

Flood Resilient Home Design Guideline for the City of Logan



This guideline is designed to help you adapt your home to improve its flood resilience.



Flood Resilience in Logan

The City of Logan's subtropical climate and diverse landscape means our city is vulnerable to the threat of natural disasters, such as flooding. Historically, land use and development controls have sought to create flood resilience through creating flood free land and raising floor levels. However, as our city continues to grow and as climate conditions change, maintaining our flood resilience requires us to adopt alternative techniques to support our traditional practices.

An important step in maintaining flood resilience is ensuring our community is able to take steps to prepare and withstand flood events that may exceed our past experiences. This is simply because it is projected that flooding events will increase over time.

We cannot prevent flooding from occurring, but there are measures we can take to reduce the severity of its impact. You can prepare for the next flood by making practical and better-informed decisions to adapt your property to increase its level of flood resilience.

Common problems from flooding

Some parts of the home are more vulnerable to flooding.



Mould and rot



Disintegration of linings



Swelling of cabinetry



Malfunctioning services

What is Flood Resilient Building Design?

The use of materials, construction systems and house design types that can withstand substantial and multiple inundations by actively mitigating the effects of, and decreasing the consequences of flooding.

Flood resilient building design enables homeowners to safely store belongings prior to a flood event and easily clean, repair and quickly resume normal life after the flood waters recede, with minimal long term disruption to family and finances.

The Benefit of a Flood Resilient Home

A flood resilient home has the potential to:

- Minimise the chance of flood damage to your property.
- Minimise the inconveniences of getting your life back to normal.
- Save you in the long-term from having to pay for repairs to your home and temporary relocation.
- Help you to potentially reduce your insurance premiums
- Ensure that your home is ready for changing flood conditions in the future, particularly from climate change.
- Allow you to prepare for, live through and recover from flood events.



A home retrofitted for flood resilience

Understanding your flood risk

The first step to making a home flood resilient is to understand the level of flood risk for your property. To identify if your property may be at risk of flooding, please access the Logan PD Hub through Council's website which allows you to view flood hazard overlay mapping for your area of interest.

From the Logan PD Hub, you can access your Flood Level Report which can tell you how high the water could go and what chance there is of a flood occurring.

When applying the strategies outlined in this guideline, consider going up to the highest level of flooding for your property in order to achieve the highest level of flood resilience.



This guideline aims to minimise the impact of flooding for existing flood affected homes which have not been built to relevant flood protection standards. All new homes should be designed and constructed in accordance with the Logan Planning Scheme – Flood Hazard overlay code.

Flood Resilient Design Approaches

There are three flood resilient design approaches. You can use a combination of wet proofing, dry proofing and elevation to improve your home's flood resilience.

Wet proofing

Wet proofing involves using flood resilient materials and construction methods to allow flood waters to enter the house with a minimised chance of flood damage and moisture problems afterwards. By accepting a level of risk through wet proofing, and creating space for water to flow, you can be better prepared for the next time a flood happens. This means going with the flow and working with water rather than against it.



Dry proofing

Dry proofing involves sealing the exterior of your house to prevent water from entering. Flood doors are one of the options to do this. For low-level floods this is effective, however, greater depths can result in an increase in force on the building and result in cracking or movement off foundations. It's worth noting that this method can also displace more water onto neighbouring properties.



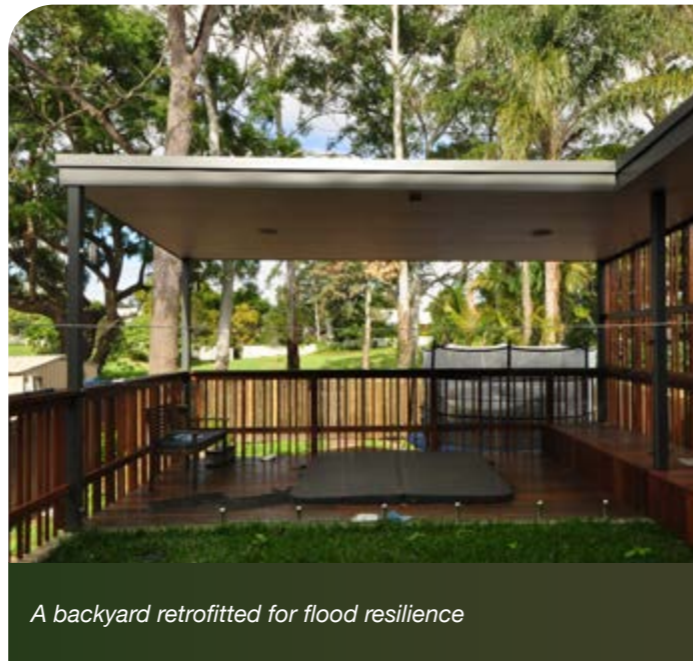
Elevation

Raising the level of the house or its services above the projected flood level is effective at mitigating flood damage to your home. Footings, posts, slabs and other structures all need to withstand a flood water flowing across the site. Services such as air conditioners, hot water units and electrical meter boards can be raised above the flood level to minimise the chance of important utilities failing.



Shelter in place

Shelter in place provides safety during major flood events. For a two storey home, the upper level should provide a safe refuge and all requirements to sustain habitation during a flood, such as shelter, food and water. If your home is single storey, utilise your existing roof space, or where possible, add a mezzanine level to your home.



A backyard retrofitted for flood resilience

Flood resilient design and Insurance

Homes at a higher risk of flooding may face increasingly higher insurance premiums. The insurance industry has begun to recognise that the use of flood resilient design principles is effective in reducing damage costs and therefore flood resilient homes could benefit from a reduction in their premium.

There are examples in other capital cities where homes in high risk flood affected areas that were designed with flood resilient principles have benefited from a reduced premium.

Have a discussion with your insurance provider prior to doing any work on your property to ask if they are open to reducing premiums if flood resilient retrofitting is done. It's also worth checking that your insurance covers you for all types of flooding on your property.



A home retrofitted for flood resilience

Typical Examples of Flood Resilient Homes in Logan

This section illustrates how four common house types in Logan have been adapted to be flood resilient. Though this is not a comprehensive list of house types, the flood resilient strategies shown are common for many types of buildings and can help reduce the impact of flooding to your home.

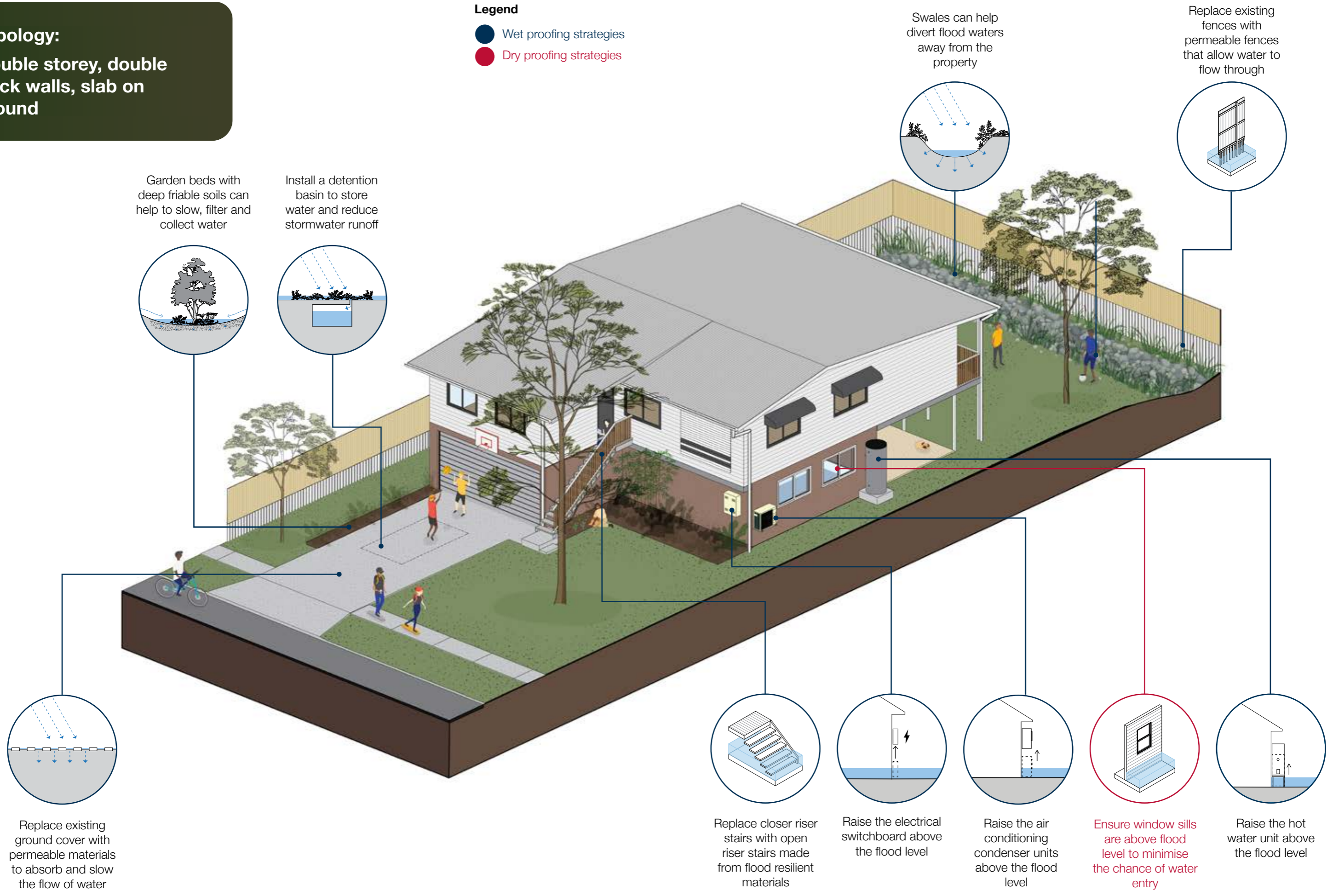


A home retrofitted for flood resilience
Photo credit: Scott Burrows Photographer

Typology:
Double storey, double brick walls, slab on ground

Legend

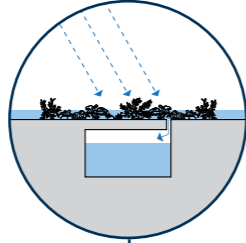
- Wet proofing strategies
- Dry proofing strategies



