Flood Protection Advice

General advice:

Unfortunately, it is impossible to guarantee that you will never get flood water into your property, it is nature's most devastating force and will always find a way in. Having said this, there are a wide range of products available on the market, all of which have been tested and proven effective when installed and used correctly.

Due to the immense pressure the water will put on the fabrics of the building, the property may be at risk of structural damage. We therefore recommend that any water that is above 1m deep (from your floor level), you allow the property to flood. If you are wanting to protect above this level you will need to get advice from a structural surveyor.

Your home / business is probably the most expensive thing you will purchase and so deserves to be looked after. By investing wisely in adding flood resilient products, it will have lasting effects. Not only will they help you to protect your property, they may also help with insurance and when you come to sell the property as it will stop potential buyers trying to reduce the value of it.

The 2 types of flood protection:

Reactive protection: Products such as barriers and covers etc that need to be manually installed.

Passive protection: Products such as doors and automatic air bricks ensuring round the clock protection.

The 4 main ways to mitigate your property against flood damage:

1. Boundary protection: Potentially, this is the best way to protect your home as it stops the water before it even gets to your door. However, depending on the structure of your property, this may not always be possible and the most appropriate option for you.

2. Aperture protection: This prevents water coming in through openings in the structure, e.g. doors; air bricks; pipes; cable entry; gas/electric boxes; drains.

3. Seepage: Through walls and floors of your property.

4. Removal: Removing any water that gets in and keeping damage to a minimum.

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1. Boundary protection:

The perimeter of the property will need a wall, fence or barrier that has a strong enough structure to protect the property against rising water. All apertures will need to be blocked as well such as gate opening. This can be done by using removable barriers or hardwood flood gates. Any drains that will allow water to back up on the inside of the boundary will also need blocking e.g. by installing non-return valves on the outside of the boundary.

Walls: These are traditionally the most effective way of retaining water but depending on the depth of water, they will need to be built strong enough to withstand the pressure. However, a downside is that walls can be very expensive to build.

Fencing: We have designed a structural fence that can withstand up to 1m deep water and this is a more cost effective way of building a protection for your boundary.

Barriers: These can also be used but can be very expensive on a large run and will take time to install when required.

Gates: We have designed hardwood gates that look aesthetically pleasing. They work as normal gates day to day and when required for flood protection, they have a few clamps to seal the gates.

Seepage: A combination of the above will generally stop the majority of the water. If the water is round for long enough it will affect the water table and start rising up through the ground. Any water that does get into the garden can be pumped away.

Depending on the area you are trying to protect you may need to gain permission from the council and Environment Agency. This is because you will be passing the water onto somewhere else.

2. Aperture protection:

This is the last line of defence, when water is at the doors and you need to stop it. There are many products available on the market such as barriers and flood doors.

Sand bags: These are usually the first thing mentioned, however in our experience, they are a waste of time if used on their own. This is because they only filter the water and do not act as a solid barrier.

Barriers: First of all, they are very good at doing their job but to state the obvious they are only any good when they are fitted. As a lot of flooding is flash flooding this may not be the best solution for you especially if you are unable to get them fitted in time. Also if you are going away on holiday for example and want to fit the barriers while you are away just in case, then this may advertise to the wrong kind of people that the house is empty.

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There are many different makes of barriers and the most suitable may depend on your property and your physical abilities to fit them as and when required. There are barriers that have no visible fixings, making them discreet. Then there are barriers that may have metal rails fixed to your property with boards or panels that drop into them to form the barrier. The rails can be powder coated to make them more aesthetically pleasing.
All are available in different heights, offering protection up to 1m deep. The last thing to consider with a barrier is storage, often forgotten about, the barriers will need to be stored in a safe location easily accessible when required and also stored in a way that will not damage any of the seals.
Doors: There are 3 types of door available: UPVC; Composite (high quality UPVC) with a wood grain effect; Traditional timber doors. All doors are flood resilient when locked and they have all been tested to 600mm depth of water. As the doors are used regularly then the seals and locking mechanisms will require maintenance, we recommend that you check them on a regular basis e.g. once a month. If there is an issue with the seals getting damaged then they can be replaced by us, do not put this off as it may affect the doors ability.
Air bricks: These will let a lot of water in if not sealed. You can fit an air brick cover, these are very good but if you have a large property with a lot of air bricks this can take a long time to get them fitted (will you have time?). The other option is to have an automatic air brick fitted, these basically close off automatically with the rising water level.
Drains and pipes: Water/ sewage backing up the drains can be a major problem. Again you can fit stop valves manually or you can have a non-return valve fitted into the main drain automatically sealing the system.
Cable entry: TV cables and phone lines are main problems, these can be sealed with a good quality mastic
Gas/electric boxes: Depending on positioning and depth of water these may need covering with a suitable barrier
Tumble dryer vents: Often forgotten but again will allow a lot of water to enter the property, Barrier protection or automatic air bricks, probably best solution is to brick up old hole at the bottom and vent out at higher point
Cat flaps: If you have a cat flap on your door you will have to fit a barrier in front of the door.

