

How can I find out if I have a flood risk?

The following services can assist you in understanding your flood risk:

- **FloodWise Property Report** – Obtain your free FloodWise Property Report from Council. This includes defined flood levels specific to your property.
- **Inspection by engineer** – Engaging a qualified engineer to assess your property will assist you in identifying potential flood hazards, especially overland flow and run-off.
- **Observation and local knowledge** – View the property to identify potential flood hazards and talk to locals who have been in the area for a while.



Radar image showing heavy band of light to moderate rain on 9 March 2001. This resulted in flash flooding and major disruption to some areas of Brisbane.
Image courtesy of Bureau of Meteorology.

Where can I find out about flood warnings?

Channel	Access	Contact information
Internet	Visit the Bureau of Meteorology website.	www.bom.gov.au
Radio	Tune your radio to a relevant station.	Local AM and FM stations, especially radio ABC (612 AM)
Television	Watch out for televised weather updates.	All free-to-air channels and also The Weather Channel (Foxtel/Austar)
Telephone	Listen to the Bureau's Telephone Weather Service. Local call charges apply.	Severe weather and flood warnings: 1300 659 219 Tropical cyclone warnings: 1300 659 212



By observing how close your property is to a creek or waterway you can better understand your flood risks.

What features should I look for to identify possible flood hazards?

- **Proximity to water** – Waterways such as a river or creek near your property could indicate a potential flood risk.
- **Extensions that enclose underneath a house** – In the past, some houses were purposely designed in such a way that the habitable areas were raised above ground level on stumps or built above brick garages so flood waters could flow freely underneath. Newly renovated, habitable rooms at ground level in these types of homes may be prone to flooding.
- **Overland flow paths** – Sloping land could also be a flood indicator, particularly if land slopes towards a doorway or garage, or where there is inadequate drainage. This could also include large concrete areas or patios that mean there is less ground to absorb water.

Am I covered by my household insurance?

Many house and contents policies do not contain cover for flood damage, or they have specific limitations on the definition of flood. Storm damage is usually included however the level of cover varies from insurer to insurer. You need to carefully read your policy to ensure that you are covered. For further information about flood insurance visit the Insurance Council of Australia website www.ica.com.au or talk to your insurer.

Who do I contact if my property is flooded?

There are a range of services available to support the community during and after a flood.

Community support services

- Crisis Care – phone 1800 177 135 to find out what assistance is available to you.
- Community organisations – such as the Salvation Army, Red Cross, Rotary and church groups may provide assistance. Contact your local branch.

Personal contacts

You are likely to need to contact a range of people and services for assistance such as:

- service providers (plumber, electrician, gas and electricity provider, vet)
- medical providers (doctor or hospital, health fund)
- financial providers (bank, insurance provider, real estate).

Get your Be FloodWise Emergency contact card to record important phone and policy numbers from one of Council's regional business centres or customer service centres.

What other information is available?

The following information is available from Council's regional business centres or customer service centres, by phoning Council on (07) 3403 8888, or by visiting the Be FloodWise web pages at www.brisbane.qld.gov.au/floodwise.

Publication name	Overview of contents
Be FloodWise – A guide for residents	This booklet provides information on: <ul style="list-style-type: none">• preparing and coping with a flood• checklists and forms to assist in planning for a flood.
Be FloodWise – A guide for businesses	This booklet provides information on: <ul style="list-style-type: none">• preparing and coping with a flood• checklists and forms to assist in business planning (e.g. flood cost estimator and emergency kit contents checklist).
Be FloodWise – Flooding facts for industry	This fact sheet provides information on: <ul style="list-style-type: none">• flooding in Brisbane• industry specific information for property, construction, conveyancing and insurance professionals.
Be FloodWise Emergency contact card*	This wallet-sized card can be used to record important phone numbers and policy details.
FloodWise Property Report*	Council can issue you with a free FloodWise Property Report. This report provides: <ul style="list-style-type: none">• property-based information about flood levels• habitable floor levels for building• information useful in determining flood risks associated with a particular property.
Be FloodWise bookmark	The bookmark issue general information on flooding and a range of tips to assist in preparing your property for a flood.

* only available from Council's regional business centres and customer service centres.



Be FloodWise tips

- ☐ Keep valuable and important possessions in a safe and high place.
- ☐ Clean out gutters and stormwater pipes regularly.
- ☐ Remove potential debris from your yard such as building materials and tree prunings.
- ☐ Secure all household appliances under your house (such as washing machines) to prevent them from becoming dislodged in a flood.
- ☐ Don't allow children to play in or around flood waters.
- ☐ Don't drive through flood waters.
Turn around – don't drown.

Be FloodWise

Understanding your flood risk, preparing your property and family, and recovering after a flood.



Now is the time to Be FloodWise

FACT SHEET



Many properties in Brisbane are located around the river, creeks and waterways.

Brisbane is a sub-tropical city with a climate and topography that makes some areas of the city susceptible to flooding. The city has historically experienced a high average annual rainfall (approximately 1100 millimetres).

Over the past decade however, weather patterns have been highly variable and Brisbane has not received its normal annual rainfall. Throughout Australia, we have experienced weather extremes such as severe drought, storms and cyclones. If we look at our history, we know that floods and droughts are closely related and often follow each other. So now is the time to Be FloodWise.

This fact sheet provides information on flooding in Brisbane, actions Brisbane City Council is taking to manage Brisbane's flood risk and steps residents, including property owners and tenants, can take to be prepared.

Be FloodWise is another way Council is achieving our vision for the city's future.

Why is flooding an issue in Brisbane?

The city of Brisbane has evolved around its many rivers and creeks. A number of properties across Brisbane are located in close proximity to the Brisbane River, creeks or Moreton Bay.

Over the past 100 years, Brisbane has experienced more than 25 flood events, causing considerable disruption to the community. Flooding is generally caused by a number of factors including heavy or prolonged rainfall in a concentrated area or catchment, overloaded stormwater drainage systems and storm tides in Moreton Bay.

How could flooding affect me?

There are several types of flooding that affect Brisbane – each with different triggers and warning timeframes. You will hear these terms in weather forecasts so it is important that you are familiar with what they mean.

Flooding type	Trigger	Possible effects
River flooding	• occurs when widespread prolonged rain falls over the catchment area of the Brisbane River	• substantial damage to infrastructure, property, fittings and furniture • road closures, service disruption, property isolation and evacuation
Creek flooding	• occurs when the capacity of a creek is exceeded as a result of localised rainfall	• water damage to property, fittings and furniture • road closures, service disruption, property isolation and evacuation
Local flooding and overland flow	• occurs when parts of the stormwater drainage system (such as pipes and gully inlets) are blocked or capacity is exceeded • natural flow and run-off of water across land	• water damage to property, fittings and furniture • pooling of water in backyards, surface depressions, natural gullies and outdoor areas • liability for damages may apply if the building or filling on a property increases or worsens flooding to a neighbouring property
Flash flooding	• occurs after intense bursts of rainfall in a local area over a short period of time • can affect creeks and other watercourses	• rapid flooding causing significant damage to property, fittings and furniture • flooded carparks, damage to vehicles, road closures and service disruptions
Storm tide	• occurs from a combination of high tides and heavy seas usually associated with tropical storms	• flooding of coastal property, causing water damage to property, fittings and furniture • fast moving water can have devastating effects on property and life

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Information
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For more information
visit www.brisbane.qld.gov.au
or call (07) 3403 8888



Dedicated to a better Brisbane

Brisbane's flood history

Source: Lord Mayor's Taskforce on Suburban Flooding

Be FloodWise

1900

2000

1893
RIVER

1931
CREEK

1951
CREEK

1955
RIVER

1961
CREEK

1967
CREEK

1968
RIVER

1970
CREEK

1972
CREEK

1973
CREEK

1974
RIVER

1980
CREEK

1981
CREEK

1982
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1984
CREEK

1985
CREEK

1988
CREEK

1989
CREEK

1990
CREEK

1992
CREEK

1994
CREEK

1996
RIVER & CREEK

1999
RIVER

2001
CREEK

2004
CREEK



Local creeks and waterways can flood from relatively short and intense bursts of rainfall in a concentrated area.

Doesn't flooding only happen in the wet season?

Flooding can occur at any time of the year, particularly creek flooding and flash flooding. An example of this occurred in May 1996, when flood levels in some locations such as Oxley Creek, were the highest recorded since the 1974 flood. July 1988 and April 1989 are other examples of floods throughout Brisbane's history that have occurred outside the traditional wet season (December to March).

Hasn't Wivenhoe Dam fixed Brisbane's flooding problems?

Wivenhoe Dam hasn't eliminated flooding, but it has reduced the potential impact of a river flood for Brisbane. Wivenhoe Dam is located in the upper catchment of the Brisbane River, west of the city. Apart from acting as the primary water supply for Brisbane, the dam also assists in reducing the potential for a Brisbane River flood through its additional storage capacity and ability to hold back flood waters. It is therefore only effective in collecting rainfall in the upper catchment of the river, not suburban creeks and waterways.

What is Council doing to help Brisbane Be FloodWise?

Council's *Water for Today and Tomorrow Strategy* provides a holistic and integrated approach for total water cycle management. It outlines guidelines for:

Building and maintaining the city's 2000 kilometre long stormwater drainage network

Council uses a range of strategies to reduce stormwater run-off and pollution. This includes the installation of artificial wetlands, use of stormwater quality improvement devices, enforcing pollution by-laws, reducing sewer overflows and educating the community. These initiatives prevent flooding by reducing the potential for blockages, controlling sediment and erosion, assisting in litter management and enhancing the overall health and ecology of Brisbane's waterways.

Managing waterway vegetation and health

Council regularly clears rubbish such as shopping trolleys and other man-made debris from waterways as they reduce the water carrying capacity, interfere with the ecology of creeks and can cause flood hazards.