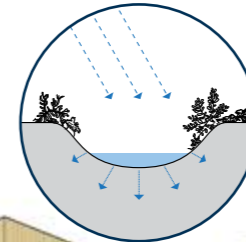
Garden beds with deep friable soils can help to slow, filter and collect water



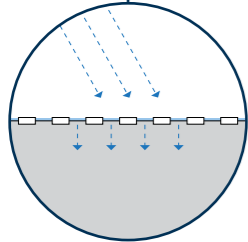
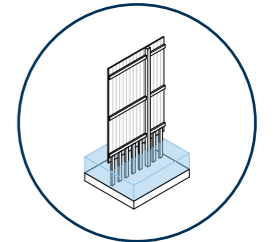
Install a detention basin to store water and reduce stormwater runoff



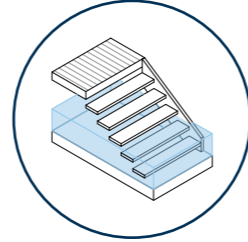
Swales can help divert flood waters away from the property



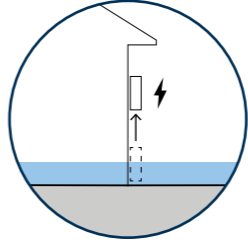
Replace existing fences with permeable fences that allow water to flow through



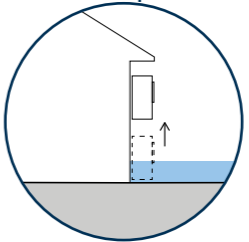
Replace existing ground cover with permeable materials to absorb and slow the flow of water



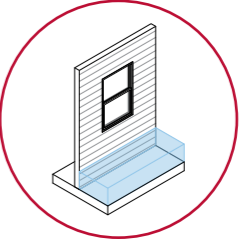
Replace closer riser stairs with open riser stairs made from flood resilient materials



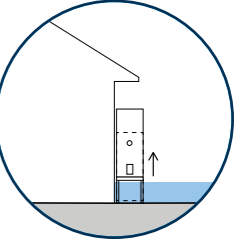
Raise the electrical switchboard above the flood level



Raise the air conditioning condenser units above the flood level



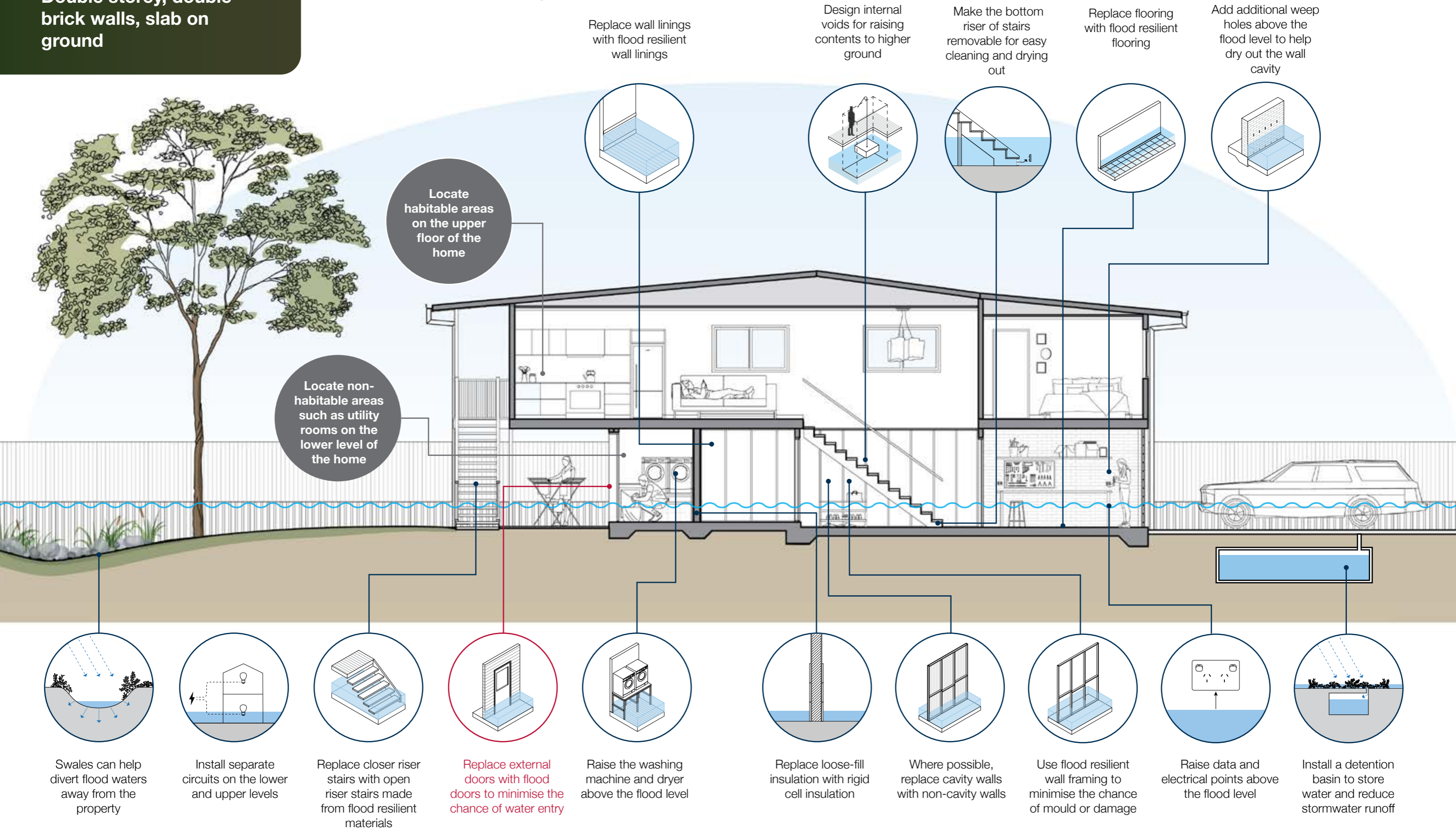
Ensure window sills are above flood level to minimise the chance of water entry



Raise the hot water unit above the flood level

Typology:
Double storey, double brick walls, slab on ground

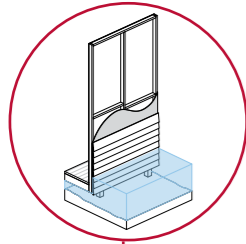
- Legend**
- Wet proofing strategies
 - Dry proofing strategies



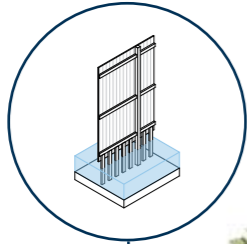
Typology:
Single storey, timber framed walls, slab on ground

Legend
● Wet proofing strategies
● Dry proofing strategies

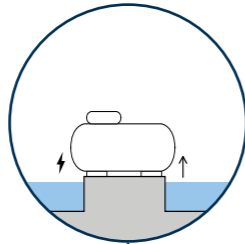
Seal external wall under existing cladding to minimise water entry



Replace existing fences with permeable fences that allow water to flow through



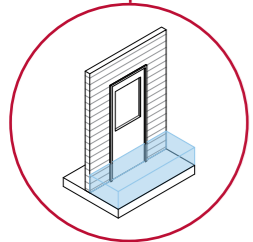
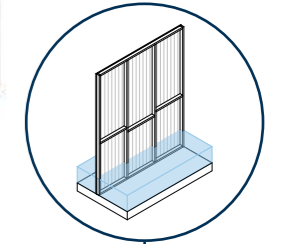
Raise the pool pump and electrical systems above the flood level



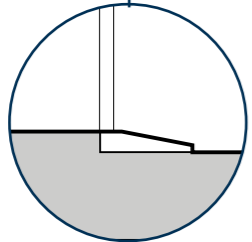
Garden beds with deep friable soils can help to slow, filter and collect water



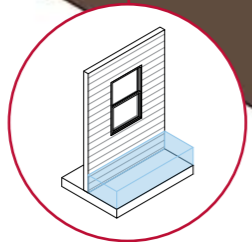
Where possible, replace cavity walls with non-cavity walls to minimise the chance of mould



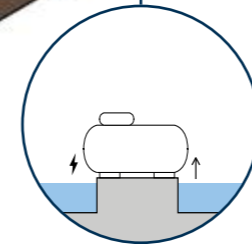
Replace external doors with flood doors to minimise the chance of water entry



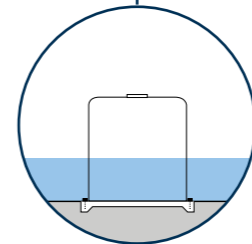
Install flush door thresholds to ensure easy cleaning after a flood event



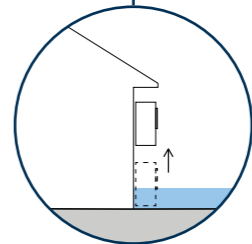
Ensure window sills are above flood level to minimise the chance of water entry



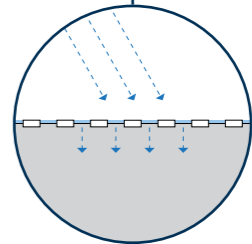
Raise the water tank pump and electrical systems above the flood level



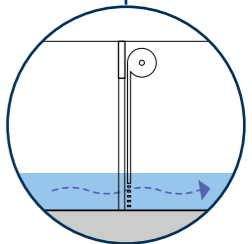
Install water tanks to collect rainwater. Ensure unit is secured to ground.



