

Making your property more flood resilient



How the code of practice for property flood resilience can help

What households and businesses need to know

WHAT IS PROPERTY FLOOD RESILIENCE?

Property flood resilience (PFR) is used to reduce the risk of damage to homes and businesses that may flood. PFR does not change the chances that a flood will happen, but it can reduce damage and disruption when they do occur. PFR can also help speed up recovery from flooding. It is especially important in places where there are no plans to build or to strengthen flood defences, or where the flood risk remains high even though a defence scheme is in place.

Examples of PFR measures that can be used on buildings



Door flood barrier manually fitted to reduce the entry of flood water



Waterproof render on the bricks and self-closing air bricks to reduce the entry of flood water



Resilient kitchen with raised appliances and power sockets. Tiled floors and kitchen units can be cleaned and dried

PFR measures aim to limit the entry of floodwater into homes and businesses (resistance measures) or minimise the impact of any floodwater that does get inside (recovery measures). These measures buy extra time to get people, belongings and assets to safety, and can sometimes help make insurance easier and more affordable. There are many different PFR measures and combinations of measures that can be used. The right measures for your home or business will depend on your individual circumstances.

WHY DO WE NEED A CODE OF PRACTICE?

In the past, some companies targeted flooded communities, offering to install flood barriers at homes and businesses without following good practice. As a result, the measures were often the wrong ones for the circumstances, of poor quality, or badly fitted. Households and businesses got poor value for money and were still vulnerable to future floods.

PFR is a relatively new approach to managing the impact of flooding. Choosing the right measures to install, and when and how to make changes, can be complicated. PFR can be installed at any time in preparation for a future flood, during restoration after a flood or while making building improvements. You may need help in choosing and installing measures that meet your needs, as well as understanding how much they can reduce the impact of flooding. You will want to be sure that the contractors know how to install measures and that you know how to use and look after them.

The PFR code of practice (C790A) specifies what good practice looks like and, together with the guidance on the CoP for PFR, (C790B) helps anyone planning to make their property more flood resilient to make the best choices. By ensuring any professionals you use are following the code of practice for PFR, you can have confidence in their advice and the work that they do. You will also get good advice and be able to plan to use the measures when it floods and to look after them between floods.

The CoP and guidance can be downloaded from: www.ciria.org

HOW CAN I USE THE CODE OF PRACTICE?

The **Code of practice for property flood resilience (C790A)** is designed to be a 'benchmark' to help you check you are getting the right help and support to improving the flood resilience of your home or business and that the advice you receive is impartial. It provides a set of standards, each with detailed requirements, for good practice at each stage of implementing PFR measures.

The code of practice contains six Standards. These Standards have been developed for you and the relevant professionals to follow during the installation and use of PFR measures in your home or business property. The checklist at the end of this document is based on the six standards and can be used to make sure that good practice is used in selecting, installing and using PFR measures.

The **Guidance on the code of practice for property flood resilience (C790B)** contains detailed explanations for practitioners as well as households, property and business owners.

This booklet complements C790B. It helps households and businesses to understand how to use the code of practice and guidance.

Five top tips for successful PFR

- 1 Get help from experienced professionals and contractors at every stage from understanding risk to installation.
- 2 Make sure you understand your risk and the different measures that could limit flood damage.
- 3 Choose resilience measures that suit you, your budget and your family lifestyle, or business needs.
- 4 Remember to make a plan for long-term operation and maintenance.
- 5 Make sure the professionals and contractors you hire to help with PFR follow the CoP.