Vegetation such as reeds and bullrushes, which is often seen as weeds and obstructions, may not be removed as it prevents erosion by acting as anchors for soil, provides shelter for fauna that lives around creeks and acts as a filter to prevent pollutants and sediments from entering the waterway. This vegetation is generally flattened by the water current and does not obstruct the flow of water.

Managing floodplain development

Development within or near waterway corridors (such as the river and creeks) is managed through Council's town planning scheme – *City Plan*. Council is reviewing and strengthening land use planning controls where necessary to ensure that future development does not increase or create the potential for flooding.

Providing flood information to the public

Council has a range of resources available to residents, businesses and industry professionals to assist in improving community awareness and preparedness. These include a free FloodWise Property Report, and a range of Be FloodWise booklets, fact sheets and online information (visit www.brisbane.qld.gov.au/floodwise).



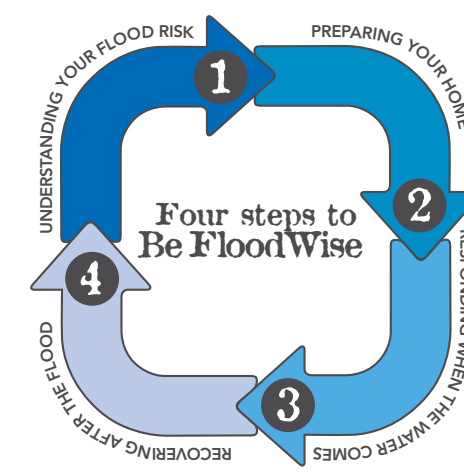
Council invests in mitigation works to minimise flooding in Brisbane.

Participating in disaster response during floods

Council undertakes response and recovery activities during a flood to assist in minimising community impacts. It does this via a range of operations and disaster management strategies in partnership with other state government agencies and local authorities.

In addition, Council is implementing key priority actions from the Lord Mayor's Taskforce on Suburban Flooding including:

- installing and upgrading telemetry gauges in creeks (rainfall and water-level measurement devices)
- implementing and upgrading the city's stormwater drainage network
- installing early warning signage on several flood-affected roads
- undertaking a voluntary home purchase scheme for high risk properties
- delivering a Be FloodWise awareness and information campaign to assist Brisbane residents and businesses to prepare for a flood.



What can I do to Be FloodWise?

Minimising flood damage is a community-wide responsibility. While Council has an important role to play, residents and businesses can take steps to be prepared. You can reduce your own risk by planning ahead, and understanding how any changes and renovations around your home or business can impact on your flooding exposure.

Four steps to Be FloodWise

Step 1: Understanding your flood risk – Find out all you can to determine if your property has a flood risk by obtaining a free FloodWise Property Report from Council, talking to people who have lived in the area a while, observing the property to identify flood hazards or consider engaging a qualified engineer.

Step 2: Preparing your home – people and property – There are a number of things you can do to prepare your home. These include checking that all safety precautions have been taken, storing valuable items such as photo albums well above likely flood levels, insuring your home and contents for flood, learning where to access warning information, removing potential flood hazards from your property and preparing an emergency kit.

Step 3: Responding when the water comes – As the water rises, further protect your home where possible with sandbags and plastic. Prepare for possible evacuation and listen to your local radio station for warnings and advice. Don't swim, walk or drive through flood waters.

Step 4: Recovering after the flood – After a flood, cleaning up can be a difficult process. Be alert for hazards such as unsafe electrical wiring, contaminated water and stray wildlife.

Council has produced two comprehensive booklets which provide residents and businesses with Four steps to Be FloodWise. Ask for the Be FloodWise guides from Council's regional business centres or customer service centres or phone Council on (07) 3403 8888. Phone this number for assistance with translation services for flood-related information.



Be FloodWise

A guide for
businesses



Understanding your flood risk,
preparing your business for flood, and
recovering after an event.



Dedicated to a better Brisbane



Lord Mayor's message

Brisbane is a sub-tropical city that has evolved around its river and creeks. Historically, the city experiences high annual rainfall with a climate and topography that makes some areas susceptible to flooding.

Much of the flooding that occurs in Brisbane's suburbs relates to the many creeks and waterways that make up the landscape of our river city.

As part of its key role in water cycle management, Council undertakes a number of actions including watercourse maintenance and clearing debris from creek beds and stormwater drains.

In 2006, there has been an expansion of telemetry gauges in creeks, implementation of early warning signage and upgrades to the city's stormwater drainage network.

Minimising flood damage is a community-wide responsibility. Although Brisbane City Council has an important part to play, residents and businesses can lessen the effect that flooding has on their properties and families, while also assisting the wider community to respond to, and recover from a flood.

In February 2005, I commissioned my Taskforce on Suburban Flooding which proposed several key priority actions. These included a voluntary home purchase scheme for identified 'at-risk' residential properties, as well as the reviewing and strengthening of land use planning, development and building controls, to ensure future activities have no adverse effect on flooding. The report also recommended a community awareness program aimed at enhancing community capacity to prepare for and manage the impacts of flooding.

The recent increase in the severity of natural events, including cyclones, droughts and floods demonstrates the effect that climate change may have on our environment. The change in frequency and occurrence of 'non-seasonal' weather shows how important it is to be prepared.

To support our community to Be FloodWise, Council has developed a range of materials that provide information to assist in personal flood management. Many of the actions suggested in this booklet are low-cost and easy to implement. It is important to do whatever you can to protect yourself and your business.

Now is the time to *Be FloodWise*.

A handwritten signature in blue ink that reads "Campbell Newman".

CAMPBELL NEWMAN
Lord Mayor

Be FloodWise

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How to use this booklet

Brisbane City Council recognises the significant impact that flooding can have on businesses and the community. We have developed this booklet to assist you to understand your flood risk and know what actions to take to be prepared and to minimise your chances of being affected.

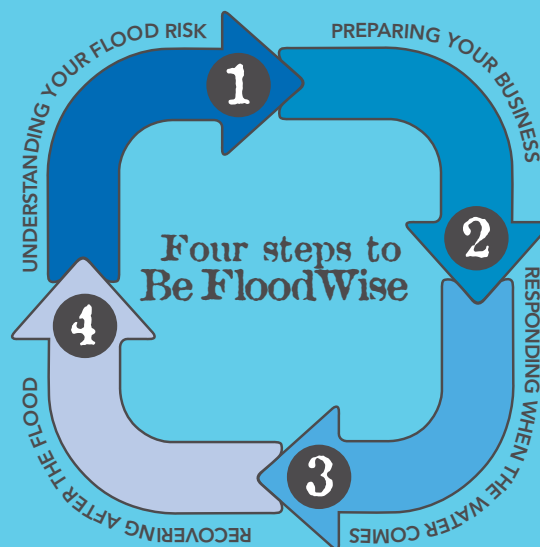
The four colour-coded sections relate to understanding, preparing, responding and recovering. The colour coding will help you to navigate your way through the four steps. A summary of important points is provided at the end of each step.



There are a range of checklists and forms provided on perforated pages for easy use. These include the *Be FloodWise Business Plan*, *flood cost estimator*, *emergency kit checklist* and *clean up tips*.

An icon is used throughout the booklet to indicate that more detail is available in the checklists and forms section starting on page 14.

To help connect all people to flood related information, Council can provide translation services by phone. Phone (07) 3403 8888 for assistance.



Who should read this booklet?

This booklet is designed for business owners, managers and administrators involved in running a business located within a flood-prone area. This information may also be useful to your health and safety, human resource or systems audit staff. Ideally, all staff should be familiar with the information contained in this booklet, particularly the *Be FloodWise Business Plan* that will result from implementing the suggestions provided.

If the nature of your business means that you house multiple occupants (e.g. aged care facilities, motel, childcare centre), you will need to consider more comprehensive planning and compliance measures for evacuation and emergency. These procedures are governed by legislation and you should refer to the relevant legislation for guidance.



Photo: Brisbane River 1893 Floods
Photo probably taken at Wilson Outlook Reserve, New Farm
looking towards the city where the Story Bridge now stands.

Professional trade and service providers

Several times throughout this booklet reference will be made to service providers. Providers are referred to by their common titles (e.g. plumber) without stating relevant industry qualifications (e.g. licensed plumber). Council recommends the use of qualified and registered tradespeople and professionals. For example, use only engineers who are registered by The Board of Professional Engineers of Queensland or an electrician who holds the appropriate licence issued by the Department of Industrial Relations.

Be FloodWise is another way Council is achieving our vision of the city's future.



Be FloodWise tip

It's time to Be FloodWise – It makes good sense to prepare yourself and your business.

DISCLAIMER

The information contained in this booklet and checklists is intended as a guide only and is subject to change without prior notice. It is not a substitute for expert, technical or legal advice. Council accepts no risk or responsibility for any losses, damage, costs or other consequences whatsoever arising from the use of this information.

What will the next flood cost you?

Over the past decade weather patterns have been highly variable. Brisbane has not received its normal annual rainfall and throughout Australia we have experienced weather extremes such as severe drought and cyclone activity.

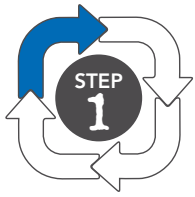
If we look at our history to teach us lessons, we know that floods and droughts are closely related and often follow each other. So now is the time to Be FloodWise.

A flood can be life threatening to you, your staff and customers. Damage caused to your business through flooding can be devastating. It can result in damage to your stock, plant, equipment, furniture and fittings. Additional losses include financial costs associated with trading disruptions and loss of data and information.

The effects of flood include water inundation, debris, humidity, contamination, mould and power disruption. Following a flood it can take several weeks or months for your business to return to normal trading. It usually takes a week or more to clean up and restore your business, adding to your costs and stress and can jeopardise customer relationships.

You can minimise your risk of flood damage by developing a *Be FloodWise Business Plan* and modifying your office environment to ensure you take all precautions. You may also consider flood insurance to cover losses if a flood does occur.

Flooding cannot be completely prevented so it's important to be prepared.