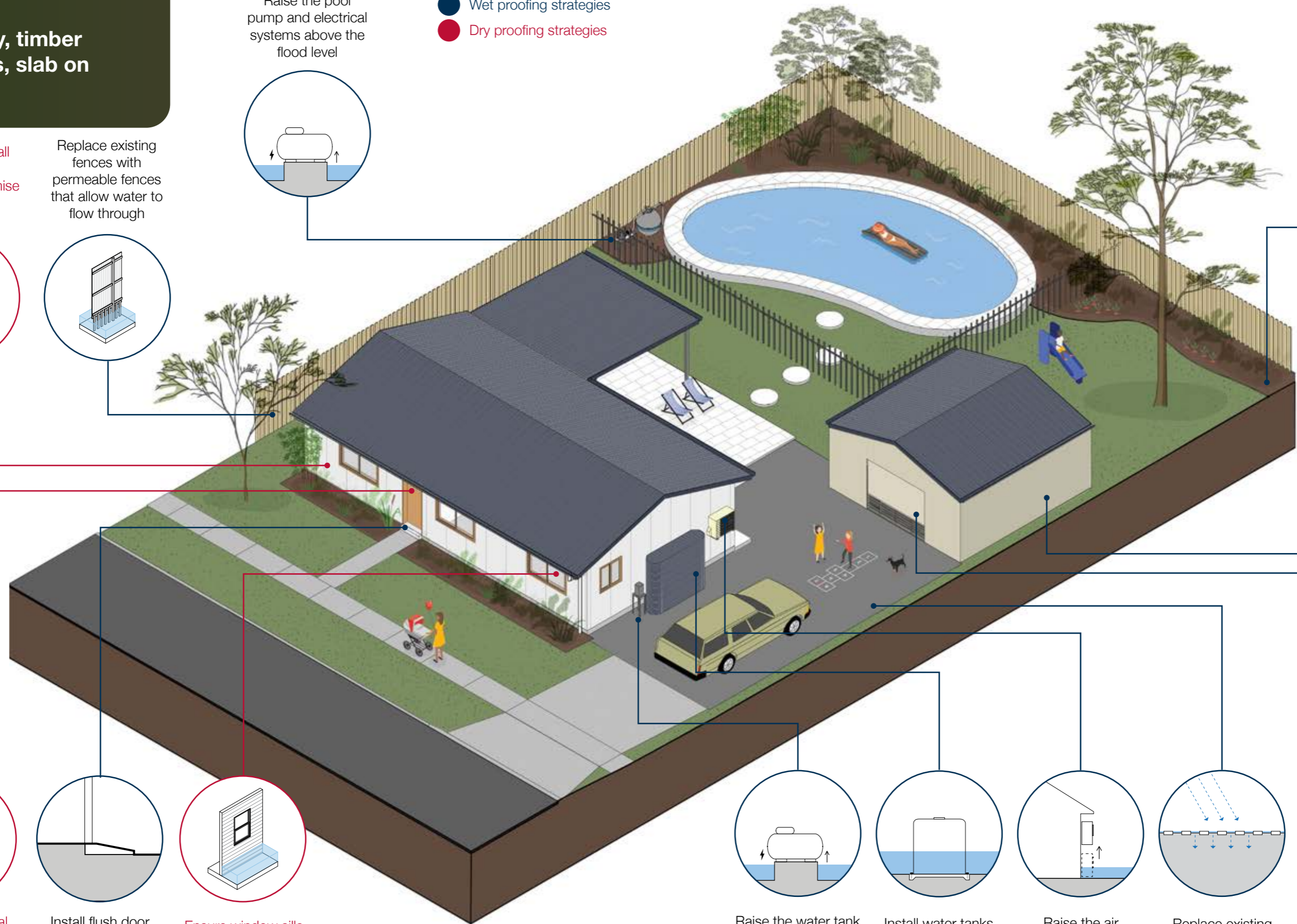
Raise the air conditioning condenser units above the flood level



Replace existing ground cover with permeable materials to absorb and slow the flow of water

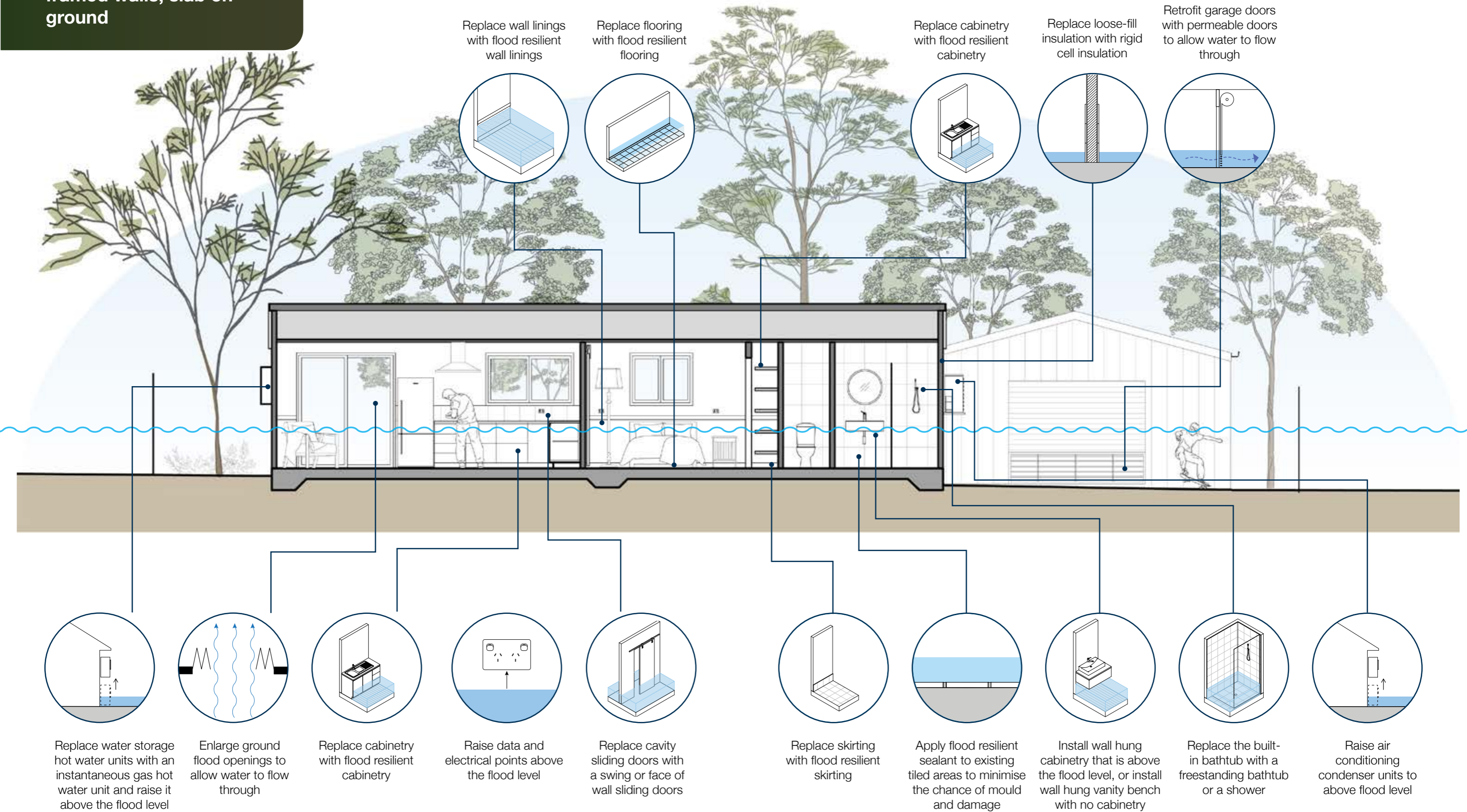


Retrofit garage doors with permeable doors to allow water to flow through



Typology:
**Single storey, timber
 framed walls, slab on
 ground**

Legend
 ● Wet proofing strategies



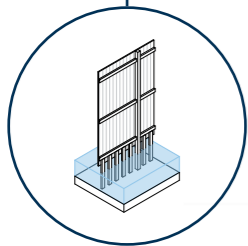
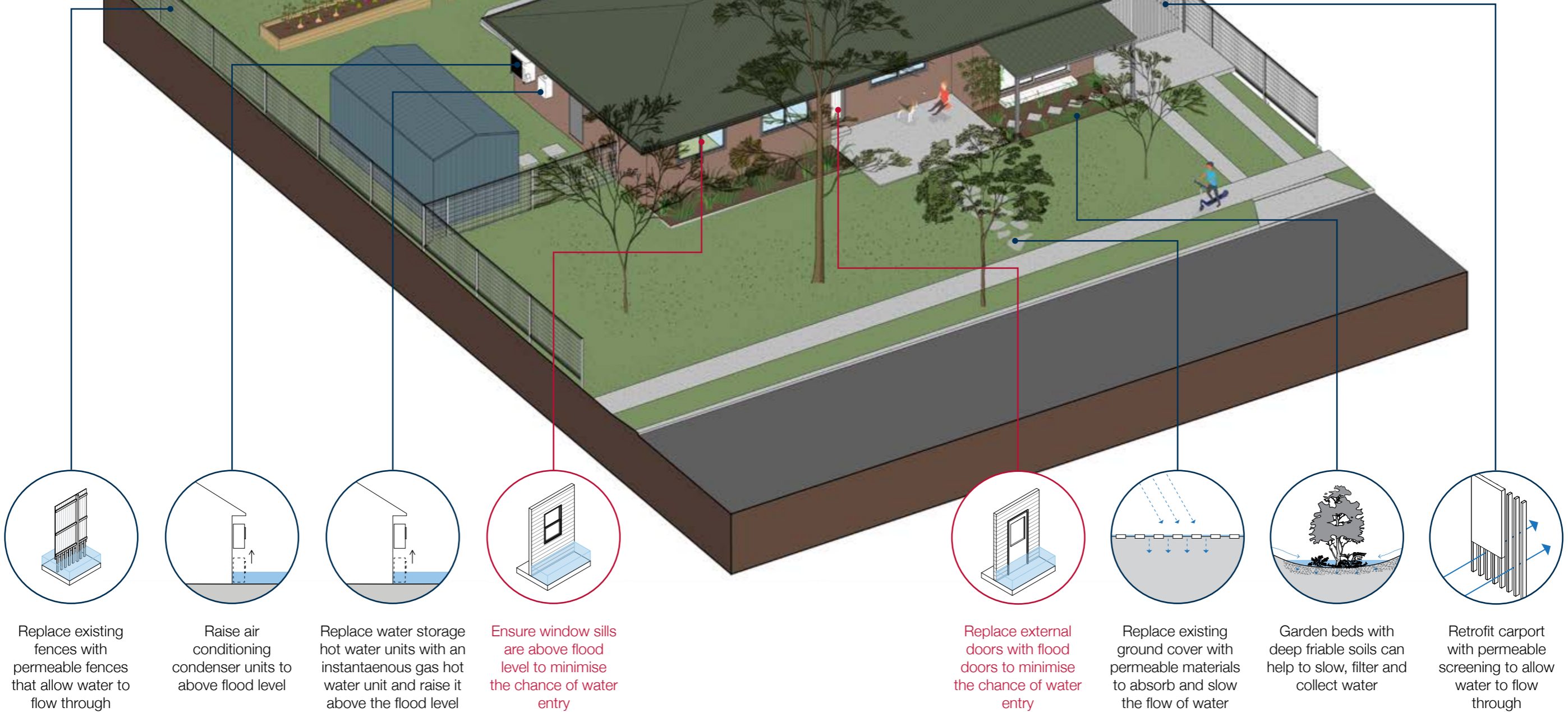
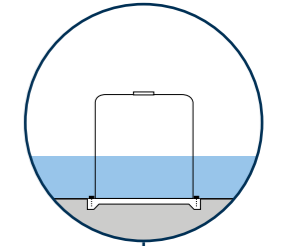
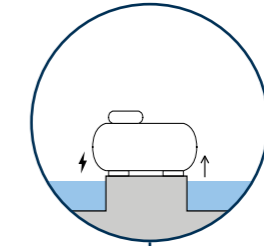
Typology:
Single storey, brick veneer walls, slab on ground

