

**SUBMISSION TO THE COMMITTEE OF ENQUIRY INTO THE SE  
QUEENSLAND FLOODS 2011**

**By  
Ray Bricknell, Ken Park and John Snell**

**EXECUTIVE SUMMARY**

This submission deals with a variety of issues arising from the recent floods in South East Queensland and offers certain recommendations for implementation. It acknowledges that, in some areas, the Commission will need to undertake further investigation and so it offers commentary to assist the Commission in that task, including possible avenues to explore.

It is submitted by three private citizens with extensive experience and qualifications in civil engineering, public sector and emergency service management. All three have military backgrounds that have trained them and provided practical experience in command and control issues.

From their consideration of many of the issues, the authors conclude that the major causes of the devastation, injuries, loss of life, property and treasure were the questionable operation of the Wivenhoe Dam and years of neglect of sound planning and construction principles and practice by successive State and local governments. Many of their 27 recommendations revolve around these issues, offering proposals for better planning and construction policies and practice.

The submission pays tribute to the members of the emergency services, individuals and volunteers without whom the losses would be much, much worse. In many cases early warning, properly integrated emergency planning and resources would have eased their task and rendered their efforts even more successful. They deserve better. This submission offers some recommendations designed to improve the efficiency and effectiveness of these emergency services and to protect volunteers.

Finally, it is evident that the whole matter of insurance has been a major contributor to the pain and suffering of individuals, particularly in the aftermath of the floods. The submission offers proposals to overcome many of the perceived problems in ways that are both equitable and compassionate.

**SUBMISSION TO THE COMMITTEE OF ENQUIRY INTO THE SOUTH  
EAST QUEENSLAND FLOODS – JANUARY 2011**

**By  
Ray Bricknell, Ken Park & John Snell**

**INTRODUCTION**

1. This submission deals with a variety of issues arising from the recent floods in South East Queensland and offers certain recommendations for implementation. It is beyond the resources of the authors to investigate some matters that they have diagnosed as being in need of attention. In these cases they seek to identify the issues and to recommend the action needed to produce a proper and thorough analysis so that appropriate recommendations can be offered to government.
2. The issues are listed under a series of headings below. While these do not align precisely with the Commission's Terms of Reference as issued by the Premier, they broadly accord with the material in those terms of reference.
3. It must be said that the first responsibility of any government is to protect the lives of its citizens. In the January 2011 floods, this clearly did not happen in a significant number of situations, and the citizens are entitled to know why. Many lives were lost; properties were destroyed or very seriously damaged; significant quantities of infrastructure were destroyed or damaged; businesses and livelihoods were destroyed or damaged. Pointing the finger, sheeting home blame and naming names will not bring back the dead nor will it restore properties. Nevertheless, it has to be done in order to pinpoint exactly what went wrong and to allocate properly responsibility for fixing those faults in the future. Too often in our 'politically correct' society, our political leaders avoid holding anyone in the bureaucracy responsible for their (most often) failure to act. This results in a failure to reorganise and reassign responsibility when that would be the most appropriate course of action. This enquiry should not take the 'politically correct' line.
4. The authors and most observers quickly formed the view that the operation of the Wivenhoe Dam, the poor policing of planning laws and the lack of early warning were quite probably the major causes of this disaster. Therefore there needs to be a 'changing of the watch' in those areas. It will be an opportunity lost if major policy change recommendations do not result from this enquiry.

**BEFORE THE FLOOD**

**Town Planning Issues**

5. The fact that so many dwellings and other facilities flooded, and the fact that the flood levels this time were lower than in the 1974 floods, suggest that planning guidelines – or the observance of them – since then have been less than

satisfactory. The authors also argue that some need revision in the light of experience and to avoid future problems.

6. It would appear that a significant number of dwellings approved since January 2004 were flooded in the recent floods. The authors lack the resources to ascertain how many and what kinds of buildings were involved and their individual approval histories. However, the Commission is in a position to ascertain that information from local government authorities. It should investigate to what extent, if any, residential and other development approved since 2004 has failed to comply with State and Local Government Strategic Plans and Policies or, indeed, have been approved in areas where logically they should not have been. There does seem to be some evidence that developments have been approved since January 2004 in areas that flooded in January 2011, and surely such approvals would have been contrary to policy. The authors contend that the analysis will indicate where planning decisions have erred and produce the necessary recommendations for revision of those guidelines. It must also be recognised that there may be a need to provide guidance for the Planning and Environment Court to which many projects are referred on appeal by both local government and developers.