Understanding your flood risk

There are several ways to gain an understanding of your property's flood risk. By understanding your risk, you can make informed decisions and minimise impacts to your business during a flood.

This section of the booklet looks at:

- tools for determining flood risk
- estimating the costs of flood damage.

Tools for determining flood risk

There are a range of services available from Council and other sources to assist you to understand your flood risk.

- **FloodWise Property Report** – The FloodWise Property Report is a free report issued by Council and is designed to provide property-based information about flood levels, habitable floor levels for building and other information useful in determining flood risks associated with a specific property.

The report provides information for river, creek, waterway and storm-tide flooding. Currently it does not provide information related to flooding from overland flow or local run-off. FloodWise Property Reports are available from Council's regional business centres and customer service centres.

- **Building services** – In addition to Council resources, you can access the services of an engineer to undertake further assessment of all flood risks specific to your property. This option will assist in mapping overland flow paths and flood hazards that may not be identified in a FloodWise Property Report.
- **Observation and local knowledge** – Look at the slope of the ground around your property. Note where the low points are and where water is likely to flow. Also note how close your property is to adjacent rivers, creeks or waterway corridors.

If your business is in a multi-storey building, your floor may not be affected by flooding, however your exit points and car parks may be.

Talk to neighbouring businesses who have been in the area a while. Quite often local knowledge provides insights into areas that flood quickly, as well as stormwater and local flooding issues. You may also wish to discuss flooding with local volunteers such as State Emergency Service (SES) or Neighbourhood Watch representatives.



Observe how close your business and customer parking is to local waterways.



Throughout Brisbane many businesses are impacted by flooding.

Estimating the costs of flood damage



A *flood cost estimator* is provided in the checklists and forms section on page 17 of this booklet. You may already have a business continuity plan and business insurance policies that quantify total risk exposure, however this form will allow you to set apart those risks associated with flooding. For example, during a flood, equipment that you keep at ground level, such as computer hard drives, may be damaged. However items stored in higher places, such as computer monitors, may not be.

The form is a guide only to assist you to identify property-related flood information (e.g. proximity to nearest waterway) and to estimate the financial exposure of your business to flooding. This information may be useful when discussing business insurance requirements with your insurer.



Be FloodWise tip

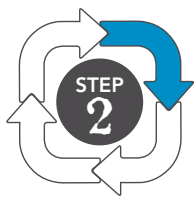
Be FloodWise – Now is the time to determine your flood risk.



Before buying or leasing premises consider its flood history.

STEP 1 IN REVIEW

- ☐ Obtain a FloodWise Property Report from Council.
- ☐ Consider engaging the services of an engineer.
- ☐ View the property to determine the slope of the land and to identify any potential flood hazards.
- ☐ Find out about your local flood history from neighbouring businesses.
- ☐ Complete the *flood cost estimator* to calculate your financial exposure to flooding.



Preparing your business

Once you have determined your flood risk, the next step is to prepare your business for flood.

This section of the booklet looks at:

- why have a flood plan?
- developing your *Be FloodWise Business Plan*
- flood insurance
- accessing and understanding flood warnings.

Why have a flood plan?

The extremes of nature, coupled with global climate change, often mean that the severity of an event cannot be predicted. Having a plan in place ensures that you have considered areas of risk and exposure in advance and have prepared actions and processes to minimise business impacts resulting from a flood.

A well developed plan:

- saves lives and reduces the likelihood of injury
- complies with Workplace Health and Safety regulations
- reduces damage to stock, plant, equipment and fittings
- reduces the amount of time that you are unable to trade
- helps to ensure that customers return when trading commences
- minimises the loss of profits
- protects employment
- protects your business reputation and image.

Workplace Health and Safety (WH&S)

It is essential that WH&S procedures are in place to guide activities of employees prior to, during and after an emergency. Flood is no exception. The risks to life may increase if correct procedures are not in place. Examples of areas where WH&S procedures may apply include:

- evacuation (e.g. adequate time allowed, persons accounted for)
- handling of stock and equipment (e.g. lifting, safety risks)
- prevention of injury (e.g. wet surfaces)
- contact with flood waters (e.g. disease, contamination, drowning, electrocution, driving)
- building safety (e.g. structural damage, electric shock).

If the nature of your business means that you have multiple occupants on site (e.g. accommodation and boarding houses, aged care facilities) you will need to consider more comprehensive procedures, in accordance with relevant governing legislation.



Moving vehicles from your customer car park may be an action point on your Be FloodWise Business Plan.

If you require additional information on your responsibilities and WH&S implications, contact one of the following:

Office of Fair Trading
www.fairtrading.qld.gov.au

Workplace Health and Safety
www.dir.qld.gov.au/workplace

Critical business functions

As part of your business planning, consider processes to ensure continuity of the following critical business functions during a flood:

- building security
- customer contact and communication
- payroll
- banking, payments and receipts.



Be FloodWise tip

Be FloodWise – Developing your plan is not a big task. Avoid big problems, deliver big results.

Factors unique to flood

Flood differs from many other isolated workplace emergencies such as an office fire or bomb threat. Flood often affects larger areas – parts of suburbs, whole suburbs or even the whole city. This has particular implications for your business and staff. Some common examples include:

- Staff may live in a flood-affected area and need to go home to protect their own property.
- Staff may have family commitments that need attending to during a flood.

Ensure that you consider these factors when developing your plans.

Developing your Be FloodWise Business Plan

Developing your *Be FloodWise Business Plan* is an important task for your organisation as it encourages you to think about key processes and actions to take without the presence of an actual emergency situation.

A *Be FloodWise Business Plan* should cover all aspects of your business, including risk management and business continuity strategies, staff safety and customer management. Flood actions and strategies can integrate with your existing business continuity plan and WH&S system.



Outlined below is a list of high-level actions which should be considered to ensure you maintain a safe workplace for staff and customers, while also

minimising potential losses to your business. These actions are included in more detail in the *Be FloodWise Business Plan checklist* in the checklists and forms section on page 15 of this booklet.



Be FloodWise tip

Be FloodWise – Involve as many staff as possible in developing your plans. This builds understanding and ownership, and improves staff response in a flood.

Your business

- Consider any stock, equipment, vehicles or office functions that are located in areas that could be affected by flooding (consider leaking ceilings as well as ground level flooding) and prepare processes for relocating them above likely flood levels. Move any equipment now that does not need to be in a flood-prone area.
- Consider security, safety and data management procedures if evacuation is required. Implement policies to regularly back up data off-site.
- Check that neighbouring businesses or nearby properties are aware of any flood warnings and instructions.

Your staff

- Create an evacuation plan which considers staff and neighbouring businesses that may require assistance.
- Brief the floor warden or WH&S officer on flood procedures.
- Encourage staff to identify travel routes between home and work that are unlikely to be affected by floods.

Your customers

- Consider processes for notifying customers of closure periods and alternate contact details.
- Consider your prescheduled appointments and reschedule times as needed.

Preparing your emergency kit

In addition to the key actions previously outlined, it is important that you prepare an emergency kit for use during and after a flood. If you have sufficient notice, give staff the option of going home prior to flood waters affecting the business. If this is unavoidable, it is important that you have an emergency kit ready for use.



An *emergency kit contents checklist* is included in the checklists and forms section on page 19 of this booklet.

Flood insurance

Many general insurance policies do not cover flood damage, or have specific limitations on the definition of flood. Flood is often treated differently to other storm damage so check the definitions and exclusions of each term in your policy's Product Disclosure Statement or contact your insurer. Some insurers may not provide cover for properties with an extensive flood history.

It is important to determine whether your existing business insurance covers flood damage and the costs associated with loss of trade. If your existing cover is not adequate, ask your insurer about specialised flood insurance.



A flood cost estimator is provided in this booklet to assist you to assess the value of equipment and assets exposed to flood.

For more information about flood insurance contact the Insurance Council of Australia at www.ica.com.au or your insurer.

Accessing and understanding flood warnings

The Bureau of Meteorology is responsible for providing forecasting and warning information. Council works in partnership with the Bureau to interpret warnings and provide advice to Brisbane residents and businesses on possible flood impacts and effects.

The Bureau issues a number of different types of warnings before and during weather events which could result in flooding in parts of Brisbane.

Triggers to listen and watch out for include:

- flood warnings
- severe weather and thunderstorm warnings, especially those mentioning the possibility of flash flooding
- tropical cyclone warnings including warning for storm tide
- prolonged heavy rain
- rising creeks and rivers, and localised pooling of water.

Where to access warnings

Warnings are sent from the Bureau to media, Council, Department of Emergency Services and other agencies involved in managing severe weather and flood response activities. The following table lists ways for you to access warning information.



Creeks and waterways can rise rapidly. Be aware of warnings (1974).

Channel	Access	Contact information
Internet	Visit the Bureau of Meteorology website.	www.bom.gov.au
Radio	Tune in your radio to a relevant station.	Local AM and FM stations especially radio ABC (612)
Television	Watch out for televised weather updates.	All free-to-air channels The Weather Channel (Foxtel/Austar)
Telephone	Listen to the Bureau's Telephone Weather Service. Local call charges apply.	Severe weather and flood warnings: 1300 659 219 Tropical cyclone warnings: 1300 659 212

The wailing siren that has been used in Queensland for tropical cyclones (called the Standard Emergency Warning Signal) can also be used for other major weather and flood events. You may hear it on radio or television prior to advice about a flood, cyclone or storm. To hear a sample of the siren visit www.disaster.qld.gov.au/disasters/warning.asp



Be FloodWise tip

Be FloodWise – Always be alert. Understand what flood warnings mean and be prepared to act.

Interpreting flood warnings

You will hear these terms in weather forecasts so it is important that you are familiar with what they mean.

Minor, moderate or major flooding

For the Brisbane River and creeks where specialised rainfall and river height gauges have been installed, flood warnings and river height bulletins will describe flooding as 'minor', 'moderate' or 'major'.

