

## FACT SHEET

# Flood Risk Mapping

### What is a flood?

Flooding is a reality of life in Ipswich. In addition to a subtropical climate that leaves us more prone to floods, development in our city has historically been focused along the Bremer and Brisbane Rivers and eastern creeks.

While we can't stop floods from occurring in the future, we can prepare for them to help our community be informed, ready and resilient.

For further information, see the [Flood Risk and Overland Flow Overlay fact sheet](#).

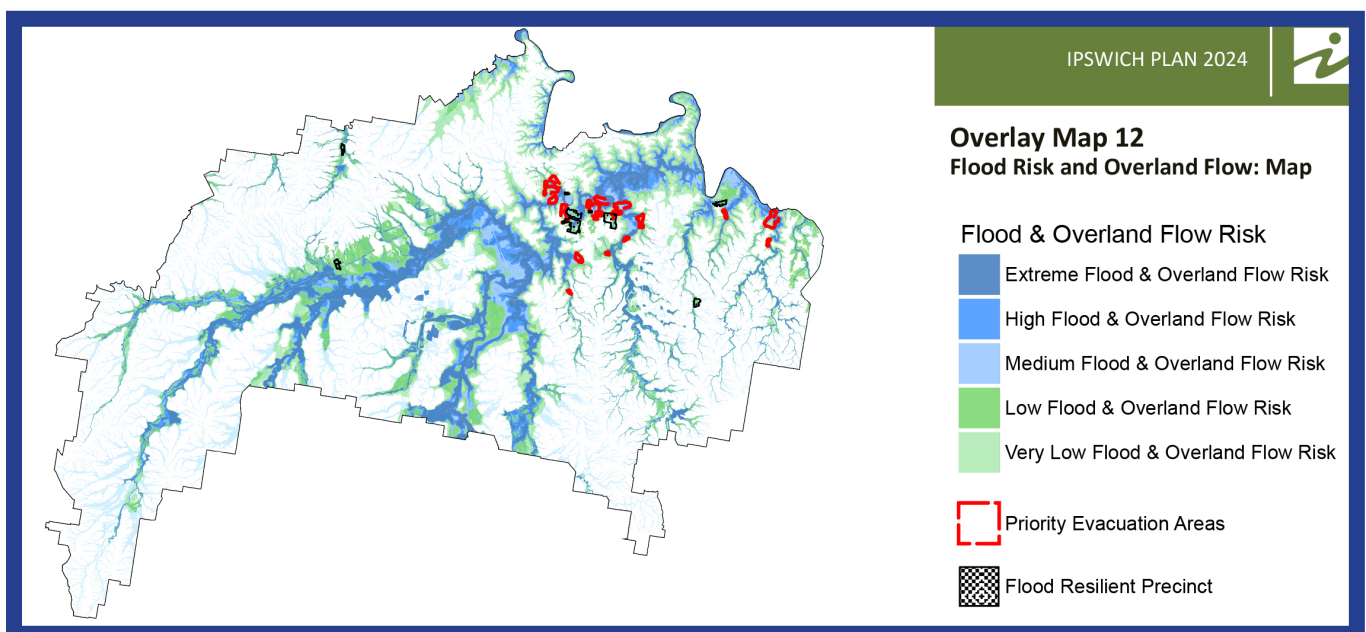
### How does the planning scheme identify flood risk areas?

The planning scheme uses overlay mapping to identify both flood risk and overland flow areas (where water typically runs across the land after rainfall).

Planning overlays are shown as a series of online maps with layers displaying additional planning considerations that may be needed for a property. They are also contained in pdf in [Schedule 2](#) of the draft planning scheme.

The [Flood Risk and Overland Flow Overlay](#) mapping provides information for landowners and occupiers on the extent of flood risk of a property. **The mapping does not create more risk on a property, it simply provides more detailed information for a property owner or occupier to understand existing risk.**

The Flood Risk and Overland Flow Overlay mapping shows five coloured bands of flood risk: Extreme; High; Medium; Low; and Very Low (see map extract below).



Because no two floods are the same, a range of factors must be considered when appropriately assessing flood risk:

- Hydraulic risk: mapping flood likelihood by AEP (Annual Exceedance Probability) and flood hazard category based on depths and velocities of floodwaters;
- Flood islands: identifying issues of isolation caused by flood waters;
- Time to inundation of floodwaters to roads and buildings;
- Duration of inundation of floodwaters over roads and buildings; and
- Economic impacts – direct and indirect damages caused by flooding.

The possible flood events considered in this assessment ranges from the 1:10 or 10% AEP to the probable maximum flood (PMF), the largest possible flood event that is possible in that catchment (actual AEP differs by catchment, however the Brisbane River has a PMF of 1:100,000). At the David Trumpy Bridge in Ipswich Central, a Brisbane River PMF Event is magnitudes higher than the next closest event, resulting in nearly 11m of additional flood height to the Bremer River more than a 1:2000AEP. The events themselves are considered with reference to the factors listed above.