Legend

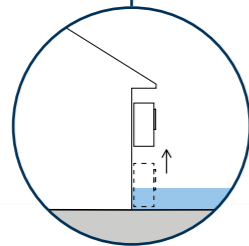
- Wet proofing strategies
- Dry proofing strategies

Raise the water tank pump and electrical systems above the flood level

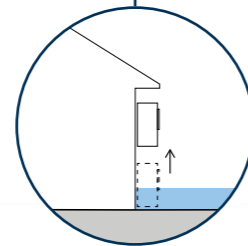
Install water tanks to collect rainwater. Ensure unit is secured to ground.



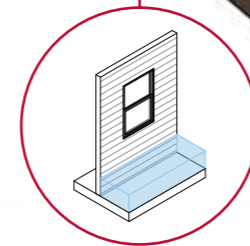
Replace existing fences with permeable fences that allow water to flow through



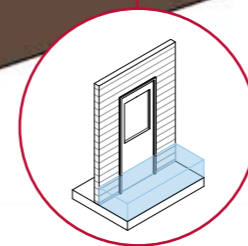
Raise air conditioning condenser units to above flood level



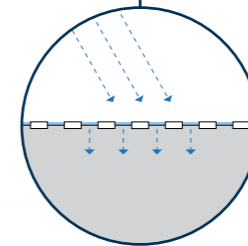
Replace water storage hot water units with an instantaneous gas hot water unit and raise it above the flood level



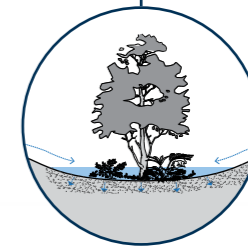
Ensure window sills are above flood level to minimise the chance of water entry



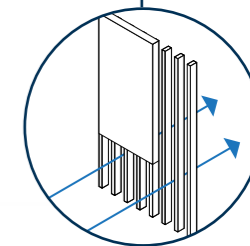
Replace external doors with flood doors to minimise the chance of water entry



Replace existing ground cover with permeable materials to absorb and slow the flow of water



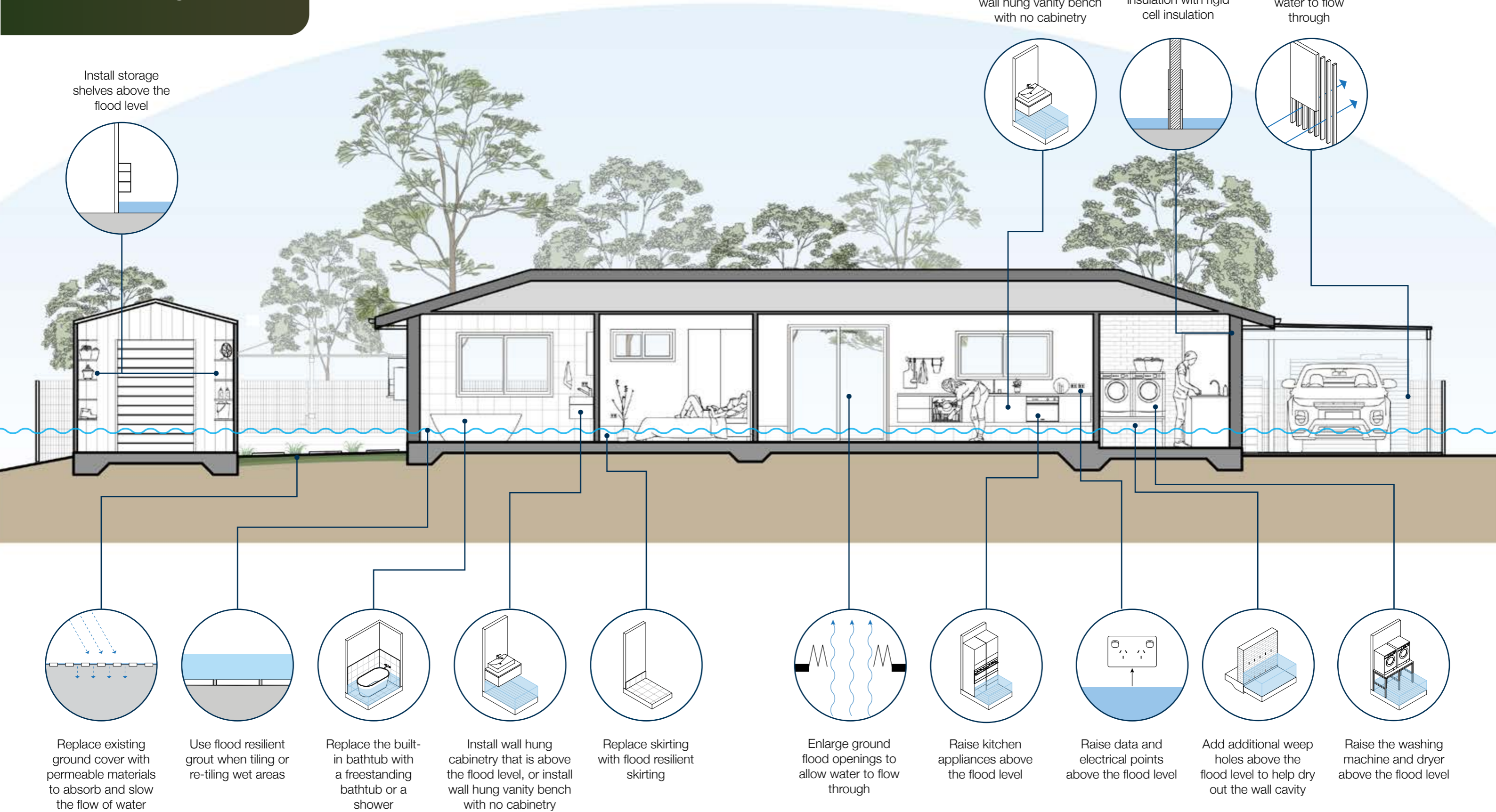
Garden beds with deep friable soils can help to slow, filter and collect water



Retrofit carport with permeable screening to allow water to flow through

Typology:
Single storey, brick veneer walls, slab on ground

Legend
 ● Wet proofing strategies



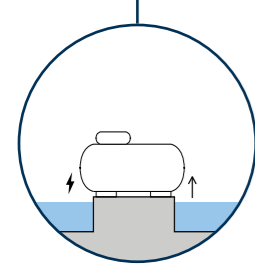
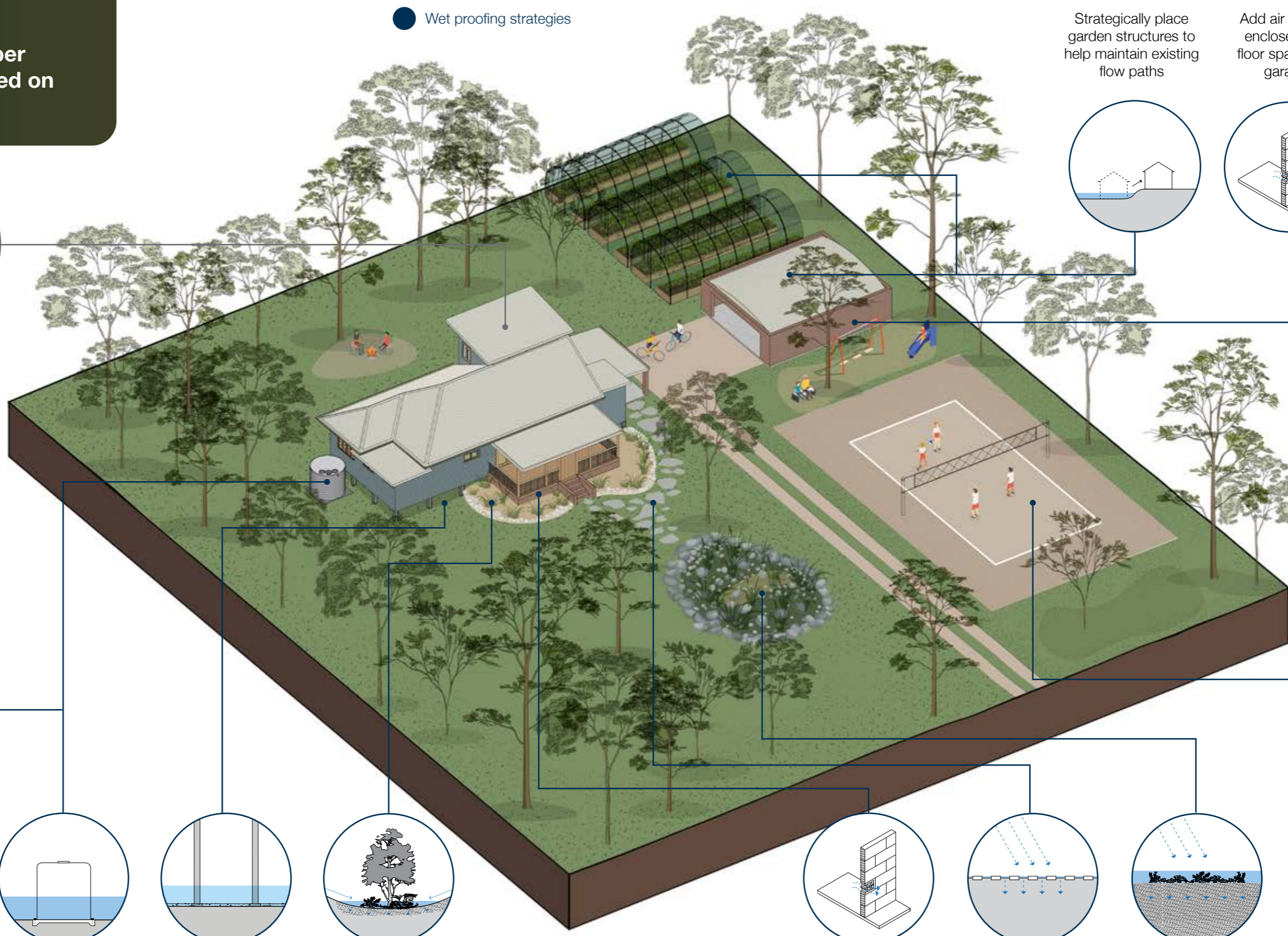
Typology:
Single storey, timber framed walls, raised on stumps