- **Minor flooding** – Causes inconvenience. Low-lying areas next to watercourses are inundated which may require the removal of stock and equipment. Minor roads may be closed and low-level bridges submerged.
- **Moderate flooding** – In addition to the above, the evacuation of some houses may be required. Main traffic routes may be cut by flood waters.
- **Major flooding** – In addition to the above, extensive areas are inundated. Properties and suburbs are likely to be isolated and major traffic routes likely to be closed. Evacuation of people from flood-affected areas may be required.

Observed and predicted river heights

Flood warnings for the Brisbane River contain a summary of the existing rainfalls and river heights, and for larger floods, predictions of river heights at key locations including Moggill, Jindalee and Brisbane City. For these key locations, predicted heights may also be given with the time that the height is expected to be reached.

For businesses near these gauges, it is important to know what height on the gauge affects your property (e.g. the height that water begins to enter your property boundary or the height at which the floor is reached).

During a flood, these bulletins are regularly issued and updated. Bulletins and warnings are available via the channels listed in the "Where to access warnings" table on page 8 of this booklet.



Brisbane's flood history has impacted many businesses as shown in this picture of the 1974 flood.

Photo courtesy of The Courier-Mail.



Be FloodWise tip

Be FloodWise – Remember that there are limitations in forecasting. Every level of flooding carries an element of risk.

STEP 2 IN REVIEW

- ☐ Prepare your *Be FloodWise Business Plan* (refer to page 15).
- ☐ Prepare an *emergency kit* (refer page 19).
- ☐ Check your insurance policy for flood cover and purchase flood insurance if necessary.
- ☐ Familiarise yourself with flood warning classifications and where to access information during a flood.



Responding when the water comes

As you start to hear reports of rising water levels, it is time to take action. At the start of heavy rains you may have several hours to prepare. This might not be the case with flash flooding which occurs from relatively short intense bursts of rainfall and may not allow much warning time.

This section of the booklet looks at:

- actions to take
- risks during flood - things to look out for
- transport and road safety
- evacuation.

Actions to take

The following list includes some high-level actions to consider during a flood to stay informed and to minimise loss of property and life.

- Watch and listen out for flood warning bulletins and evacuation information.
- Ensure that all indoor and outdoor equipment and furniture is secured and moved to a higher location or off-site.
- Check that all safety and security precautions have been taken. For example, remove cars from underground car parks.
- Check with the RACQ for safe routes before driving anywhere and don't attempt to drive on flooded roads or through flooded creek crossings.
- Implement document management and data security processes (e.g. back up disks, remote storage, hard drives and safes).
- Keep your *emergency kit* accessible and dry.



For a comprehensive list of actions to take during a flood, refer to the *Be FloodWise Business Plan checklist* in the checklists and forms section starting on page 15 of this booklet.

Risks during floods – things to look out for

Flood waters can be dangerous. Be aware of the following:

- **Drowning** – Avoid going near stormwater drains. During a flood, water moves quickly through drains that may be dry for most of the year. Don't walk or swim in flood waters. As little as 15 centimetres of moving water can knock you off your feet.



Driving on flooded roads is dangerous.

- **Electrocution** – Stay clear of fallen powerlines and electrical wires. Electricity passes easily through water.
- **Driving** – Don't drive through flood waters. Detour around flooded roadways. A car can be swept off the road by as little as half a metre of flood water.
- **Contamination** – Wash your hands and feet with soap if you do come into contact with flood water. Sewage or chemicals can be found in flood water.
- **Slipping** – Tread carefully. Slippery surfaces can cause falls and injuries.
- **Wildlife** – Be aware that there may be displaced and stressed wildlife inside your premises.



Be FloodWise tip

Be FloodWise – Don't drive on flooded roads. Turn around, don't drown.

Transport and road safety

As many staff drive to work, road safety is an important consideration. Roads often become flooded prior to there being any threat to buildings. It is important that your staff stay informed of road conditions between their workplace and home, and evacuate prior to becoming isolated.

Many drivers rescued from flood waters report that they were in a hurry to get home to safety as a reason for tempting the danger of driving into water. Regardless of the type of car and despite what car commercials show, driving into flood waters is dangerous considering:

- most flood-related deaths occur at night and involve cars driving on flooded roads
- creeks and rivers can rise very rapidly and the road surface can wash away making the water much deeper than it appears
- once cars are swept downstream they will often roll to one side or perhaps flip over entirely. The driver and occupants have little time to escape the vehicle.

Public transport

If staff use public transport to travel to and from work, it is important that they are aware of any disruptions to transport services during a flood. It is important that staff stay informed of changing road conditions and have alternate transport means if evacuation is required. Visit www.translink.com.au or phone 13 12 30 for public transport information.

Road conditions

The RACQ offers road condition reporting. You can access this via their 24-hour phone service on 1300 130 595 (charges may apply) or by visiting the RACQ website www.racq.com.au and clicking on a region to check local conditions before you leave work.

Evacuation

Most businesses should have an existing evacuation plan developed for fire or other emergencies. From a business continuity perspective, development of a flood evacuation plan may simply require revision of your existing plan to determine whether it is suitable for flood. You will need to consider where water will enter the building, possible isolation points and exit routes. For businesses in high rise buildings, evacuation plans may differ and include moving to higher floors.

Your evacuation plan should include actions to ensure your staff know what to do in a flood and where you will evacuate to should the need arise.

Council works with many government and community groups to manage flood as smoothly as possible. If you are asked to evacuate, do so immediately. Ensure power and gas are turned off and take your *emergency kit* with you.

Emergency shelters can change depending on where the water is. Contact Council or listen to the radio for information bulletins on your nearest centre.

All emergencies (Police/Fire/Ambulance)	000 (mobiles 000 and 112)
Council/SES	(07) 3403 8888

Maintenance and updates

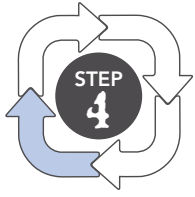
It is important that your evacuation plan is maintained and updated regularly to ensure that information remains current. Changes to staff and office procedures mean your evacuation plan should be updated every six months.

It is critical that staff are trained on the evacuation process, including exits and meeting points. There will also be some procedures that need to be included such as securing of doors and windows, management of cash and valuables, and last minute messages and notices.

Assigning roles and documenting processes prior to a flood ensures that nothing is overlooked. It is recommended that a person within your office be nominated as a single coordination point. You may have an existing floor warden or WH&S officer who could fulfil this role.

STEP 3 IN REVIEW

- ☐ Keep informed of weather updates.
- ☐ Take actions to limit damage to property by raising and securing equipment and stock.
- ☐ Keep your *emergency kit* dry and accessible.
- ☐ Be aware of risks during floods to avoid injury.
- ☐ Consider transport arrangements during a flood.
- ☐ Evacuate if necessary, using your agreed plan.



Recovering after the flood

After a flood, the recovery process can be time-consuming, stressful and costly. This section of the booklet looks at:

- who to contact
- risks to be aware of
- cleaning up
- assistance and relief
- preventative measures for next time.

Who to contact

If you have flood insurance, the first step is to call your insurance company or broker. If your insurance covers the damage, your agent will tell you when an assessor will contact you.

List damage and take photos or a video before you clean up. You may need complete records for insurance claims, applications for disaster assistance and income tax deductions.

If you are a lessee, you may also need to contact your building owner, manager or agent for advice.

Risks to be aware of

Flood waters can cause a significant amount of damage. Don't return to your business premises until authorities have advised that it is safe. Use extreme caution when entering buildings. More injuries occur after a flood than during. Some common risks are listed below.

- **Electrocution** – Stay clear of fallen powerlines and electrical wires. Electric current passes easily through water. Wiring can be damaged by flood waters and presents a significant risk. Electrical appliances and lights should not be used until they have been checked by an electrician. Wear rubber gloves and rubber-soled shoes to avoid electrocution.
- **Gas leak** – Leave your building immediately and call the gas company if you smell leaking gas. Lanterns, torches, electrical sparks, mobile phones and cigarettes could cause an explosive fire if there is a leak. Do not turn on any light switches.
- **Contamination** – Flood water can be contaminated with sewage or chemicals. Ensure that you wear protective clothing and wash your hands and feet if you come into contact with flood waters. Food or water that has come in contact with flood waters is unsafe to eat or drink. Boil tap water if there is a chance that it has been contaminated and continue to do so until health authorities advise it is safe.
- **Structural damage** – Watch for falling debris and the possibility of collapsing ceilings and basement walls.
- **Wildlife** – Beware of displaced and stressed wildlife which may also be looking for higher ground.



Cleaning up flood-damaged fittings (2001).

Photo courtesy of The Courier-Mail.

Cleaning up

Flood waters contain many contaminants, lots of mud and debris. Valuable carpeting, stock and furniture can get ruined by only a few centimetres of water.

A deeper flood may cause damage to more expensive systems including ducts, heating and air-conditioning units, roofing, private wastewater treatment systems, gas and electricity supplies and building foundations.

After a flood, cleaning up can be a difficult process. Wear protective clothing on your legs, arms, feet and hands while clearing debris. Wear rubber gloves while scrubbing flood-damaged interiors and furniture. Avoid using staff to clean up as they may not be fully trained. Hire professional cleaning contractors and tradespeople.



Common techniques for sanitising and cleaning flooded items are outlined in the *clean up tips checklist* on page 21 of this booklet.

Assistance and relief

Following a major event such as a flood, a number of services are available to assist affected members of the community. These include personal support, resources, specialist counselling, and health and community services.

Disaster relief funding may be available. Local media and newspapers will provide guidance on the type of support available following a disaster. You may also consider contacting industry associations and peak bodies for guidance.