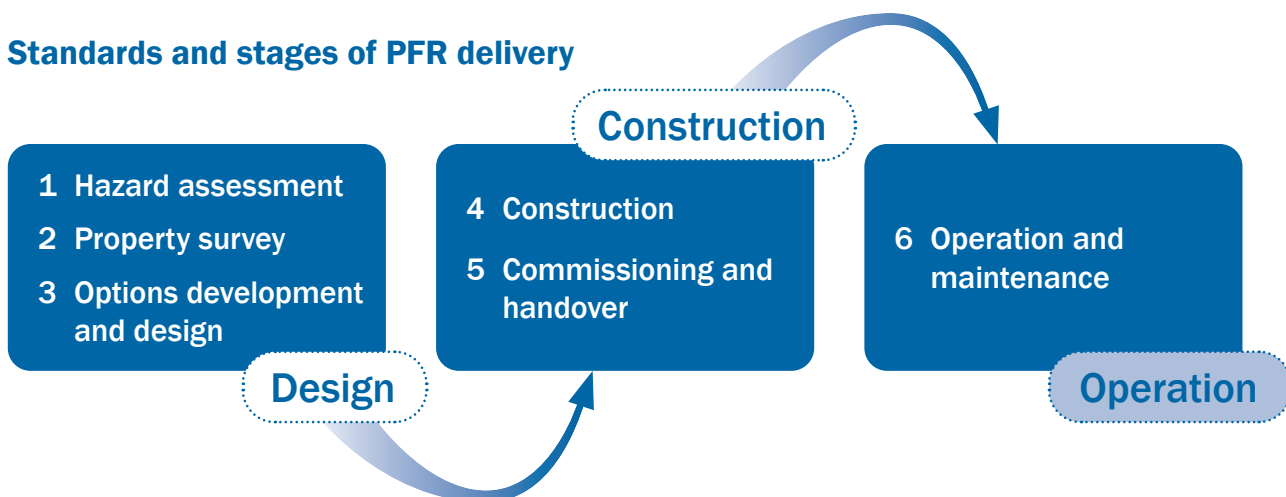


Ask professionals and contractors to follow the code of practice

HOW DO THE STANDARDS RELATE TO MY PFR PROJECT AND THE PFR GUIDANCE?

The code of practice and guidance covers the design, construction and operation of PFR. The six standards in the code of practice match six stages during design, construction and operation of your PFR as seen in the diagram below.

Standards and stages of PFR delivery



What is in the guidance on the code of practice for PFR?

The guidance on the code of practice has four parts. Each part has a different purpose explained in the table below.

Using guidance on the code of practice for PFR

Part	Why should I read it?	What's in it?
A	You are concerned about the flood risk to your property or you have been flooded before and want to protect your home or business from further damage.	An overview of PFR, explaining how it plays a part in flood risk management and the basic principles. Details of who might be involved and where to begin.
B	You have decided to go ahead with PFR and you want to understand the whole process and what good practice should look like.	Includes the code of practice, the standards and requirements. It explains what should be achieved.
C	You want to understand what you or your professionals should do to achieve good practice when implementing PFR.	Step-by-step guidance on how the standards and requirements can be achieved.
D	You want to understand more about a particular part of the process and your questions are not answered in Part C .	Extra information that goes beyond the step-by-step guidance.

Principles for delivering PFR

The code of practice and the guidance are based on a set of basic principles that everyone involved should follow. The principles in the table apply at every stage to ensure you get the best value out of PFR for your home or business.

Principles for delivering PFR with the CoP

Clarity and confidence	Everyone involved needs to be clear about what you hope to achieve from installing PFR including any obligations you might have to others, such as insurance companies, tenants or lenders. You should be confident that the PFR measures that will be installed will fully meet these aims.
Proportionality	It is not always best to apply every possible PFR measure to a property, particularly in areas where flooding does not happen often or for properties that are difficult to make resilient. Spending too little money may mean that you are disappointed but spending a lot may mean that some of your money is wasted. This is why professional help with design is important. But the cost of that help must also be in proportion to the overall investment you intend to make.
User needs	In using the guidance, your needs and preferences as the end user should be the focus. Your preferences and the capabilities of the people expected to operate and maintain measures should be thought about when choosing the measures to install.
Effective communication	At every stage of the PFR process, everyone involved needs to communicate clearly and effectively. Written communication should be provided in language that is easy to understand. Any questions or concerns you have should be answered clearly by the relevant person.
Competence of individuals	Appointing competent individuals ensures compliance with good practice and regulations. They should have the right insurance and be able to demonstrate the required levels of competence through previous projects, professional membership or certified training. They should be impartial, and not favour a particular product.