**RECOMMENDATION 1: That the Commission seek an analysis of all rezoning, development approvals and building approvals for the period 1974 to 2011 [but especially 2004 to 2011] in the areas now known to be flood prone and produces suggested guidelines to preclude such approvals in the future.**

### **Flood Mitigation Issues**

7. The two main flood mitigation works are dams and levee banks. During the January 2011 Queensland floods, levee banks did not play a significant role. The effects of the New South Wales and Victorian floods which followed immediately afterwards were greatly reduced by the existence of levee banks.
8. The Wivenhoe Dam was raised after the 1974 flood for the prime purpose of flood mitigation. The operators of that dam have received considerable criticism because at the time of the flood peak the dam may already have been well over its nominal water storage capacity. Large volumes of water apparently had to be released at the very time that it was expected to hold back much of the flood.
9. Regrettably, it seems, governments cannot afford to have single-purpose dams. Each has a primary role [e.g., flood mitigation, town water supply, irrigation, hydro-electric generation] and at least one secondary role. The operating procedures for each role are quite different. For example the operators of a dam primarily intended for flood mitigation would attempt to keep it almost empty. If the dam's primary purpose is town water supply then the operators would aim to keep it as full as possible. Therein lies the dilemma for the Wivenhoe Dam operators. Bearing in mind the intense political pressure and public demands during three years of near disaster for Brisbane's drinking water supply; it would perhaps be understandable if the operators erred on the side of keeping the dam a little too full. Of necessity a flood mitigation dam had become a town water supply dam. A firm policy is required for the guidance of the operators of the

Wivenhoe Dam in the future, if such policy does not currently exist. If such a policy does exist, the degree of compliance or non-compliance with it needs to be clearly and openly established and stated, and responsibility correctly allocated.

10. It needs to be borne in mind that even when full and overflowing, a dam still provides a degree of flood mitigation. The water flowing into the dam obviously equals the water flowing out, but it acts like a giant shock absorber and reduces the peak flow rate downstream of the dam. The duration of flow is longer but the peak flow rate is less. It is the peak flow rate which determines the area and depth of inundation...the main measure of a flood's severity.
11. The meteorologists and hydrologists will no doubt spend from now until the next flood modelling various scenarios and various management strategies, in order to improve the operating procedures for Wivenhoe. Boffins can solve problems; they are not the ones to define what the problem actually is. In this case the experts need to be told what the purpose of Wivenhoe is. If its role is to be redefined then that is an issue for the government, not the professors.

**RECOMMENDATION 2: a. That the State Government clearly and publicly define the roles and purposes of Wivenhoe Dam.**

**b. That the operating procedures for Wivenhoe Dam be reviewed in the light of its roles and purposes and clearly specify which procedure is to apply to for each significant situation.**

### **Real Estate Issues**

12. There has been a good deal of media coverage on the topic of real estate agents' failures to disclose information when selling flood-prone properties, with calls to increase the industry's regulation to make disclosure mandatory. These calls overlook the fundamental rule in any transaction – especially one as significant as buying real property – *caveat emptor* ('buyer beware').
13. The authors do not advocate the imposition of any more controls and regulations than absolutely necessary in this field. Providing other recommendations regarding building development in flood-prone areas are accepted and enacted there will be no need for such disclosure in the longer term. However the property buying public will need to guard against getting caught in the interim as memories fade and once again properties near water become attractive.
14. Perhaps the issue is better handled by making flood searches a 'deletable' condition clause in all real property contracts and requiring conveyancers to advise their clients to conduct a flood search before consummating the contract. The process could be facilitated if conveyancers had a readily-available post code list of areas/suburbs that are liable to flooding. In this context, 'liable to flooding' means that flooding has occurred in the last ten years, or flooding may occur as a one in forty year event if it has not occurred in the preceding ten years. Insurance companies have access to such lists in assessing risk.

Conveyancers and consumers should also have access for property transaction purposes.

