to the Guidelines is the concept of flood risk zoning and the classification of different types of development having regard to their vulnerability to flooding.

The management of flood risk is now a key consideration both in preparing City and County Development Plans, Local Area Plans and individual development proposals.

"Arup have significant expertise in Flood Risk Management and are in a position to offer advice on the Guidelines and provide detailed Flood Risk Assessment for both Local Authority Clients and Prospective Developers."

By giving you access to the full range of skills within the field of Flood Risk Assessment and Management, our team can guide you through the process."

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Arup's Tiered Approach

		Likely outputs
Increasing level of detail →	Screening assessment ↓	<ul style="list-style-type: none"> • Desk study • Identifies potential sources of flooding and whether further investigation is necessary
	Scoping report ↓	<ul style="list-style-type: none"> • Availability and adequacy of existing data. There may be sufficient information to complete the assessment at this stage. • Flood mechanisms in greater detail • Potential impact of development on flooding elsewhere • Potential mitigation measures • Scope of quantitative flood risk assessment
	Quantitative Flood Risk Assessment	<ul style="list-style-type: none"> • Quantifies flood risk, normally using hydraulic modelling. • Will identify existing 100 year and 1000 year flood outline • Outline design of mitigation measures • Quantifies residual risk

To ensure that the level of detail is kept proportional to the level of flood risk, Arup offer a tiered approach to flood risk assessment.

Arup can also advise on the appropriate allowance to be made for future Climate Change impacts as required by the Guidelines.

The area of a development plan or even the footprint of a large development site may traverse the three flood zones identified within the Guidelines, i.e.

Zone A – High probability of Flooding (Greater than 1% probability of annual flooding)

Zone B – Moderate probability of Flooding (Between 0.1% and 1% probability of annual flooding)

Zone C – Low probability of Flooding (Less than 0.1% probability of annual flooding)

Identifying these flood zones at the outset of a project will allow the master planning of the development plan / development to take due account of such constraints, thus ensuring that the type of development planned for the appropriate Zones is sustainable.

It is also worth considering that vertical separation of vulnerability classes may offer a potential solution, i.e. less vulnerable elements could be located on the ground floor.

Provision of emergency access to critical infrastructure during flood events is also a key consideration.

The Justification Test

Arup can provide professional advice on the applicability and requirements of the Justification Test in the context both of preparing Development Plans and of lodging Planning Applications