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# Surveying for Flood Resilience in Individual Properties

## FD2681

September 2015



Llywodraeth Cymru  
Welsh Government



Joint Flood and Coastal Erosion Risk Management  
Research and Development Programme

## **Surveying for Flood Resilience in Individual Properties – FD2681**

September 2015

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This is a report of research carried out by a research consortium comprising JBA Consulting, Manchester Metropolitan University, The University of Manchester, National Flood Forum and Turnstone Learning Ltd, on behalf of the Department for Environment, Farming and Rural Affairs



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## Contents

Executive Summary .....	vi
1. Introduction .....	1
Aims and objectives .....	1
Project consortium.....	2
Steering Group and Project Board .....	3
Report structure .....	3
2. Current practice and case studies .....	4
Introduction .....	4
Current practice in the UK.....	5
International case studies.....	9
3. Stakeholder engagement and feedback .....	12
Overview .....	12
Engagement methodology .....	12
Insurance industry.....	17
Homeowners .....	19
Scheme promoters.....	21
PLP Stakeholders .....	23
4. Independent Flood Risk Assessor .....	27
Assessment and understanding.....	27
The iFRA Role.....	28
Knowledge, skills and competencies.....	29
5. Competency Framework and Training Route Map .....	35
Development pathways .....	35
Certification and accreditation .....	43

6. Conclusions .....	44
Implementation and delivery .....	45
Barriers and opportunities .....	50
7. Issues to consider .....	53
Current and future drivers of PLP surveying .....	53
Progressing accreditation .....	54
Updating guidance .....	55
Summary .....	55
Appendix A: Online Consultation – Questions .....	57
Number of responses to consultation questions .....	62
Schedule of Interview Themes .....	62
Appendix B: List of organisations attending workshops/ interviews .....	65
Appendix C: CIWEM, RICS and EPS meeting record .....	65

# Executive Summary

This project develops an evidence base to support Defra and the Environment Agency's objectives in driving take-up of property level protection (PLP) and building flood resilience by developing a cohort of competent surveyors.

Flood resilience in individual properties refers to a range of measures that aim to prevent floodwater entry (resistance, or dry-proofing) or to limit the damage caused once water has entered a property (resilience, or wet-proofing). This report refers to both resistance and resilience measures as property-level protection (PLP).<sup>1</sup> PLP schemes enable property-owners with cost-effective and easy-to-implement tools to help take effective action themselves, bringing local communities together to limit the damage and stress that flooding causes. PLP use has developed significantly in response to Defra and Environment Agency pilot schemes between 2007 and 2012, stimulating an emergent and increasingly vibrant manufacturing sector. Reviews have, however, identified a number of barriers to the wider take-up of these measures. Whilst PLP surveyors have, for instance, a vital role in designing and approving completed schemes, there is currently no formally recognised qualification, national training or approved standard against which surveyors can be benchmarked. By consequence, a lack of independent and competent surveyors to support communities and scheme designers may undermine confidence in PLP amongst property owners and insurers alike.

The research focuses on how a cohort of competent surveyors can encourage the wider adoption of property-level protection as a means of managing flood risk. The project identifies best practice and evaluates current and future options to catalyse delivery. Information collected through cases studies and sector-wide engagement with stakeholders and practitioners has outlined the competencies required for the role. These competencies (knowledge, skills, behaviours and experience), training and accreditation will help gain the trust and confidence of householders, scheme promoters and insurers and support the policy objective of encouraging wider take-up.

The research identifies the evidence base needed to develop a cohort of independent, impartial and competent flood risk assessors capable of providing the necessary reassurance to property owners and external bodies such as the insurance industry. A role exists for a stakeholder forum to be established with representatives from across the sector to help take recommendations forward and to share best practice developments. PLP is one component of a suite of flood risk management tools that can be used to reduce the impacts of floods on people and property. An assessment of catchment flood management options is essential to ensure that PLP is used in an appropriate way to

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<sup>1</sup> We use the term PLP (an acronym of Property-level Protection) because of its wide recognition. PLP typically only refers to resistance products (dry-proofing). However, many of the flood risk assessment issues in this report apply to both resistance and resilience (wet-proofing) measures.

manage flood risk in a community. As with all risk management tools, the risk of property flooding remains and this has to be communicated clearly in order to manage expectations and ensure people and the community as a whole remain prepared, have emergency plans in place and that these are reviewed. Examples of where PLP has been successful, such as seen in Appleby and Buckingham, serve to illustrate what can be achieved by fully engaged communities with a comprehensive package of measures, with operational details described in effective emergency response plans, supported by regular flood group meetings and integrated multi-agency working. Existing best practice guidance aims to build on such examples and provide evidence that should encourage other flood risk communities to take effective action themselves.

The Independent Flood Risk Assessor (iFRA) role, as identified in this project, requires a unique blend of skills and knowledge focussed on a thorough understanding of the flood risks and sources; building construction; the full range of PLP products that are available, and the needs and abilities of the person and family living in that property. Previous PLP reviews by Defra and the Environment Agency have shown the complexities and range of factors that must be addressed to deliver a successful scheme: evidence shows that individual and community schemes require significant and effective engagement to raise public awareness as well as a focus on a thorough technical assessment of the catchment flood risks, the building construction and the proposed engineering solution. Whilst a PLP scheme is typically an order of magnitude lower in cost than a traditional community defence, there remains a need to adequately assess the flood risks, the property and the needs of the people who are vulnerable to flood risk. Ultimately, Independent Flood Risk Assessors must be able to competently identify the most appropriate resistance and/or resilient measures given the flood, the people at flood risk, and the building's performance under flood conditions.

**Confidence in an independent iFRA that has the necessary breadth of skills, knowledge and experience is the primary ask of insurers, scheme promoters and homeowners alike. This research and stakeholder feedback also confirms the need for and benefits of establishing an accreditation process that will provide formal recognition and endorsement of the iFRA role.**

**This will be built upon putting into practice the knowledge, skills, behaviours and experience of professionals who must know about and demonstrate an understanding of the importance of the interaction between property, flooding and people.**

**The consortium is confident that a collaboration between representatives of professional bodies from each facet will be able to develop an independent and valuable flood risk assessment service. This is aimed at encouraging the wider take-up of effective action to improve community and property owner flood resilience.**

# 1. Introduction

## Aims and objectives

Property-level protection (PLP<sup>2</sup>) has developed rapidly in recent years as one way of reducing the impact of flooding. As the PLP market has developed, new technologies continue to emerge. Whilst much focus is on flood resistance technologies, such as aperture barriers that aim to keep water out of a building, PLP may be expanded to include resilience technologies and materials that can limit the internal damage caused by flood events. Evidence from previous PLP schemes suggests there is a lack of specialist surveyors possessing the requisite professional competencies required to offer independent advice regarding schemes. Moreover, there is a need to build consumer and insurance industry confidence in the surveying process and in independent verification of their skills to improve the uptake of PLP within wider flood risk management strategies.<sup>3</sup>

This project develops an evidence base to support Defra and the Environment Agency's objectives in driving take-up of PLP and building flood resilience by developing a cohort of competent surveyors. The project is not intended to develop a new profession or a training course. Rather, the evidence will help existing professionals and training providers identify the competencies required to provide an independent flood risk assessment. This necessitates defining the extent and nature of a surveyor's role and responsibilities, establishing the knowledge, skills, behaviours and competencies that PLP surveyors require, and by outlining the barriers to developing a cohort of competent surveyors and suggesting how these might be overcome. Findings were tested with organisations and individuals involved in the PLP process including insurers, product manufacturers, local authorities, consumers, and potential accreditors, certifiers and training institutions.

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<sup>2</sup> This report refers to both resistance and resilience measures under the acronym "PLP" We use the term PLP (an acronym of Property-level Protection) because of its wide recognition. PLP typically only refers to resistance products (dry-proofing). However, many of the flood risk assessment issues in this report apply to both resistance and resilience (wet-proofing) measures.

<sup>3</sup> Defra Property Level Protection Workshop, 12<sup>th</sup> February 2014; Defra. Best Practice in Property Level Protection Systems: Advice for Local Authorities, London, 2014. Available at: <http://nationalfloodforum.org.uk/wp-content/uploads/20140519-PLP-Advice-for-Local-Authorities.pdf> [accessed 30th March 2015).



### **The project objectives are as follows:**

1. To support growth objectives by providing support for uptake of new technologies (PLP) by the public and creating business development opportunities for small surveying businesses and sole-traders to provide this service, including in the context of the home-buying and selling process.
2. To develop competency specifications for professionals wishing to carry out this role: identify and map the knowledge and skills surveyors need to develop in a range of domains (including structural surveying, engineering, Building Regulations, hydrology and communication with householders).
3. To identify the opportunities for delivering the necessary training in the context of the current professional development landscape and map out a development pathway for those wishing to develop these skills.
4. To identify any additional barriers to the development of a corpus of competent professionals able to survey, project-manage and sign off schemes to the satisfaction of the insurance industry and others.

**Table 1 – Project objectives**

## **Project consortium**

The project consortium brought together a team of individuals and organisations with experience of flood risk management, particularly the use of property level resistance and resilience technologies and practices, from a range of sectors, including academia, civil society and consultancy. The consortium was led by *JBA Consulting*, flood risk professionals with significant experience in PLP surveying and best practice scheme reviews. *JBA Consulting* has completed over 50 PLP schemes and 3,000 surveys to local authorities and communities. The consortium also included *National Flood Forum*, a national charity providing trusted and valuable support and independent advice to communities at flood risk, who provided the necessary perspective on how surveyors interface with other stakeholders including communities and insurers. *The University of Manchester and Manchester Metropolitan University* brought research experience of innovative flood resilience developments from across Europe. They facilitated the reflective process of practitioners through interviews, focus groups and workshops, and provided analysis for the development of the accreditation and delivery frameworks. Hugh Burchard from *Turnstone Learning Ltd*, a specialist in devising, delivering and maintaining learning and training programmes, drew upon extensive experience providing training support to the Environment Agency to inform and shape the knowledge and training programme for the project.

## Steering Group and Project Board

The project was managed by a Defra Steering Group consisting of representatives from Defra (Mary Stevens and Robbie Craig), the Environment Agency (Adrian Rushworth) and RICS (Stuart Cooper). Representatives from across the sector formed a Project Board who provided advice throughout the project. Project Board membership is detailed below.

Project Board Membership	
Alan Cripps (RICS)	David Pickles (English Heritage)
Stephen Garvin (BRE)	Paul Ocansey (Environment Agency)
Steve Grebby (Consumer Council for Water)	Babs Mitcheson (Bodenham Flood Group)
David Heycock (Oxford Fire & Rescue)	Amanda Nobbs (Thames RFCC)
Steve Hodgson (Property Care Association)	Robert Dakin (AXA Insurance)
Paul Hendy (Scottish Flood Forum)	Mike Hallam (BiBA)
Iain Finnigan (ADEPT)	Martin Brown (Northumbria Water).

**Table 2 – Project Board membership**

## Report structure

The report is structured as follows. Chapter 2 summarises findings from a number of case study investigations. The stakeholder engagement methodology and analytical strategy used to gather, assess and analyse the evidence are presented in Chapter 3, together with the main bulk of the evidence. The chapter ends with recommendations based on the concerns of stakeholders in moving surveying for flood resilience forward. Chapter 4 isolates the knowledge and skills required for, and the role of what is termed in this report as an independent flood risk assessor (iFRA). Chapter 5 outlines the competency framework, training and development pathways and suggests an appropriate accreditation and certification process. Chapter 6 draws the conclusions together, focussing on the opportunities and constraints in realising the development of surveying for flood resilience. Chapter 7 outlines a number of issues to consider in future discussions. There are also six related but separate Annex documents:

- Annex 1 – Inception Report drafted at the start of the research.
- Annex 2 – Case Studies reviewing similar or analogous models of delivery.
- Annex 3 – Competency framework for the role of property level flood risk surveyor.
- Annex 4 – Homeowner Guide
- Annex 5 – Competency/training route map
- Annex 6 – Technical Guidance for Local Authorities and others

## 2. Current practice and case studies

### Introduction

A series of case studies were conducted to inform the potential practice, accreditation and training of a cohort of property level protection surveyors. The case studies are designed to be succinct (each around two to three pages) and make use of graphics and illustrations. Case studies focused on the methods and techniques used in practice, as well as drivers, motivations and barriers to this practice. Ultimately, the team identified a series of 'lessons' from this practice that are described in Annex 2 and summarised here and in Section 6. These provided practical approaches and examples that were then both further developed within the remainder of the research and that proved useful in establishing the parameters of the role of property level protection surveyors.

In discussion with the Steering Group, three types of case study were chosen:

1. Case studies exploring commensurate international practice in Australia; British Columbia, Canada; and the United States of America.
2. Case studies identifying analogous cases or examples from other fields in the UK that could serve as a model for the development of the PLP surveyor scheme. The chosen cases were: The Green Deal; Secured by Design; and Smoke Control Areas and Heating Appliances.
3. The identification and summary of good practice regarding PLP in the UK.

The international case studies were drawn from English speaking countries avoiding the need for translation. The SMARTeST project (see page 14) showed that the UK was a European leader in PLP. Contacts were approached in several European countries, but it was felt that, on balance, the US, Canada and Australia would provide more in-depth information. A desk based review of available online documentation was undertaken for each case study using keyword searches agreed amongst the researchers including flood-proof, resistance and resilience, dry-proofing and wet-proofing. In addition, emails were exchanged with academics and professional organisations working in each case study country to identify sources of information and to provide a general background.

At an early stage it became clear that finding *directly commensurate* international assessor/ assessment regimes would prove challenging. Inquiries made to academics with expertise in flood risk management and at local, state and federal tiers of government in Australia noted that there was a general reluctance to use adaptive technologies. Instead, contacts reported a clear favouring of land use management practices and, where necessary, of raising properties or relocating them away from high-risk areas. The international case studies also posed methodological challenges in that schemes, where they may exist, are organised locally, and may not have a significant profile at national or regional tiers of government. It should also be noted that the case study countries

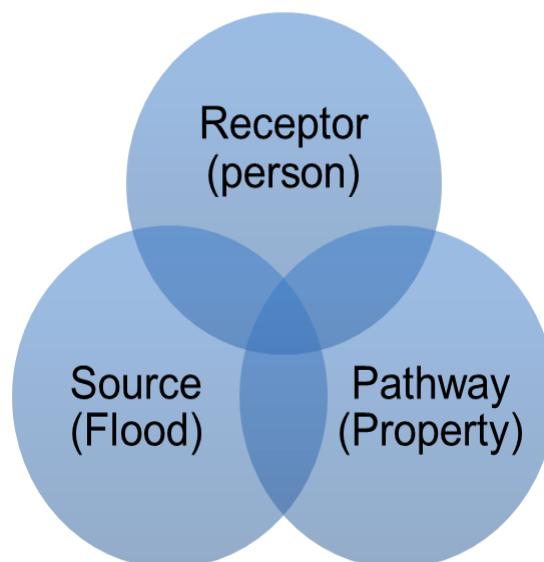
experience more severe flood and storm situations than in the UK, and often have much more land available making relocation options more feasible than they are in the UK. Given these considerations, and with the consent of the Steering Group and Project Board, the international case studies evaluated broader approaches to the use of resistance and resilience technologies, and identified good practice in broader approaches to flood risk management that could inform surveying in England and Wales. The case studies, and the lessons drawn from them, are summarised below and detailed in Annex 2.

## Current practice in the UK

This section draws on the case study summarising UK best practice in flood resilience (available as a standalone document), and areas of concern in current practice. It draws on findings from the consultation, interviews and workshops as well as a desktop review of current practice.

Whilst catchment level flood risk management options and engineered flood alleviation schemes continue to provide protection to many communities at flood risk, they are often technically or financially impracticable. PLP offers an innovative alternative to ‘plug the gap’ that previously existed between engineered flood protection schemes and sandbags. The approach aims to help build improved flood resilience by empowering the **person** to help protect their **property** from **floods** (See Figure 1) adopting the SPR model.

**Figure 1: The Source-Pathway-Receptor Model as applied to PLP**



Increasing awareness of the implications of climate change is accelerating the need for PLP. Flooding is considered to be the biggest hazard associated to climate change, and will increase even if significant resources are devoted to it. Both the Adaptation Sub-

Committee (Committee on Climate Change)<sup>4</sup> and the Environment Agency's Long Term Investment Strategy (LTIS) suggests that around 190,000 properties at flood risk could cost effectively benefit from PLP measures over the coming years.<sup>5</sup> In addition, PLP will help in advancing an agenda towards 'living with water' where 'there needs to be more effort to support a greater public awareness of resistance, resilience and adaptation measures'.<sup>6</sup>

The PLP market has developed significantly in response to the Defra and Environment Agency (EA) grant schemes between 2009 and 2012. Despite the early Defra pilot schemes to raise awareness of the approach, and the availability of Flood Defence Grant in Aid (FDGiA) funding, use of PLP remains low. Few have been successful in securing partnership funding. A more detailed plan for encouraging PLP projects will be developed by the Environment Agency in 2015 for discussion with Local Authorities. Funding will be available within the 6-year investment programme for PLP schemes that meet the required funding criteria.

Reviews and feedback from people involved in a performance review of the 64 Defra-funded pilot schemes highlighted the importance of independent flood risk property surveys by competent professionals.<sup>7</sup> However, there was confusion amongst stakeholders and residents over the survey process, particularly the differences between the 'Appraisal Survey' (identification of levels of flood risk, points of ingress and general recommendations of measures) and the 'Suppliers Survey' (a property is measured up as part of a Works Inspection in order to design products).<sup>8</sup> There may be a further 'Post-installation Survey', which assesses the installation and the residual level of risk by means of a verification survey. Each survey serves different purposes and requires different skill sets. For this report, the focus is on the appraisal survey.