Agencies to contact for assistance

Organisation	Role	Contact details
Community organisations and groups	Local aid and community organisations can provide support to impacted communities. Examples of these include the Salvation Army, Australian Red Cross, St Vincent de Paul Society and Rotary.	Check the White Pages® for local branch contact numbers.
Crisis Care	Initial inquiries relating to assistance following a disaster event.	1800 177 135
Department of Communities	Assists individuals, families and communities to restore emotional, social, economic and physical wellbeing following a disaster event.	Visit www.communities.qld.gov.au
Disaster Assist	A federal government initiative to give individuals and families access to information about recovery assistance following a disaster.	Visit www.disasterassist.gov.au

Preventative measures for next time

Minimising flood risk in and around your business can make all the difference when a flood occurs. The following measures can be implemented now.

- Store equipment and stock above floor level (where practical).
- Keep supply of sandbags on hand.
- Update office procedures to incorporate lessons learnt.
- Replenish supplies in your emergency kit.
- Investigate options for mobile office technologies.

If you own your building premises, as part of your future flood management planning, you may also consider making modifications to your property. If so, it is important to understand the standards to which your property was built and any impacts that changes to your property may have on your flood exposure.

Development standards

There are many areas of Brisbane that were subdivided in the late 1800's and early 1900's when there was simply a lack of knowledge about flooding and how it would impact on a rapidly growing city. We now know that many low-lying areas of the city that have been developed would not be in accordance with today's development standards. Unfortunately, this situation will remain as it is not possible to rebuild and re-subdivide the city to meet with today's standards.

Under previous standards, the planning method was to redirect excess stormwater flow across properties. Current town planning standards have been updated to ensure that where stormwater exceeds pipe capacity, flow is carried in the roadway. This reduces the potential for flooding of properties.

Redeveloping and refitting

It is particularly important to remember the flood impacts of any redevelopment or changes to fit outs. If you are considering modifying your building, make sure you:

- Obtain a FloodWise Property Report from Council.
- Consider flood implications when you are making improvements or additions to your property. Even adding an additional concrete slab means there is less ground to absorb water.
- Install or upgrade your property's drainage systems.
- Ensure newly installed electricity outlets and switches are above possible flood levels.

STEP 4 IN REVIEW

- ☐ Be aware of risks after a flood to avoid injury.
- ☐ Clean all flood-affected property thoroughly (refer to page 21).
- ☐ Contact government or community groups for assistance.
- ☐ Take steps to reduce impacts next time.

Checklists and forms

Be FloodWise Business Plan checklist	15
Flood cost estimator.....	17
Emergency kit contents checklist	19
Clean up tips checklist.....	21



Be FloodWise Business Plan checklist

As part of preparing for flood consider every item in the list below. Implement as many points as possible now. A review every six months is recommended.

Step 1: Understanding your flood risk

- ☐ Obtain a FloodWise Property Report from Council.
- ☐ Consider engaging the services of an engineer.
- ☐ View the property to determine the slope of the land and to identify any potential flood hazards.
- ☐ Find out about your local flood history from neighbouring businesses.
- ☐ Complete the flood cost estimator to calculate your financial exposure to flood.

Step 2: Preparing your business for flood

Administration

- ☐ Prepare your Be FloodWise Business Plan.
- ☐ Prepare an emergency kit.
- ☐ Check your insurance policy for flood cover and purchase flood insurance if necessary.
- ☐ Develop an evacuation plan and display maps.
- ☐ Familiarise yourself with flood warning classifications and where to access information during a flood.

Develop processes and assign responsibilities for:

- ☐ locking doors and securing money
- ☐ switching off mains power
- ☐ computer back up and data recovery
- ☐ accounting – payroll/banking/accounts payable and receivable
- ☐ customer contact and communication.
- ☐ Conduct staff training (including annual refresher training).
- ☐ Brief floor warden/WH&S officer/office coordinator.

Office equipment and fittings

- ☐ Identify and prioritise exposed assets and equipment and consider relocation points.
- ☐ Identify plumbing and sewerage risks and consider management strategies.
- ☐ Consider purchasing a supply of sandbags to have on hand.

Customer service

- ☐ Consider after hours and alternate contact arrangements.

Step 3: Responding when the water comes

Just before the flood

Administration

- ☐ Keep informed of weather updates. Listen to a battery-operated radio for the latest flood information.
- ☐ Be aware of risks during floods to avoid injury.
- ☐ Consider transport arrangements during a flood. Encourage staff to stay informed of changes to road conditions.
- ☐ Ensure neighbouring businesses and nearby properties have been notified of any flood warnings and instructions.
- ☐ Place sandbags or other protection around the premises. Stack sandbags away from the outside walls of your premises to prevent flood waters from entering.
- ☐ Place sandbags in the toilet bowl and over wastewater outlets to avoid sewage entering the building.
- ☐ Remove cars from underground car parks.
- ☐ Back up computers and data.
- ☐ Switch off all computers, mains power and air-conditioning.
- ☐ Keep your emergency kit dry and accessible.



Office equipment and fittings

- ☐ Take actions to limit damage to property by raising and securing equipment and stock. Relocate valuable stock and equipment above likely flood levels including servers, hard-drives, computers, files, archive boxes and furniture.
- ☐ Move garbage, chemicals and poisons to a high, dry place. Store petrol and other chemicals that react with water in waterproof containers.
- ☐ Remove wooden drawers from cabinets and furniture.
- ☐ Turn off electricity, gas and water mains. Remove fuses from your meter box to reduce the chance of short circuits when power is returned. Avoid switches if wet. Tie down gas bottles or move them to higher ground.
- ☐ Empty freezers and refrigerators and leave doors open so they do not float. Destroy perishable food items.
- ☐ Bring outdoor furniture and signage indoors or tie it down.

Customer service

- ☐ Erect signs on front door/window informing customers of closure period and alternate contact details.
- ☐ Activate answering machine or service and divert telephones. Consider a flood-specific message.

Safety and security

- ☐ Secure windows, doors, money and valuables.
- ☐ Evacuate if necessary, using your agreed plan.

During the flood

- ☐ Listen to the radio for flood updates.
- ☐ Check with the RACQ for safe routes before driving anywhere and don't drive on flooded roads.
- ☐ Provide support to staff not already evacuated.
- ☐ Make arrangements with emergency shelters (if required).

Step 4: Recovering after the flood

- ☐ Contact your insurer or broker and seek directions.
- ☐ Contact the building owner, manager or agent for instructions (if applicable).
- ☐ Be aware of risks after a flood to avoid injury.
- ☐ Engage a licensed electrician to test electricity and wiring.
- ☐ Photograph or video damage prior to cleaning up.
- ☐ Clean all flood-affected property thoroughly.
- ☐ Dispose of any contaminated food or property safely.
- ☐ Implement processes to re-open the business.
- ☐ Replenish supplies in your emergency kit and store for reuse.
- ☐ Update your evacuation plan and procedures from learnings.
- ☐ Contact government or community groups for assistance.
- ☐ Take steps to reduce impacts next time.



Flood cost estimator

What is the flood cost estimator?

This form will assist you to estimate the risk exposure of elements of your business to flood. This exercise may draw from existing asset registers and accounting systems you have in place, however this is concerned only with elements of your business (e.g. assets, stock, cash flow) that are likely to be affected by flood (e.g. at flood level, exposed to weather).

What will it tell me?

This form includes fields to record property and business flood exposure information. The first table encourages you to consider the property profile and flood history of your business premises.

The second table covers three business elements: expenses, assets and income. As floods can cause lengthy disruption to business, assume an interruption period of at least 14 days. This table will assist you to estimate the costs and losses associated with a flood.

What other resources are available to help me complete this form?

You may have existing financial accounts and registers that will assist you to populate these fields. The FloodWise Property Report available from Council will also help you to identify possible flood levels and frequencies.

Property profile

Street address: _____

Suburb: _____ Postcode: _____

Phone: _____ Lot number: _____ Registered Plan Number: _____

Flood profile

Flood history	Last time property flooded Date ____/____/____	Depth of flood water on property _____ metres	Source of flooding (stormwater, creek, river) _____
Proximity to waterway	Name of nearest waterway _____ _____		Distance from nearest waterway to property boundary _____ metres
Other information	Flood insurance <input type="checkbox"/> Yes <input type="checkbox"/> No	Evacuation plan in place? <input type="checkbox"/> Yes <input type="checkbox"/> No	Car parking or storage underground? <input type="checkbox"/> Yes <input type="checkbox"/> No

Business costs

The following table includes three business elements. Estimate the total value of each to determine the financial exposure of your business to flood.

When assigning costs and values for the following business elements, assume an interruption period of 14 days and consider the possible flood heights and depths that you are using. It is common to estimate based on past experience, however it is important to recognise that more severe floods can and do occur. If you are using this information to determine values for insurance cover, ensure you have adequate cover.

Total expenses

Estimate expenses that will need to be paid both during a flood and throughout the recovery process. List items that will need to be paid even if the business is closed. Examples of expenses include:

- overheads (staff wages, lease costs, mortgage)
- customer service functions (answering service, diversions, second office)
- scheduled payments (monthly accounts, tax instalments).

\$ _____

Total assets

Estimate replacement costs of stock and other assets. List only items that have a likelihood of being affected by flood waters. Examples of assets include:

- stock on hand
- equipment (photocopier, computer, office furniture)
- fittings (floor coverings, air-conditioning units).

\$ _____

Total income lost

Estimate the components of your income (revenue and cash flow) that would be affected by flooding.

\$ _____

Total (flood cost exposure) \$ _____



Emergency kit contents checklist

The following list contains essential business information and supplies that will assist if you are evacuated. Use a waterproof container to house the following items.

Business

- ☐ Valuables, documents and back up computer data.
- ☐ Spare master set of keys.

Checklist of office procedures to:

- ☐ implement evacuation of staff
- ☐ activate call diversions and message service
- ☐ erect signage on doors advising of closure period and alternate contact details
- ☐ turn off electricity, gas and water
- ☐ activate data back up and computer security
- ☐ secure doors and windows
- ☐ return to business-as-usual (e.g. to re-open).