Legend
 ● Wet proofing strategies

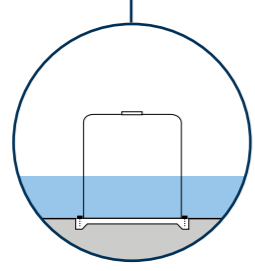
A mezzanine or loft space can be a safe refuge during major flood events

Strategically place garden structures to help maintain existing flow paths

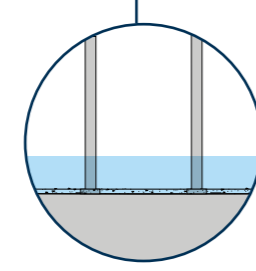
Add air vents to enclosed sub-floor spaces and garages



Raise the water tank pump and electrical systems above the flood level



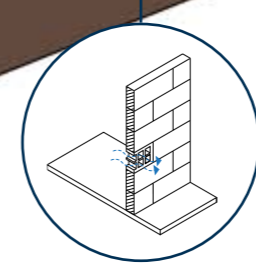
Install water tanks to collect rainwater. Ensure unit is secured to ground.



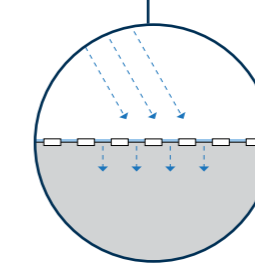
Add a concrete blinding slab to the undercroft of the house



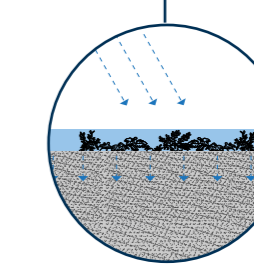
Garden beds with deep friable soils can help to slow, filter and collect water



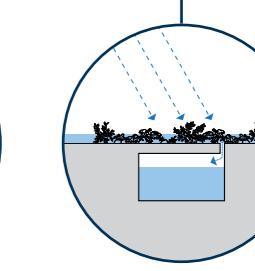
Add air vents to enclosed sub-floor spaces and garages



Replace existing ground cover with permeable materials to absorb and slow the flow of water



Create a rain garden system to help slow, filter and collect flood water



Install a detention basin to store water and reduce stormwater runoff. Stored water could be reused for irrigation.

Typology:
Single storey, timber framed walls, raised on stumps

Legend

● Wet proofing strategies

Design internal voids for raising contents to higher ground

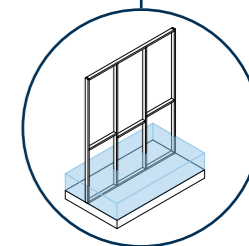
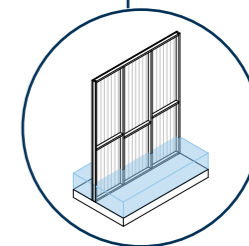
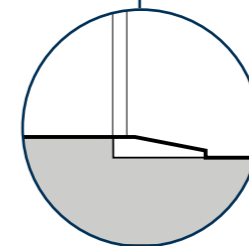
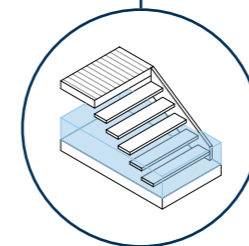
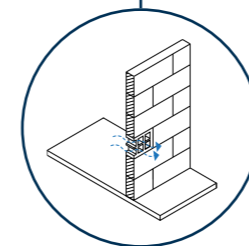
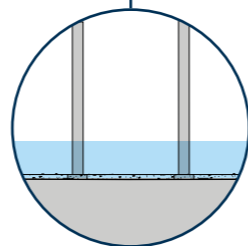
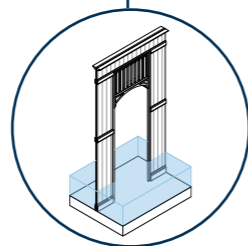
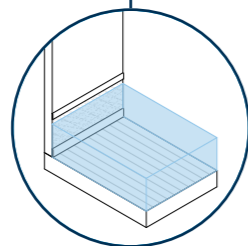
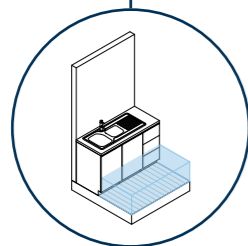
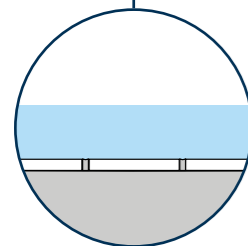
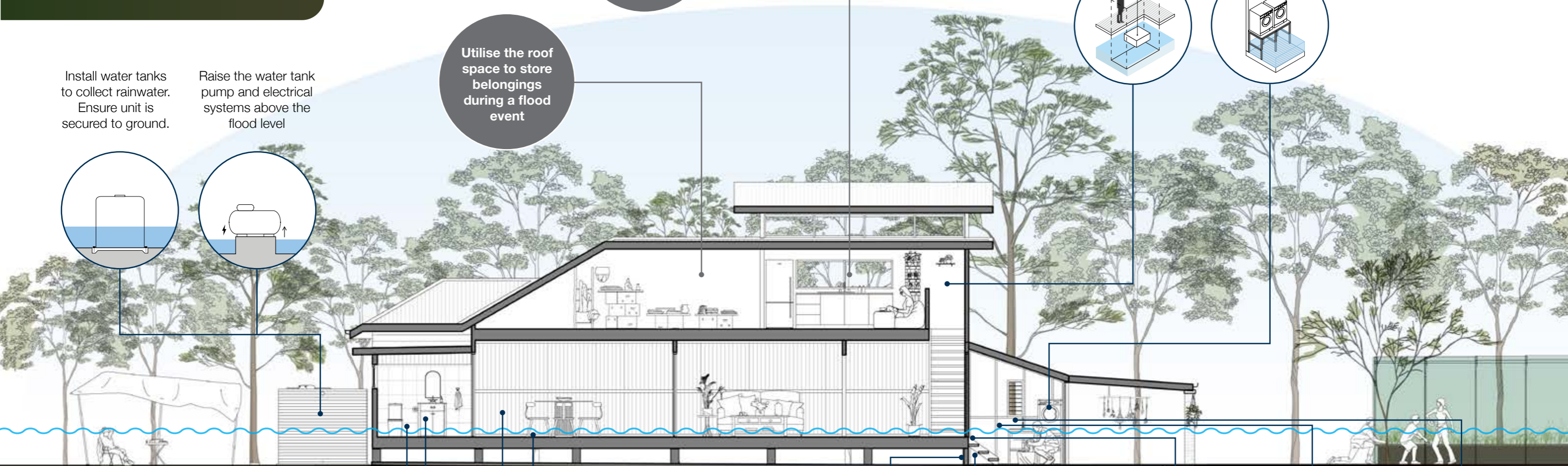
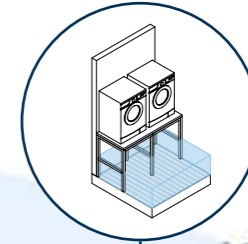
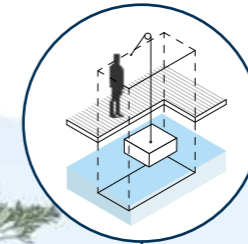
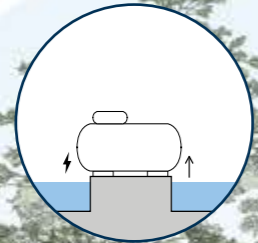
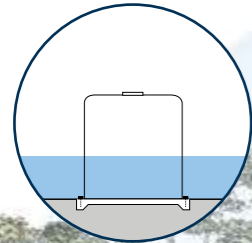
Raise the washing machine and dryer above the flood level

A mezzanine or loft space can be a safe refuge during major flood events

Utilise the roof space to store belongings during a flood event

Install water tanks to collect rainwater. Ensure unit is secured to ground.

Raise the water tank pump and electrical systems above the flood level



Apply flood resilient sealant to existing tiled areas to minimise the chance of mould and damage

Replace cabinetry with flood resilient cabinetry

Replace wall linings with flood resilient wall linings

Replace mouldings with flood resilient mouldings

Add a concrete blinding slab to the undercroft of the house

Add air vents to enclosed sub-floor spaces and garages

Replace closer riser stairs with open riser stairs made from flood resilient materials

Install flush door thresholds to ensure easy cleaning after a flood event

Where possible, replace cavity walls with non-cavity walls

Use flood resilient wall framing to minimise the chance of mould or damage



You can use a combination of wet proofing, dry proofing and elevation to improve your home's flood resilience. Speak to a building professional about what is physically and financially practical for your situation.

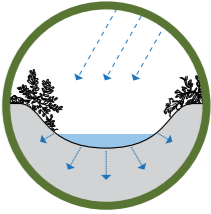
Flood Resilient Design Checklist

In the Yard



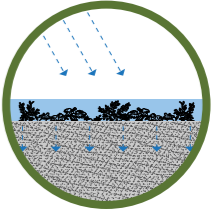
Create a swale

Swales (or bioswales) are a landscape feature and can be used to redirect flood water away from a dwelling. Planted swales are relatively inexpensive and can be aesthetically pleasing. The design and location of swales should complement and support existing stormwater drainage plans for the site. Note: consult a landscape architect.