**RECOMMENDATION 3: a. That the REIQ/ Queensland Law Society contract for ordinary (housing) real property sales incorporate a standard condition that the contract is subject to a satisfactory result of a flood search. Such condition may be waived by the prospective purchaser.**

**b. That conveyancers be provided with access to data base(s) of post codes/suburbs that are classified as flood-prone/flood likely as is available to insurance companies for risk assessment purposes.**

### **Buy-back of Flood-prone Properties**

15. It is reported that the Brisbane City Council has had a program for this purpose for some years but it has not been particularly successful. As well as the constraints of limited resources with which to do it, there has been a reluctance on the part of affected owners to sell. This is understandable but it does mean that the a substantial part of the losses sustained by these owners wind up being visited on the rest of society under present circumstances. The rest of us pay through higher insurance premiums, contributing to State and local government measures to mitigate flood effects and in sharing the cost of clean-up and restoration. This situation is untenable in the longer term and measures are required to rectify it.

**RECOMMENDATION 4: That the Commission engage actuaries and economists, as appropriate, to evaluate the desirability and cost-effectiveness of government agencies compulsorily acquiring flood-prone properties whenever the current owner wishes to sell, or the property passes to beneficiaries of a will. Based on the results of a wide-ranging analysis, a policy may not necessarily involve compulsory acquisition – perhaps mandatory flood insurance (along the lines recommended elsewhere in this submission) would be more cost-effective for the community at large.**

## **DURING THE FLOOD**

### **Command and Control Issues**

16. The basis of successful command and control during any emergency is planning. The planning process is (or should be) designed to ensure that issues are identified, worked through and action put in train to set up the necessary networks, acquire the necessary equipment and record the procedures to be adopted when the emergency occurs. Ideally, the plans will include the rehearsal and evaluation of the emergency responses to practise and refine the procedures. In any emergency there is little time to think through matters; responses must be immediate and effective. The way to achieve this is training and frequent rehearsal and testing of procedures.
17. It is difficult to comment on all the actions of all the authorities involved. At the macro level of State authorities, the public projection suggested that matters

worked as well as could be expected against overwhelming odds. However, the loss of life and damage sustained suggest that there may have been flaws in the systems adopted at lower levels and deficiencies in planning at local government level. These were exacerbated by lack of resources in personnel, materiel and procedural resources. Some of these are addressed elsewhere in this report under the appropriate headings.

18. While this submission does not attempt to cover the whole gamut of issues at every level, the authors hold some concerns, based on observed responses, and recommend that the Commission examine some specific issues, *viz*:
  - a. Were there properly integrated emergency plans in place in those fairly recently amalgamated Councils? It seems likely that while each constituent local government authority may have had adequate and well-rehearsed emergency plans, the size and complexity of integrating these into a new, overall plan may have presented problems and resulted in deferrals. As the new entity adjusted to its new roles and responsibilities and the day-to-day pressures on councils and their staff, emergency planning may have been relegated to a lower priority task in the overall scheme of things. The Commission needs to examine these matters to ascertain whether or not these councils had integrated pre-existing emergency plans and procedures into new ones and then rehearsed and evaluated them prior to the flood events. The Commission may need to recommend that any identified deficiencies be rectified. The State Government may need to assist local government authorities to accomplish this by providing resources, training and supervision and mandating action.
  - b. Were existing command and control arrangements adequate in both personnel and materiel terms to handle the task presented? Some aspects of this include an examination of the adequacy of State-owned resources, such as Emergency Services, Police, Fire and Rescue and Ambulance communication networks, the adequacy and vulnerability of other resources such as landline and mobile telephony and the interoperability of these communications.
  - c. Were Defence Force networks used or sought, and if they were, what were the results? Should they have been sought sooner?

**RECOMMENDATION 5: That the Commission note the above comments and enquire to ascertain the specifics of each aspect queried.**

#### **Early warning issues**

19. While events affecting Brisbane appear to have been adequately forecast to minimise loss of life, it could be argued that more could have been done to allow protection of property measures to be instituted. As this issue is tied up with other factors, such as the operation of the Wivenhoe Dam it will not be addressed in this part of the submission.