Existing evidence collected as part of the Defra pilot scheme review in 2012 indicates that residents favour independence between the appraisal surveyor and supplier in order to be confident that the appropriate choice of measures are installed in their property. The UK

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<sup>4</sup> Adaptation Sub-Committee. 2012. *Climate Change: Is the UK preparing for flooding and water scarcity?* Adaptation Sub-Committee, Third Progress Report. Committee on Climate Change, London, pp. 42 - 43. Available at: <https://www.theccc.org.uk/publication/climate-change-is-the-uk-preparing-for-flooding-and-water-scarcity-3rd-progress-report-2012/>

<sup>5</sup> Environment Agency. 2014. *Flood and coastal erosion risk management Long-term investment scenarios (LTIS) 2014*. Environment Agency, Bristol, p. 37. Available at: [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/381939/FCRM\\_Long\\_term\\_investment\\_scenarios.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/381939/FCRM_Long_term_investment_scenarios.pdf)

<sup>6</sup> All Party Group for Excellence in the Built Environment. 2015. *Living with Water: A report from the Commission of Inquiry into flood resilience of the future*. London: The House of Commons, p. 19.

<sup>7</sup> The pilot schemes recommended that the surveyor was independent. JBA Consulting. 2012. Evaluation of the Defra Property-level Flood Protection Scheme: 25918. Summary Report. Available at: <http://nationalfloodforum.org.uk/wp-content/uploads/Evaluation-of-the-Defra-PL-Flood-protection-Scheme-25918.pdf>

<sup>8</sup> Please see the Smart Resilient Technologies, Systems and Tools (SMARTeST) project. Available at: [www.floodresilience.eu](http://www.floodresilience.eu). See also Iain White, Paul O'Hare, Nigel Lawson, Stephen Garvin and Angela Connelly. 2013. *Steps to Flood Resilience*. Available at: [www.smartfloodprotection.com](http://www.smartfloodprotection.com)

case study noted that many surveys are currently offered by and undertaken by companies that produce or sell property level protection products or services. Demonstrating this, extant knowledge and desk-based research highlighted that many product suppliers purport to offer 'free' surveys, but these are often tied to their product marketing. The Green Deal case study has highlighted the concerns and need for impartiality: 'hard' selling techniques were at the assessment step and some Green Deal providers took the opportunity to sell other home improvement services thus compromising the impartiality of such assessments. Individual homeowners left without independent advice and support are at the mercy of a confusing array of products, the technical capabilities of which are sometimes over-stated or the limits of which are ignored. In addition, some surveys fail to take account of all sources of flood risk, or prescribe technologies that are unsuitable for the level of flood risk, the type of property or cannot be lifted or installed or operated by the homeowner.

A number of current concerns and challenges were identified by previous scheme reviews undertaken for Defra and the Environment Agency ("*Evaluation of the Defra Property-level Flood Protection Scheme*" 25918 - Summary Report, March 2012; and "*Post-Installation Effectiveness of Property Level Flood Protection*" - Final Report, March 2014) and many were restated by homeowners as part of this research:

- There is concern that surveys may not be comprehensive in terms of either their technical scope or their geographical coverage:
  - Surveys often fail to identify and take account of all the sources of flood risk;
  - Fail to recognise the dynamism of flood risk;
  - Do not take adequate account of the building fabric or of neighbouring properties;
  - Some surveys do not take account of the current and future abilities, needs and requirements of the property owners or the importance and need for a community self-help approach or emergency plan.
- Surveys and assessments may be commissioned in good faith, but are often provided by unqualified surveyors or surveyors who may work for - or have commercial agreements with – specific technology and/ or material providers;
- There are concerns that installers and manufacturers are not installing the correct products or are overstating the performance capabilities of products. During the research an installer reported that some product manufacturers had specific products tested to in accordance with PAS 1188, but claimed that *all* their products had been tested. Another "award-winning" product was stated as not needing to be 'Kitemarked' as the height was less than 600mm.

A Defra-facilitated workshop on 12<sup>th</sup> February 2014 explored views of stakeholders and helped shape and inform the scope of this research: participants were asked about their current experiences of surveyors with regards to PLP (both positive and negative). The workshop discussed important technical issues, wider practical, organisational or legal barriers to delivering skilled surveyors, and how training needs are identified and can fit into the current training landscape for surveyors. Written notes from the workshop indicate that:

- The appraisal survey required a professional of chartered status (surveyor, architect, or engineer) who could undertake bolt-on skills courses to supplement existing knowledge.
- The technical competence needed is fairly specialist and must include building science knowledge as well as an understanding of how floods affect a building.
- Potential surveyors needed to be aware of their limitations and know when an alternative expert may be needed.

Current best practice highlights the need for a chartered professional to undertake a flood risk assessment and to sign-off the PLP measures and calculate residual levels of risk<sup>9</sup>. However, there is no coherent framework for assessment and associated protocols, undermining the confidence of property owners and insurers alike. There is, for instance, no formally recognised qualification, national training, or approved standards against which PLP surveyors can be appraised.

It is also important to highlight the existence of the Environment Agency's '*Flood Resistance Measures Framework*'. This serves as a benchmark of accepted competency for both the independent flood risk assessment and property survey element, as well as the actual supply and installation of PLP measures. A key framework principle is the separation of these two roles, with suppliers established in each of the two different survey and installation lots. It has been in use since 2010 and used by the Environment Agency to deliver all their PLP schemes to date across England.<sup>10</sup> A new framework based around these two separate 'survey' and 'installation' lots is programmed for 2016 which will be available for use by local authorities as well. Such frameworks have a direct bearing on and relevance to the current research and the development of a cohort of competent surveyors and is returned to later.

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<sup>9</sup> See Iain White, Paul O'Hare, Nigel Lawson, Stephen Garvin and Angela Connelly. 2013. Six Steps to Flood Resilience. Available at: [www.smartfloodprotection.com](http://www.smartfloodprotection.com); Defra. 2014. Best Practice in Property Level Protection Systems Advice for Local Authorities. <http://nationalfloodforum.org.uk/wp-content/uploads/20140519-PLP-Advice-for-Local-Authorities.pdf>

<sup>10</sup> Defra. 2014. Post-Installation Effectiveness of Property Level Flood Protection Final report: FD2668. Available at: [http://evidence.environment-agency.gov.uk/FCERM/Libraries/FCERM\\_Project\\_Documents/fd2668\\_final\\_report.sflb.ashx](http://evidence.environment-agency.gov.uk/FCERM/Libraries/FCERM_Project_Documents/fd2668_final_report.sflb.ashx)



In summary, recommendations of how to achieve best practice were made in the SmartTest project and in reviews for Defra and the Environment Agency, to help with new PLP schemes. These were refined into three main points:<sup>11</sup>

- To deliver a comprehensive scheme, the survey and design should consider all potential flooding sources and routes.
- Engagement with residents should clearly explain how the measures should be used and the residents' responsibilities to prepare for residual flood risk.
- After care and installation needs to be considered and is an ongoing homeowner responsibility.

## International case studies

The project team considered case studies that could provide an insight into how a cohort of PLP surveyors could be developed in the UK. As noted, the team was unable to identify directly commensurate schemes. However, general observations were drawn from international practice thought to inform the scope and the practice of a surveyor. These were presented to the Project Board in October 2014 and are available as a standalone document. Here key insights are summarised that are helpful in both understanding the potential role of property level protection surveyors and the future practice of the profession.

### The place of property level protection

The international case studies in particular are a reminder of the complexities of flood risk management and in how property level protection – or adaptation – is considered in other countries. The case studies suggest that adaptation must be considered against a broader context of flood risk management. Notably, property level protection was used in *all* international cases as a measure of last resort.

Australia, Canada and the United States of America prioritise holistic initiatives, such as land use planning, to reduce flood risk. The Australia case study demonstrated that flood proofing - consisting of both wet (often referred to as 'flood') or dry proofing - though not unheard of, is not commonplace. Policy documents stipulate that initiatives should complement other (hierarchical) flood risk management strategies such as land use planning, or raising floor levels. There was also an acknowledgement that wet proofing (allowing water to enter a property) was favoured over dry proofing, predominantly to preserve the structural integrity of flood vulnerable properties. Discussion with Australian

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<sup>11</sup>See Iain White, Paul O'Hare, Nigel Lawson, Stephen Garvin and Angela Connelly. 2013. Six Steps to Flood Resilience. Available at: [www.smartfloodprotection.com](http://www.smartfloodprotection.com); Defra. 2014. Best Practice in Property Level Protection Systems Advice for Local Authorities. <http://nationalfloodforum.org.uk/wp-content/uploads/20140519-PLP-Advice-for-Local-Authorities.pdf>



contacts suggested that there is a considerable degree of resistance to the use of PLP, a point that is also acknowledged through UK research (returned to later).

PLP is used in the USA, but often as a temporary measure in communities waiting for a larger flood defence scheme. This is analogous to the use of PLP by one UK water company as a temporary measure until more permanent solutions to pluvial flooding can be found (National Flood Forum pers. comm.). Additionally, the USA case study identifies how property level protection is only utilised within certain parameters. Some states require dry flood proofing proposals to be submitted to the local building authority to ensure that they are in line with local building codes.

## **Regulatory drivers and incentives**

The case studies identified the presence of some form of ‘regulatory’ driver or framework incentive to require actions under the measure or scheme under examination. Beyond providing the context for the operation and activities of the professional, these initiatives can also provide certainty both for actors wishing to enter the market, and for consumers wishing to procure services. In the US, this is through credits available under the National Flood Insurance Programme for flood proofed homes. Australia and British Columbia illustrate that PLP must be part of the legislative frameworks within which flood risk management takes place. These also identify the qualifications and registration of the professional practitioner.

Annex 2 provides greater detail on the case study investigations and findings. In the absence of any other substantive examples of programmes for surveying properties for PLP, analogue examples were investigated, including the ‘Green Deal’, ‘Secured by Design’ and ‘Smoke Control Areas and Heating Appliances’. One of the key factors these various case studies had in common was their consistent inclusion of some form of regulatory driver. The case studies referenced regulatory frameworks both to establish the framework for schemes, and in terms of establishing the operational details of schemes (the Defra endorsed ‘Smoke Control Areas and Heating Appliances’ scheme is notable here).

## **The professional**

The case studies identify how flood risk management schemes are regulated (or are strongly encouraged) to ensure surveys and assessments are undertaken by a “suitably qualified professional”. In the USA this individual is referred to as a “Registered Design Professional”, in Canada it is known as a “Qualified Professional”, and in Australia the term is “Building Certifier”. These professionals have a remit beyond flood risk management. The precise range of backgrounds and expertise of the individuals depends upon the context, but is typically provided by a ‘professional’ such as an architect, building surveyor, engineer or geo-engineer. In Australia, tradespeople such as plumbers can become certifiers. Notably, these roles can be quite broad. In Australia, for instance, a Building

Certifier (registered through Building Practitioners Board) issues building and occupancy certificates, but they can also assesses 'Alternative Solutions' that theoretically could include wet/ dry proofing. Across the case studies, there is a requirement that individuals have public liability or indemnity insurance.

## **Skills and competencies for surveying**

While acknowledging that the international case studies were broader than property level protection, the international case studies do provide a useful insight in to the scope of surveying and flood risk assessments that are of relevance to the UK. As noted, in the USA, Canada and Australia, flood risk assessments are comprehensive, taking account of holistic models of flood risk management. They emphasise the broad knowledge base required when undertaking a flood risk assessment. For instance, the Australian case study reference 'flood aware building measures', but only ever as part of a wider management regime and using a 'graduated planning control matrix'. It also provides a checklist of potential uncertainties in Flood Model Estimates. In the USA, Registered Design Professionals must be able to consult wider authorities and to consider the level of protection provided by structural measures. There, registered professionals have knowledge of building science and regulation, flood risk management, funding and finance, as well as community resources. This may be partly due to the fact that credits towards insurance reductions can be achieved if a property becomes more resilient. This includes required knowledge of techniques, materials, building codes, certification, risk mapping, policy, funding & finance, cost-benefit-analysis and community resources.

The Canadian study identifies how the Qualified Professional must acquire formal skills through a university for college course, or undergo continuing professional development (CPD). CPD includes formal courses; attending conferences, workshops, seminars and technical talks; reading new texts/ periodicals; searching the web; and participating in field trips. It emphasises the importance of dynamic risk assessments that acknowledge, for instance, the drivers of climate change, and alterations in the circumstances of property owners or of the building fabric of local built environment.

Guidance is also careful to stipulate the caveats and uncertainties of such approaches to risk management, again lessons that will be important to consider in this context. In some instances, the professional is advised to ask the local authority to make the report (in whole or in part) available to future landowners through registration of an appropriate restrictive covenant. The case studies also promote the development of 'knowledge hubs' that could be used to share information across assessors or for training purposes (Australia), whilst the Canadian case study makes a case for having a Code of Ethics for practitioners.

## 3. Stakeholder engagement and feedback

### Overview

The consortium recognised the importance of wide engagement across relevant stakeholders and practitioners. There is a wide and growing range of stakeholders with an interest in this area of work, including academia, professional bodies, scheme promoters, businesses, insurers, the flood protection industry and, most importantly, the property owners and communities seeking improved levels of flood resilience. To account for the needs of communities and householders as end users the National Flood Forum drew upon the feedback and views of homeowners and communities that they receive daily. It was also important to determine the “asks” of insurers and to gather opinion on the social, behavioural and other skills needed as part of the PLP process.

Where possible, the consortium adopted a facilitative and inclusive approach to generate debate amongst stakeholders and practitioners. Although there was evidence of consensus regarding several themes, particularly regarding the need for independent surveys, there were notable areas where the evidence is less than certain or is contested. The project team has, therefore, acknowledged both where we feel consensus has been reached by identifying *a series of principles that might frame future practice*, and areas where *opinion is divergent, and where further work or decisions are required*.

### Engagement methodology

The project was informed by qualitative research. The consortium also drew upon their own technical knowledge and practical experience in a wide range of PLP survey and government policy projects. In essence, this ‘co-operative’ inquiry drew on the consortium’s experience of PLP.<sup>12</sup> Not only did this experience include the evaluation of property level protection schemes, but has also included broader considerations of flood risk management, community engagement and community capacity building, market development research and social science research including literature reviews.

All consortium members were involved in generating and analysing data and identifying conclusions. Monthly consortium meetings created an iterative process of reflection and inquiry that progressed throughout the project. As evidence was gathered, statements on the role of the iFRA were subjected to further critical inquiry, particularly through interviews with stakeholders that might, in the future, be responsible for training, accrediting, or

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<sup>12</sup> Heron, J. 1999. Co-operative Inquiry: Research Into the Human Condition. London: Sage.

otherwise facilitating surveys or surveyors.<sup>13</sup> A range of qualitative research techniques were used to gather information and to test the emerging surveying role. These included:

- National and international case studies;
- Desk-based research of existing practices and training courses;
- An online consultation of various stakeholders, and;
- Face-to-face and telephone interviews and workshops with a range of stakeholders.

These elements, including an acknowledgment of the limitations, are discussed below.

### **Stakeholder identification & consultation**

The consortium engaged with a wide variety of stakeholders to ensure findings are practical and achievable. Time constraints, and the need to identify key individuals from within particular stakeholder organisations, required purposive sampling techniques to be used. Stakeholder categorisations were identified at the outset of the research including homeowners, the insurance industry, local authorities, potential training providers, government agency, product manufacturers, and other professionals involved in flood risk management. Whilst this is a subjective approach to sampling, the exploratory nature of the research meant that a representative of a (defined) population was not required. Beyond the stakeholder identification process, a number of sampling strategies were employed.<sup>14</sup> The stakeholder categorisation was discussed with the Steering Group and Project Board who identified organisations and individuals able to assist with the project. The Project Board provided a cross-section of stakeholder views and provided further evidence and guidance. As data collection progressed, the consortium identified under-represented groups and made efforts to engage with them. Additionally, snow-balling methods were used to identify other research participants.

### **Analytical strategy and research questions**

Any PLP scheme or initiative is composed of a number of inter-related components and stakeholders, including (but not limited to) the building, the technology, the procurer, the user and the surveyor and installer. The qualitative research (including the case studies) reflected the intricate relationships between the various stakeholders and components involved in both PLP initiatives and analogous schemes. Reflecting the overall research aim and objectives, attention was also paid to identifying the key skills, experience and attributes of competent surveyors and, from a practical perspective, exploring issues regarding the drivers and barriers to the development of a cohort of competent surveyors.

Although the data was predominantly qualitative in nature, the online consultation generated some data that lent itself to quantification (for example, by counting themes mentioned). The results informed the detailed qualitative inquiry (interviews, focus groups

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<sup>13</sup> McArthur, P. 2014. Advocacy and inquiry. In D. Coghlan, & M. Brydon-Miller (Eds.), *The SAGE encyclopedia of action research*. (Vol. 1, pp. 27-30). London: SAGE.

<sup>14</sup> Battaglia, M. (2008). Purposive Sample. In Paul J. Lavrakas (Ed.), *Encyclopedia of Survey Research Methods*. (p. 646). Thousand Oaks, CA: Sage.

and workshops). Qualitative research methods were selected given the need to identify the complex institutional, social, economic dimensions of surveying for PLP. In addition, qualitative methods were used to explore the nuances of the drivers and barriers to the development of a cohort of professional surveyors.

The qualitative data generation was framed by an adherence to a series of conceptual themes that were subsequently used to code, interrogate, and evaluate the data. All interviews, focus group and workshop schedules were derived from this overarching structure, although they were adapted according to the expertise and precise circumstances of the research stakeholder. Table 3 provides a summary of the conceptual themes, including a reference to the research questions used in the data generation and the codes used in the analysis. These were identified through discussions with the Steering Group, Project Board and preliminary analysis. There is a balance to be struck with any such template to ensure the cases can be contrasted and compared (i.e. for the analysis), but also to ensure the nuances of particular cases are captured.