Safety and supplies

- ☐ List of important numbers including insurance policy numbers and emergency phone numbers (Council, SES, Police, Fire and Ambulance).
- ☐ Portable radio and torch with fresh batteries.
- ☐ Reasonable stocks of fresh water, non-perishable food, can opener and self-contained cooking gear.
- ☐ First aid kit.
- ☐ List of special needs and physical aids.
- ☐ Additional blankets, food, water and first aid (if multiple staff in business).

Other items

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

[illegible]



Clean up tips checklist

Item	Procedure
Appliances	Running equipment before it is properly cleaned could seriously damage it and electrocute you. Professional cleaning is recommended for computers, electronics, dishwashers and vacuum cleaners. The hard exterior can be hand cleaned. All appliances that have been flooded should be professionally tested to prevent electric shock.
Ceilings and walls	Plasterboard acts like a sponge when wet. Professional assistance may be required to repair walls and ceilings.
Electrical system	The system must be shut off, repaired and inspected by an electrician before it can be turned back on. Wiring must be completely dried out – even behind walls. Switches, light outlets, entrance panels and boxes that have been under water may be filled with mud.
Floors	<p>Vacuum floors, ceilings and walls to remove mildew, then wash with disinfectant.</p> <p>Subflooring – Floor covering (vinyl, lino, carpet, tile) must be removed so the subflooring can dry thoroughly. Open windows and doors to expose the floor to as much air as possible.</p> <p>Carpet – Clean and dry carpets and rugs as quickly as possible. If sewage-contaminated flood water covered your carpet, discard it for health and safety reasons. Also discard if the carpet was under water for 24 hours or more. Use fans to circulate air above the carpet and if possible, lift the carpet and ventilate with fans underneath.</p> <p>Vinyl flooring and floor tiles – This may need to be removed to allow drying of the subfloor.</p> <p>Timber floors – Dry gradually. Sudden drying can cause cracking or splitting. Some restoration companies can accelerate drying time by forcing air through the underside of hardwood floorboards.</p>
Furniture	Dry furniture as soon as possible. Open windows and turn on fans to circulate air and ventilate area. Upholstered furniture soaks up contaminants from flood waters and should be cleaned only by a professional.
Heating and cooling	Heating and cooling systems and ducts will need inspection and cleaning. Flood-soaked insulation should be replaced.
Kitchen	<p>Disinfect all kitchen cutlery and crockery.</p> <p>Swollen chipboard cupboards may need replacing due to contamination.</p>
Roof damage and leaks	Areas that commonly contribute to water damage include defective flashing, clogged downpipes or gutters, cracks, deterioration and holes.
Surfaces	Clean and disinfect every surface. Scrub surfaces with hot water and a heavy-duty disinfectant.

[illegible]

Glossary of terms

Bullrushes – Various aquatic or wetland plants with grass-like appearance.

Bureau of Meteorology – The Commonwealth government department responsible for weather forecasting and other weather-related services throughout Australia.

Business continuity plan – A business document outlining a plan to resume normal operations after a disaster.

FloodWise Property Report – This free report is issued by Council and is designed to provide property-based information about flood levels, habitable floor levels for building and other information useful in determining flood risks associated with a specific property.

Flash flooding – Flash flooding occurs after intense bursts of rainfall, often from thunderstorms, in a local area over a short period of time. It causes rivers, creeks and other watercourses to quickly overflow and then subside.

Habitable floor levels – Minimum level at which habitable areas (generally includes bedrooms, kitchen, study, living, family and rumpus rooms) must be constructed.

Major flooding – In addition to the “moderate flooding” definition, extensive areas are inundated. Properties and suburbs are likely to be isolated and major traffic routes likely to be closed. Evacuation of people from flood-affected areas may be required.

Minor flooding – Causes inconvenience. Low-lying areas next to watercourses are inundated which may require the removal of stock and equipment. Minor roads may be closed and low-level bridges submerged.

Moderate flooding – In addition to the ‘minor flooding’ definition, the evacuation of some houses may be required. Main traffic routes may be cut by flood waters.

Overland flow – Surplus water which exceeds the capacity of the underground drainage system (if present) and concentrates in surface depressions and gullies as it flows downhill.

Plasterboard – A rigid board made of layers of fibreboard or paper bonded to a gypsum plaster core, used instead of plaster or wood panels in construction to form walls.

Pooling – The build-up of a small body of still water such as a puddle or pond.

Run-off – See ‘overland flow’.

Risk – The possibility of suffering harm or loss.

River height bulletins – River height bulletins are reports produced by the Bureau of Meteorology containing observed river heights for a selection of the river height monitoring locations, the time of the reading, its tendency (e.g. rising, falling, steady or at its peak) and the height above or below the road bridge or causeway for each river station located near a road crossing.

Sewage – The waste water and matter that is carried away through sewers.

Stormwater – The sudden, excessive run-off of water following a storm.

Storm tide – A storm surge which is a combination of high tides and heavy seas usually associated with tropical cyclones.

Telemetry – The technology of automatic measurement and transmission of data from remote sources (such as a creek) to receiving stations (such as Council).

Watercourse – A natural or artificial channel through which water flows.

Waterway – Any element of a river, creek, stream, gully or drainage channel, including the bed and banks.

Waterway corridor – The corridor along a waterway which protects and enhances water flow, water quality and biodiversity, provides recreational facilities such as walkways and bikeways, and restricts development, especially where a flood risk exists.

Be FloodWise publications

The following Be FloodWise publications are available from Council via your nearest regional business or customer service centre or by phoning (07) 3403 8888. Visit the Be FloodWise web page at www.brisbane.qld.gov.au/floodwise

Publication name	Overview of contents
Be FloodWise – A guide for residents	This booklet provides information on: <ul style="list-style-type: none">• preparing for and coping with flood• checklists and forms to assist in planning for flood.
Be FloodWise – A guide for businesses	This booklet provides information on: <ul style="list-style-type: none">• preparing for and coping with flood• checklists and forms to assist in business planning (e.g. flood cost estimator and emergency kit contents checklist).
Now is the time to Be FloodWise	This fact sheet provides general information on: <ul style="list-style-type: none">• flooding in Brisbane• frequently asked questions about flooding• key actions to take during a flood.
Be FloodWise – Flooding facts for industry	This fact sheet provides information on: <ul style="list-style-type: none">• flooding in Brisbane• industry-specific information for property, construction, conveyancing and insurance professionals.
Be FloodWise Emergency contact card	This wallet-sized card can be used to record important phone and policy numbers.
FloodWise Property Report	Brisbane City Council can issue you with a free FloodWise Property Report. This report provides: <ul style="list-style-type: none">• property-based information about flood levels• habitable floor levels for building• information useful in determining flood risks associated with a particular property.
Be FloodWise bookmark	The bookmark provides general information on flooding and a range of tips to assist in preparing your property for a flood.

I love a sunburnt country,
A land of sweeping plains,
Of ragged mountain ranges,
Of droughts and flooding rains.

Verse from "My Country" – written by Dorothea Mackellar (1885 - 1968)





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For more information
visit www.brisbane.qld.gov.au
or call (07) 3403 8888



Brisbane's flood history has impacted many businesses as shown in this picture of the 1974 flood.

Photo courtesy of The Courier-Mail.

Brisbane is a sub-tropical city with a climate and topography that makes some areas of the city susceptible to flooding. The city has historically experienced a high average annual rainfall (approximately 1100 millimetres).

Over the past decade however, weather patterns have been highly variable and Brisbane has not received its normal annual rainfall. Throughout Australia, we have experienced weather extremes such as severe drought, storms and cyclones. If we look at our history, we know that floods and droughts are closely related and often follow each other. So now is the time to Be FloodWise.

The implications of flooding affect a broad range of industries, including building, insurance, conveyancing and property. This fact sheet is designed to assist professionals in these industries who provide advice to clients that may be affected by flooding. It also provides

an insight into Brisbane's flood profile, Brisbane City Council's priorities for flood management and resources available to industry professionals to assist their clients in areas relating to flooding.

Be FloodWise is another way Council is achieving our vision for the city's future.

Brisbane's flood profile

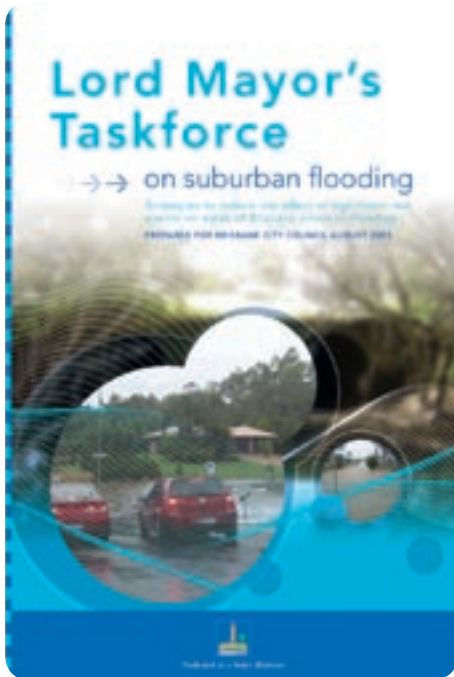
Brisbane has evolved around its many rivers and creeks. A number of properties across Brisbane are located in close proximity to the Brisbane River, creeks and Moreton Bay. Over the past 100 years, Brisbane has experienced more than 25 flood events, causing considerable disruption to the community. Flooding is generally caused by a number of factors including heavy or prolonged rainfalls, overloaded stormwater drainage systems and storm tides in Moreton Bay.

How does flooding affect Brisbane?

There are several types of flooding that affect the residents and businesses of Brisbane – each with different triggers and warning timeframes.