20. The situation in the Lockyer Valley was of an entirely different kind. The people of the Lockyer Valley describe a “wall of water, 8ft high, with no warning”. The television shows cars being swept away as if some crazy people were white-water rafting in their vehicles. The lack of warning, it seems, caused people to be trapped and drowned in their homes and in their cars.
21. The tragic loss of life was, in the main, concentrated in the Lockyer Valley and it is probable that the Coroner will draw conclusions that the lack of early warning was a major contributory factor. There were at one stage sixty “missing” people. They had been seen to be in difficulties but not sighted since. Most were eventually accounted for, others were drowned and the bodies found kilometres downstream and some may never be found. It is difficult not to believe that many could have survived if only a few minutes warning had been given.
22. One of the authors is familiar with an early warning system on the Shoalhaven River in New South Wales. The Water Resources Commission of NSW established a stream gauging station in the upper reaches of the catchment about 40 years ago. It was located about 40km upstream of the only major town in the upper catchment and about 150 km above the frequently flooded urban areas in the lower Shoalhaven. This gauging station was established only to measure river flows- not as an early warning system- but the local SES soon saw its potential for dual roles. The station was fitted with a telephone which enabled people who are privy to its number and are familiar with its encoding system to call up the gauging station and obtain the current river level at that location. With experience it was possible to predict the times and severity that areas would be flooded, bridges and causeways cut and areas isolated. Through a well-established network the appropriate people could be quickly warned well before the event.
23. That technology and that experience are now 40 years old. Today it should be possible to have more reliable communications to the stream gauges and for key personnel to receive progressive alarms at all hours as the water rises. Whether or not such a system would have saved lives in this flood is a matter for the Commission to enquire into. Even if the rainfall is very intense and the flood travel time very short; it must still be possible to provide SOME warning. Even 15 minutes warning of a pre-planned and effective nature would surely have saved some lives.

**RECOMMENDATION 6: That the State Government investigate the feasibility of installing automatic early warning systems upstream of “at risk” towns and villages.**

## **Rescue Issues, Good Samaritans**

### **GOOD SAMARITANS**

24. a. During volunteer clean-up work ex-prime minister Kevin Rudd suffered an infection from contact with contaminated water and needed medical

attention. Whilst that injury may well have been caused by foolishness in front of TV cameras, we assume and trust that Mr Rudd fully recovered and was not burdened with medical bills or loss of income while sick. Other volunteers may not have been so fortunate - serious injury or death are always possibilities. It would be reasonable if some form of Volunteer Insurance was available and that this was made known to the volunteers beforehand.

- b. In bushfire fighting interstate it is always understood that the casual volunteer became a *de facto* official fire-fighter [and is thereby covered by government compensation arrangements] if he makes himself known to the officer-in-charge at the scene, accepts his authority and complies with his instructions. A casual volunteer who was out of sight or “doing his own thing” is not automatically covered.
- c. In this flood a number of good Samaritans, without request or authority spontaneously attempted to secure drifting vessels, pontoons etc that were being swept downstream by the raging floodwaters. These objects were in great danger of sinking or of damaging other vessels or structures. The skippers who attempted to secure these objects placed themselves and their vessels in grave danger.

**RECOMMENDATION 7: That the state government clarify the insurance and compensation arrangements for both casual rescue volunteers and for organised clean-up volunteers and ensure that “Good Samaritan” legislation indemnifies spontaneous volunteers in circumstances such as these floods.**

## Media Issues

### SIGNING

25. Almost all of the Premier’s many television appearances during the floods featured a signing person. This presumably was for the benefit of the very few people who can understand this form of communication. The first few uses were botched because the TV cameramen, directors and producers were unfamiliar with the requirements of the signer. Thereafter the system worked as intended. Although the Premier may have been accorded the highest accolades for this unprecedented degree of political correctness: it was quite counter-productive for the vast majority of viewers. The signer was a complete distraction. The emotion and the very serious information being imparted by the Premier and the other officials disappeared in the “entertainment” provided by the signer. Communication in this form requires much exaggerated facial expressions which seem quite out of place for non-signers.
26. Technology exists for instant subtitling direct from human speech. Use of that technology would satisfy the needs of the profoundly deaf, would improve the quality for the “hard of hearing” population and would maintain the full impact of the message for people with good hearing.