<b>Analytical themes and research questions</b>
<p><b>Review of current practice</b></p> <ul style="list-style-type: none"> <li>- How is PLP = considered within the context broader systems of flood risk management?</li> <li>- Assessment of current context and practice of surveying for PLP at individual and community scales.</li> <li>- Identification of the need, opportunities and current barriers for PLP surveying.</li> </ul>
<p><b>Knowledge and skills required by surveyors</b></p> <ul style="list-style-type: none"> <li>- Identification of skills and experience required for PLP surveying (e.g. flooding, technology, building, understanding social dimensions).</li> <li>- Skills and knowledge required to assist householders in taking informed decisions regarding property level protection.</li> </ul>
<p><b>Professional practice, accreditation and training</b></p> <ul style="list-style-type: none"> <li>- Identification of professions that could fulfil surveying role.</li> <li>- Review of the skills possessed by professions that may be applicable to the role, and an identification of potential gaps.</li> <li>- Evaluation of potential accreditation and certification arrangements and identification of organisations that might fulfil this role.</li> <li>- Identification of practical, organisational and institutional barriers to the development of a professional sector.</li> <li>- Considerations of independence and impartiality of the surveyor and how can this be ensured.</li> <li>- Potential models for regulation and/ or enforcement.</li> <li>- Training and continuing professional development.</li> </ul>
<p><b>Drivers and barriers</b></p> <ul style="list-style-type: none"> <li>- An identification of the drivers and barriers to the development of a cohort of competent surveyors.</li> <li>- Identification of the potential pitfalls and/ or vulnerabilities of surveying.</li> <li>- How important are insurers and how might they be encouraged to support a scheme?</li> <li>- Assessment of the needs of insurers regarding the skills, knowledge and practice of surveyors.</li> <li>- Assessment of the potential for insurers to promote or facilitate surveying (for instance, what insurers require to price risk).</li> </ul>

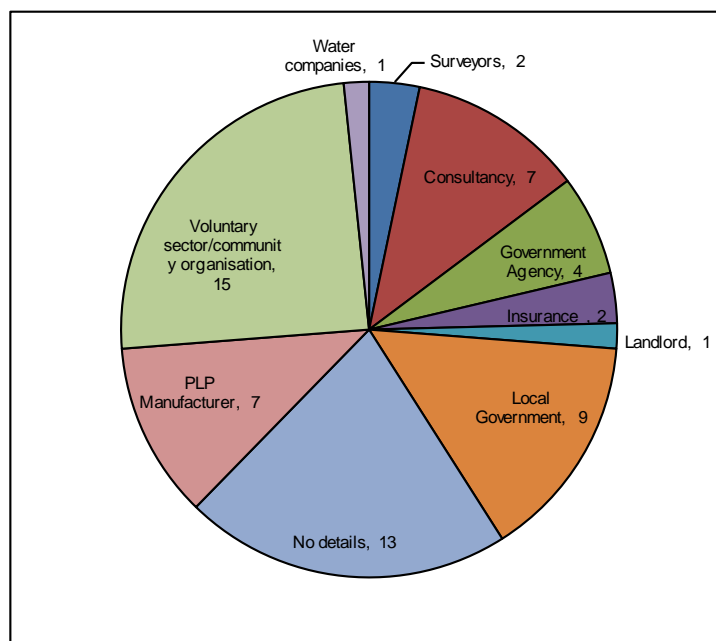
**Table 3: Further research themes**

The team devised a set of questions around themes that had emerged from the first Project Board meeting, the learning from the case studies, and testing the developing knowledge areas for an iFRA. These were initially distributed as a consultation that potential participants could fill in at a time of their choosing. The consultation was available online via Select Survey software and as a Microsoft Word document. The questions aimed to understand more about the iFRA knowledge areas, the feasibility and practicality of delivering training for those skills, and how they might be accredited (see Annex 1).

The consultation ran from 21<sup>st</sup> November 2014 until 31<sup>st</sup> December 2014, eliciting a total of 62 responses (including those from the Project Board). Figure 2 indicates the responses received from different sectors. The online consultation was distributed via *FlowNet*, the Local Government Association's knowledge portal for flood risk managers, and amongst participants in the Defra funded Pathfinder project, attendees at the 2014 Flood Defence Expo (PLP product manufacturers and installers), and the consortium's voluntary and community contacts. The technical nature of several questions meant that some respondents had difficulty understanding what was being asked of them. This process was less successful in gaining contributions from the insurance industry. By consequence, targeted meetings, telephone interviews and workshops addressed this gap. Consultation questions that could be counted were tabulated. Qualitative answers were analysed by identifying key or recurring prevalent themes.

Themes and detailed research questions for semi-structured interviews and workshops were agreed in advance by the consortium. Interviewees were selected for their ability to comment on how PLP surveying may be catalysed in English and UK practice. Beyond a discussion of the details of prospective PLP surveying protocols, particular attention was paid to the opportunities for surveying to become integrated in to practice, how training, accreditation and approval might take place, and how the development of a cohort of competent surveyors might be facilitated. In line with the 'snow balling' method, these initial contacts identified further potential interviewees; 28 of these in-depth discussions and closed workshops took place (See Annex 2 for a list of organisations). Consortium members were responsible for taking notes of their discussions. From an analytical perspective, particular attention was paid to identifying findings to the research objectives and, where applicable, other insights that were deemed critical to understanding the context for surveying. Summaries were circulated between the team and were discussed in detail during consortium telephone meetings to validate findings.

**Figure 2: Online Consultation responses by sector**



## Testing the Guidance Documents

A range of outputs emerged from the project that were tested with prospective end-users. The Householder Guidance was tested through the National Flood Forum community contacts with 7 responses received. The Technical Guidance was tested with insurers, local authorities and representatives from the public with 5 responses received. These were from Devon Council; Cornwall Council (x2); Northamptonshire Council; Rochdale Borough Council (x2); and from AXA Insurance. Draft outputs were sent to consultees, along with a series of questions to help guide feedback (Appendix 1). A member of the team then followed up with a telephone conversation and took notes of the main points. The outputs were revised in light of feedback (mainly regarding phrasing and terminology) and are available as standalone documents (see Annex 4 & 6).

## Limitations

The consortium had challenges in engaging with some organisations who were identified as important to delivering the practical training needs. Additionally, it was difficult to consult on a role and provide the guidance required for something that currently isn't realised in practice. All consultees agreed this would be welcome as awareness clearly remains low (as concluded in previous scheme reviews for Defra). For instance, many consultees (property owners and local authorities for whom the guidance is targeted) asked for specific examples of a surveyor, samples of reports they produce and case studies of how the role works in practice. Further consultation could take place when firm proposals

emerged following this project, as part of wider PLP awareness raising efforts. A list is provided in Appendix B.

## Insurance industry

Insurers were recognised as fundamental to the research: what were their concerns and what would provide the reassurance needed to provide confidence in the approach and use of PLP measures? Whilst recognising that the insurance industry is disparate, responses from leading companies and representatives within the UK insurance industry (10 interviews and consultation responses) were examined.

Representatives welcomed both the concept of surveying for PLP and supported efforts to identify the skill-sets and competencies required. Without exception, all agreed that independence and impartiality are fundamental to such a service. Many insurers expressed concern that most surveys were conducted by installers with a vested interest in selling products, and often in only selling products produced by one manufacturer.

One major insurer expressed concern that the market is still what was referred to as a micro-business, adding:

*“The customer is maybe not getting the full range of solutions”.*

Further demonstrating these points, another insurer, whilst welcoming innovation across the PLP sector, referred to the current practice, and in particular the lack of independence, as a *“major concern”*. It was suggested that:

*“Some installers present themselves as independent but when you ask further it is clear are only endorsing their own products”.*

Another insurer highlighted that there was a:

*“Need to ensure the so-called independent surveyors are not being ‘encouraged’ by suppliers to recommend their products”*

....and advised that this would require a robust system of checking for inducement.

Turning to the competency framework, representatives from the insurance industry agreed that technical competence is the highest priority. They considered technical knowledge areas as an essential aspect of their knowledge (particularly the ability to conduct flood risk assessments and building surveys). But it was acknowledged that other skills, - communication and community engagement - were also important. A representative from a leading insurance organisation highlighted how their surveyors have a blend of technical and personal skills:



*“We run regular soft skills training to our surveyors to ensure they engage properly with customers and trust is established. This provides belief that they are competent, know their business market, products and solutions and can express themselves in a way that draws the customer to them. This gives confidence that the service works and will bring positive results if the advice is taken.”*

Another insurer stated that the skills required represented a ‘bit of a mix’, and included local technical knowledge:

*“[They] definitely need to have the knowledge about construction and different types of construction and how water can interact with that structure. They obviously have to know a bit about flood, and they need to know about water and water damage which is different to flood. But they have to know about different types of flood...That could be regionally based so certain types of flood are more prevalent in different parts of the UK.”*

Expanding on this point, one representative from the insurance industry expressed a desire that the surveying could operate at scale (particularly for the domestic market) and that the process would be supported by an authoritative scheme. But another insurer acknowledged the challenges of building a model that was both robust, and affordable. Acknowledging the concern regarding the accessibility of surveyors, he warned that poor quality might undermine the entire PLP market:

*“For the customer at the end, the house owner, it’s got to be affordable. But if you’re a householder you’ve got to know that you’re going to spend the money once and it’s got to be right. There is a real worry that the cowboy stuff comes in here. There’s a real opportunity for people to sell product that isn’t suitable which can discredit the whole market.”*

The same insurer added and foresaw a further challenge presented by non-approved or non-accredited surveyors offering their own service. This, he recommended, should be guarded against:

*“...having an accredited, approved way of doing it, with a single accredited body is a way to avoid that. Having it Defra or EA endorsed would be massive.”*

Another insurer expressed concern regarding the quality of information upon which assessments would be based, and suggested that data on risk must be procured carefully:

*“Now do you need to have a fully qualified hydrologist to look at risk? Probably not. But what I’d like to know is where they are going to get their information. So the systems that insurers have are very granulated systems compared to what you can get off the EA or Defra online. What we get is completely different to what you can get in a public space. Now where is the independent surveyor going to get their information about return periods about the types of flood risk”*

Responses from the insurance industry considered accreditation to be necessary to providing a 'hook' for any competency framework that is to be developed:

*“Accreditation would assist in recognition of flood resilient repairs by insurance companies”* (Consultation, Insurance industry).

Representatives from one major insurance company suggested that the introduction of Flood Re could well be a major factor that has the potential to frame both the iFRA practice and the use of flood risk assessments. Evidence from homeowners to date suggests that whilst insurers generally support adaptive technologies, they are rarely traced through insurance policy costs and levels of excess, another barrier to wider uptake noted during earlier reviews and restated during this study.

## Homeowners

Ultimately, the views and asks of the homeowner are the most important factor to capture and describe as they are the end-users. Previous detailed PLP scheme reviews undertaken by Defra and the Environment Agency (see p7) have highlighted that consumer's awareness, perception and understanding of PLP is recognised to be complex, but is likely to have an important influence on how surveying will be perceived and the success of any scheme for competent surveyors. It is, therefore, important that these issues are summarised and homeowner asks are described as these will dictate the extent of demand and the potential market.

Although it is recognised that a competent survey may help to underline confidence in adaptation, the previous studies identify a range of barriers preventing PLP uptake in a broader sense. Of direct relevance to this research is the consumer's willingness to take action and responsibility for installing measures, viewing it primarily as being the responsibility of the government, local authorities or utility companies. Others were often reluctant to 'advertise' that their home or business is at risk of flooding. The National Flood Forum report that many consumers are already unwilling to pay for the cost of products, notwithstanding the cost of a survey. This was further reflected during consultation and reflection on a Pathfinder project, when one local authority project officer stated:

*“Out of all the people that had a free survey done, not one of them took it on to the next stage...”*

The interviewee continued to state that in their study it was very resource intensive on the part of local authorities to encourage even those at significant flood risk to agree to a free survey.

Given homeowner views, these concerns are likely to be reflected in perceptions of surveying. Property owners will be unlikely to commission (and will be reticent to pay for) a survey if they do not accept that flood risk management is their responsibility. This has

been highlighted by recent Pathfinder Scheme experiences (e.g. Northamptonshire Council, West Sussex Council etc) and from community and homeowner responses to schemes reviewed as part of Defra and EA grant schemes. The National Flood Forum report a high volume of calls over recent years from homeowners expressing their confusion about how to obtain assistance and advice for the survey and measures. This highlights the need for the guidance outlined in Annex 4 to be regularly updated and widely publicised via sites such as the National Flood Forum and EA website. Many homeowners have reported difficulties in securing surveyors and suppliers able to mobilise for an individual property, citing high costs and inefficiencies of this approach compared to a coordinated community approach. The National Flood Forum confirm that these problems have resulted in significant additional stress to residents recovering from the impacts of flooding, with some stating this has been a barrier that has prevented take-up of PLP. Some local authorities (such as West Sussex Council, Dorset Council, Woking Council) have attempted to address these problems on behalf of homeowners by deciding to coordinate the process - and in some instances provide enhanced funding support on behalf of their local communities. This has served to encourage wider take-up and more effective scheme delivery.

Homeowners were often concerned about the technical language and levels of communication: many community representatives and flood action group leaders frequently comment to the National Flood Forum that professionals have to be able to communicate (verbally and written) highly technical information in lay terms:

*“Without it mistakes and misunderstandings will be inevitable and the financial and/or reputational costs could be considerable.”* (Consultation, Voluntary Sector).

Previous Defra and Environment Agency scheme reviews (see p7) highlighted homeowner needs for independent and informed guidance. Similar views were restated by homeowners regarding the need to ensure the surveyor understands the technologies, not just in terms of what is currently available, but also upcoming technological developments. Interviewees also noted how the surveyors needed to understand – and to explain clearly to the homeowner – how products need to be maintained and what their lifespan might be. There is a need, therefore, to acknowledge thresholds, vulnerabilities and all potential points of failure (social and technical). This was referred to by one consultee as necessary in providing:

*“Peace of mind – knowing what PLP will (and won’t) do”* (Consultation, Voluntary Sector).

Technologies will also need to be assessed for their appropriateness for a given end-user. Personal and household characteristics thus need to be taken into account in order to further understand

One community group consultee indicated that the limits of the survey itself extended these caveats, recognising that any risk assessment is both merely a snap-shot in time,

and should ideally be considered to be dynamic and in need of regular review and updating. Comment was made that the length of time an assessment is valid for is vital when considering tenanted properties or when a property is sold. Ultimately, a number of factors were considered that may modify the risk profile and a need to understand how long a property flood risk assessment is valid for will help the insurance industry to make better decisions about the residual level of risk (Interview, Insurance Representative).

The Scottish Flood Forum, who provide PLP surveys, emphasise the importance of individual responsibility whilst adopting a community approach. The Scottish Flood Forum explained the approach:

*'We send a consistent message: property owners are responsible for protecting their own properties. Properties also don't flood individually. If we motivate people, it has to come down to communities and community engagement.'*

Related to citizen responsibility is an expectation from the consumer that they wish to see examples of expertise and qualifications for the appraisal survey of their house. Consumer representatives who attended the first Project Board highlighted that property owners “expect expertise...they expect qualifications”.

## **Scheme promoters**

Local Authority, Environment Agency and Water Company representatives, all of whom had significant experience in promoting, procuring and managing property level protection schemes, acknowledged the vital role of independent and competent surveying. Several representatives from local authorities expressed concern regarding the current quality of surveys and surveyors. One Lead Local Flood Authority representative noted that:

*“It is difficult to judge the quality of the survey, I think. I have more faith in my local hydrological engineer who looked at the whole area...I could see they looked at the big picture, not just that individual property.”* (Interview, Local Authority).

Other local authority representatives stated that although they currently use or refer residents to the National Flood Forum's Blue Pages to identify surveyors, there was significant uncertainty regarding their standards and quality. Beyond this, many local authority interviewees identified independence and impartiality as an essential characteristic and pre-requisite. One note of caution was expressed by an officer in one local authority who feared that making the surveyor too highly qualified may make them either unaffordable or inaccessible:

*“Having people very highly qualified and able to do surveys is a great aspiration. But there has to be a reality check for places like this where if you haven't got a surveyor, or he lives up in Bristol...”*

Moreover, this is not a one-way relationship of imparting information to the consumer. Rather, as a water company representative pointed out:

*“Customers now want to be able to speak ‘technically’ with company representatives and we have found that (in general) those staff with a technical bias are uncomfortable or unwilling to speak direct to customers. Conversely staff with people skills struggle to answer a more educated customer questioning about more technical issue.”* (Consultation, Water Company)

The ability to exploit local knowledge about flooding and the local built environment was raised as an issue by two local authority consultees. Another consultee stated:

*“...an independent expert with comprehensive practical knowledge of all the products/support available and local knowledge will be important too. It is no good swanning in from Somerset to support East Kent”* (Consultation, No organisational details).

Concerns were expressed over the ability of - and need for - the surveyor to access and understand information and data required to conduct a full flood risk assessment. A water company consultee said data sharing and data management will be a major obstacle. Expanding upon this, the company noted that they would be concerned about sharing their data with surveyors, and that they too had difficulties in sharing information even within their own organisation.

Discussion with Environment Agency representatives highlighted how the current and any future procurement framework recognises the need to keep tasks such as surveying and the supply and installing of measures as separate lots. This is important because in the words of one consultee:

*“There are a wide range of different door barriers, and some will be more suitable for a particular type of door opening than others. With independent advice the most appropriate can be proposed, rather than the cheapest / best profit making that an installer can fit.”* (Consultation, Government Agency).

These views on the need for two separate roles echo those made by homeowners and insurers. One local authority respondent noted that: *“if the service is to be of any use both are required. If not, you might as well let the local estate agent carry out the survey”* (Consultation, Local Government officer).

Recognised qualifications were deemed to be important and linked to an identified preference for accreditation (See Annex 5). One respondent to the online consultation commented on the importance of establishing a credible scheme, stating that:

*‘if it is not a recognised qualification then it is unlikely to have any weight with consumers’* (Water Company).

This is underscored by previous Defra reviews and the findings in the SMARTeST project where a workshop amongst a group of flooded people who had PLP installed indicated that they wished to take the advice of 'experts'.<sup>15</sup>

Many interviews and comments from both local authority and Environment Agency representatives acknowledged that there was significant reluctance on the part of the public to pay for property level protection. One local authority representative noted:

*"I consistently hear...that these products just seem so expensive for what they are."*

Interviewees reflected that unless the survey was either affordable, or was in some way mandatory or supported in some other way, uptake would remain low.