Create a rain garden system

Similarly to swales, rain gardens collect water and are vegetated with water plants and help slow, filter and collect flood water. Note: consult a landscape architect.



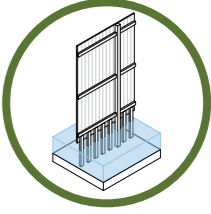
Increase garden absorption area with deep friable topsoil/mulch

Increasing the garden areas of your property with planting help filter and slow flood waters. Shaping lawn areas so they have a minimum fall of 1:50 towards gardens and swales help with directing water away from the dwelling. Deep friable top soils are recommended for a greater collection of water and healthy growth of plants and collection. Note: consult a landscape architect.



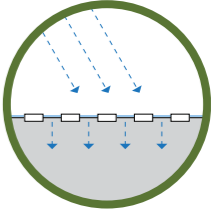
Replace solid fences and screening with permeable fences

Reduce flood damage to fences by ensuring the fence is water permeable and made of a resilient material. If privacy or noise is a concern, fences should be permeable up to a height that allows to flow through with ease, and then solid above that point. Some suggested screening materials include: aluminium, composite timber, hardwood timber, and recycled plastic palings.



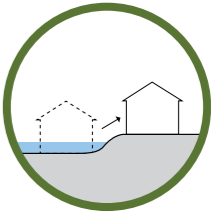
Increase permeable surface areas

Use permeable paving materials and/or remove any unnecessary hard surfaces to allow ground to absorb water. Some options include: gravel, decomposed granite, permeable pavers, permeable concrete. It is recommended to reduce the width of large paved areas such as driveways, or only paving the tyre tread tracks. Note: Consult a Queensland Registered Professional engineer if there are expansive soils and/or if surfaces are close to house.



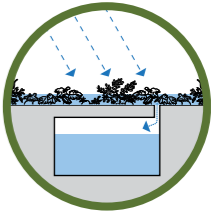
Relocate or replace garden structures that block natural flow paths

Strategically place garden structures to help maintain existing flow paths to reduce adverse impacts on neighbouring properties. Make garden structures permeable so that they do not block the natural flow of water and limit the use of retaining walls that could act as barriers.



Install retention basins or water tanks below your driveway, lawns or gardens

Underground water tanks can be installed to reduce the amount of site run-off, and in low-level floods help reduce the level of flood around the property. They are also useful in times of drought for water storage. Note: Consult a Queensland Registered Professional engineer and/or landscape architect.

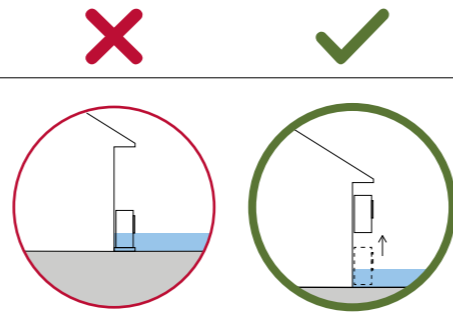


Flood Resilient Design Checklist

Power and Plumbing

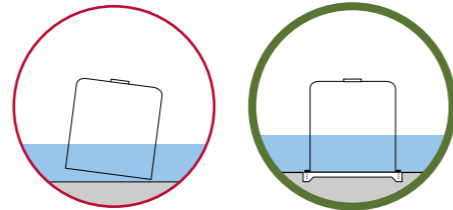
Elevate external services such as air conditioning condenser units, hot water units, and electrical meter boards

Ensure air conditioning condenser units, hot water units, electrical meter boards and all other services are installed above the possible flood level to keep utilities functioning during a flood event and minimise the chance of flood damage.



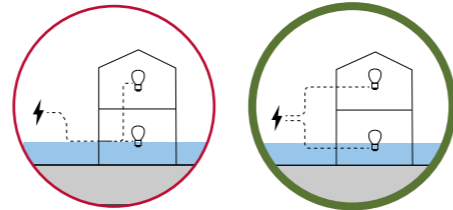
Anchor external structures, such as rainwater tanks and sheds

Floods have the ability to uplift structures such as rain water tanks and sweep them downstream toward other properties potentially causing serious damage. Fixing them onto concrete slabs keeps them in place during heavy floods.



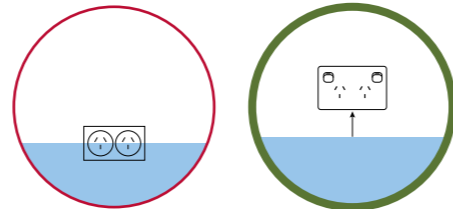
Install separate circuits on the lower and upper levels

Installing separate circuits to each storey allows electricity to run on the upper level if the lower level circuit cuts off due to a flood event.



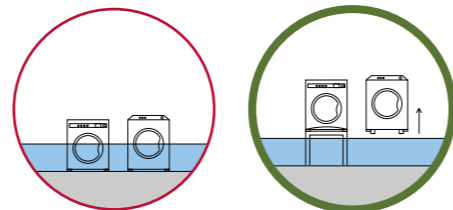
Elevate powerpoints

Ensure the power-points, data points and all other electrical services are installed above the flood level to minimise the chance of power outages and faults and allow provision for safety cut-off switches.



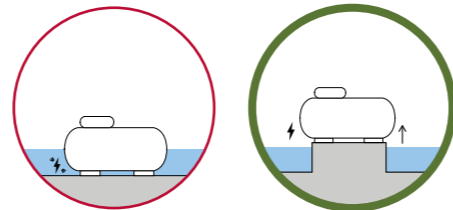
Elevate appliances

Stand-alone appliances such as washing machines and dryers can be easily raised above the possible flood level onto stainless steel benches or wall brackets to minimise the chance of them getting damaged during a flood.



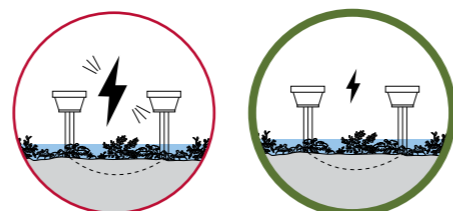
Elevate pool / rainwater tank pumps and associated power systems

Raise the pool and rainwater tank pumps and associated power systems above the possible flood level. Pool and tank pumps are often very costly to repair, and flooding of the electrical components can be the cause of their breakdown and can also affect other electrical equipment on the property.



Use low voltage garden lighting

Using low voltage garden lighting and minimising any 240 volt cabling within garden areas will help minimise the chance of any serious electrical issues.

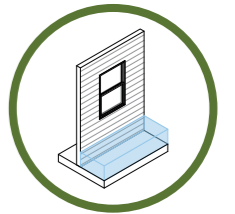


Flood Resilient Design Checklist

At the House - Dry Proofing

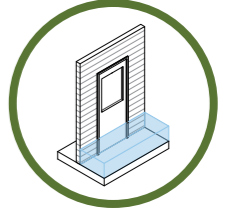
Ensure window sill heights are above flood level to prevent water entry

Similar to doorways, windows are a point of ingress where water can flow in. If dry-proofing strategies are being used, such as flood doors, ensure that the bottom (sill) of all windows is above the predicted flood line to minimise the chance of water entry.



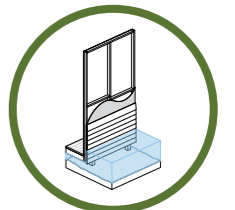
Replace external doors with flood doors to prevent water entry

For low level flooding below 600mm, flood doors can be a viable option to minimise the chance of water entering the building through doorways. Flood doors must only be used in conjunction with strategies preventing water entering through exterior walls and subfloor spaces. Note: consult a Queensland Registered Professional engineer to ensure minimum structural requirements are in place.



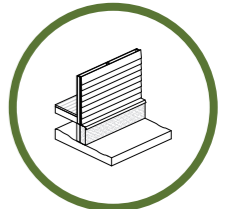
Seal under existing external cladding to minimise water entry

Install a flood resilient fibre cement substrate and apply a waterproof membrane underneath existing external cladding to minimise the chance of water entry into the house. This strategy is most effective when installed in conjunction with installing flood doors.



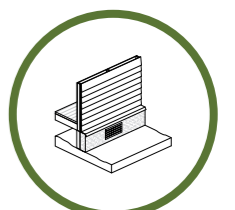
Construct concrete hob to prevent water entering subfloor space

For buildings with floors elevated low above the ground, a concrete hob can be used to minimise the chance of flood water entering the space under the floor, avoiding issues such as mould and odours after a flood. The hob should be used in conjunction with flood vents to ensure any water trapped in the subfloor space can dry out or escape. Note: consult a Queensland Registered Professional engineer to ensure minimum structural requirements are in place.



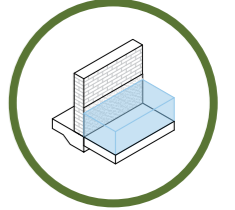
Install flood vents below flood level to assist in drying out subfloor spaces

Flood vents are designed to prevent water entry, whilst allowing water to escape subfloor spaces and assist in drying out after a flood event. Note: consult a Queensland Registered Professional engineer to ensure minimum structural requirements are in place.



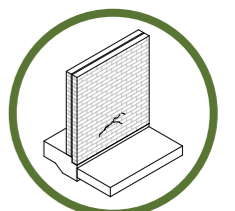
Apply cementitious render to porous brick walls to minimise water entry

Treating the external wall finishes of spaces that are likely to be flooded is highly recommended. In situations where there is existing brick externally, a cementitious render can be used to make the wall less porous, helping to prevent water entering through the bricks.



Repair and/or seal all possible gaps to minimise water entry

When dry proofing, treating the external wall finishes of spaces that are likely to be flooded like is highly recommended. In situations where there are gaps in the external walls below the possible flood level, these should be sealed to prevent water from entering. Please note that this does not include existing weep holes.

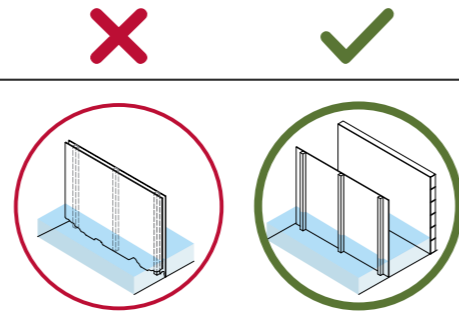


Flood Resilient Design Checklist

At the House - Wet Proofing

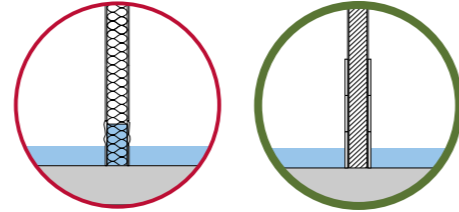
Use single-skin walls rather than cavity walls

Walls with cavities such as brick veneer and typical plasterboard stud walls are prone to trapping water within the wall linings, damaging the framing and forming mould. When replacing or building new walls, the use of single-skin walls is highly recommended.