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3. Seepage:

If water is around for long enough it will seep through walls and concrete floors. Although water will not pour through these it will seep through so it needs to be considered.
Water repellent can be applied to external walls and this will slow down the water penetration of the bricks.
Water will seep through concrete floors as well, often after a property has flooded the first thing people say when renovating, is get rid of the old timber floor and fill it in with concrete. This is a solution but does not necessarily mean you have solved the problem. To do it correctly it will require a tanking membrane that covers the whole floor and returns up the walls creating a seal. But be aware, this procedure is what is used in basements and can still leak which is why pumps are used in basements.
Timber floors usually have a void underneath and if you are at the stage where the timber floor has been removed you could have the walls rendered down to the sub floor with a water repellent added to the sand and cement base coat. Potentially screed the floor with the same mixture, this will then reduce the amount of water that can seep through the walls and floor. With the void under the floor you will then have a 'well' for the water collect under the floor rather than on top of the concrete floor. You can then use pumps under the floor to remove the water.

4. Removal:

Pumps, pumps, pumps! There are many different pumps available and a lot run off a standard plug or you can have a more powerful 3phase or generator style pump.
We would always recommend having a couple of pumps in your property to help control the water and there are pumps that will remove water down to within a few millimetres of the floor.
Boundary protection, if water seeps through the walls, gates or rising water table in the ground the best thing to do is pump it back over the boundary.
House protection, if water does get in to the property it needs removing as soon as possible, this will mitigate the amount of damage.

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Things to consider when renovating after a flood:

What help will you get from your insurance company?
Contact them and discuss what options are available to do flood resilient work at the same time, e.g. if the front or back door is damaged and needs to be replaced, then are you able to replace it with a flood door? You may have to pay the difference but we have seen it so many times when people have had a new door fitted by the insurance company only to throw it away 6 months later to have a flood door fitted.

Step 1:

After you have got past the initial shock and upset, you now need to look to the future and imagine exactly how you want to live in the property. By this we mean imagine yourself back in the property – will everything go back in its original place? Or is it time to change where things will be placed?
You can then work back and plan the build effectively.
Basically this means you can make correct decisions early on which will not slow down the renovation due to after thoughts.

Step 2:

Think of flood resilience for the future.
Electrics: All power should be supplied from 1st floor down to the sockets, not run under timber floors as they may become vulnerable. Raise the sockets off the ground, allow for extra sockets for the pumps to run off. It is better to run any pumps off an upstairs supply. This is because often, power cuts off down stairs but remains on upstairs, this means that your pumps will keep going when you may need them the most.
Plumbing: Fit non-return valves, ideally done to the main drain but they can also be added to all small pipes e.g. shower trays - these are the lowest point of entry and can be the first to back up.
Floors and walls: Fill any unwanted holes e.g. old air bricks; cable entry; tumble dryer vents.
Tanking: Water can still get through! The new concrete should have a tanking membrane installed and wrapped up the walls approx 1m. Also add a water repellent to the concrete mix. The plaster walls should be replaced with a sand and cement render with a water proof additive. If you do this it should not need ripping off and replacing the next time it floods. Lime plaster, water does not affect it, but is not used much in modern buildings as it is very expensive to fit and takes a long time to dry.

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If you have timber floors, render right down to the sub floor, this will slow the water down and screed the sub floor with same mix as the walls.
Fit tiles to the floor and have tile skirting: This means that if you flood in the future you can mop up disinfect and get your life back to normal very quickly.
If you want timber skirting boards then glue them to the walls, do not drill and fix them as you will be braking the render seal.
Timber floors: Use timber floor boards not chip board.
Kitchen: Keep everything as high as possible, if you do all the above and manage to control the water to a few inches then all that will need replacing are the plinths.

Allow access in timber floors to get to the pumps to be installed under the floor.

General note, use solid timber products e.g. doors, skirting boards etc. We also advise for you to stay away from MDF and chipboard as water makes them 'blow' easily.

Decorating, use a good quality paint on the walls such as Dulux 'Endurance' which is washable and very hard wearing (other brands available), on wood work use oil based paints, avoid water based products on timber.

The above is only a guide to help you and is not definitive, we have learned from experience that these measures can help but other methods and products may be available.
If you have any other advice you would like us to provide, please contact us.

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