## PLP Stakeholders

Consultees representing PLP manufacturers and installers provided a more qualified welcome to efforts to develop a cohort of competent surveyors. Whilst acknowledging that a survey might provide greater confidence in both specific products, and in the flood adaptation sector as a whole, several concerns were raised including:

- Providing a further financial or bureaucratic barrier to the use of technologies, and which might duplicate their own installation survey.
- That an additional survey will dissuade property owners from managing flood risk.
- A recognition that surveyors would need to keep up-to-date with innovation and developing PLP approaches in order to recommend products from across the market to support and reward innovation.

It was acknowledged that some product suppliers already offer surveys, often for free or at a significantly subsidised rate. However these are often works inspections and installation surveys, less focussed addressing user needs or the sources of flood risk. These will remain necessary and will need to be carefully integrated in line with the findings of this study as well as being of technical use to product installers. Another consultee from the manufacturing sector also noted that the PLP sector extended beyond products to include maintenance and service agreements, another possible dimension of the work of the surveyor.

Other respondents to the consultation elaborated upon the issue of independence. For example, members of the Project Board indicated that such a professional must be

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<sup>15</sup> White, I., O'Hare, P., Lawson, N., Garvin, S., Connelly, A. 2012. Barriers to flood resilience: Findings from the SMARTeST project. The University of Manchester and BRE, Manchester Available at: <http://www.sed.manchester.ac.uk/research/cure/research/documents/Findings-from-the-data-SMARTeST-UK.pdf>

separated from the supply chain (i.e. manufacturers and installers). Although there was concern expressed regarding the potential duplication of manufacturers' installation surveys, as noted earlier, some manufacturers also supported the need for the survey to be independent of the products, stating:

*'We need responsible companies working with independent surveyors.'* (Interview, trade body).

A chartered surveyor indicated the value of their members providing independence because RICS surveyors can provide:

*'Impartial advice from a totally independent party, who will (...) be regulated working under an ethical code and have the appropriate insurance cover for such work'* (Consultation, chartered surveyor).

Linked to the above is the identification (and enforcement) of a set of standards. One manufacturing representative indicated that *'we need a Kitemark'* (Interview, manufacturer). The Green Deal (Case Study) operated in this way: the Department for Energy and Climate Change (DECC) developed Assessor Specifications to cover types of assessor organisations and certification bodies. Certification Bodies must be accredited by the United Kingdom Accreditation Service (UKAS) and meet the terms of PAS 2030/31 in respect of evaluating installers. In terms of PLP products, this could dovetail with PAS 1188 which currently sets standards for a range of PLP, temporary and demountable barrier products. This and the other case studies are also useful in providing an insight into how standards can be maintained and ensured.

Many consultees highlighted professional indemnity insurance as a critical part of any professional surveying of a property for flood resilience, a point also evident through the case study reviews and mentioned at Project Board meetings. Evidence from current local authority and Environment Agency practice highlights the requirement for suppliers to hold high levels of insurance to cover this type of work: a pre-requisite for Public Liability Insurance of £2m and Employer's Liability Insurance of £10m is typical and generally mandatory in many invitation to tender documents. The online consultation further highlighted that one of the strengths of organisations over individuals providing such a service is that the former are likely to be covered with higher levels of professional indemnity insurance should something go wrong. It is relevant to note in this respect a comment from one RICS consultee who stated that surveyors, for example, *'are regulated, work to an ethical code and will have Professional Indemnity insurance'* (Consultation, RICS).

Interviews with representatives of the manufacturing sector and insurance also concurred with the need for adequate professional indemnity insurance. Linked to professional indemnity insurance is ongoing training to keep up to date with new developments. The Property Care Association indicated that freelancers *'need to provide to us a copy of their professional indemnity certificate and they need to do 24 hrs of CPD. RICS run a*

*mandatory CPD requirement and architects have to do it. Any professional would have to do it and that's what we'd expect here.*' (Interview, Manufacturing Representative).

In general, the research identified a clear momentum behind the ambition to create a cohort of competent surveyors amongst flood risk management professionals. However, some consultees and Project Board members were concerned that the comprehensiveness and wide breadth of the twelve key subject areas (outlined Annex 5) could mean that training and accreditation becomes expensive. Offset against this was a recognition of the significant risk and serious consequences of being tempted to 'cut corners' and dispense with certain skill sets (e.g. as evidenced by callers to the National Flood Forum who have expressed concerns about the level of flood risk knowledge by some product installers). There was a clear and consistent message in feedback from a wide range of stakeholders - insurers, professional bodies (CIWEM, RICS & EPS), residents, suppliers, local authorities - who all stated concerns about the lack of a driver that will require or motivate homeowners to call on the services of an iFRA. The sentiment was expressed by a number of consultees that "without Government backing we're wasting our time" and this issue was also identified as one of concern to Project Board members.

There was a recognition that a formal accreditation scheme could take longer to implement and be costly. Many consultees noted that gaining accreditation would require training, registration costs, not to mention the 'opportunity costs' for professionals who have already undergone potentially rigorous training regimes. Whilst it was acknowledged that individuals would not necessarily be averse to undertaking this training, interviews with two training providers and with an individual surveyor noted that it is unlikely that a cohort of competent surveyors will be willing to pay for training unless there is a discernible market to provide business. Manufacturers also noted there was no guarantee that the work in future years would be sufficient to justify the added expense and length of time that it would take to gain accreditation (implying that there may be a low uptake of any proposed scheme). These observations were linked to a perceived lack of regulatory or other drivers for property level protection surveying.

On a similar note, some manufacturers expressed concern that any new surveying process would duplicate their installation surveys. There was significant concern from some suppliers, who already offer surveys as part of their provision of measures, that the iFRA surveying process would add further financial and bureaucratic barriers. They felt this could impact and limit the supplier's business and could also act as a barrier in their view and discourage the wider use of PLP. The Consumer Council also expressed concern regarding the affordability and accessibility of surveys. Attempts to stimulate the market through piloting PLP in properties have led to the continued expectation from property owners that this remains the government's remit: *'people expect the government to provide'* (Interview, Manufacturer). This sentiment was also expressed in two of the interviews with representatives from local authorities. This partly derives from a lack of



information, which could become a key role for the independent flood risk assessor who is often the first point of contact when making enquiries in to the feasibility of PLP.

Beyond this observation, it was noted that the perceived cost of the survey could be a significant barrier to this initiative. The current costs of undertaking a survey reported by stakeholders varied widely, depending on the type of house, the complexity of the issues and the type of provider. It was also indicated that they vary across the country too. Some PLP manufacturers indicated that the survey was free (as part of their provision of measures) whilst others quoted a price of £150 - £250. Local Authorities indicated that schemes could vary from £300 (for a flat or maisonette) to £1000 for a bungalow or detached house. Independent Environment Agency framework surveyors note that the average costs are between £400 and £500 per property as seen in the Defra pilots.

An important factor expressed by suppliers and surveyors alike (and seen previously in scheme reviews for Defra) is the relative emphasis placed on both cost and quality criteria. The method of assessing and appointing would be iFRAs is of direct relevance to the development of a wider cohort of surveyors as this will in turn impact upon their long term business viability. A range of cost/quality ratios were found to exist as part of current procurement and tender assessment arrangements: some tenders emphasise and place a greater emphasis on a quality submission (assigning a 75% score); whilst others prioritise cost, with up to 80% score assigned to the cheapest tender price. Suppliers and surveyors, as well as some within local authorities and the Environment Agency, have expressed concern with the latter approach that puts cost ahead of quality: a cheap solution may well not provide the sustainable and effective response that homeowners require.

# 4. Independent Flood Risk Assessor

## Assessment and understanding

This section considers research questions regarding the knowledge and skills that surveyors require to support householders to make informed decisions about their flood risk, and to select and install appropriate measures before or after a flood. It builds on the evidence presented in the previous section in which it was argued that PLP surveying should be delivered through an accredited, independent and fully competent profession that must be able to advise and support the property owner on all aspects of PLP.

The chapter commences by further refining the parameters and core competencies of the role, and by proposing that the surveying service is referred to as an Independent Flood Risk Assessment.

Three broad options for PLP surveying were identified through the research and it is important to understand the benefits and drawbacks of each:

**1. Option 1. Unqualified survey provision:**

- Little or no control over quality or competence.
- High risk of failure due to a lack of flood risk awareness.
- Unlikely to provide suitable solutions for person or property.
- Unlikely to be acceptable to the insurance industry for consideration in offering quotes

**2. Option 2. Flood risk assessment surveys provided by product manufacturer/installer adopting an installation training standard:**

- Innovative manufacturers/skilled product installers raising installation standards but not independent or impartial.
- Product installers may only have a very basic knowledge and understanding of flood risk assessment.
- Likely to offer only a partial assessment and appreciation of all flood risks and may not provide all options and choices suitable for the person and property.
- Likely to be cheaper.
- Very limited take-up by insurers where, as at present, niche market insurers collaborate with specific surveyors/installers/manufacturers

**3. Option 3. Independent, qualified and accredited flood risk assessor (iFRA):**

- Offers impartial and independent with no links or vested interest to sell products.
- Chartered professionals offering the requisite knowledge, skills and experience in flood risk assessment, property construction and surveying, and community engagement and emergency planning.

- Full assessment and appreciation of all flood risks and options suitable for the person and property (including wider catchment options).
- May be more expensive than options 1 and 2
- Has the potential to be taken up by the insurance industry at scale

Given the evidence collected and presented in previous chapters, it is clear that confidence can be raised in PLP generally where it is supported by independent and suitably qualified surveyors who understand the property and the way that flood waters interact with buildings and the homeowner/community. In addition, it is evident there will be a significant amount of managing client expectations, as well as having an understanding of the local area and taking a holistic flood risk management view.

## The iFRA Role

A review of the current status and potential future role of surveying for property level protection, along with an examination of commensurate and analogue schemes through the case studies, has generated some consensus regarding the parameters of the role.

Based on the evidence of a range of stakeholders, the consortium recommends option 3 and has subsequently scoped out the requirements for an independent flood risk assessor (iFRA). It is clear from the evidence and consortium's experience that this role requires a unique blend of skills and knowledge, focussed on a thorough understanding of the flood risks and sources; building construction; the full range of PLP measures that are available; and the needs and abilities of the community, person and family living in that property. Additionally an iFRA should be able to guide homeowners through what is an increasingly confusing array of products. There is a requirement to provide impartial advice on the range of quality 'Kitemarked' products that have been tested to nationally and internationally recognised standards; not simply promote just one particular manufacturer's product. Without the support and advice from an iFRA provider, the long-term reputation and credibility of the PLP approach may be compromised. Experience also emphasises how vital it is for property owners with PLP measures successfully installed to have well-rehearsed emergency plans so they are prepared and know what to do ahead of potential flooding.

The impacts of flooding can be immense. Failure of PLP may have severe consequences (such as stress impacts, loss of life and livelihood) if the incorrect decisions are made by providers. In some respects, a comparison can be made between the requirements for a PLP scheme and a traditional flood defence scheme for a town: both require significant and effective engagement to raise public awareness as well as a focus on a thorough technical assessment of the catchment flood risks and the proposed engineering solution. Whilst a PLP scheme is typically an order of magnitude lower in cost, we suggest that there should be no compromises made in terms of assessing the flood risks, the property or the needs of the person.

Given this premise, a number of principles are recommended that should frame the role, knowledge and practice of surveyors, and from which a competency profile and training development pathway can be developed:

- Given that 'surveying' for PLP can be undertaken by professionals beyond chartered surveying, and the underscoring of a need for impartiality, it is proposed to call the role an 'Independent Flood Risk Advisor' (iFRA).
- Independent Flood Risk Advisor (iFRA) refers to either an individual or an organisation that is able to provide *independent, impartial* and *professional* advice to a scheme promoter, property owner or community wishing to install resistance and resilience technologies, materials and systems to mitigate or adapt to the risk of flooding. The advisor will provide an independent flood risk assessment at property or community level. They will identify all sources of flood risk and propose options, technologies and solutions to mitigate the risks that are suitable for the particular property construction and the residents.
- Given the breadth and depth of knowledge and skills required to be an iFRA and the varied background of potential assessors, a single development pathway is not realistic. It is unlikely that a single individual will possess all of the knowledge and skills needed to deliver the services provided by an iFRA and so options to provide accreditation taking into account an individual and their relationship with other professionals should be available.
- The complexity of the skills requires a focus on 'adding on to skills' that people already have rather than creating a new profession. Chartered professionals should form the benchmark level. This finding is also backed up by the case study review of practice in other nations where 'registered designs professionals' (commonly architects, Chartered Surveyors or Engineers) are deemed to have the minimum level of qualifications necessary for this work.

## Knowledge, skills and competencies

### The parameters of the role – core competencies

The iFRA must be able to undertake comprehensive, competent and independent assessments. The flood risk assessments should not merely be building surveys, whilst assessors should have skills beyond those of a building surveyor. Independent flood risk assessors must be able to competently identify the most appropriate resistance and/or resilient measures given the flood, the people at flood risk, and the building's performance under flood conditions. With effective flood risk assessments and PLP products the approach aims to help build improved flood resilience by empowering the person to help protect their property from floods.

## Summary of skills and knowledge

The iFRA must possess not only technical skills and knowledge about flooding and building construction, but also be able to understand the social impacts of flooding, manage expectations of clients and support flood awareness and preparedness more generally. They must also be able to provide this service and communicate effectively with both the individual property owners and communities. This calls for a blend of skills.

A comprehensive overview of the skills and knowledge required by an iFRA, which draws on the evidence presented above, is outlined in Annex 5, but are summarised below:

1. Take account of all dimensions of the flood (including all flood sources, flow routes, depth, velocity and duration) and understand flood warning arrangements;
2. Assess the impact of the flood upon both the fabric of the property and those that use or inhabit a property. They should be able to analyse flood risk for an individual and for neighbouring properties, including the risk of flood flow from adjoining terraced or semi-detached properties. Particular attention should consider how the performance of interventions might affect or be contingent upon neighbouring and adjoining properties;
3. Assess the ability and capacity of property owners or tenants to store, access, use and maintain PLP measures. The iFRA needs to understand a client's individual circumstances and attitudes toward the use of resistance and resilience. Additionally, they should be able to assess and advise on homeowner expectations and emergency plan arrangements for the individual and community;
4. Be knowledgeable regarding the range of materials and products that are available, to understand the circumstances within which they will operate, and know their performance parameters (that is their limitations and contingencies) or any potential implications they may have for the health and well-being of property users and operators. They must understand and be able to advise householders and owners regarding the maintenance and lifespan of products and materials.
5. The assessor must understand, and be able to explain to the client, the rationale for using resistance and/or resilience measures and to be able to advise when such adaptations are not feasible or may be counterproductive to other flood risk management solutions that may be viable within the catchment.
6. They should be able to advise regarding funding opportunities available to assist with procurement, and the potential benefits of using measures (for instance, with obtaining accessible and affordable insurance cover, with property marketability and the 'peace of mind' benefits that such interventions might bring).
7. They must be able to understand and explain flood risk management administrative, financial and political contexts, and to be knowledgeable regarding the stakeholders and scales of flood risk management. This might include an understanding of how a PLP scheme may be affected (both technically and financially) by a broader flood risk defence scheme, and vice versa.

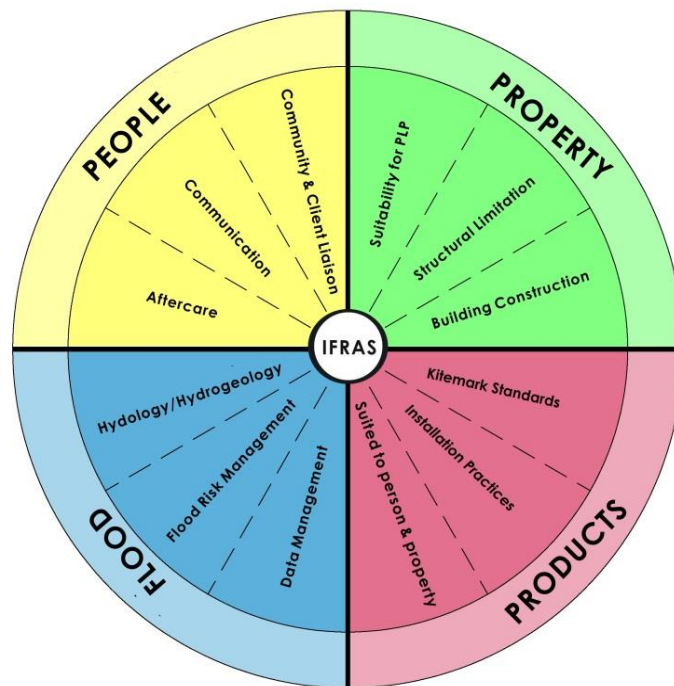
8. The assessors must operate independently from product manufacturers and installers. They should not have a commercial or vested interest in recommending any PLP measure. In certain circumstances, the iFRA must be ready to advise against any adaptation of a property through PLP (e.g. due to excessive flood depths, property construction, Listed Buildings status, etc.).

### Outlining the role

Although the concept of PLP is simple, the dependencies between the elements sometimes lead to confusion around the boundaries of roles and responsibilities. This can produce poor quality and inconsistent advice, installation and performance unless addressed from the outset.

Based on the consortium’s existing knowledge of the practice of appraising properties for PLP, it is important to highlight the complex interaction between the four elements of people, property, floods and products illustrated in Figure 3. Each element contains its own particular knowledge set, which the iFRA will need to be aware of.

**Figure 3: People, Property, Floods and Products ‘dartboard’. Graphic shows relevant knowledge themes for an iFRA.**



Within each quadrant, it is possible to identify further knowledge areas that an iFRA may have to develop skills in. Initially the team provided the following list:

Knowledge Area	
Flood risk assessment	Flood Warning
Client liaison	Emergency Planning
Flood risk management	Hydrology
Building design and construction	Insurance
PLP products	Structural Survey
Report writing	Hydrogeology
Community liaison	Geographical Information System (GIS)
Data acquisition and management	

**Table 4 – iFRA knowledge areas**

When first presented to the Project Board and Steering Group, it was perceived by some that this list, whilst comprehensive, could perhaps raise the cost of a survey beyond the reach of individual householders or deter potential trainees owing to the length of time taken to gain all of these skills. Thus, participants in the online consultation were asked to rank each potential knowledge area in terms of whether they regarded it as essential or desirable (See Table 5). The responses seemed to identify the need to have knowledge of the people, the property, the flood, and products.

