

A Submission to the Queensland Floods Commission of Inquiry
By
The Queensland Surveying and Spatial Sciences Joint Natural Disaster
Response Committee.

The Queensland Surveying and Spatial Sciences Joint Natural Disaster Response Committee consists of representatives from all the bodies associated with the Surveying and Spatial Sciences Professions. It comprises representatives from the Surveying and Spatial Science Institute (SSSI), the professional organization for Surveyors and Spatial Scientists, the Spatial Industry Business Association (SIBA) and the Surveyors Board of Queensland.

The committee has recently organized surveys by volunteer professional surveyors in the town of Grantham. (See attached Press Release.)

The Committee considers that the people of Queensland (regardless of their location in the State) should be provided with answers to the 3 issues listed below. In this submission "flood" includes both rising stormwater as well as tidal surge waters.

This submission considers the range of options to address these issues, and recommends how they should be addressed.

The submission does NOT address the cost of implementing these recommendations, however, this committee is prepared to address that issue if the Commission requests that information. The committee is also happy to discuss further details on any aspect of this proposal.

Issues.

There are three issues that every Queensland property occupier should address, namely:

- A. Is my property in a flood prone area?
- B. How high will a particular flood come?
- C. What is the likely impact of a particular flood on my property?

People who have lived on the same property for a long time (30+ years) will know the answers to issues A & C. Their knowledge of the history of past floods will inform them of these matters. However, for people only recently living on the property, or people considering purchasing a property, the answers are not always readily available.

Issue A. Is my property in a flood prone area?

Most Local Governments have flood mapping of some form that is available to be searched. Some Local Governments even publish this information on the web. A competent conveyancer will seek out this information. A motivated property occupier can also seek out this information.

However, as time dims the memory of a major flood event, seeking out these records is no longer a prime consideration for a property occupier.

So how can property occupiers be advised that their property is in a flood prone area?
Options include:

1. Placing a note on the title to land. This is a “once off” and permanent notice that is available to both the purchaser as well as the owner. (This will inform the buyer, but not necessarily the occupier). The information that is required is a height on some part of the property as well as some relevant flood height (e.g. 2011 flood height, or the Q100 height.)
2. Placing a note on the Rates Notice. This is a quarterly or annual notice, and is consequently a better option than a note on the title to land. (This will inform the owner, but not necessarily the occupier.) The information that is required is a height on some part of the property as well as some relevant flood height (e.g. 2011 flood height, or the Q100 height.)
3. Placing a sign in the street. This is a very visible piece of street furniture, and available to all (buyers, owners and occupiers.) It does however require ongoing maintenance. The information that is required is some relevant flood height (e.g. 2011 flood height, or the Q100 height.)
4. Placing a visible notice at some point on the property (e.g. at the power meter box). This is similar to the requirement to display other notices (such as termite protection) on the property.

Issue B. How high will a particular flood come?

In other than “flash flooding”, communities are usually given prior warning of flood events via a range of media (radio, Television, Newspapers, telephone etc.) This submission does not attempt to address the issue of the appropriateness of various media. However, it does wish to address some aspects of the message that is conveyed.

At present, the messages about flood predictions come in a variety of forms, examples of which include:

1. The flood is expected to reach 17.5 metres in the Bremer River at Ipswich.
2. The flood is expected to reach 3.8 metres at the Brisbane Port gauge. (Same flood as in 1.)
3. The flood is expected to reach 1 metre above the 1974 flood height.
4. The flood water is over the Cashes Crossing and rising at 0.3 meters per hour.
5. The tidal surge is expected to reach 4 metres above Highest Astronomical Tide (HAT)

While all the above examples may be correct predictions, most lack the necessary link to enable a person to be able to estimate the likely impact of the flood on the property that they are occupying. It is also not useful to use language that is not in common use, and consequently not well understood by the public. HAT is an example of this uncommon language.

Where heights are used, they should be related to the one uniform National height surface, the Australian Height Datum (AHD), rather than some local datum.

It is also important to recognise the difference between an AHD height, and the height of floodwaters above a normal stream height, or a normal tide height.

The need here is to provide information by multiple delivery methods which can be related to the area of interest. Examples include:

1. Likely flood levels, published by suburb in various media (internet, radio, television) recognising that in flood situations communication can be disrupted.
2. Direct notification (e.g. SMS and email) to persons who occupy premises in designated flood prone areas.
3. Flood maps, published on the internet. Text on these maps must be both legible on the screen (and in print form) as well as understandable to the unskilled user.

Issue C. What is the likely impact of a particular flood on my property?