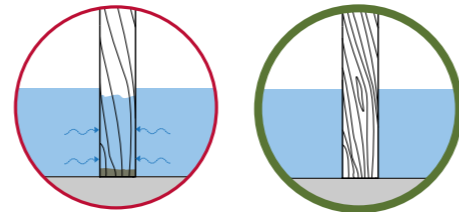
Replace loose-fill insulation with rigid insulation

Loose-fill insulation such as batt insulation is commonly found in wall cavities, however they absorb a great deal of moisture and must be replaced after a flood to avoid mould. Replace loose-fill insulation with rigid or closed-cell insulation such as extruded polystyrene insulation which are water-resistant.



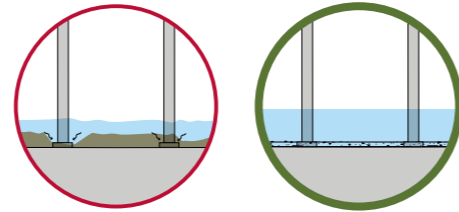
Use water resistant framing

When building framed walls, it is not recommended to use softwoods such as pine as it is prone to rot and mould after inundation and can decay quickly. It is recommended to build with higher performance water-resistant wall framing materials such as hardwoods or steel.



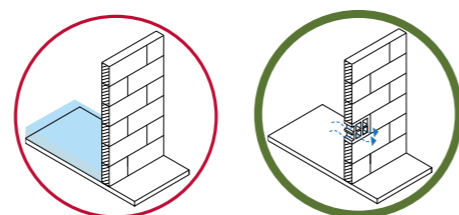
Add a concrete blinding slab to the undercroft of the house

For houses suspended on posts, a concrete blinding slab can be added to the undercroft space to allow for easy clean out after a flood event. A concrete blinding slab is a thin layer of concrete which can help seal the underlying material and prevents dirt and mud from interfering with the structure of the house.



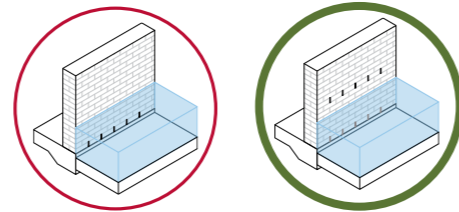
Add air vents to enclosed sub-floor spaces and garages

Installing air vents to enclosed sub-floor areas and garages will help to quickly dry out the area after a flood event.



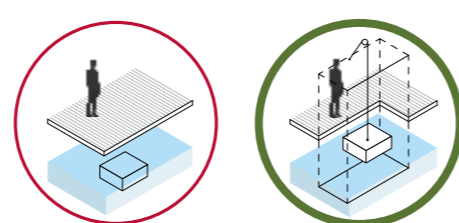
Add additional weep holes to double brick and brick veneer walls

Installing additional weep holes above the possible flood level will help to quickly dry out the cavity of a double brick or brick veneer wall. It is important to clean out any existing weep holes to prevent water getting trapped in the wall cavity.



Create internal voids and utilise elevated storage spaces

Internal voids and elevated storage spaces above the flood level can be used to relocate house contents before a flood event. Consider adding a mezzanine loft space or utilise an existing roof space. A mezzanine, loft or roof space intended for such use need to be designed for appropriate imposed loads.

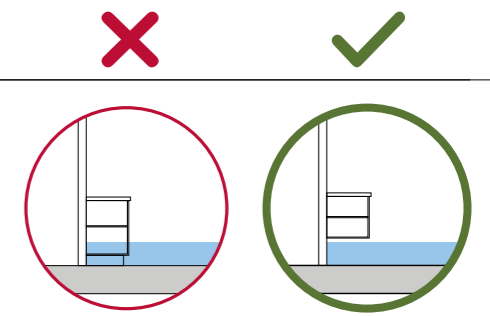


Flood Resilient Design Checklist

At the House - Wet Proofing

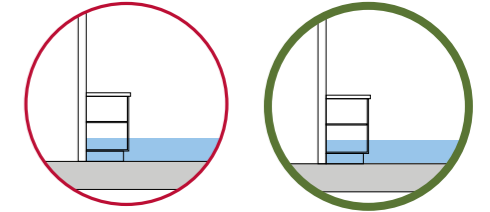
Install raised cabinetry above the flood level

Where possible, install cabinetry so that it is raised above the possible flood level. For example, consider installing wall hung kitchen cabinetry or installing a wall hung vanity basin in the bathroom instead of a built-in cabinetry unit.



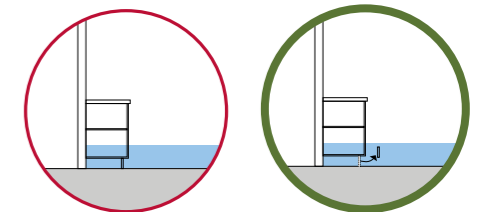
Install flood resilient cabinetry

Cabinetry is often the most expensive element in a house to replace after a flood event. The chance of flood damage can be minimised by using water resistant materials for all cabinetry including the benchtop, doors, outer panels and the carcass (internal cabinetry frame).



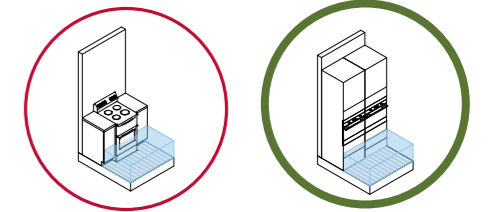
Allow the kickboard to be removable

Adjust the kickboard on the cabinetry units so that they are removable. This will allow for easy cleaning and drying out after a flood event.



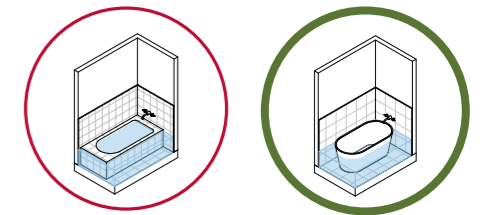
Raise kitchen appliances if possible above flood level

Raise fridges, dishwashers, ovens and all other appliances above the possible flood line to keep your houses kitchen functioning and prevent failure. This is useful for low levels of flooding.



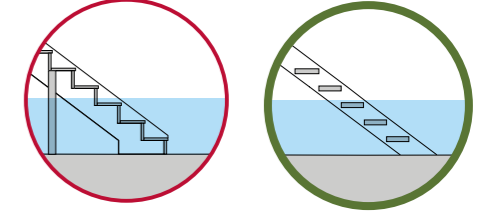
Replace cavity bathtubs with freestanding bathtubs or showers

Built-in baths with cavities, often built into cabinetry or in tiled areas, are prone to trapping water in the gap underneath the tub, damaging the framing, and forming mould. A freestanding bathtub or shower eliminates gaps where water can be trapped and enables easy access for cleaning around the entire tub.



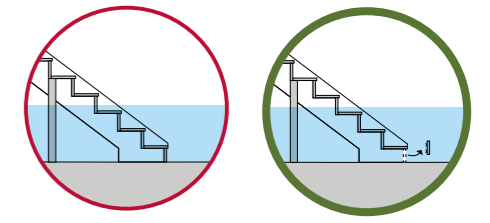
Remove cavities or voids under stairs

To enable an easy post-flood clean-out, stairs should be designed to limit inaccessible areas such as cavities or voids below them. Stairs with open risers (not closed in) made with water resistant materials will quickly dry out after a flood. Alternatively, stairs up to the possible flood line can be made from solid concrete with no cavity underneath.



Make the bottom riser of the stairs removable

If an existing cavity stair is at risk of flooding and you cannot replace it with open riser, water resistant stairs, adjust the bottom riser so that it is removable. This will allow for easy cleaning and drying out after a flood event.

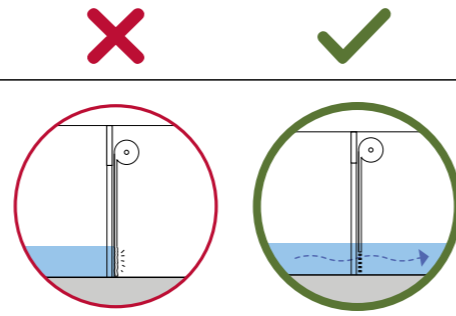


Flood Resilient Design Checklist

At the House - Wet Proofing

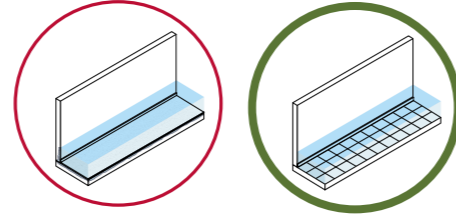
Install a permeable garage door or carport gate

Permeable garage doors can help in maintaining existing flow paths to reduce adverse impacts to your home and neighbouring properties. Make garage doors permeable so that they do not block the natural flow of water. This should be used in conjunction with other wet-proofing strategies if the garage is inside a building.



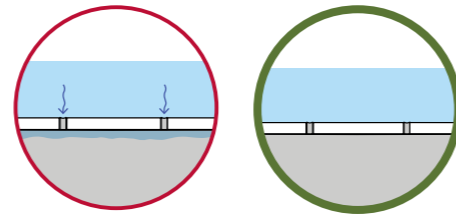
Replace non flood resilient flooring with flood resilient flooring

Replace non flood resilient flooring with flood resilient flooring to minimise the chance of damage and allow for easy cleaning and drying out after a flood event. When replacing flooring, ensure non resilient substrates (subsurface materials) are replaced with flood resilient substrates. This will minimise warping, rot and damage to the flooring and below the floor.