It is worth, however, examining the qualitative information gathered in more detail. Many consultation respondents indicated, for example, why they considered certain skills to be a ‘desirable’ knowledge area. Items such as ‘structural survey’, ‘hydrology’, and ‘hydrogeology’ were felt to be important but not always needed, which is why they achieve lower scores. A degree of caution and objectivity should be exercised here as, for example, hydrology lies at the heart of any flood risk assessment by an iFRA provider. Consequently, an iFRA needs to recognise where these knowledge areas may be required in specific properties, and call in specialist skills where identified. This is supported by similar observations in the Defra PLP workshop (12 February 2014) where ‘Knowledge of your limitations’ was ranked as being of high importance. The consortium also engaged with The Survey Association (TSA), a trade body representing commercial surveyors in land and hydrographic survey, who potentially have cutting edge surveying techniques to feed into possible flood risk assessments. Members of the TSA act as a reminder of the types of specialist skills an iFRA will need to call upon, as well as possibly training to become iFRAs themselves.

Knowledge Area	Number of times considered 'essential'
Flood risk assessment	58
Client liaison	50
Flood risk management	49
Building design and construction	47
PLP products	47
Report writing	46
Community liaison	40
Data acquisition and management	37
Flood Warning	36
Emergency Planning	30
Hydrology	30
Insurance	27
Structural Survey	23
Hydrogeology	23
Geographical Information System (GIS)	20

**Table 5: Ranking of knowledge areas in terms of consideration as an 'essential' area**

At the top of the scale, knowledge of flood risk assessment was thought to be vital given the number of different agencies that could potentially be involved. In addition, the iFRA *'must also be aware of what community-level projects are in place or being planned by the Local Authority, Environment Agency, or other agencies which might have a bearing on the property concerned.'* (Consultation, National Flood Forum). This is an important point; the USA international case study shows that PLP can often be used as a stop-gap measure whilst communities await larger structural defences. An iFRA, therefore, should be aware of impending schemes and communicate this to the property owner.

Consultancies and the insurance industry highlighted that technical competence is the highest priority (and accordingly considered technical knowledge areas as essential) whilst community and client liaison were regarded as secondary (desirable) elements: *'The 1st priority is technical competence; this [community liaison] is the next level'* (Consultation, Insurance industry). On the other hand, interviews with the Chartered Insurance Institute (CII) and water companies highlighted a need to focus on "people skills" beyond technical skills.

After this consultation, it became clear that topics such as 'GIS' and 'Structural Survey' were in fact skills associated with existing knowledge areas and were subsumed into those. This work informed the knowledge parameters of the role, which is available as a standalone document. When tested with the Project Board, there was consensus that the knowledge and skills matrix was comprehensive. It is also recognised that some skills may be called upon more often (and thus represent core skills) but all are a necessary part of the iFRA's repertoire, particularly in complex cases.

In terms of identifying core skills, the following observations were made by stakeholders:



- Building construction skills (particularly planning, building regulations and standards, and heritage concerns) were highlighted as being very important;
- Knowledge of how flooding affects a building, including source, velocity, duration and depth are also deemed to be essential;
- Knowledge and awareness of flood risk management scored highly and must thus be considered to be a core skill;
- An ability to liaise with clients (in particular) and the wider community were also thought to be important;
- It was recognised that whilst a single individual/organisation need not necessarily possess all of the skills, there needs to be knowledge of when specialist help is required and how to access it;
- Complex cases requiring full structural surveys, for example, will need to be planned for even though they may be rare;
- There is a need to understand health and safety requirements. Water pipes and some building fabrics may contain asbestos whilst another hazard is placing PLP on gas vents which can lead to the build-up of carbon monoxide. The iFRA must identify and note the purpose of all such vents to enable the supplier to engage the skills of a Gas Safe Engineer to inform and certify the supplier's proposed mitigation measures.

This work informs the competency framework and training route map (Chapter 5 and Annex 5).

## **Guidance Documents**

Draft guidance documents were produced; one is aimed toward householders and the other is more technical guidance for local authorities, Environment Agency, insurers and other PLP scheme promoters. Whilst the contents of both are contingent on whether, and how, the recommendations of this report are put into practice, they both outline the iFRA role and what consumers might expect when funding such a service.

Early drafts were circulated amongst their key constituent audiences (See Appendix 1). Generally, feedback on the scope of the document was positive, with minor changes in formatting and terminology recommended. In addition, it was recommended that case study examples as well as a sample certification for an iFRA should be included. This is not yet possible but it serves as a note that both guidance documents should be regularly updated to reflect any changes in the market and to ensure that they are of use to audiences.

## 5. Competency Framework and Training Route Map

The research activities, in addition to the knowledge held amongst the consortium, helped to refine the activities that an Independent Flood Risk Assessor (iFRA) needs to undertake in order to deliver an effective and efficient service to property owners. These exercises have enabled the consortium project team to describe the activities using the headings of knowledge and skills for the 12 subject areas that are used in local flood prevention and property-level protection discussions. Whilst not every property will require the deployment of the full complement of skills, it is necessary that the iFRA has knowledge of them all. Three main components are outlined below.

The Knowledge and Skills Register lists the capabilities identified by the research and consortium as being needed an iFRA. They are also based on a detailed analysis of scheme reviews and best practice guides developed for the Environment Agency, local authorities and for Defra. The elements identified were circulated to stakeholders and the Project Board members for comment and verification that they should be specified as being necessary for an iFRA. The Knowledge and Skills Register is included as a standalone document.

### Development pathways

A competency training route map illustrates the path that people might take in order to move from a position in respect of their current capabilities to a new position through their acquisition of knowledge, skills, behaviours and experience. Producing a training route map illustrates how the priorities identified in the research could align with the project objective to produce a development programme for prospective iFRAs. Whilst the objective was not to produce a training course this framework provides the basis upon which Defra and professional organisations might identify specific modules and training requirements in the future.

The training route map and options for upskilling are discussed in Annex 5 and summarised in Table 8. This builds on the associated document, the Knowledge and Skills Register. There is one strategy but there are different options in the development programme. The assumption is made that a chartered professional will possess the relevant skills and experience in their field, but they may not (or are unlikely to) possess the additional skills required across the other disciplines. The options that a person would need to pursue will depend on their professional background and whether they come from a water, building, or emergency planning background and the development components (drawn from the Knowledge and Skills Register) that they need to complete.

<b>Chartered professional with building surveying expertise</b>	<b>Chartered professional with flood management expertise</b>	<b>Chartered background with emergency planning expertise</b>
Assessment of prior achievement in building surveying	Assessment of prior achievement in flood management	Assessment of prior achievement in emergency planning
Assessment of their knowledge and skills in flood management, emergency planning, working with people and flood products	Assessment of their knowledge and skills in building surveying, emergency planning, working with people and flood products	Assessment of their knowledge and skills in building surveying, flood management, working with people and flood products
Writing plan to reach required level of knowledge and skills in flood management, emergency planning, working with people and flood products	Writing plan to reach required level of knowledge and skills in building surveying, emergency planning, working with people and flood products	Writing plan to reach required level of knowledge and skills in building surveying, flood management, working with people and flood products
Gaining knowledge and skills in flood management, emergency planning, working with people and flood products	Gaining knowledge and skills in building surveying, emergency planning, working with people and flood products	Gaining knowledge and skills in building surveying, flood management, working with people and flood products
Assessment of acquired knowledge and skills in flood management, emergency planning, working with people and flood products	Assessment of acquired knowledge and skills in building surveying, emergency planning, working with people and flood products	Assessment of knowledge and skills in building surveying, flood management, working with people and flood products
iFRA certification	iFRA certification	iFRA certification

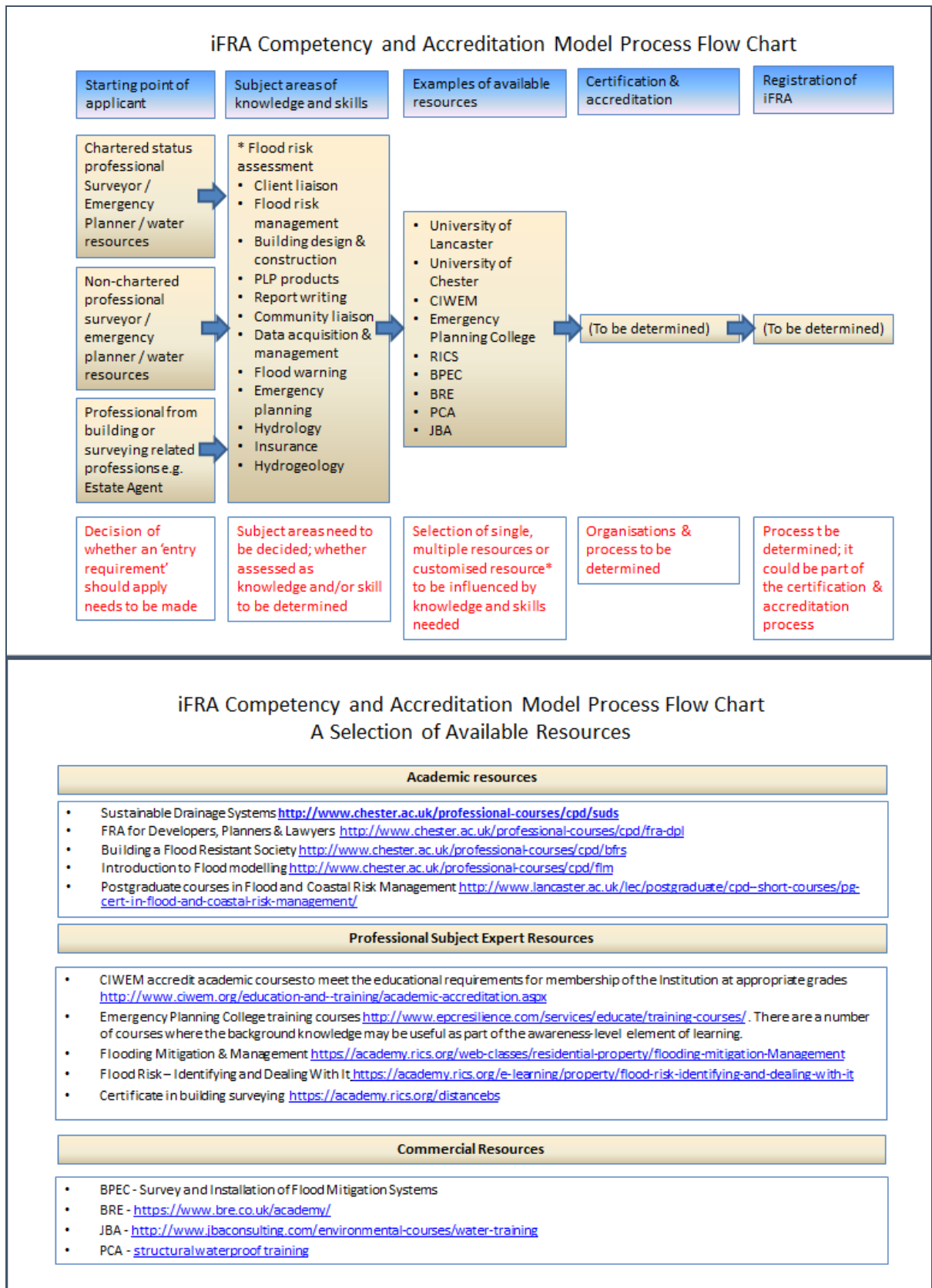
**Table 8 - Training route map for an iFRA.**

Figure 4 (taken from Annex 5) illustrates the stages between the current occupation of a candidate (e.g. Chartered Surveyor) through to registration as an iFRA. It shows the stages that would need to be completed as part of an iFRA competency and accreditation process.

The stages to be determined are those that depend on appropriate organisations being identified as being able to certify and accredit development schemes. These organisations can be commissioned once the scope and responsibilities of an iFRA have been agreed.

Figure 4 also provides links to existing development resources that might be utilised in order to produce a development programme for iFRAs.

Annex 5 compliments this report and describes in more detail the stages taken to arrive at the iFRA Competency and Accreditation Model Process Flow Chart.



**Figure 4 – iFRA development pathway and resources**

## Accreditation and certification

As noted in Chapter 3, all consultees preferred accreditation and this option was thus explored further and to demarcate the lines between accreditation and certification. The options for developing an accreditation process have been discussed within the consortium and the views sought from Project Board members and through subsequent interviews. This enabled the definitions to be clarified:

- Accreditation is the process of assessing the technical competence of organisations offering evaluation services.
- Certification involves ensuring that a service (in the case of an iFRA) meets the expectation of customers.

The options for accreditation and certification were identified and summarised below:

1. **Leave it to the market to develop an accreditation process.** The evidence from interviews is that in this instance product manufacturers and installers will develop an approach that prioritises the installation of products, i.e. the technical requirements for doing so, rather than adopting the wider flood risk management, building construction and vital assessment of homeowner needs approach.
2. **Identify one body to oversee the accreditation and/or the certification process.** The evidence from interviews is that no one body covers all of the areas of interest (i.e. property, people, floods, and products).
  - a. Accreditation could be provided by a member of the United Kingdom Accreditation Service (UKAS) Certification Body Schedule, who would oversee certifying bodies.
  - b. This could be underscored by a British Standard which could develop as a Code of Practice. This would have the benefit of articulating the standards that an IFRA would need to demonstrate and to work to, and which the certification and accreditation bodies would need to ensure are implemented.
3. **Identify several bodies to take forward the certification and accreditation process together,** following experience of the “Specialist in Land Condition” (SiLC) accreditation scheme (summarised below, details available from CIWEM and RICS). This has been developed into a recommended approach identified below.

### The Specialist in Land Condition (SiLC) Register scheme

The SiLC Professional and Technical Panel (PTP) was established to develop a system for the registration of individuals completing the Land Condition Record (LCR). An individual who becomes registered will be a “Specialist in Land Condition” and be known as a SiLC. The use of a registered SiLC gives the highest level of credibility to the information that is included in the LCR.

All supporting professional bodies have been invited to participate on the SiLC PTP.

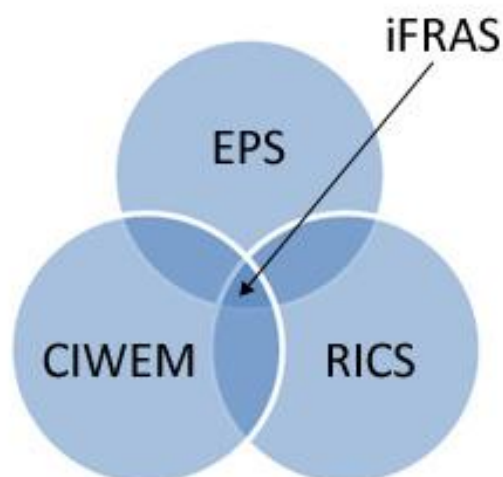
It is likely that there needs to be an overview accrediting body who should act as overseer of the certification bodies. This will require further discussion to provide the balance between guidance and regulation.

## Recommended Approach to Accreditation and Certification

Under the project team’s recommended approach, accreditation could be managed by organisations who have experience of accrediting certification schemes and have the necessary flood management, building and community engagement technical knowledge and experience (such as the Building Research Establishment, to cite one potential example). Insurers have stated their preference for an independent and impartial scheme with Government endorsement, to act as the driver and encourage take-up and compliance.

The Consortium has identified that an option for certification could be where it is managed by the three professional organisations suggested in the Knowledge and Skills Register, namely EPS, RICS and CIWEM, who each are well placed to address the “people” (EPS), “property” (RICS) and “flood” (CIWEM) dimension. Each organisation could assess their member’s knowledge and skills and agree a development plan for their members. Figure 5 shows the relationship between these three potential lead organisations representing flood management, property surveying and community engagement. Appendix C records the initial meeting and support offered by CIWEM, RICS and EPS and their willingness in taking this process forward, as one option for Defra to consider.

**Figure 5: Relationship between potential lead organisations and the iFRAS**



The Specialist in Land Condition (SiLC) example presents a very useful analogy to that envisaged here by the Consortium, involving administration by CIWEM, RICS and EPS in the first instance. The SiLC Professional and Technical Panel (PTP) was established to

develop a system for the registration of individuals completing the Land Condition Record (LCR). The initiative emerged out of the Urban Task Force (1999) and brought a range of interests (including the insurance industry) to establish the Land Condition Record (LCR). Following this, there was a push for an accredited scheme for individuals who could complete the LCR.

Reflecting the multi-disciplinary nature of the task, the accreditation scheme is administered through the Institute of Environmental Management and Assessment (IEMA) and involves other professional bodies such as RICS, CIWEM and the ICE. For the first three years, the accreditation scheme was funded through Regional Development Agencies to allow a self-sustaining financial scheme to emerge (see further information from Mallett, H. 2002. 'Talking Point', New Civil Engineer, 1 May, Available at: <http://www.nce.co.uk/talking-point/716451.article>).

There are two options when assessing the knowledge and skills of professionals against standards that are outside their greatest area of expertise (e.g. for a CIWEM member to be assessed on their building surveying knowledge and skills). Either each organisation would provide a set of standards to both their partner organisations, enabling the partners to judge whether their members had the appropriate skills and knowledge in the other fields, or would assess the candidates who are not members of their professional organisation. The arrangement of this activity will need to be negotiated and arranged between the certification bodies and the accreditation body.

CIWEM indicated their interest in developing a multi-organisational approach to certification and they already have experience of working with partner organisations, such as with RICS and others through the "Specialist in Land Condition" SiLC accreditation scheme. This provides a useful model, in this instance for the wider recognition of competence in the land condition field. A registered SiLC is a senior practitioner who has a broad awareness, knowledge and understanding of land condition issues, providing impartial and professional advice in their field of expertise. A SiLC is able to verify the accuracy of a completed LCR. Entry is gained through examination, which is held bi-annually.

Further discussions are recommended and will help shape the options, together with a consideration of an overview accreditation or supervisory role. In addition, as this multi-organisational approach develops, it is recommended to bring in other relevant professional bodies (such as BRE, ICE and RIBA etc) at an early stage.