Flooding type	Trigger	Possible effects
River flooding	<ul style="list-style-type: none">occurs when widespread prolonged rain falls over the catchment area of the Brisbane River	<ul style="list-style-type: none">substantial damage to infrastructure, property, fittings and furnitureroad closures, service interruption, trade/business disruption, property isolation and evacuation
Creek flooding	<ul style="list-style-type: none">occurs when the capacity of a creek is exceeded as a result of localised rainfall	<ul style="list-style-type: none">water damage to property, fittings and furnitureroad closures, service interruption, trade/business disruption, property isolation and evacuation
Local flooding and overland flow	<ul style="list-style-type: none">occurs when parts of the stormwater drainage system (such as pipes and gully inlets) are blocked or capacity is exceedednatural flow and run-off of water across land	<ul style="list-style-type: none">water damage to property, fittings and furniturepooling of water in backyards, surface depressions, natural gullies and outdoor areasliability for damages may apply if the building or filling on a property increases or worsens flooding to a neighbouring property
Flash flooding	<ul style="list-style-type: none">occurs after intense bursts of rainfall in a local area over a short period of timecan affect creeks and other watercourses	<ul style="list-style-type: none">rapid flooding causing significant damage to property, fittings and furnitureflooded carparks, damage to vehicles, road closures and service disruptions
Storm tide	<ul style="list-style-type: none">occurs from a combination of high tides and heavy seas usually associated with tropical storms	<ul style="list-style-type: none">flooding of coastal property, causing water damage to property, fittings and furniturefast moving water can have devastating effects on property and life





Doesn't flooding only happen in the wet season?

Flooding can occur at any time of the year, particularly creek flooding and flash flooding. An example of this occurred in May 1996, when flood levels in some locations such as Oxley Creek, were the highest recorded since the 1974 flood. July 1988 and April 1989 are other examples of floods throughout Brisbane's history that did not occur during the traditional wet season (December to March).

Hasn't Wivenhoe Dam fixed Brisbane's flooding problems?

Wivenhoe Dam hasn't eliminated flooding, but it has reduced the potential impact of a river flood for Brisbane. Wivenhoe Dam is located in the upper catchment of the Brisbane River, west of the city. Apart from acting as the primary water supply for Brisbane, the dam also assists in reducing the potential for a Brisbane River flood through its additional storage capacity and ability to hold back flood waters. It is therefore only effective in collecting rainfall in the upper catchment of the river, not suburban creeks and waterways.

Council's role in flood management

Council undertakes a number of regular actions such as:

- building and maintaining stormwater drains
- managing waterway vegetation and health
- managing floodplain development
- providing flood information to the public
- participating in disaster response during a flood.

In addition, Council is implementing several priority actions from the Lord Mayor's Taskforce on Suburban Flooding such as:

- installing and upgrading telemetry gauges in creeks (rainfall and water-level measurement devices)
- implementing and upgrading the city's stormwater drainage network
- installing early warning signage on several flood-affected roads
- undertaking a voluntary home purchase scheme for high risk properties
- delivering a Be FloodWise community awareness and information campaign.

The Lord Mayor's Taskforce on Suburban Flooding was formed in 2005 to examine possible strategies to reduce the effects of significant rain events on areas of Brisbane that are susceptible to frequent flooding. The taskforce was made up

of 13 members including community representatives, experts on flooding, social planning and environment, and representatives from the engineering, development and insurance industries. Recommendations made by the taskforce are now being implemented by Council.

Over the next four years (2006-10), Council anticipates spending a total of \$73 million on flood management initiatives. This includes:

- \$47 million to construct major stormwater drains
- \$20 million on the voluntary home purchase scheme for flood-prone properties
- nearly \$1 million per annum on clearing vegetation and silt from suburban creeks
- \$500,000 per annum on flood awareness and education activities.

Part of the Be FloodWise awareness campaign is aimed at assisting members of the community to prepare for flooding. People can reduce their own risk by planning ahead and understanding how any changes and renovations around their home or business can impact on their flooding exposure. Several publications are available from Council to assist members of the community to prepare for flood.



Council invests in mitigation works to minimise flooding in Brisbane.



Before buying or leasing premises consider its flood history.



Many businesses are located near creeks and waterways that can flood quickly.

Flooding implications for industry

Professionals within the building, insurance, conveyancing and property industries provide advice to clients on buying, renting or selling real estate, building or renovating properties and purchasing insurance. Relevant flooding implications for professionals and clients within the following industries include:

Property and real estate

A property's flood history and potential for future flooding is an important consideration when buying, renting or leasing property. Potential buyers or tenants should consider flooding implications and seek information from Council. Free FloodWise Property Reports are available from Council's regional business centres or customer service centres.

Potential buyers and tenants can also engage a qualified professional engineer to assess their property for additional flood hazards.

Conveyancing and legal

The FloodWise Property Report is issued as part of the Council 'Inspection of Records' search. Properties that are purchased subject to flood reports should include appropriate clauses in the contract.

Building and development

Flooding can be an issue when building or renovating property. New structures or changes to existing structures can alter the natural flow of water across land. The major flooding implications include overland flow, waterway corridors, inundation from creeks, rivers, storm tide and stormwater drainage. If adequate allowances have not been made for run-off and drainage, overland flow can create localised flooding issues.

Builders, certifiers, architects and other industry professionals can assist in managing this issue for their clients by ensuring that they consider flooding implications in their building and landscaping plans. Properties that are within a waterway corridor may have land use restrictions. If this is the case, it is important to recognise that plans need to be developed in accordance with Council's *City Plan* codes.

Insurance

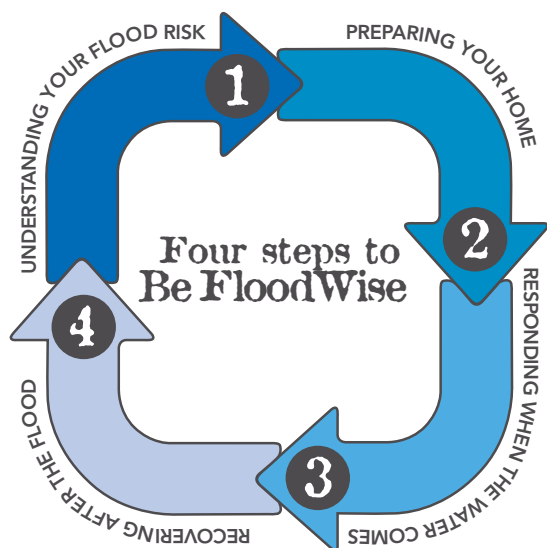
Many general insurance policies do not include flood insurance, or have specific limitations on the definition of flood. Clients should be encouraged to seek advice from Council on flood levels through a FloodWise Property Report and may consider purchasing flood insurance (if available). It is important that policy exclusions are clearly explained to ensure clients are aware of the extent of their flood cover.



What resources are available to industry professionals and clients?

- **FloodWise Property Report** – Council issues a FloodWise Property Report free of charge. This report provides property-specific information about flood levels, habitable floor levels for building and other information useful in determining flood risks.
- **City Plan** – A copy of *City Plan* is available for purchase from Council's regional business centres or customer service centres.
- **Be FloodWise publications** – The following publications are available by phoning Council on (07) 3403 8888 or visiting the Be FloodWise web pages at www.brisbane.qld.gov.au/floodwise
 - Now is the time to Be FloodWise – fact sheet for residents
 - Be FloodWise – A guide for residents
 - Be FloodWise – A guide for businesses
 - Be FloodWise Emergency contact card.
- **Be FloodWise web pages** – These information pages provide an overview of all aspects of flooding to assist residents and businesses to prepare for a flood.

The publications and web pages discussed above provide detailed flooding information, based on four simple steps. The following diagram and corresponding table is an extract from *Be FloodWise - A guide for residents*.



Four steps to Be FloodWise

Step 1: Understanding your flood risk – Find out all you can to determine if your property has a flood risk by obtaining a free FloodWise Property Report from Council, talking to people who have lived in the area a while, observing the property to identify flood hazards or consider engaging a qualified engineer.

Step 2: Preparing your home – people and property – There are a number of things you can do to prepare your home. These include checking that all safety precautions have been taken, storing valuable items such as photo albums well above likely flood levels, insuring your home and contents for flood, learning where to access warning information, removing potential flood hazards from your property and preparing an emergency kit.

Step 3: Responding when the water comes – As the water rises, further protect your home where possible with sandbags and plastic. Prepare for possible evacuation and listen to your local radio station for warnings and advice. Don't swim, walk or drive through flood waters.

Step 4: Recovering after the flood – After a flood, cleaning up can be a difficult process. Be alert for hazards such as unsafe electrical wiring, contaminated water and stray wildlife.

Be FloodWise – for more information visit the Be FloodWise web pages on Council's website www.brisbane.qld.gov.au/floodwise or phone Council on (07) 3403 8888.

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Information**
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For more information
visit www.brisbane.qld.gov.au
or call (07) 3403 8888



About the scheme

What is the Voluntary Home Purchase Scheme and why is Brisbane City Council running it?

The Voluntary Home Purchase Scheme is a priority action of the Lord Mayor's Taskforce on Suburban Flooding. The purpose of the taskforce is to look at all possible ways to reduce the effects of flooding on areas of the city.

The first Key Action of the Taskforce report is to acquire, through voluntary purchase, homes affected by a two-year average recurrence interval (ARI) flood event (i.e. a flood that occurs on average once every two years).

The scheme will continue over a number of years and offer an opportunity for those affected to remove their families from flood risks, while also contributing to the restoration of natural waterways.

The Voluntary Home Purchase Scheme is another way Council is achieving our vision for the city's future.

How does the scheme work?

Council is keen to ensure that those residents most affected by flooding are given the first opportunity to take part in the scheme. Records indicate that there are numerous homes throughout the city that are affected by flooding on average, once every two years. Council has specific criteria to prioritise these properties for purchase. The order of priority is regularly reassessed based on updated information to ensure that it is as accurate as possible.

Each financial year, for as long as the scheme continues, Council allocates funding for offers to the highest priority eligible home owners. These are properties which flood the most frequently and meet all eligibility criteria.