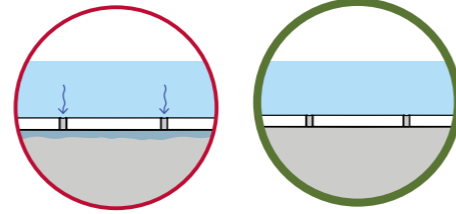
Apply a grout sealant to an existing tiled floor with non flood resilient grout

Adding a grout sealant will help to increase the water resistance of the grout, which will minimise the chance of mould and flood water damage to the tiles after a flood event.



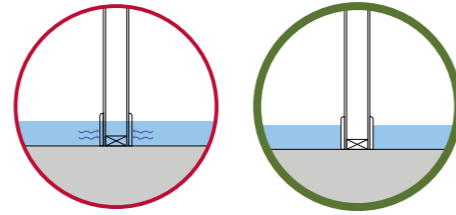
Use flood resilient grout when tiling or re-tiling wet areas

When tiling or re-tiling wet areas, ensure flood resilient grout is used. Otherwise referred to as 'semi-epoxy' this grout is less porous and ensures that the wall lining beneath tiles is protected and minimises the chance of mould.



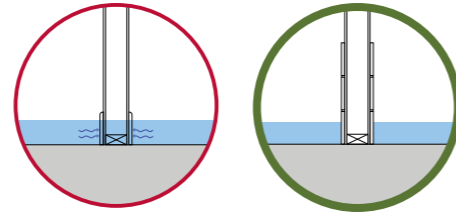
Replace non flood resilient mouldings with flood resilient mouldings

Replace non flood resilient mouldings such as pine with flood resilient mouldings such as hardwood timber to minimise the chance of flood damage. Pine and other softwood moulding is prone to buckling after becoming wet. Replace these with flood resilient mouldings, such as composite or hardwood to ensure resilience.



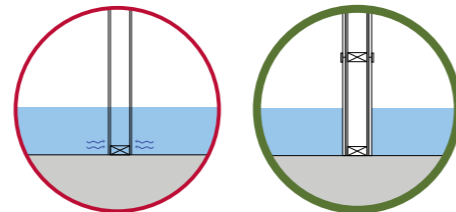
Replace non flood resilient skirtings with flood resilient skirtings

Replace non flood resilient skirtings such as pine with flood resilient skirtings such as hardwood timber or tiles to minimise the chance of flood damage. Non flood resilient skirtings such as pine and other softwoods are prone to damage such as warping and rot after becoming wet. Flood resilient skirtings also allow for easy wash out after a flood event.



Replace non flood resilient wall linings with flood resilient wall linings

Replace non flood resilient wall linings such as plasterboard with flood resilient wall linings such as fibre cement in order to minimise the chance of flood damage. When installing new flood resilient, apply waterproofing membrane onto a flood resilient substrate such as fibre cement sheeting underneath the internal wall linings to further minimise the chance of flood damage.

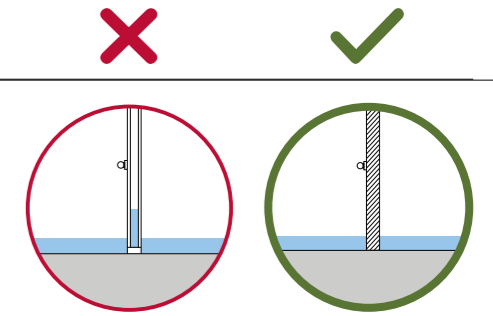


Flood Resilient Design Checklist

At the House - Wet Proofing

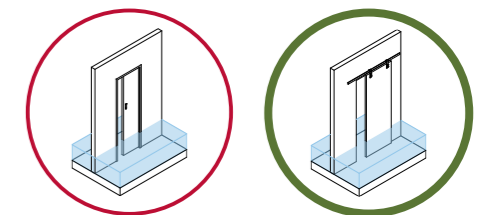
Use solid core doors instead of hollow core doors

Replace hollow core doors with solid core doors to minimise the chance of delamination, warping and rot. As an alternative, use solid timber, aluminium or glass doors.



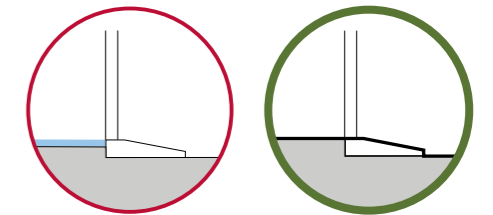
Replace cavity sliding doors with swing or face of wall sliding doors

Replace cavity sliding doors with swing or face of wall sliding doors to minimise the chance of flood water ingress into your cavity wall. Ensure when you replace the door that you also seal off the existing cavity.



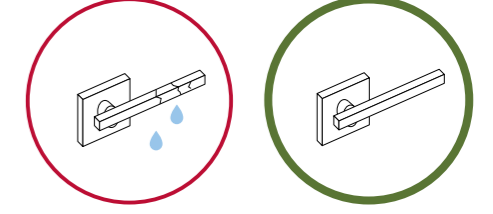
Install flush thresholds in doorways, external pavements and garden edges

Small steps and sills are often the cause of a small layer of water remaining inside of a house, complicating the clean up process after a flood event. Limit the thresholds which obstruct the drainage and discharge of flood waters from the interior and install flush thresholds recessed into a concrete floor.



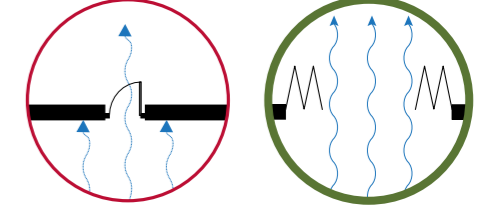
Install corrosion resistant door and window hardware

Install corrosion resistant door and window hardware so these do not need to be repaired or replaced following a flood event.



Create larger openings on the ground floor

Having only few small openings on a ground floor makes it difficult for water entering a house to escape, trapping water inside and taking longer to dry after a flood event. By having large openings, water can flow out quickly, reducing pressure on walls and providing more ventilation to dry out after a flood.



Flood Resilient Materials

Identify which of the following non resilient materials are present in your home and where possible, replace with flood resilient materials.



Building element	Non flood resilient materials	Flood resilient materials
External ground cover	Large areas of impervious concrete surfaces	<ul style="list-style-type: none"> Grass Mulch, deep friable soil Permeable concrete Permeable paving Gravel, stones
Fencing	Pine and other softwoods	<ul style="list-style-type: none"> Hardwood timber fencing Composite timber fencing PVC fencing Metal fencing
Wall construction	Wall with cavities	<ul style="list-style-type: none"> Single skin hardwood stud walls Single skin brick walls Single skin concrete block walls Off-form concrete walls Autoclaved aerated concrete walls
Wall framing	Pine	<ul style="list-style-type: none"> Hardwood Steel
Internal wall linings	<ul style="list-style-type: none"> Plasterboard Panelling made from pine or other softwoods MDF (medium-density fibreboard) 	<ul style="list-style-type: none"> FC (fibre cement sheeting) Tiles Hardwood panelling Metal Polycarbonate / translucent sheeting Marine grade plywood
Internal flooring	<ul style="list-style-type: none"> Carpet Floating timber floors Vinyl on a non resilient substrate Cork 	<ul style="list-style-type: none"> Polished concrete Tiles with epoxy grout and water resistant adhesive Hardwood flooring on a suspended hardwood subfloor that is ventilated. Rubber / vinyl on a flood resilient substrate with chemical set adhesive



Building element	Non flood resilient materials	Flood resilient materials
Internal floor substrate	<ul style="list-style-type: none"> MDF Particle board (yellow tongue sheet flooring) Low grade, non-marine plywood 	FC (fibre cement sheeting)
Insulation	<ul style="list-style-type: none"> Wool and fibre cement batts Other spray products 	<ul style="list-style-type: none"> XPS (rigid) insulation Closed cell flexible sheet insulation Sprayed polyurethane foam
Doors and windows	Hollow core doors	<ul style="list-style-type: none"> Solid core doors (wet proofing) Aluminium doors and windows Flood doors (dry proofing) Hardwood architraves
Mouldings (skirtings, dado rails, architraves, cornices)	Pine mouldings	<ul style="list-style-type: none"> Hardwood mouldings Tile skirting
Cabinetry	<ul style="list-style-type: none"> Particle board MDF panels 	<ul style="list-style-type: none"> Compact laminate Acrylic solid surface Marine grade plywood Composite timber panels Stainless steel frame (open) 316 grade stainless steel
Cabinetry benchtops	<ul style="list-style-type: none"> Laminate Particle board MDF 	<ul style="list-style-type: none"> Acrylic solid surface Marine grade plywood Stone Composite stone 316 grade stainless steel
Grout	Cementitious grout	<ul style="list-style-type: none"> Semi-epoxy grout Epoxy grout Polymer resin grout

Further Information

For more information about flooding in Logan, please visit www.logan.qld.gov.au/flood and download the Flooding in the City of Logan brochure.

Visit our Disaster Dashboard for the latest information on weather warnings, road closures, flood watch cameras, power outages and open evacuation centres. www.disaster.logan.qld.gov.au

Other Helpful Resources

Hawkesbury-Nepean Valley Flood Risk Management Steering Committee 2006, Reducing Vulnerability of Buildings to Flood Damage: Guidance on Building in Flood Prone Areas

www.ses.nsw.gov.au/media/2247/building_guidelines.pdf

National Construction Code (NCC) via the Australian Building Codes Board (ABCB) 2012, Construction of Buildings in Flood Hazard Areas - The Flood Standard

www.abcb.gov.au/Resources/Publications/Education-Training/Construction-of-Buildings-in-Flood-Hazard-Areas-Standard

National Construction Code (NCC) via the Australian Building Codes Board (ABCB) 2012, Construction of Buildings in Flood Hazard Areas - The Flood Handbook

www.abcb.gov.au/Resources/Publications/Education-Training/Construction-of-Buildings-in-Flood-Hazard-Areas

Queensland Reconstruction Authority (QRA) 2019, Flood Resilient Building Guidance for Queensland Homes, Queensland Government, Brisbane

www.qra.qld.gov.au/sites/default/files/2019-04/flood_resilient_building_guidance_for_queensland_homes_-_april_2019.pdf

MDA Flood Resilience Consultants 2020, Property Flood Resilience 2020 Update - Stories from homes and businesses who have made adaptations to help them recover more quickly after a flood.

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Brisbane City Council in partnership with CitySmart 2020, Flood Resilient Homes Program.

www.citysmart.com.au/floodwise/



For further information contact:

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