How can a property occupier use the information that they might have about the property they occupy, and the predicted flood information made available in the media.

At this stage it is necessary to recognize that, in general, a flood does not reach the same height in adjacent localities. A flood is NOT a level sheet of water. Because it is flowing, it necessarily must flow from a higher point to a lower point. (The recent flood mapping in the town of Grantham shows that the flood water was 3 metres higher on one side of Grantham to the flood waters on the other side of the Town.) Flood waters do not conform to even a sloping plane surface. The waters will rise up above the surrounding waters if there is a constriction to their flow.

Each flood event is different. The down stream impact of heavy rainfall in certain catchments will be different. However, past flood events are a useful starting point to use for the prediction of future flood events.

On the contrary, to know that the flood is predicted to reach 17.5 meters in the Bremer River at Ipswich, does not help a property occupier who knows that their

property has a height of 35.7 meters and that the 1974 flood reached 36.5 meters. There is no link between the flood prediction information and the information that the property occupier may have about the height of their property or the height of previous floods.

There must be a link between the different sets of information, in order for the property owner to make the necessary linkage.

Consequently, to be useful, the information about predicted flood heights must be supplemented with information that provides this linkage. For example:

“The flood is expected to reach 17.5 meters in the Bremer River at Ipswich.” Could be supplemented with “which is 1 meter above the height reached in the 1974 flood.” This would then make the necessary connection to allow property owners to be able to estimate the impact on their property.

With current technology, it would not be an onerous task to systematically determine the ground floor level of all premises in flood prone areas. If this information was recorded on the premises, occupiers would be able to relate predicted flood heights to the property they are occupying.

PROPOSAL

It is our proposal that all streets and roads that are subject to flooding should have signs erected at street corners and significant dips that indicate:

1. That the area is flood prone.
2. The heights reached by major flood events
3. Where the Local Government has a “building line” (e.g. Q100) or a predicted tide surge line, the height of this line.

These signs should be erected on Local Government infrastructure (such as street signs) that can be maintained by the Local Government, rather than upon other street furniture (such as power poles) that are maintained by other bodies. Signs could also be “colour coded” to indicate the severity of the potential (or actual) flood event.

Alternatively, or in addition to this, it is our proposal that the height of the ground floor of all premises in flood prone areas be measured and required to be displayed on the premises.

It is also our proposal that media warnings about future flood events include information so as to enable property occupiers to be able to link the predicted flood height to the local information on the above proposed signs.

The communication strategy that is developed to support the implementation of these proposals will need to focus on how an individual can interpret all the information provided to them through this strategy. In particular the campaign will need to

provide clearly understood meanings for terms such as Australian Height Datum (AHD), stream height, Q100 height (or its successor) predicted storm surge height etc.

This proposal will ensure that the 3 questions can be addressed by all property occupiers.

- A. Is my property in a flood prone area?
- B. How high will a particular flood come?
- C. What is the likely impact of a particular flood on my property?

Prepared by the Surveying and Spatial Science Joint Natural Disaster Response Committee, March 2011.

MEDIA RELEASE

17 March, 2011

For immediate release

GRANTHAM BENEFITS FROM NEW RECOVERY COMMITTEE

Key members from Queensland's surveying and spatial sciences industry have formed a Joint Natural Disaster Recovery Committee (JNDRC) to assist in the state's worst hit areas.

Grantham was the first town to benefit from the volunteer services of surveyors and spatial scientists, with nine teams completely resurveying the flood ravaged area.

The Lockyer Valley Regional Council Mayor, Cr. Steve Jones said the committee's work contributed to the town's recovery efforts on both individual properties and public spaces.

"Where flood waters have removed fences and damaged buildings, it can be expensive to re-establish property boundaries," Mr Graeme Rush, the JNDRC Co-ordinator said.

"JNDRC was able to resurvey every section of Grantham south of the railway line, to identify boundaries and in the particularly hard hit areas boundary pegs were placed on every lot."

The local council and Queensland Government will also be assisted by the JNDRC's work which is needed to continue repairing and replacing damaged infrastructure.

Mr Rush said JNDRC volunteers include members from the Surveyors Board of Queensland, Surveying and Spatial Sciences Institute and Spatial Industry Business Association.

"We have a list of volunteers through the state that are willing to provide their professional services. We're also supported by the Department of Environment and Resouce Management (DERM)" Mr. Rush said.

The JNDRC's next plan is to offer services to a North Queensland area devastated by both cyclones and recent flooding.

MEDIA RELEASE

MEDIA RELEASE



For high resolution images or interview opportunities, contact Claire Kelly on [REDACTED]

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