There will be no forced resumption of properties under the Voluntary Home Purchase Scheme. It is entirely the choice of the property owner whether or not to sell to Council when an offer is made.

Who is eligible and what are the selection criteria?

There are five eligibility criteria, which must all be met to qualify for an offer.

1. The property must be flooded during a two year ARI flood event.
2. The property must be in a residential zone.
3. The property must be owner occupied.
4. Flood waters must rise above the habitable (living area) floor level of the property.
5. There is no other viable infrastructure solution (such as pipes) available to remove the flooding problem.

How are properties prioritised for purchase?

Priority is based on frequency of flooding, not severity. This means that a property that floods moderately every six months will be prioritised higher than a property that has flooded severely once in the past five years.

How do I find out if my property is flood-affected?

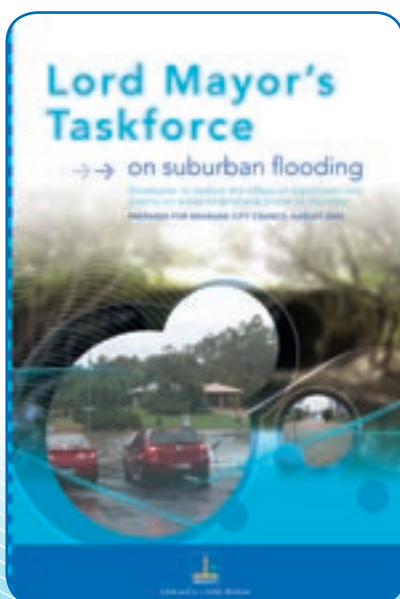
You can find out flood information for any property by requesting a free FloodWise® Property Report from your local Council customer service centre or regional business centre. The report provides general information on flood levels and types of flooding for your property. It also provides information to assist ground level building or renovation projects. Please note that this is only for river, creek, and storm surge flooding. You may need to engage a qualified engineer to assess possible overland flow paths through your property.

How will I know if my property is eligible?

Each financial year, Council determines the priority properties for offer. If your property is one of these, you will be contacted by Council and sent a letter outlining the scheme, the process for expression of interest, valuation and sale, and your rights and obligations.

If my property is eligible, what does that mean for my neighbour or adjacent properties?

Council will consider purchasing adjacent homes if those homes are eligible and the property owners agree to sell. Even two homes side-by-side may not experience the same frequency of flooding.



Offer process

What do I do if I receive an offer from Council?

If you are contacted by Council, it will be via a phone call, follow up letter with information about the process and a reply paid form to register your expression of interest. The expression of interest is just an indication to Council that you are prepared to participate in the scheme, and would like to proceed to the valuation process.

You can withdraw from the scheme at any time up to contract negotiation. The expression of interest does not commit you to sell your property to Council.

If you are **interested** in progressing discussions with Council, complete the post card sized form, which asks you to provide your preferred contact details and times. Council understands there may be timing considerations in the sale of your home. Please indicate this in your reply.

If you are **not interested**, complete the reply paid form and return it to Council. Upon confirmation of your response, Council will make no further contact with you.

What happens once I express my interest in participating in the scheme?

Once Council receives your expression of interest, our customer relationship manager will contact you to arrange a time for a valuation and site inspection. You will receive confirmation of times for the valuation and inspection time by letter. After these have been completed, you will receive the valuation and if you are happy to proceed, contract negotiations begin.

How is the valuation calculated?

Council will obtain a valuation established by an independent valuer, for all properties purchased through the Voluntary Home Purchase Scheme. Both Council and the property owner must agree on a price before the home can be purchased. You are also entitled to a Council funded independent valuation.

Who pays all of the costs associated with the contract and sale?

As is usually the case in a property sale, all costs associated with the sale of the property (except valuations) need to be met by the home owner. This includes stamp duty, transfer fees, conveyancing/ legal fees etc.

Will the fact that I have been approached by Council affect the value of my property?

Offers to home owners are treated as highly confidential by Council. There is no published information on specific property addresses or priority homes for purchase. Valuations are also treated confidentially by independent valuers and Council. To protect your anonymity, Council advises that you should also treat this matter confidentially.

After the sale

What happens to my property if I sell it to Council?

Properties acquired under the Voluntary Home Purchase Scheme will be assigned an appropriate non-residential use which has a range of environmental and social benefits. The land may be used for conservation, drainage easements or parklands. Properties purchased under this scheme will not be redeveloped for future residential use.

What if I have a flood problem but don't get an offer?

Can I offer my property to Council if I think it might be eligible?

Residents worst affected by flooding will be offered the opportunity to sell first. If you think your home meets the criteria you can contact Council directly to express your interest in offering your home for purchase.

If your property is deemed eligible, Council may consider the option of purchasing your property. However, because funding is allocated yearly, your property may not be purchased immediately but may be considered in future budget cycles.

If I do not want to move, will Council fix the flooding problem at my home?

One of the primary criterion of the scheme is that there is no cost-effective infrastructure solution that would reduce the flooding frequency of the property. If you have been contacted under the scheme, Council has already assessed possible engineering solutions for your property. Council will consider any feasible infrastructure solution however, at present we do not have the program to pay for houses to be raised.

What is Council doing to manage Brisbane's flood problem?

Council has a substantial flood management program to reduce the impact of flooding on the city. This program includes maintenance and upgrade of the city's stormwater drainage network, regular clearing and management of waterways, and flood mitigation schemes. While Council is doing all it can to reduce the impact of flooding, it is important to note that in some areas of the city it can never be completely eliminated.

More information

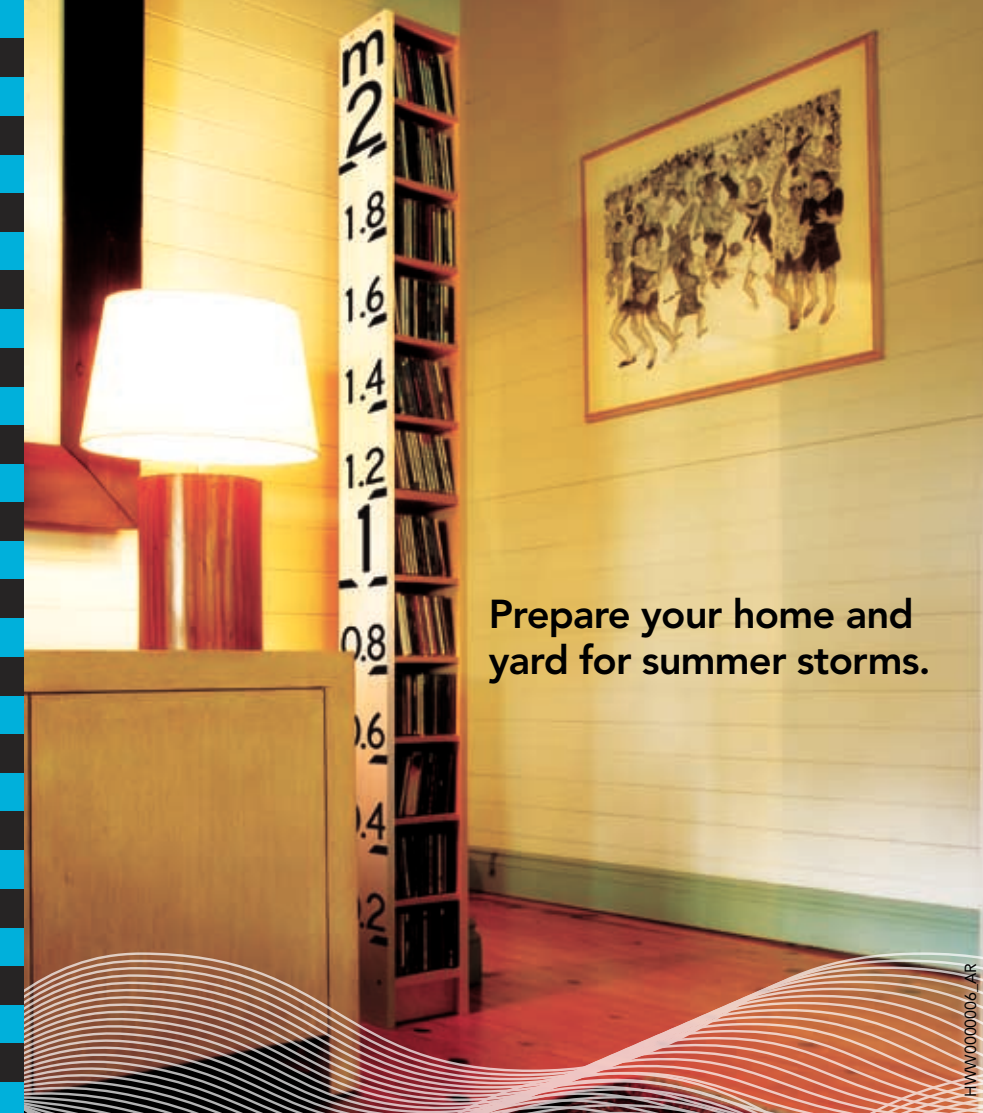
Who can I contact for more information?

For further information on the Voluntary Home Purchase Scheme, contact Arnold Crowe on (07) 3403 9068 or arnold.crowe@brisbane.qld.gov.au

Council has developed a range of Be FloodWise® materials that outline *Four steps to Be FloodWise®*. They provide information to help you better understand your flood risk, prepare your property for a flood, and actions to help you respond and recover from a flood.

To get a copy of *Be FloodWise® – A guide for residents* or any of the other Be FloodWise® publications, visit one of Council's customer service centres or regional business centres, phone (07) 3403 8888 or visit the Be FloodWise® web page at www.brisbane.qld.gov.au/floodwise





Prepare your home and
yard for summer storms.

Be FloodWise.

Even in a drought, flash flooding can occur. For more information call Brisbane City Council on (07) 3403 8888 or visit www.brisbane.qld.gov.au/floodwise



Dedicated to a better Brisbane

Prepare your
home and yard
for summer storms.

APPROVED

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