**RECOMMENDATION 8: That instant subtitling be used, rather than signing, in similar situations in the future.**

**Infrastructure and Essential Services**

27. During the flood a sewerage treatment plant near Oxley Creek was inundated, put out of action and caused serious pollution of the creek. It remained so for weeks. The Bruce highway, the lifeline to the Sunshine Coast, Gympie and all of North Queensland was cut in numerous places. These incidents, and there were many more, are unacceptable. The destruction of so many ferry terminals and the floating walkway, all quite modern public structures, is very disappointing when viewed from the perspective of a Professional Engineer. Clearly, in each case the design was inadequate to withstand a totally predictable loading.
28. Suburbs which have not actually been inundated can quickly come under threat and become an additional burden to rescue and welfare agencies if any one of the essential infrastructure services fails. Every house and suburb needs for its daily sustenance and survival a minimum of:
- electrical power
  - communications
  - road access
  - water supply
  - sewerage service
- Emergency food and medical services can usually be temporarily supplied by helicopter or flood boat; but occupation of an area quickly becomes untenable if any one of these listed essential infrastructure services fails. It follows that **THESE SERVICES MUST BE FLOOD-PROOF**. In a broader context, essential infrastructure services need to be also proofed against cyclonic winds, drought, bushfires and earthquakes.
29. It is of interest that few, if any, modern road bridges were put out of action during the flood. Few were overwhelmed by the height of the flood [though often the connecting roads were], few were destroyed by the hydrodynamic forces of floodwater and debris and few were rendered unsafe by the effects of erosion [though again the connecting roads often were washed away]. Why are highway bridges unaffected by floods while other infrastructure is suspect?
30. All bridges are designed strictly in accordance with a set of design standards which prescribe the design procedures, principles and design targets. These standards are published by or endorsed by all Australian chief highway officials, the Institution of Engineers and Standards Australia. There is an ethos among bridge designers: "If you can't afford to meet the standards then you can't afford to build the bridge". There are no short cuts in bridge design.
31. The question therefore needs to be asked as to why other designers have not flood proofed their structures, when in this case the flood levels and ferocity were so well documented. Is it an attitudinal problem? Why also, for example, in the Victorian bushfires when the mobile phone towers were such an essential component of fire fighting and rescue; were they not fire proofed?

32. Our opinion is that every chief designer of any item of infrastructure being designed should be required to give consideration to the effects of all possible natural disasters upon the infrastructure being designed. For example the chief designer will need to consult maps and other records to determine the cyclone, flood, drought, bushfire and earthquake risk factors and to assess the possible effects on the structure being designed. He will need to make conscious and documented decisions about the design parameters to be adopted in the light of the risk analysis and the assessed consequences of failure.

**RECOMMENDATION 9: That the Commission consult Standards Australia with a view to proposing guidelines for the preparation of an Australian Standard which will require designers to perform risk analysis for all natural disasters on every item of infrastructure being designed. The infrastructure to be included are: electrical power generation and distribution, communications systems, main roads and highways, water supply, sewerage system components and hospitals.**

## AFTER THE FLOOD

### Command and Control Issues

33. Except for those items of infrastructure mentioned above, command and control appear to have been exercised reasonably well in the metropolitan areas. There is less certainty about such matters in outlying areas. The Commission needs to gather evidence and make recommendations accordingly. However, the authors' military backgrounds suggest that all improvements that may be instituted need to be accompanied by clear operating procedures. It is one thing to provide communications that will allow the Premier (for example) to speak to the person rescuing flood victims on the ground. To allow that level of micromanagement can be disastrous for both the Premier and the operation on the ground. The person on the ground must be allowed to get on with his/her task and the managers up the line with theirs.

**RECOMMENDATION 10: That the Commission enquire into the functioning and efficacy of command and control issues in flood-affected areas in both metropolitan and regional areas and make appropriate proposals to rectify any shortcomings found as a result. In particular, the input of those 'at the coalface' should be directly sought by the Commission.**

34. One deficiency that was evident both during and especially after the floods was the lack of dedicated Police service helicopters. The value of helicopters as aids to communications, liaison and command functions is enormous. They confer a real 'force multiplier' effect to the operations of police. In the post-flood situations they would have been invaluable in surveillance tasks to assist with rescue, body location and looting prevention. The necessity for these resources appears to have been overlooked in the shadow of the truly sterling work of the rescue helicopter efforts in the public eye.

**RECOMMENDATION 11: That the Commission advocate the acquisition and operation of helicopters by the Queensland Police Service for surveillance, rescue assistance and similar crime-prevention and apprehension roles.**