Two further factors need to be part of the development of a framework:

1. Identification of the essential skills and knowledge, versus knowledge of when to call on other skills and where to go to get it, for each training and development route. Articulating this should be part of the development of the accreditation process.

2. The levels of attainment required will be an essential component of a trusted scheme. This will need to be addressed as part of the development and accreditation process.

## Current provision

There are a number of potential training providers who are considering offering relevant courses or may already be in a position to offer continuing professional development courses, and providing allied courses. These include:

- BPEC
- The Building Research Establishment (BRE)
- Chartered Institution of Water and Environmental Management (CIWEM)
- Emergency Planning College (EPC)
- JBA Consulting
- The Property Care Association (PCA)
- Royal Institution of Chartered Surveyors (RICS)
- The University of Chester
- Lancaster University PG Cert

An initial scoping meeting was held in April 2015, in order for representatives from RICS, CIWEM and EPS to discuss the proposals developed as part of this research. The meeting also helped identify any relevant courses that might be adapted to help train potential iFRAs. CIWEM indicated that it is unlikely that a newly chartered professional from either RICS or CIWEM, for example, could demonstrate the competence and skills in the subject areas outlined in Chapter 4. However, a matrix of CPD and training modules could work; RICS for example, could fulfil 'Building Construction' whilst CIWEM can undertake a range of courses on flooding and flood risk management. All three organisations offered their support and were keen to remain involved in further discussions and plans in the future. Notes from the meeting are included in Appendix C. Training may therefore occur through a mix of CPD classes with a range of online modules and training. Concern will need to be given to the length of time taken to gain accreditation as this will have an impact upon the type and number of people undertaking the training. Other courses and their key components are summarised below.

**The University of Chester** have recently launched a course, devised in collaboration with the National Flood Forum, on 'Surveying for Property Level Protection (PLP)' aimed particularly at the training needs of flood risk assessors and surveyors.<sup>16</sup> This one day

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<sup>16</sup> <http://www.chester.ac.uk/professional-courses/cpd/flood-modelling-resilience>



course costs £295 + VAT and is certified by the CPD Certification Service and accredited by CIWEM. It is too early to tell on the uptake of this course due to its recent launch.

**BPEC** offer a two-day course on ‘Survey and Installation of Flood Mitigation Systems.’<sup>17</sup> A workshop with BPEC and a flood manufacturer indicated that their course could extend to include other important areas such as independent surveying, independent sign-off and full consideration of which solution is most applicable in each case. However, BPEC cautioned that, based on delivery of previous programmes, a maximum course length of 3/4 days is practicable since uptake significantly drops due to lost income. However, surveyors who have undertaken the course in the insurance industry indicated that the BPEC course was ‘*useful*’ (consultation with insurance company).

Certain aspects of the Environment Agency’s online FCRM “Building Capacity” modules for local authorities may also be useful. These could be further developed and include:

- Collaborative Working Skills
- Designation of assets
- Flood risk management
- Guide to FCRM Community Engagement
- Local Flood Strategies
- Modelling and information: Module 1 - 3
- Partnership Funding
- Project Appraisal
- Property Level Protection

JBA Consulting<sup>18</sup> offer a range of courses at various sites across the country on the following themes:

- Flood Risk Management
- Coastal Erosion and Flood Risk Management
- Model Auditing and Management
- River Hydraulics and Modelling
- River and Catchment Restoration
- Catchment Hydrology and Modelling
- Software Training

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<sup>17</sup> <http://bpec.org.uk/bpec-survey-and-installation-of-flood-mitigation-systems/>

<sup>18</sup> JBA Consulting, 2015. JBA Training. Available at: <https://interactivepdf.uniflip.com/2/78955/319958/pub/document.pdf>

Within each theme are half, one and two day courses, aspects of these may be adapted or prove suitable within an iFRA training programme. Courses cost between £150 and £500.

An analogous training course provided by The Property Care Association has recently revised its training for surveyors to look at waterproofing below-ground structures.<sup>19</sup> This is a three day course aimed at those planning, delivering or installing any below ground structure and is designed around the BS 8102: 2009 – Code of Practice for protection of below-ground structures against water from the ground; in which a waterproof specialist is required to be part of an overall design team. The maximum cost of attending the 3 day course is £550 + VAT.

It should be noted that the complexity of the iFRA role and the high entry requirements suggested mean that the role is unlikely to be fulfilled by a short training course. A chartered surveyor, for example, noted that when building surveying skills were not evident: *'proper upskilling takes time, a 2 week course will not be sufficient.'*

## Certification and accreditation

For reasons of assuring quality, a process of attaining, assuring and maintaining minimum standards of competencies for an iFRA should be established. Such an arrangement would reassure property owners and would act as a source of confidence for the insurance industry and product manufacturers. Stakeholders were asked which of the following options they would consider the most suitable for upholding the responsibilities of an iFRA:

- Endorsement
- Certification
- Certification backed with accreditation

An endorsement would be the support for a service without reference to quality standards and the suitability of a process (e.g. flood risk assessment). A certification process would be more robust than an endorsement and would recognise a measure of achievement. Accreditation that supports certification would place responsibility on an accreditation organisation for the monitoring of standards in a certification process.

The consultation survey produced an overwhelming preference from a wide range of stakeholders for an independent, certificated and accredited development programme. Insurers asks were consistent with other stakeholder comments in this respect – an independent system of accreditation, separate from the PLP market is wanted. Insurance representatives who were contacted did not have any particular opinion over the detail or

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<sup>19</sup> <http://www.property-care.org/training-qualifications/pca-surveyor-training/structural-waterproofing-training-course/>

type of accreditation and certification system, although they did make it very clear the important element is that it must be independent and impartial. One commented:

*“If it isn’t independent of product suppliers we won’t touch it.”* (Insurance representative).

The comments received stated a strong preference for the accreditation system to at least have Government endorsement to encourage take-up and compliance: 39 respondents to the consultation (out of 62) chose accreditation or endorsement as a means of taking the issue forward. This would be consistent with the findings of the case studies – these all had a common feature of Government support, backing or endorsement. This was considered by stakeholders as a key requisite to require or drive property owners towards the use of an iFRA.

Given the need for an iFRA to understand and practice skills and approaches across the subjects of people, property, flood and products, we envisage that a collaborative approach between subject-expert organisations in each of these disciplines should form the backbone of any certification and accreditation process. The demonstration of competency through certification should be based on the responsibilities and tasks that an iFRA undertakes in their role. The certification process could be undertaken either by: a single organisation that represents all of the disciplines (flood, people, property); in part by each organisation representing their specialist areas of knowledge under the umbrella of one of the disciplines taking a lead; or by an independent organisation representing all disciplines.

## 6. Conclusions

### Implementation and delivery

The need for a more coherent and robust regime for surveying was acknowledged by consultees throughout the project. The vast majority of consultees welcomed the initiative, although there was divergence in opinion regarding the exact scope and of the survey, and regarding the competency profile of the individual. The research has also identified barriers as well as opportunities to delivering this programme of work. This section revisits these themes, reviewing and discussing their potential influence over any initiative to develop a cohort of competent surveyors. In particular, we propose a series of issues for further discussion.

#### The professional

##### General principles

- The research confirms a need for an accredited iFRA to enhance consumer confidence and ultimately flood resilience. Consultees agreed that whilst the market for flood resistance and resilience products and materials was becoming increasingly vibrant, many (including insurers) were confused regarding which adaptations would be most beneficial from both a technical and financial perspective.
- The iFRA should provide a holistic and comprehensive service, recognising the complex drivers of flood risk and vulnerability. They are not merely building surveys (hence the emphasis on assessments), and the assessors should have skills beyond those of a building surveyor.
- Independence and impartiality are key elements to such a service. The overwhelming majority of participants in this study agreed that the cohort of surveyors should provide impartial advice, and should be independent from the PLP industry. Several consultees (including insurers) expressed concern that many surveys were conducted by installers with a vested interest in selling products, and often in selling products produced by one manufacturer.
- It is likely that two distinct supply offerings will be available from the market, to scheme promoters and property owners: free or low cost surveys from suppliers tied to products; and independent flood risk assessments by competent and professionally accredited iFRAs. The way that these two offers interact will need to be carefully considered.

##### Knowledge, standards and training

- It is essential that the iFRA prioritises quality and comprehensiveness. The cohort of assessors should have demonstrable competences in the fields outlined above, particularly regarding community liaison, flood management and building construction. The assessor should also be able to identify when property level protection is not appropriate, and the limitations and operational parameters of adaptive practices.

- The iFRA and PLP surveys cannot be delivered on the basis of desk-top reports that simply refer to broad scale mapping and that do not take full account of the person or the building type and condition (or surrounding properties) or the building users and inhabitants. These cannot deliver the level of technical information necessary or the personal approach to engage and build relationships with property owners in order to understand the specific social needs. Any PLP scheme will only be as effective as the person deploying and maintaining the measures.
- Developing emergency plans will be a vital element in determining the successful outcome of the PLP approach. The datasets used are too coarse or provide false precision, while detailed and local knowledge from property owners and site surveys are missed (e.g. regarding building condition and resident vulnerability) resulting in potential greater risk of failure and no reduced level of damage and stress.
- The process of defining 'essential' and 'desirable' knowledge identifies knowledge gaps that must be filled as part of the overall role of an iFRA. However, a 'pick and mix' approach, particularly to the essential competencies, is strongly discouraged and may undermine confidence in both the profession and the service.

## The profession

### Setting the standard

- A number of approaches could develop the iFRA role. Accreditation with certification is the favoured option. A clear standard must be established across the sector. A balance is required though: a need to set the minimum qualification at a high enough standard that invites trust yet low enough not to ensure that it becomes too exclusive (and expensive). Equally, there is a need to ensure that the service is affordable. It is important that individuals, and particularly those with less financial means, are not discouraged from this service. In short, the independent flood risk assessment must not become an obstacle to using adaptive technologies and materials.
- The iFRA knowledge requires a professional qualification; a benchmark standard that needs to be met and recognised by peer groups and across appropriate professional bodies. As an initial proposal, the consortium has spoken with organisations who cover the three core areas of knowledge (floods, buildings and people): CIWEM, RICS and the EPS. If they, or similar entities, could be brought together initially to develop certification, a momentum could be built whereby partnerships could start to identify how accreditation and certification could take place.
- The research highlights that accreditation is required to provide confidence in the profession and the service. Accreditation would need to be provided by a registered body e.g. NQA Certification Limited or others listed in the UKAS Certification Body Schedule, who would audit certifying bodies; A British Standard could develop as a Code of Practice, and from this a number of bodies could act to certify the iFRA.
- There is a need to consider how standards will be assured and maintained. There may be a role for regulatory intervention here (as with other sectors), or a profession that is self-regulatory and works to a defined code of practice. There is a risk that if not agreed, standards will be partial, potentially undermining the initiative.

- Further discussion regarding how standards can be ensured without regulation is necessary. The Defra template for surveying developed for the pilots has proven to serve as a valuable benchmark. It not only formed the basis of all 63 pilot schemes, it has since formed the core requirement and has been used for virtually all schemes by the Environment Agency and local authorities, helping to define their scope of works. It also is referred to in the Environment Agency’s “Flood Resistance Measures” Framework. A similar approach could be adopted for defining the ongoing iFRA role
- There is a need to consider sanctions and recourse if a standard of service provided by an iFRA falls short of expectations. As well as the need for public liability and indemnity insurance, the role of the accreditation bodies needs to be considered in maintaining standards. As noted above, concerns were raised regarding the potential for companies or individuals to deliver non-sanctioned flood risk assessments, undermining the ‘official’ scheme’. This will need to be protected against.

### Training

- The overall training landscape uncertainty reflects the wider uncertainty around the volume and value of the future PLP market. Feedback from FE establishments and professional bodies raises concern over the lack of incentives to train people to attain iFRA status. The potential role of insurance, and of Flood Re in particular, is central to this question.
- This lack of incentive – or uncertainty as to future incentive – is linked to the potentially high costs of establishing appropriate training courses and modules, coupled with possible low uptake, returns and margins. Despite, therefore, the recent developments of surveying training courses in recent years, some concern has been expressed regarding the extent of the market for further training courses, and the extent of the market for independent flood risk assessments.
- Whilst being acknowledged that professional standards need to be raised, concerns were raised regarding the costs (and opportunity costs) of registration, training etc. This may inhibit some from undertaking training. Many consultees referred to the lack of certainty regarding this. If there is no guarantee of long-term work in this area, then individuals may be less likely to risk up-skilling. Importantly this may discourage some training providers from entering the market.
- Where they already exist, or are emergent, training schemes for installer surveys (separate to the iFRA) will need to be developed further and harmonised to provide a consistent standard across the industry.

An accreditation and certification process for establishing an iFRA could be subject to market initiatives that seek to circumvent the process. The National Flood Forum note that homeowners are attracted by offers of free surveys from product suppliers as opposed to paying for a fully qualified and independent flood risk assessment. They further note the homeowner is often unaware and unable to verify the levels of surveyor competence, or that such surveys may not be impartial or independent. There are many examples (from

previous Defra reviews and from calls to the National Flood Forum) of unscrupulous suppliers taking advantage of vulnerable homeowners, selling them products that are neither suitable or in some cases needed. This emphasises the importance for independent guidance. Stakeholder feedback also consistently points to the need for regulation and/or incentives that require an iFRA to be used, either as part of a risk management authority procurement condition or through insurer stipulation. Case study analysis of analogous initiatives are underpinned by such a regulatory or market driver. Without a requirement to focus on survey quality and independence, the market will dictate and short-term cost considerations, combined with a lack of awareness, could undermine the objectives of establishing a cohort of competent surveyors and will act to deter and undermine confidence in PLP, rather than encourage the wider take-up.

## **The practice**

- Stakeholders reflected upon how growth in the PLP market can be raised by raising trust and confidence in the products, and how a robust surveying regime can be used to underwrite this.
- Competence must be demonstrated throughout all four stages of a PLP scheme, from initial appraisal, product selection, installation and aftercare. The assessment process should reflect these inter-related dimensions.
- Flood risk is dynamic and the assessment process must reflect this. Any such assessment is a snapshot and will need regular updating and ideally annual checks to confirm arrangements remain satisfactory. Flood risk, the building fabric and condition and the inhabitants of a property change over time, and this needs to be recognised in the practice of iFRAs. In a practical sense we recommend that a flood resilience assessment should have a limited life and regular checks and updates are necessary.
- iFRAs need to be equipped and prepared to consider the needs of individuals and communities. A short-term approach for an individual might shift the burden on to other individuals or the community. Yet an iFRA should consider whether an individual's vulnerability might be best dealt with by broader community approach. An iFRA will need to evaluate the other (non-PLP) options and decide whether alternatives are more feasible or desirable.
- Managing property owner and insurer expectations will remain a vital requirement to ensure standards of protection are clearly understood and emergency plans are in place to be prepared to manage residual risks.

### Awareness of the service

- The successful development of an accreditation and certification process will also require ongoing campaigns to raise the levels of awareness of the PLP approach and options. General levels of awareness remain low and act as a barrier to the wider take-up. The experiences and feedback from property owners provides extensive evidence of the confusion and need for support and advice through a coordinated approach.

- Access to accredited iFRAs should be available on the National Flood Forum (NFF) website and linked to the NFF's Blue Pages which lists suppliers and highlights BSI Kitemarked products. This will be integrated with other tools on the NFF such as the Property Protection Advisor. Whilst there are resource concerns for this organisation the NFF can provide impartial advice not only to individuals and communities but importantly to the local authorities and the Environment Agency responsible for progressing and delivering PLP schemes.
- The iFRA role and quality of service could be driven by 'Trip Advisor' style feedback as the approach matures and scheme feedback and levels of satisfaction are available. Such a consumer review will be important in leveraging uptake, as would establishing a cross sector community stakeholder forum to share best practice.

### Affordability

- The focus on property flood resilience to date has been on the provision of public funding support for flood resistance measures via Flood Defence Grant-in-Aid (FDGiA) and Local Levy. Defra cost effectiveness research has highlighted that flood resilience works that adapt a property to allow floodwater ingress and minimise damage is expensive and does not offer appropriate cost/benefit returns. An individual property owner will be similarly faced with such high costs of resilient measures and thus focus will likely remain on resistance measures without any market initiative through subsidised scheme and support. Many homeowners prefer options that aim to keep water out rather than let it in.
- As has been highlighted by the case studies (Annex 2) and described in Section 3 above, feedback from a wide cross-section of stakeholder groups (insurers, risk management authorities, professional bodies such as RICS, surveyors and suppliers) suggests that without some form of regulatory driver, there will be no requirement for individual property owners to procure the services of an iFRA. Free or subsidised surveys from product suppliers will remain attractive to property owners who may resist paying for an independent flood risk assessment – or will be unaware of the lack of impartiality and independence of their supplier.
- The provision of an assessment generally requires providers to carry high levels of professional liability insurance and employers insurance. The costs of obtaining and renewing annually such insurance may act as a deterrent for some would be iFRAs.

### The insurance sector

- There is a need to consider the affordability of assessments in conjunction with any associated driver requiring the services of an iFRA. New market drivers such as '*FloodRe*' could for example make insurance cover conditional upon obtaining an initial property flood risk survey report, as well as a final post-installation audit report, from an iFRA.
- The insurance sector – and more particularly '*Flood Re*' – will be a major factor that could frame both the practice of iFRAs and the use of flood risk assessments. Homeowners, scheme reviews for Defra and calls to the National Flood Forum



confirm frequent reports that the insurer does not take any PLP measures installed into account. Meanwhile the cost of insurance has generally increased.

- Further attention should be paid to the broader potential drivers of assessments for PLP. Whilst insurers generally support adaptive technologies, they are rarely traced through pricing models. The insurance industry should be encouraged to take greater recognition of adaptive technologies, and should support the need for competent flood risk assessments.
- Insurers asserted that the quality of surveyors and assessments must not be compromised.