## What is AEP?

AEP (Annual Exceedance Probability) is the chance of a flood event of a given size occurring in any one year. A 1:100 (1%) AEP means there is a 1% chance of a flood event like this in any given year. It does not mean the flood event will only occur once every hundred years. In fact, in an average 80-year lifespan, there is a 19% chance that a 1% AEP (1:100) flood event will occur at least twice.

AEP	At least once in 80 years	At least twice in 80 years	Ipswich (CBD) flood level *
1 in 10 (10%)	100%	100%	14.8 mAHD
1 in 20 (5%)	98%	91%	16.1 mAHD
1 in 50 (2%)	80%	48%	18.7 mAHD
1 in 100 (1%)	55%	19%	20.1 mAHD
1 in 500 (0.2%)	15%	1%	23.4 mAHD
1 in 2,000 (0.05%)	4%	0.1%	25.7 mAHD
1 in 100,000 (0.001%)	0.1%	<0.1%	36.1 mAHD

\*Indicative only, subject to change

## What do the hydraulic risk descriptions mean?

Floods may be experienced differently depending on your location, which can determine whether the flood risk is from a river, creek, overland flow or a combination of these. Identifying flood risk requires understanding flood likelihood (how likely a flood is to occur) and flood hazard (how dangerous the flood water is depending on how deep and how fast the flow is). Flood likelihood and flood hazard are considered in each geographic area to arrive at an overall hydraulic risk rating and flood risk categorisation in the flood Overlay.

In developing the new scheme, Council has also undertaken a Risk Assessment to determine where and how development should occur in areas of different flood risk, and whether development is accepted, tolerable or intolerable.



### Tolerable risk

For the purposes of describing the **risk** level of a natural hazard, **tolerable** means a **risk** that, following an understanding of the likelihood and consequences, is considered low enough to allow the **exposure** to the natural hazard to continue, and at the same time high enough to require new treatments or actions to reduce **risk**. Society can live with this **risk** but believes that as much as is reasonably practical should be done to reduce the **risk** further.



### Intolerable risk























For the purposes of describing the **risk** level of a natural hazard, **intolerable** means a **risk** that, following an understanding of the likelihood and consequences, is so high that it requires actions to avoid or reduce the risk. Individuals and society will not accept this **risk**, and measures are to be put in place to reduce the **risk** to at least a **tolerable** level.



### Accepted risk

For the purposes of the Bushfire Prone Areas Overlay and **Flood Risk and Overland Flow Overlay**, **acceptable** means a **risk** that, following an understanding of the likelihood and consequences, is sufficiently low to require no new treatments or actions to reduce **risk** of the natural hazard further. Individuals and society can live with this **risk** without feeling the necessity to reduce the **risk** any further.

## Flood risk category descriptions

Flood risk category	Zones	Development and Land Use	Response
Very low risk / Probable Maximum Flood (PMF)	<b>No change to zones</b>	 Hazard Vulnerable uses to avoid flood risk	 <b>Vulnerable uses avoid flood risk:</b> Awareness only
Low risk	<b>No change to zones</b>	 Suggested improvement in immunity	 <b>Tolerable risk:</b> Awareness, consider resilience steps
Medium risk	<b>'Split' Zones:</b>  Recreation  Environmental Management	 Avoid growth  Improve flood resilience	 <b>Tolerable risk:</b> Avoid uses which increase people living in flood risk areas
High risk	<b>'Split' Zones, may be a combination of:</b>  Limited Development  Recreation  Environmental Management	 These areas can be dangerous  Avoid residential uses  Avoid growth and intensification of residential uses	 <b>Tolerable risk:</b> Dangerous to people Damaging to buildings and infrastructure Avoid uses which increase people living in flood risk areas
Extreme risk	<b>Zone may change:</b>  Limited Development  Recreation  Environmental Management	 Avoid residential uses  Transition away from residential uses over time	 <b>Unacceptable risk:</b> Extremely dangerous to people Avoid growth Move away from residential uses

The **Flood Risk and Overland Flow Overlay** mapping also identifies Flood Resilient precincts and Priority Evacuation areas.

### Flood Resilient Precincts

Flood resilient precincts are located in or near a major or principal centre, where the past pattern of land development means that there is an intensity of transport and services. These areas should continue to develop and even increase services and population, providing that the identified flood risk is appropriately managed.

Flood resilient precincts have identified warning times, and development in the precincts must provide for self-evacuation within these warning times. Buildings and structures must be resilient to flooding and able to recover quickly once the floodwaters have subsided.

### Priority evacuation areas

Priority evacuation areas identify at-risk areas which may require early evacuation or additional disaster management options. These areas are subject to fast flood inundation. In some cases, they may also be faced with access restriction for a period of time in the event of a larger flood, or stay flooded for an extended period of time.