### **Elimination of Development on Flood-prone Land**

35. Everyone wants to live on or near the water. Even “water glimpses” as the real estate agents so quaintly describe them are used to promote the sale of properties kilometres away from the water. Purchasers will pay big premiums to be near the water, notwithstanding the distinct possibility of flooding. The desirable outcome, however, is that no residence or place of employment [except those that are maritime dependent] should be within the 100 year flood predicted zone. How then are we to discourage further development within this area, and how are we to remove, over time, all those that should never have been there? This submission considers that the issue could be addressed along the following lines:
- a. by clear and specific zoning, based on the 100 year flood line, and its rigid enforcement. It is a sad situation that developers have access to more funds than councils and that councils frequently back down on zoning decisions because they cannot afford Land and Environment Court losses. They can’t even afford the cost of winning. It is not beyond the powers of the state government to change the balance
  - b. by requiring the councils and the Planning and Environment Court to refuse all building and development applications for new construction in the flood prone areas – no ‘ifs’ and no ‘buts’. Any change to law must bind the Crown, as at present state and commonwealth agencies can ignore local councils in such matters. Councils should be required to refuse all development applications proposing a higher or more intense change of use; they should not be permitted to approve extensions to any property in a flood prone area.
  - c. by obliging councils to refuse any development which blocks, diverts or channels the flow of flood water.
  - d. where a building or other development in a flood-prone area is beyond economic repair, due to fire, flood or neglect, then the local council should be given the power and obligation to so declare a property and to refuse any application for rebuilding or redevelopment.
  - e. by prohibiting sales for unpaid rates of properties in flood-prone areas. Such land can revert to the Crown.
  - f. The Commission should recommend the use of differential rates to make it less attractive to own property in flood-prone land. This can be justified in terms of the extra council costs associated with providing infrastructure to these areas, and for the rescue and clean-up works.

- g. by requiring real estate agents and private sellers to declare to prospective purchasers in a prescribed format the flood-prone status of any properties put up for sale.
- h. by requiring councils to maintain a register of every flood affected property showing the plot of expected inundation of each property during the prescribed flood, and also relating the floor levels of all habitable buildings to the river levels as reported on television. This information is to be made available to prospective purchasers when they seek the usual requisitions from council prior to purchase. The same data when mapped by computer can give real time accurate property flooding information to the emergency services for warning, rescue and evacuation purposes.
- i. by requiring banks and other lending institutions to enter into a code of conduct which calls upon them to fully acquaint themselves with the flood risk of a property that they are lending on, and which requires them to write off the mortgage or somehow accept a substantial share of the risk if they lend on such properties which are subsequently damaged.
- j. by encouraging and funding councils and the state government to buy back some properties and converting them to parkland/open space where it is in the public interest to do so.
- k. by terminating all crown leases in flood prone land [other than leases for recreational purposes] at the earliest reasonable date.
- l. by requiring all flood-prone properties to carry minimum house and contents insurance. This is discussed elsewhere.

**RECOMMENDATION 12: a. That the scheme outlined in para 35 be adopted to eliminate development on flood-prone land.**

**b. That the Commission consider recommending powers to enhance council's will and ability to stop development on flood-prone land.**

36. It is regrettable that councils, real estate agents, insurance companies and banks all have a conflict of interest in proceeding along the lines suggested. None has a great track record of putting the public interest ahead of their own. Voluntary codes of conduct are unlikely to work so; as much as we dislike a "big brother" approach, we must recognise that it may be the only way. It must be made absolutely clear that there will be no further development on flood-prone land, and that in time the existing development will be removed.

**RECOMMENDATION 13: a. That the Departments of Planning and Local Government be required to better oversee and regulate councils in the exercise of their planning powers.**

**b. That other appropriate regulatory bodies be asked to more actively deter banks and real estate agents [by whatever means that will be effective] from facilitating developments on areas subject to flooding.**

37. The authors note that several recently constructed high-rise apartment towers in the West End area of Brisbane had to be evacuated during this flood, which was about one metre lower than the January 1974 flood.

**RECOMMENDATION 14: That the Commission should enquire into the following matters specifically relative to the development of high-rise accommodation towers in flood-prone areas.**

- a. What, if any, were the costs to the community of the need to evacuate those towers?**
- b. Is there a need to develop design guidelines specific to such developments which could minimise the costs to the community of future flooding, and, indeed, the costs to residents? (e.g., should mandatory design guidelines dictate what building services may or may not be located below the 100 year flood level?)**

### **Body Search Issues**

38. There was a distressing loss of life in the Lockyer Valley. A large number of the presumed dead were seen to be swept away but the bodies were not found for days, even weeks afterwards. Most of the body search duty was allocated to Army personnel.

39. In recent earthquakes and tsunami overseas much mention has been made of cadaver locating dog squads. Their effectiveness is not known. If these squads are effective then they would have been of great use in the recent floods. The police and SES are often called on to search for human remains, and it may be possible that there would be sufficient employment to warrant the establishment of one such dog squad to service all of Australia.