### Scheme promoters

- Flood Risk Management Authorities need to develop a clear policy on the delivery of flood resilience and decide how they approach and accelerate the delivery of PLP (both resistance and resilience) and the iFRA role provision.
- The new Environment Agency framework will be key to this objective. Linked to this should be consideration of how to accelerate planning and delivery of PLP schemes by the Environment Agency and local authorities, through simplified partnership funding/FDGiA/Local Levy funding routes. A greater priority on delivery by the RMAs will accelerate the provision of measures to properties at significant flood risk and help provide the support and coordination that individuals need to take action.

## **Barriers and opportunities**

A range of potential barriers to the development of a competent cohort of surveyors and the wider aim of driving take-up of PLP have been noted. These were highlighted throughout the stakeholder discussions, feedback and evidence gathering process. These points are summarised below.

### **Driving uptake**

- Stakeholder feedback consistently flagged that without some form of regulatory driver, there would be no incentive or requirement for individual property owners to procure the services of an iFRA.
- The focus on property flood resilience to date has been on the provision of public funding support for flood resistance measures. Defra cost effectiveness research has highlighted that flood resilience works that adapt a property to allow floodwater ingress and minimise damage is expensive and does not offer appropriate cost/benefit returns. An individual property owner will be similarly faced with such high costs of resilient measures and thus focus may remain on resistance measures through subsidised scheme and support.

- The successful development of an accreditation and certification process will also require ongoing campaigns to raise the levels of awareness of PLP approaches and options.
- The experiences and feedback to the National Flood Forum from property owners provides extensive evidence of the pitfalls and barriers to take-up arising from delivering PLP on an individual, piecemeal basis. This has resulted in lower uptake of PLP due to the barriers in appointing works on an individual basis. Conversely where PLP is promoted as part of a wider scheme, any initial scepticism and slow take-up by homeowners is frequently overcome once neighbours see what other neighbours are doing. This has always been a feature of Environment Agency and local authority led schemes and has again been shown by recent Pathfinder projects such as in West Sussex, Slough, Southampton and Calderdale. This underlines previous scheme reviews that have shown that homeowners are often confused and in need of impartial support and advice through a coordinated approach with neighbours.
- An accreditation and certification process for establishing a cohort of independent surveyors is likely to be subject to market initiatives that seek to circumvent the process. Other initiatives that do not adhere to an accreditation and certification process are likely to remain in existence because of the PLP market.
- Without a requirement to focus on survey quality and independence, the market will dictate and short-term cost considerations will undermine quality whilst creating longer term problems.
- Managing property owner and insurer expectations will remain a vital requirement to ensure standards of protection are clearly understood and emergency plans are in place to be prepared to manage residual risks.
- The piecemeal delivery of PLP for an individual property as opposed to a coordinated PLP community scheme could act as a significant barrier to the successful and wider take-up by homeowners and insurers. Interdependencies between properties and the way that PLP works as one component of the flood risk management system require a wider, holistic approach to community resilience. A piecemeal approach could lead to concerns that PLP is ineffective and unreliable and threaten to undermine confidence.
- The approach depends on effective emergency plans, with neighbour supporting neighbour, especially where vulnerable residents who will require assistance with deployment of their PLP measures.

## Insurance

- The competitive insurance market will continue to require technical support on flood management whilst remaining detached from, and independent of, any independent survey.

- Undertaking the role of an iFRA is likely to require providers to carry high levels of professional liability insurance and employers insurance. The costs of obtaining and renewing annually such insurance may act as a deterrent for some would-be iFRAs.

## Training

- There is a need for an iFRA to have access to, and be able to call upon, a wide range of knowledge, skills and experience. This requires providers to either train up in all subject areas or to plan and organise such links through partnerships or within organisations.
- Feedback from further education establishments and professional bodies raises concern over the lack of incentives to train people to attain iFRA status. This lack of incentive – or uncertainty as to future incentives – is linked to the potentially high costs of establishing appropriate training courses and modules, coupled with possible low uptake, returns and margins.
- The costs of training may act to deter would be iFRAs. Potential iFRA candidates for training are suggested to have attained chartered professional status and would incur significant loss of earnings whilst attending, or would require sponsorship to attend and complete the relevant modules.
- The overall training landscape uncertainty reflects the wider uncertainty around the volume and value of the future PLP market.

## 7. Issues to consider

### Current and future drivers of PLP surveying

The consortium identified a series of important forces that form a context for surveying for PLP. The development of the PLP surveying role both - in principle and in practice - will be contingent upon the evolution of these drivers:

- Current policy seeks to devolve decision-making to local levels, and to encourage individuals and communities to take greater responsibility for managing ‘their’ flood risk. This could prove a significant driver for PLP surveying. It is, for instance, acknowledged that communities and local authorities alike will require further decision support. It is likely that an iFRA surveyor could provide this role.
- The Flood Re insurance scheme may potentially encourage greater property level flood resilience measures to be delivered, as recently noted by the Adaptation Subcommittee.<sup>20</sup> The development of a cohort of competent surveyors may assist with the transition to a free market in flood insurance. Simultaneously, competent surveys may help insurers to price PLP.
- PLP is an evolving sector. There are now a wide range of products and measures available. However, this choice has often left property owners confused regarding their most appropriate options, and regarding the limitations of technologies. A qualified iFRA surveyor should be able to guide consumers through the decision-making process, and provide greater confidence in the ability of PLP to afford greater flood resilience.

The significant feature to emerge from the case study reviews was the presence of a regulatory driver to require or incentivise the desired action. It is clear that the current UK policy context favours a scaling back of regulation. If it is unlikely that surveying for property level protection will receive regulatory backing or will become mandatory, there is a risk of alternative avoidance measures proliferating and undermining the objectives. Given this circumstance, consideration must be given to alternative forms of leverage to support this scheme of work. It is worth noting here that this was a recurring theme throughout the rest of the research and was highlighted during the earlier PLP scheme reviews as a significant barrier to wider take-up.

The insurance sector - and more particularly ‘*Flood Re*’ – will be a major factor that has the potential to frame both the practice of iFRAs and the use of flood risk assessments. Whilst insurers generally support adaptive technologies, they are rarely traced through pricing models used by underwriters. The insurance industry should be encouraged to take

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<sup>20</sup> House of Commons [Environmental Audit Committee]. 2015. Climate change adaptation: Tenth Report of the Session 2014-15. London: The Stationery Office Limited, p. 22. Available at: <http://www.publications.parliament.uk/pa/cm201415/cmselect/cmenvaud/453/453.pdf>

greater recognition of adaptive technologies by demonstrating the potential financial and risk management benefits to them of doing so, and should support the need for competent flood risk assessments. Insurers asserted that the quality of surveyors and assessments must not be compromised. The *Flood Re* insurance scheme may encourage or even require greater property level flood resilience measures to be delivered, as recently noted by the Adaptation Sub-committee. This will be an important component in the transfer to a free market in flood insurance. The development of a cohort of competent surveyors will be essential to help achieve this.

Interviewees reflected that unless the survey was either affordable, or was in some way mandatory or supported in some other way, that uptake would remain low. Three options where an iFRA could help drive uptake would seem to be available at present:

- Accelerating the RFCC programme of PLP schemes delivered by the Environment Agency and local authorities;
- Using Flood Re to target high flood risk policy holders with information about roles and responsibilities and information about what can be done and who to go to;
- Property owner perceptions and expectations of PLP to regard it as a marketable asset.

## Progressing accreditation

The view of the consortium is that representatives of suitable certification and accreditation organisations should meet with PLP subject experts and public bodies with statutory responsibilities to develop an effective and robust scheme that meets the needs of property-owners and their communities. The need for a high quality, professional service cannot be stressed highly enough. It is vital both for the property owner and to the future success of the PLP and resilience approach that delivery is not compromised by poor quality assessments.

The quality of an iFRA development programme should be robust. It would be easy to develop a course that meets the specification of the organisation commissioning it but the solution needs to meet the needs of individuals, communities, flood risk authorities and others. Such a development programme needs to anticipate and be prepared for challenges that might not be obvious. The initial steps in this process have been undertaken by the project consortium in terms of initially bringing together three professional bodies (CIWEM, RICS and EPS) who have a central role to work together and develop the detail in partnership with Defra and the Environment Agency. In addition, the following organisations have been highlighted as important organisations to involve in future discussions, helping to shape the accreditation, certification and training of a competent cohort of surveyors.

Organisation	Website
Association of Consultant Approved Inspectors (ACAI)	<a href="http://approvedinspectors.org.uk/">http://approvedinspectors.org.uk/</a>
British Standards Institution (BSI)	<a href="http://www.bsigroup.co.uk/">http://www.bsigroup.co.uk/</a>
The Chartered Association of Building Engineers (CABE)	<a href="http://www.cbilde.com/home/">http://www.cbilde.com/home/</a>
Construction Industry Council (CIC)	<a href="http://cic.org.uk/">http://cic.org.uk/</a>
Institution of Civil Engineering (ICE)	<a href="http://www.ice.org.uk/">http://www.ice.org.uk/</a>
Local Authority Building Control (LABC)	<a href="http://labc.uk.com/">http://labc.uk.com/</a>
Royal Institute of British Architects (RIBA)	<a href="http://www.architecture.com/Explore/Home.aspx">http://www.architecture.com/Explore/Home.aspx</a>
United Kingdom Accreditation Service (UKAS)	<a href="http://www.ukas.com/">http://www.ukas.com/</a>

Table 10 – Further consultation opportunities.

## Updating guidance

Standalone guidance documents have been prepared for both the homeowner (Annex 4) and scheme promoters such as local authorities and Environment Agency (Annex 6). These were reviewed and well-received by those who tested them in advance. It is essential that these guidance documents are regularly updated as the process evolves and agreement reached on the way forward.

## Summary

Confidence in an independent iFRA that has the necessary breadth of skills, knowledge and experience is the primary ask of insurers, scheme promoters and homeowners alike. This research and stakeholder feedback also confirms the need for and benefits of establishing an accreditation process that will provide formal recognition and endorsement of this service. This will further develop the knowledge, skills, behaviours and experience of professionals who must know about and demonstrate an understanding of the importance of the interaction between property, flooding and people.

Summarising the consistent message and ask of insurers is a process that addresses the risk presented by non-approved or non-accredited surveyors offering their own service. Independence and impartiality are emphasised, together with endorsement or support by Defra of a quality accreditation system.

The consortium are confident that a collaboration between representatives of professional bodies from each facet will be able to develop an independent and valuable flood risk assessment service. This is aimed at encouraging the wider take-up of effective action to improve community and property owner flood resilience. The consortium has set up the next stage by calling together representatives of each facet and will share our experience and findings with them in order that they can devise a development plan and proposals.

This should be aimed to take this research and recommendations forward in order to create a competent, independent and trusted iFRA.

It is recognised that the flood risk and geography of the international case studies are distinctive from the UK. However, the reticence to use adaptive technologies in some parts of the world, should be noted. There are for instance, key uncertainties and concerns with the use of PLP, with it often used only after a full consideration of wider flood risk management strategies at different scales. There is also a need to ensure that surveyors do not look at technology in isolation, indicating the term 'surveyor' may be misleading.

Insights regarding the context of PLP are also reflected through current UK practice. Adaptation (PLP) can only be fully appreciated against the context of flood risk management. To understand whether PLP is an appropriate option, it is necessary to investigate its potential as *part* of a wider catchment flood risk study reflecting the hierarchy of options, in consultation with the Environment Agency and the local authority. There may be viable alternatives being proposed by the risk management authorities (that would offer higher standards of protection and making PLP unnecessary) or community PLP schemes may already be programmed. Many PLP schemes now and in the future require the iFRA to assist or lead in a more comprehensive review and assessment of all available flood risk data and previous catchment flood management investigations, as part of the surveying role, in order to be confident that PLP is an appropriate approach.

# Appendix A: Online Consultation – Questions

## Background

We are part of a consortium of researchers who are undertaking work as part of a Defra-funded research project ‘Surveying for Flood Resilience in Individual Properties’. The project seeks to encourage wider take-up of property level protection (PLP) “by developing a cohort of competent surveyors”.

It is important to recognise there are two specific elements embraced by the term ‘surveying’ in this context: PLP surveys comprise both the initial flood risk property assessment and the subsequent PLP product installer’s inspection survey. It is important to distinguish the two and to ensure the focus of this research is primarily on the former initial risk assessment role, whilst remaining aware of the links to the latter. The team have adopted the term ‘independent flood risk advisor (iFRA) for this role and are developing a matrix of capabilities that an iFRA may need to survey individual properties for flood resilience.

## Purpose

We want to consult a wide group of stakeholders and practitioners who have experience of PLP, including PLP suppliers and manufacturers, the insurance industry, property owners and community groups, the Environment Agency and local authorities. The questions are aimed at understanding what skills an iFRA should have, the feasibility and practicality of delivering training for those skills, and how they might be accredited. In addition, we will ask you about current practices as this will enable us to write guidance documents appropriate for individual households and local authorities.

There are 7 consultation areas with 11 questions. We anticipate that this will take up no more than 20 minutes of your time.

Please answer all of the questions if you can. If there is something that you cannot answer then just leave it blank.

The final date for responses is: 19<sup>th</sup> December 2014

We would be very grateful for your time and valuable input to this important research whose ultimate aim is to provide support and help to those at flood risk.

## What happens to the data?

Your answers will remain anonymous although we will ask for the type of organisation that you work for and your location. These details are optional.

The data will be encrypted and stored securely on password protected equipment. If you have indicated that you want to know the outcomes of the research, your contact details will be stored



separately and held in an encrypted file. The researchers will have sole access to the complete data for the duration of the project.

If you require the survey in an alternative format or if you have any questions about it, please contact us by email at:

ANGELA CONNELLY (University of Manchester)

[angela.connelly-2@manchester.ac.uk](mailto:angela.connelly-2@manchester.ac.uk)

## Questions

1. An Independent Flood Risk Assessor (iFRA) will have to possess the wide range of knowledge which is listed in the table below.

**Q1.** Please consider each item in relation to your knowledge and experience of PLP.

Please indicate whether the knowledge area is essential or desirable by placing an *e* (essential) or *d* (desirable) in the first column. Please explain your choice in the second column in as many characters as you would like.

Knowledge area	Essential or desirable (e = essential; d = desirable)	Comment
GIS		
Flood Risk Assessment		
Data acquisition & management		
Flood risk management		
Hydrology		
Hydrogeology		
Community liaison (e.g. communication of technical knowledge, customer service experience)		
Client liaison		
Insurance (e.g. local arrangements for insurance)		
Emergency planning (e.g. existence of flood groups, knowledge of local flood preparation and recovery)		
Extent of local flood warning arrangements		
Building construction & design		

PLP products		
Report writing ( <i>including ability to convey technical information and uncertainties</i> ).		
Structural survey		

2. The iFRA could be delivered by (i) an individual who has undergone an upskilling programme to widen their core skills or (ii) an organisation which will utilise a number of subject experts.

**Q2a.** *In your view, what do you think are the major strengths and weaknesses of each option (i) and (ii)?*

**Q2b.** *In your view, which option is likely to provide an effective flood risk assessment service to property owners and why?*

### 3. Describing the advantages of independent advice

Property owners can already obtain a ‘free’ or subsidised survey from a product manufacturer or supplier but they are then tied to their products. The aim of this project is to help property owners improving access to independent advice from a ‘competent person’ ( to buy the services of a recognised independent flood risk assessor) who can make impartial recommendations of the most appropriate means of reducing the flood risk to the property.

**Q3** *How do you suggest we describe the advantages to the property owner of engaging an independent surveyor?*

### 4. Accreditation or endorsement?

In simple terms, accreditation involves testing processes and systems against a set of standards. Endorsement is the recognition of the quality of training content.

**Q4a.** *Which option (accreditation or endorsement) do you think would be the best outcome and carry most weight with the audience*

**Q4b.** *Which do you think we can realistically expect a flood risk assessor service – whether delivered by an individual or through an organisation - to commit to and why?*

### 5. Combining technical competence with effective engagement

Technical knowledge and experience is at the core of the flood risk advisors work. They will also have to form a relationship with property owners that will enable the iFRA to gather information, explain the relevance of the information gathered and gain the confidence of the property owner.

**Q5.** Please can you give us examples from your area of work where technical competence has been augmented with behavioural skills resulting in an experience that the customer finds positive and empowering.

## 6. Affordability

**Q6.** Affordability of the flood risk assessments for property owners is a concern. In your experience, what has been the typical price range for an initial flood risk assessment? Please leave blank if you do not have experience of that type of property.

Type of Property	Approximate Minimum Price (£)	Approximate Maximum Price (£)
A whole house or bungalow that is detached		
A whole house or bungalow that is semi-detached		
A whole house or bungalow that is terraced (including end-terrace)		
A flat, maisonette or apartment		
A caravan or other mobile or temporary structure		
Non-residential commercial properties (e.g. shops, offices)		
Non-residential service properties (e.g. libraries, community halls)		

## Q7. Scheme benefits and drawbacks

PLP schemes can either be provided at a community level or else procured directly by a property owner. Drawing on your experience, please summarise the main benefits and drawbacks of each option.