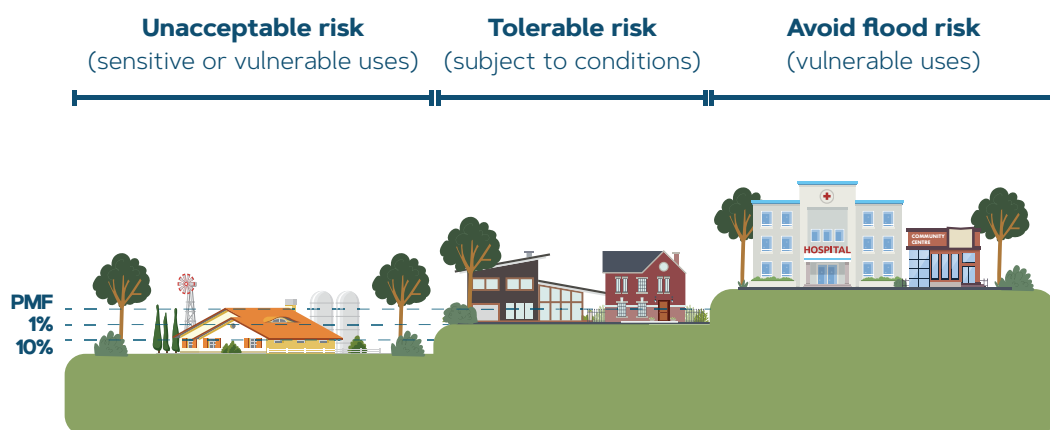
## How could the flood risk bands / categories affect your property?

Each of the flood risk bands trigger specific requirements for how land can be used and developed, and how developments will be assessed under the planning scheme. This is to ensure new development can consider and address the flood risk in the area.

These requirements only apply to new development (including extensions and reconstruction). The existing lawful use of a property won't change, but it may be beneficial to consider these provisions when buying or selling land, or leasing land or buildings.

The intent is to provide for development that protects people and property by encouraging risk responsive design and appropriate development that is aligned to the flood risk profile of the site, land use vulnerability and overall settlement pattern.

To do this, the requirements need to consider the full range of possible floods up to the PMF (probable maximum flood) and the risk they pose on different land uses and development types.



Zoning reviews have also been undertaken across the city, resulting in some proposed changes to better reflect the scale of flood risk across Ipswich. These changes apply to some areas of known flood impact, including those that flooded in 2011, 2013 and 2022.

The extent of those changes will be dependent on the level of flood risk identified:

- The zoning may change to represent a lower yield (the number of dwellings allowed on a site).
- A 'green zone' may partially apply where needed, such as the Environmental Management Zone.
- The Limited Development Zone may apply to avoid further development.

### Green zones / partial zoning (split zoning)

This will apply to areas where a reasonable portion of the land is subject to high or extreme flood risk, but there are some portions that aren't subject to this risk and may be suitable for dwellings.

This is likely to be land on a river, major creek (such as Bundamba Creek) or an associated major tributary (stream).

This zoning change reinforces the need to avoid putting further development in parts of the land that are subject to high and extreme flood risk categories. While this is likely to reduce development yield, this is on the basis that developing new houses in these areas would make them subject to hazardous flooding conditions.

## Limited Development Zones

Areas in the **Limited Development Zone** generally represent the worst impacted of the city, as evidenced by both the frequency of flood events over the last 15 years and the damage sustained in these events.

The proposed change in zoning to the Limited Development Zone recognises that developing the land can create a risk to people and property and seeks to limit development to manage that risk.

These areas are not suitable for further development (i.e. creation of new lots/subdivision or additional dwellings). You can continue to live in an existing dwelling, but any extensions should not be for the purpose of adding an additional dwelling and should be done in a way that improves the ability to recover after an event. If an extension includes any habitable rooms, such as bedrooms, these will need to be built above the defined flood level to meet contemporary building requirements.

If the land is vacant, it should not be built on. Importantly, a change to a planning scheme cannot remove existing lawful rights to use and occupy land. This is protected by State Legislation under section 260 of the **Planning Act, 2016**. This includes re-establishing a residential dwelling where one has lawfully existed. For example, if a house located in a Limited Development Zone burns down, the planning scheme cannot stop a new house being built on that site. However, the structure would need to meet contemporary building standards, which will include flood immunity provisions (or requirements).

## How to find the zoning and overlays affecting a property

The online interactive mapping tool for the draft planning scheme is available at [shapeyouripswich.com.au](http://shapeyouripswich.com.au). You can toggle between the draft planning scheme overlay maps on the right-hand side search bar.

In addition, you can search a property address to get a '**Property Report**'. The report will illustrate the draft planning scheme zoning and overlays affecting a property. You can view the chapters of the draft new planning scheme that apply.

Full documents are also available at [shapeyouripswich.com.au](http://shapeyouripswich.com.au).

**This fact sheet provides general information and is provided as a guide only to assist the community to understand the draft planning scheme and its mapping. It is encouraged to view the relevant sections of the draft planning scheme and talk to a planner.**