PFR standards: what good practice looks like

If you are going ahead with PFR you can use this checklist. It will provide you and your contractors with confidence the code of practice has been followed in delivering PFR measures for your home or business property. More detailed checklists are provided in [Appendix A3](#) of the guidance (C790B).

Checklist for following the CoP

PFR Standard 1: hazard assessment

- Have you agreed on the level of detail and cost of the survey based on the amount of work you think might be needed and your risk?
 - Do you know the different kinds of flooding that might affect your property?
 - Have sources of relevant flood risk information been collected?
 - Has information on the chances of flooding from every type of flooding been obtained?
 - Do you know how much warning time you might get before a flood of each type?
 - Do you know the possible routes for water to reach your building from each source?
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PFR Standard 2: property survey

- Have you agreed on the level of detail and cost of the survey based on the flood risk and the amount of work you think might be needed? Has the survey identified ways to minimise damage that work for you?
 - Does the survey contain detailed information about the buildings including their age, condition, type of construction and how they are used?
 - Has the current level of property flood resilience been described, including ways water might enter through openings and through the fabric of the building? Have your needs and preferences been discussed and recorded?
 - Does the report cover how your buildings would be dried, decontaminated and repaired after a future flood?
 - Has the survey noted the ground conditions at the site and described the ways in which water could enter your building from below or from a building next to yours?
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PFR Standard 3: options development and design

- Have you discussed different options based on the surveys, including potential damage reduction, your needs, and the costs involved?
- Have you also discussed ongoing operation, repair and maintenance requirements?
- Have you been given information on recognised or certified products and, where they meet your needs, have these been included?
- Have you agreed in writing what your preferred option is?
- Has the design and specification been set out in drawings or text that describes the measures, their installation and their purpose in detail?
- Does the design and specification give you all the information you need to appoint a contractor or develop an installation plan?

PFR Standard 4: construction

- Has your main contractor carried out all the work set out in the design and specification or documented any changes from the original design?
- Has your main contractor managed the subcontractors and taken responsibility for their work?
- Has all necessary preparation been done, including drying out and, if needed, decontamination before construction of PFR measures begins?
- Has the construction work been undertaken in accordance with good practice, including relevant standards, guidance and legislation?
- Have the works been inspected during construction?

PFR Standard 5: commissioning and handover

- Have the installed PFR measures been inspected on completion in an impartial way?
- Are there any recommended post-installation test procedures for your chosen measures? If so, have these been carried out?
- Have you received all the information you need in a handover pack and a point of contact for further information?
- Do you know if measures need to be manually operated for each flood event and, if so, have you planned who will operate the measures in the event of a flood?
- Has any required manual operation been demonstrated to you, and to the people who will operate them?

PFR Standard 6: operation and maintenance

- Have you been given a plan for operation and maintenance (ie a O&M PFR plan), or have you been shown how to prepare one? Does the plan make clear who will operate, check and maintain the measures?
- Have the nominated people agreed to the maintenance responsibilities and are they able to do so or do you need to employ specialists where needed?
- Can the nominated people understand and perform the required operational tasks according to the PFR plan?
- Do the nominated people know they need to record any operation of the measures in the O&M pack? Have you provided a way for them to do this?
- Do the nominated people know they need to record any maintenance or repair of the measures in the handover pack? Have you provided a way for them to do this?
- Do you know how often or under what conditions the plan may need to be changed? Have you identified how this can be done?
- Does the plan contain information on special cleaning, checking, repairs and maintenance needed after the measures have been used in a flood? Have you a plan in place to make this happen?



FURTHER GUIDANCE

In addition to the guidance on the CoP for PFR there are a number of other resources that may be useful to refer to:

- Guidance on the code of practice for property flood resilience: www.ciria.org
- Homeowners guide to flood resilience, Know your flood risk: <https://tinyurl.com/floodresilienceforhomes>
- A business guide to flood resilience, Know your flood risk: <https://tinyurl.com/floodresilienceforbusinesses>
- Property Flood Resilience EMag: <https://tinyurl.com/pfremagazine>

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C790C

www.ciria.org