- a) Community level scheme
  - Main benefits
  - Main drawbacks
  
- b) Individual property schemes
  - Main benefits
  - Main drawbacks

**Q8. Which sector do you belong to?**

Please choose one

Central Government	
Government Agency (e.g. Environment Agency)	
Local Government	
Consultancy	
Education/ Research sector	
Voluntary Sector or community organisation	
Other, please specify	

**Q9. In what area of the country is your work is predominantly based?**

Devolved Administrations	
South-East England (Excluding London)	
London & Greater London	
South-West England	
East Midlands	
West Midlands	
North-West	
North-East	
Yorkshire and the Humber	
Other (Please describe)	

## Number of responses to consultation questions

Question	No. of Responses
1) Ranking of Knowledge and Skills Matrix elements in terms of essential or desirable	62
2) The iFRA role could be delivered by (i) an individual who has undergone an upskilling programme to widen their core skills or (ii) an organisation which will utilise a number of subject experts. a. In your view, what do you think are the major strengths and weaknesses of each option (i) and (ii)? b. In your view, which option is likely to provide an effective flood risk assessment service to property owners and why?	28
3) How do you suggest we describe the advantages to the property owner of engaging an independent surveyor?	48
4) In simple terms, accreditation involves testing processes and systems against a set of standards. Endorsement is the recognition of the quality of training content. a. Which option (accreditation or endorsement) do you think would be the best outcome and carry most weight with the audience b. Which do you think we can realistically expect a flood risk assessor service – whether delivered by an individual or through an organisation - to commit to and why?	45
5) Please can you give us examples from your area of work where technical competence has been augmented with behavioural skills resulting in an experience that the customer finds positive and empowering?	42
6) Affordability of the flood risk assessments for property owners is a concern. In your experience, what has been the typical price range for an initial flood risk assessment? Please leave blank if you do not have experience of that type of property.	19
7) PLP schemes can either be provided at a community level or else procured directly by a property owner. Drawing on your experience, please summarise the main benefits and drawbacks of each option.	32

## Schedule of Interview Themes

### Local Authorities

1. General experience and impressions of PLP.
2. What would enable you to deliver more PLP schemes?
3. What are the critical weaknesses of PLP

4. People's impressions of PLP
5. Experiences with surveying?
6. How important is surveying?
7. What might facilitate/ prevent the development of a competent pool of surveyors[ing]?
8. What is looked for in a survey and a surveyor?[]
9. Do you offer recommendations and advice?
10. Specifically go through guidance.
11. How do you appoint and procure surveyors for PLP?
12. What cost/quality ratio and criteria do you think should apply to determine appointment?

## **Insurers**

1. What would give you confidence that a flood resilience survey has captured all of the risks from flooding?
2. What would give you confidence that a flood resilience survey has captured all of the risk associated with the building and its environment?
3. What would give you confidence that a flood resilience survey has captured all of the risks associated with the householder?
4. What level of training and accreditation would give you confidence that the person(s) undertaking the flood resilience survey were appropriate?

## **Training & Accreditation Bodies**

1. What do you think are the key skills that an individual/organisation who is surveying a property for flood resilience should have? (Prompts: people skills, building science knowledge, hydrological knowledge, flood risk management knowledge)?
2. Do you have any sense of the gaps in core knowledge that your sector would experience in terms of surveying properties for flood resilience?
3. What are the best routes for these knowledge gaps to be addressed? (Prompts: through CPD

training, as a core part of university curricula)

4. Given the multi-disciplinary tasks that must be undertaken when surveying properties for flood resilience, what are the appropriate business models (prompts: a professionally accredited architect/engineer who buys in services, a large multi-disciplinary company, is it a service that could be available on the high street).

## Householder Guidance Document Testing

*Although there have been many advances in protecting individual properties from flooding, the number of suitably qualified people who can undertake an independent flood risk assessment is small. For the property owner this is both confusing and has hidden pitfalls, with potentially serious consequences arising from an incorrect assessment of flood risk or poor advice on inappropriate products.*

*Defra has asked us to draft a Homeowner Guide on how to access the necessary skills from a qualified surveyor. These, we hope, will provide reliable and competent advice and guidance that will encourage the wider take-up of property protection measures, greater resilience in communities at flood risk, and increased confidence by both property owners and insurers.*

*Attached is an early draft of the Household Guide. I would be really grateful for your views on how useful the Guide would be, bearing in mind that the iFRA role has not yet developed in practice. I would particularly welcome your thoughts on:*

- 1. The scope and remit of the guidance;*
- 2. The style of the document and its length*
- 3. How easy it is to understand. Is there too much technical language, for example?*
- 4. Gaps in the information or areas where further detail is necessary;*
- 5. Aspects that are particularly helpful;*
- 6. Sources of further guidance.*

## Appendix B: List of organisations attending workshops/ interviews

	Organisation	Background	Mode of Engagement
Consumer	<b>Mary Dhonau Associates</b>	Mary Dhonau Associates provide impartial help and advice to those who have recently flooded.	Telephone interview
Insurance	<b>Association of British Insurers (ABI)</b>	The ABI are the main trade body representing insurance companies. They speak for the insurance industry as a whole, although this is a large and diverse body of groups.	Interview
Insurance	<b>Chartered Insurance Institute (CII)</b>	The CII represent the insurance and finance sector. They were consulted in order to ascertain how the role of an iFRA could inspire confidence amongst their members.	Interview
Insurance	<b>Flood Re</b>	Flood Re is replacing the former Statement of Principles governing the insurance industry and their approach to flooding. <b>Flood Re</b> will help high risk properties with the costs towards their flood risk insurance. Flood Re may help to drive the market for PLP. The issue will then be knowledge of who is excluded from Flood Re and where they can go to for help.	Interview
Insurance	<b>The Chartered Institute of Loss Adjusters (CILA)</b>	CILA represents Chartered Loss Adjusters, who are independent claims specialists that investigate, negotiate and agree the conclusion of insurance and other claims on behalf of insurers and policyholders.	Interview
Insurance	<b>Zurich Risk Engineering</b>	Zurich is one of the leading international risk insurance companies who often provide cover for commercial entities.	Telephone interview
Insurance	<b>AXA insurance</b>	The AXA Group is a global financial services company and provides insurance services as well as wealth management and healthcare.	Telephone interview
Insurance	<b>Lloyds underwriters</b>	Lloyd's is a market, not an insurance company per se. Instead, members join together as syndicates to insure risk	Telephone interview
Manufacturer	<b>UK Flood Barriers</b>	UK Flood Barriers are one of the leading suppliers of PLP to the UK market (and beyond). They have established a training course with BPEC on 'Survey and Installation for Flood Mitigation Systems' focusing on driving up standards of product installation.	Telephone interview
Professional Body	<b>Chartered Institution of Water and Environmental Managers (CIWEM)</b>	CIWEM represents a broad range of professions (including engineers and scientists) in order to combine expertise in the cross-cutting discipline of environmental management. CIWEM can certify and train their membership.	Interview



<b>Professional Body</b>	<b>Emergency Planning Society (EPS)</b>	The EPS represents the professional body promoting community resilience in the UK, providing training and independent, expert emergency planning and response advice to key decision making bodies, including Government and Parliament.	Telephone interview
<b>Professional Body</b>	<b>Property Care Association</b>	The Property Care Association (PCA) is a trade association representing who represent trades which resolve problems affecting buildings. The PCA have recently absorbed the former Flood Protection Association (FPA).	Telephone interview
<b>Professional Body</b>	<b>Royal Institute of Chartered Surveyors (RICS)</b>	RICS sat on both the project board and steering group. RICS surveyors have the building construction knowledge to undertake the iFRA role as well as already established competency frameworks.	Interview and Telephone interview
<b>Professional Body</b>	<b>The Survey Association (TSA)</b>	The TSA is a trade body representing commercial surveyors in land and hydrographic survey.	Interview
<b>Professional Body</b>	<b>TrustMark</b>	TrustMark is a not for profit organisation, licensed by Government and supported by consumer protection groups in order to help consumers find responsible tradespeople..	Telephone interview
<b>Scheme Promoter</b>	<b>Cornwall Council</b>	Lead Local Flood Authority (South-West of England)	Telephone interview
<b>Scheme Promoter</b>	<b>Devon County Council</b>	Lead Local Flood Authority (South-West of England)	Telephone interview
<b>Scheme Promoter</b>	<b>Essex County Council</b>	Lead Local Flood Authority (South-East of England)	Telephone interview
<b>Scheme Promoter</b>	<b>Northamptonshire County Council</b>	Lead Local Flood Authority (South-East of England)	Telephone interview
<b>Scheme Promoter</b>	<b>Rochdale Borough Council</b>	Lead Local Flood Authority (North-West of England)	Telephone interview
<b>Scheme Promoter</b>	<b>Thames Regional Flood and Coastal Committee</b>	Regional Flood and Coastal Committee (South-East of England)	Telephone interview
<b>Scheme Promoter</b>	<b>Northumbria n Water</b>	Northumbrian Water provides water and sewerage services throughout the North-East of England.	Telephone interview
<b>Scheme Provider</b>	<b>The Environment Agency</b>	The Environment Agency is the government body with responsibility for flood risk from main rivers, reservoirs, estuaries and the sea. Though represented on the steering group and project board, members of the consortium spoke individually with representatives throughout the agency, particularly regarding the emerging procurement framework for PLP	Interview/ Telephone interview

<b>Scheme Provider</b>	<b>Local authorities</b>	Devon county Council, Essex County Council, Northamptonshire County Council, Rochdale Borough Council	Telephone interviews
<b>Training Provider</b>	<b>BPEC Group</b>	BPEC specialise in providing operatives working in the building services engineering industry with the skills and expertise necessary to meet the high industry quality standards. They currently run a flood resilience training course sponsored by UK Flood Barriers.	Focus group interview
<b>Training Provider</b>	<b>Building Research Establishment (BRE)</b>	BRE is a leading consultancy who specialise in developing products, standards, and qualifications for the built environment professions generally. BRE were represented on the project board, but also consulted separately in light of their multi-disciplinary expertise in certification and training.	Interview
<b>Training Provider</b>	<b>City &amp; Guilds (C&amp;G)</b>	C & G are a skills development organisation across a wide range of sectors. C&G were consulted given their potential role in certifying surveyors or in providing training programmes.	Telephone interview
<b>Training Provider</b>	<b>University of Chester</b>	The University of Chester offer CPD courses in flood risk management and resilience.	Telephone interview

**Appendix C - CIWEM, RICS and EPS meeting record**

# MEETING AGENDA

JBA Project Code	2014s1239
Contract	Surveying for flood resilience in individual properties
Client	Defra
Day, Date and Time	20 <sup>th</sup> April 2015
Meeting	CIWEM/RICS/EPS & Project Consortium review
Venue	Telecon 10:00 – 11:30



Attending	Alastair Chisholm & Paul Hillman	CIWEM	AC / PH
	Alan Cripps & Stewart Cooper	RICS	FS (JBA)
	Tony Thompson	EPS	TT
	Paul Cobbing, Hugh Burchard & Peter May	Consortium Project reps	PC,HB,PM
	<i>Notes/Minutes to be taken by JBA</i>		

## Item

## Timing

### 1 Objectives and aims

#### 1.1 Telecon objectives

The purpose of this telecon meeting is to provide the opportunity to engage with and seek views of representatives from CIWEM, RICS and EPS; summarise the Defra project objectives and progress; and feedback to Defra for ongoing action.

#### 1.2 Defra project objectives

##### The project objectives are as follows:

1. To support growth objectives by providing support for uptake of new technologies (PLP) by the public and creating business development opportunities for small surveying businesses and sole-traders to provide this service, including in the context of the home-buying and selling process.
2. To develop competency specifications for professionals wishing to carry out this role: identify and map the knowledge and skills surveyors need to develop in a range of domains (including structural surveying, engineering, Building Regulations, hydrology and communication with householders).
3. To identify the opportunities for delivering the necessary training in the context of the current professional development landscape and map out a development pathway for those wishing to develop these skills.
4. To identify any additional barriers to the development of a corpus of competent professionals able to survey, project-manage and sign off schemes to the satisfaction of the insurance industry and others.

#### 1.3 Project aims

Driving take-up of property-level protection (PLP) – currently thought to be constrained by:

- A lack of specialist capacity amongst surveyors;
- A lack of independent verification of this capacity;

....and to be encouraged by developing a cohort of competent surveyors.

### 2 Progress to date

#### 2.1 Report extract

*Confidence in an independent iFRA service that has the necessary breadth of skills, knowledge and experience is the primary ask of insurers, scheme promoters and homeowners alike. This research and stakeholder feedback also confirms the need for and benefits of establishing an accreditation process that will provide formal recognition and endorsement of this service.*

*This will be built upon putting into practice the knowledge, skills, behaviours and experience of professionals who must know about and demonstrate an understanding of the importance of the interaction between property, flooding and people.*

*The consortium is confident that a collaboration between representatives of professional bodies from each facet will be able to develop an independent and valuable flood risk assessment service. This is aimed at encouraging the wider take-up of effective action to improve community and property owner flood resilience.*

# MEETING AGENDA

JBA Project Code 2014s1239  
Contract Surveying for flood resilience in individual properties  
Client Defra  
Day, Date and Time 20<sup>th</sup> April 2015  
Meeting CIWEM/RICS/EPS & Project Consortium review  
Venue Telecon 10:00 – 11:30



## Item

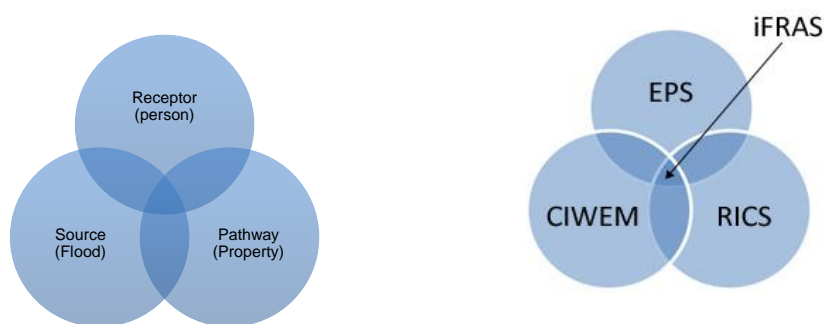
## Timing

### 3 Proposals

#### 3.1 Summary

The Independent Flood Risk Assessor (iFRA) role, as identified in this project, requires a unique blend of skills and knowledge focussed on a thorough understanding of the flood risks and sources; building construction; the full range of PLP products that are available, and the needs and abilities of the person and family living in that property.

An iFRA must address three key components represented by three key professional organisations:



#### 3.2 Knowledge & Skills Register (attached paper)

#### 3.3 Competency & Training Route Map (attached paper)

### 4 Discussion and feedback

#### 4.1 CIWEM

#### 4.2 RICS

#### 4.3 EPS

### 5 Taking things forward

#### 5.1 Actions

### 6 Any other business

# MEETING AGENDA

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## MEETING NOTES & SUMMARY

- PM provided the background and progress with the project, described in conjunction with a brief review of the points included above.
- HB summarised the two attached papers (Skill Register and Competency Training Route Map) outlining the background, approach and recommendations. The brief was not to develop a training course – rather than to identify a blue-print for a training route map that can be taken forward.
- Research and proposals have recorded that whilst there will be too large a knowledge gap between some professions and an iFRA (e.g. estate agents) this gap would be significantly less and bridgeable between any chartered professional from CIWEM, RICS or EPS.
- PC summarised discussions and progress from previous emails and a meeting with CIWEM (ACh and PH). ACh noted the parallels with existing CIWEM chartered process where competencies are key. On-line e-learning was highlighted as an ideal vehicle to help develop competency.
- Both ACh and PH emphasised the main challenge is to develop a process that enables candidates to clearly demonstrate competency through evidence and to also identify gaps in knowledge and how these are to be filled. Assessment and proof are key. (Note – this could also have links to the concept of a “Trip Advisor” introduced in the report, aiming to capture homeowner feedback on provider’s performance and competency).
- RICS already has good awareness of project with both AC and SC involved with the Defra Steering Group and Project Board.
- TT joined the telecon from Abu Dhabi and gave a pledge of 100% support from EPS, is very keen to work together with all parties and to offer all support in promoting and taking this initiative forward.
- Further useful background to EPS from TT noted that EPS has c1400 members involved in emergency response and planning, with a wide spectrum involvement in resilience.
- The EPS has already developed a list of core competencies and can provide training events and activities and would be very keen to help develop and contribute to a competency programme for iFRAs.
- All three organisations (CIWEM, RICS and EPS) agreed with the approach and are supportive and keen to commit to the principle of developing an accreditation and training scheme.
- All agreed these are the correct three professional bodies that reflect the “flood, property and person” model and best placed to lead and take this forward (noting the point made in the report that others will and should be consulted as part of the process).
- Register lists skills that an iFRA will need to possess or more likely have access to – either through a partnership or within a single company. Recognition was made of the risks of referring to “optional” skills which could lead to a pick and mix approach rather than acknowledging all skills will need to be accessible.
- Chartered professional was described as the appropriate level from which to determine gaps and training needs within each of the three sectors. This emphasised there would be a series of training pathways rather than just one single route. Ability to both demonstrate competence as well as identify where

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gaps would need filling by others who are similarly accredited.

- ACr agreed with the proposed approach and process noting that RICS has a well-developed CPD and training programme including links with CIWEM through the “Institutional Flooding Group”. This could offer one way to take things forward although is currently set up with a clear policy brief.
- PH stated that similar joint accreditation arrangements are established as part of the SILK process for land contamination assessments and will forward details on to PM.
- The role of iFRA was discussed with SC offering a note of caution of an overly complex process when much already exists and could be accomplished via a desk top assessment, leading to PLP installation. PM emphasised however the detailed level of assessment needed to accurately and reliably assess flood risk and the individual needs of properties and people.
- PM noted how many PLP surveys and schemes include a widening brief to support EA or local authorities in community flood risk assessment and pre-feasibility studies in order to assess options, PLP suitability and eligibility. These are tasks for an iFRA, as is the need to inform and advise homeowners on the need to develop and test emergency flood response plans.
- There remains uncertainty over the market, drivers and incentives to use an iFRA. All agreed with a comment from ACr (and also endorsed by the project research and stakeholder comments) that there needs to be a specific requirement or mandate to use an iFRA. Government and insurers will need to provide and/or ensure clarity over the drivers and incentives for homeowners to use an iFRA. There must be some form of requirement or the initiative will not encourage take-up nor will it encourage training organisations to develop training and accreditation programmes or would-be iFRAs to train.
- PC noted that it will be a while (2016?) before any FloodRe details and requirements are established (whether insurers might require an iFRA survey for example). PM noted that EA framework and LA scheme PLP projects all set out standards of knowledge, skills and experience that could be regarded as equivalent of an iFRA level of competency. The new EA framework will be open to all local authorities and hence will also influence how the iFRA concept develops.
- All agreed to work together and support the initiative. All agreed to also raise awareness of this initiative and the proposals within their respective professional organisations and at relevant meetings and conferences. TT highlighted the annual EPS conference in September as one such event where Defra may wish to highlight progress and plans.
- PM agreed to distribute a meeting summary which will be shared with Defra. It is anticipated that Defra will follow this initial meeting up with more detail as plans are agreed.

**Peter May - Technical Director, JBA Consulting**

**20<sup>th</sup> April 2015**

