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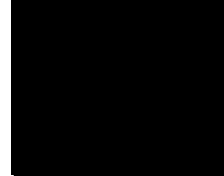
September 15, 2011

J. Clerke

Julie Attwood M.P



RECEIVED
10 SEP 2011



BY: _____

Dear Julie

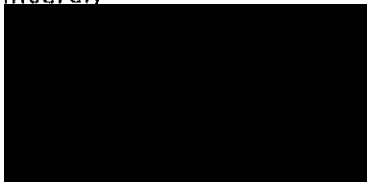
I had hoped to make a submission to the Flood Commission but I have a heavy commitment in my role as a carer for my wife, and this meant I was unable to carry out this task.

I know that you have a very busy schedule in the parliament and to the local community, but I would be very grateful if my second letter could be forwarded to the Premier.

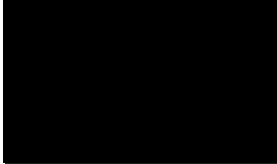
This second letter outlines a study which will give the Premier and the Flood Commission a very clear understanding of the effectiveness of Wivenhoe Dam in the January flood event.

Yours Sincerely

(Jack)



Julie Attwood M.P



September 15, 2011

J. Clerke



Dear Julie

Currently, there are a lot of people in the community who are very doubtful about the effectiveness of Wivenhoe Dam's performance during the January flood.

A very useful way of illustrating the effectiveness of Wivenhoe Dam during the January flood would be to assess the flood flow impacts upon the heights that occurred at Brisbane's city gauge for each major catchment and of flood discharges from Wivenhoe Dam.

This type of study was carried out after the 1974 flood. The results of this study are clearly shown in the diagram in attachment "A". This study was carried out by Mr. G. Cossins for a report to the Royal Society in 1978. Mr. G. Cossins was in charge of flood releases from Somerset Dam in the 1974 flood.

In view of the effectiveness of the above profile study it is recommended that the profile analysis be carried out for the January flood.

A very useful second profile analysis would be to carry out a study on the January flood on the basis that Wivenhoe Dam was not built and that its catchment's flood flows were routed directly into the Brisbane river.

This second study would show how much higher the peak height at the Brisbane city gauge would have been without Wivenhoe Dam.

Finally, it is recommended that the outcomes of the two profile analyses be forwarded to the Flood Commission Enquiry.

Because the above studies may take some time to be carried out, it is suggested that these studies be given a high priority.

My background in regard to flood issues is that I was second in charge in the 1974 Flood and held this position for thirty years.

Yours Sincerely

(J. Clerke)



Enclosure: Attachment "A"

ATTACHMENT A

1974 FLOOD HYDROGRAPHS (COMPONENTS).

The effect that dams would have had on flood levels from 1887 onwards is shown on each flood line. It will be noted that the reduction of flood levels caused by the dams varied markedly between floods. This effect depends on the part of the catchment from which the major part of each flood originated and whether the dams would command that part of the catchment. Lack of data has, so far, made it difficult to calculate the effect the dams would have had on floods earlier than 1887.

The Brisbane River floods occur at irregular intervals. The irregular spacing of floods makes long range forecasting difficult. Figure 1 shows only the highest flood in each year. On a number of occasions there has been more than one major flood in a year, the prime example being 1893 when two record floods occurred a fortnight apart in February with a smaller, but significant, flood in June.

PATTERN OF FLOODING

Typically, floods in the Brisbane River are caused by major storms which accompany tropical cyclones or hurricanes. The first effect occurs as a cyclone approaches Brisbane. The onshore winds increase and cause a storm surge by piling up the ocean on the continental shelf and adding to the height of the tide. These abnormal tides are usually the factor which determines the maximum flood level in the first ten kilometres of the River, from the mouth up to about Pinkenba. Above Pinkenba the highest flood levels are determined by the flood flow in the Brisbane River.

The next effect of a cyclone on the river is due to the heavy cyclonic rain falling on the suburban creeks of Brisbane and Ipswich. These creeks have small catchments and respond very quickly to the heavy rainfall. The resultant floods take only a few hours to reach the Brisbane River and, in a major storm, these can cause minor flooding in the suburban reaches of the Brisbane River itself.

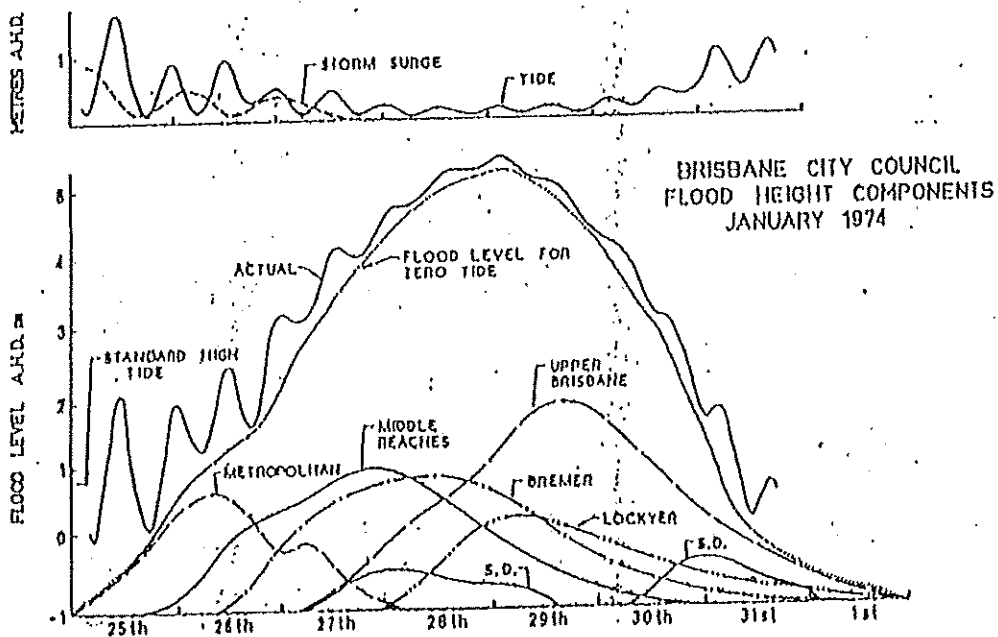


Fig. 2: Flood height components for January 1974 at Brisbane City Gauge in metres above Australian Height Datum.

Major flooding in the Brisbane River is due to the heavy cyclonic rain over the upper catchments of the Brisbane River and its tributaries. There is, typically, an interval of two days between the peak rainfall of the storm and the arrival of the flood peak from the upper catchment in Brisbane. The overall pattern, then, is firstly, a storm surge causing an abnormal tide which is followed, a few hours later, by a minor flood from the suburban creeks and followed, two days later, by a major flood from the catchment. The contributions of the different parts of the total catchment of the Brisbane River to the 1974 flood in Brisbane are shown in Figure 2. After the initial storm surge on 25 January 1974 it will be noticed that the river took 4 days to reach peak height at the Brisbane City Gauge but only a further 2 days to fall back to