40. The three authors of this submission are all retired senior army officers. We took immense pride in seeing our young soldiers helping the victims and the authorities in helicopter, transport, engineering and general labouring tasks. The army has organisation, mobility, equipment and very fit young people. They therefore have skills that, if properly employed, can give some rapid short term relief when the civil authorities are overwhelmed. The army has no special skill in body search. It is an unpleasant, slow task. It is a specialised field and requires specialists if the appropriate identification, forensic and evidentiary elements are to be preserved and if appropriate dignity and respect is to be given to the deceased. It was proper, in our opinion, to use all sources of manpower while ever there was some possibility that people might be found still alive. Once that time had passed it was no longer a job for the army.

**RECOMMENDATION 15: That investigations be made into the effectiveness of body locating dogs. If they are of proven effectiveness then further investigations should be made into the cost, justification and management of a body locating dog squad to service all of Australia; sponsored by the Commonwealth Police or by a nominated state police force.**

### **Insurance Issues**

41. There appear to be three main insurance issues arising from the floods experience, *viz*: there is a great deal of confusion over the meaning of ‘flood insurance’: secondly, the enormous costs arising from uninsured losses that seem likely to be passed on to the taxpayer (State and Commonwealth) at least in part in the form of income support and associated welfare payments and grants and, thirdly, the angst caused by delay in assessing claims, which in itself is likely to lead to significant health-related costs.
42. **Definition of ‘Flood’.** Notwithstanding insurance companies claiming to have adopted ‘uniform’ definitions of flooding under their self-regulating regime, experience shows that what any given insurance company means by the term ‘flood’ in its policies is not necessarily the same as the policy owner believes until the event occurs. Media reports and stories abound with accounts of people believing they had ‘flood’ cover only to find the interpretation meant something else or excluded some conditions, such as ‘storm surge’. Problems also occurred with some home owners not even knowing until too late whether or not they had flood cover and many insurers simply refusing to issue flood cover. The only solutions to such problems is to mandate the definition of ‘flood’ so that all the events that caused damage during the recent floods are covered and that all buildings and contents policies must include such cover. It may well be time to remove all confusion and to replace all the ill-defined events with a single risk definition: “DAMAGE BY WATER”. This would obviate the drawn-out references to hydrologists and appeals mechanisms many flood victims are currently suffering. Whether this is done by the Queensland Government or the Commonwealth under its corporations powers is left to the Commission’s experts. The issue of mandating that all building and contents policies cover flood events is dealt with below.

**RECOMMENDATION 16: That all insurance companies be required to adopt a clear, simple and all-embracing standard definition of ‘flood’ in their building and contents policies to cover all the events arising in the recent floods and that the inclusion of flood cover in such policies to be mandatory.**

43. **Mandatory Insurance.** Since the lack of insurance against natural disasters effectively means that the financial burden is transferred, in part or in whole, to the community at large, it is concluded that all property owners should be required to insure their property against such disasters as a matter of civic duty to their fellow citizens. We are not permitted to drive on public roads without minimum public liability insurance. A compulsory system should be market based where the likelihood of flooding or other disasters is balanced against the property value in striking appropriate premiums. To illustrate: If a property has

a replacement value of \$300,000 and the actuaries and engineers calculate that there is a 1 in 30 chance it might be flooded because it has been built below the predicted 1 in 100 year flood level, the premium for that insurance might be \$10,000 per annum. With insurance premiums based on the replacement value and likelihood, such a mechanism tends to militate against otherwise desirable locations that are flood-prone being over-valued by the market. At the same time, it would seem unreasonable to mandate the inclusion of flood insurance in policies for properties which are not flood prone (provided that the recommendations relative to mandatory accurate identification of flood prone properties made elsewhere in this submission are adopted), because insurers are likely to use such an over-arching requirement as an excuse to increase premiums across the board. The basic need is to ensure that all those who should have flood cover do have it, but to confine the costs of that insurance to those properties that are flood prone.

**RECOMMENDATION 17: That insurance of property against natural disasters, such as flooding, be made mandatory wherever a specific risk can be identified, with market based premiums reflecting the specific risk appropriate to the particular property.**

44. **Delay in Assessing Claims.** People suffering property damage need to know quickly whether or not they can spend money on cleaning up, repairs or re-building. Generally, that will depend on whether or not their insurance claims will be paid. Vast numbers of claims are being held up while hydrologists analyse Bureau of Meteorology data and arrive at some esoteric opinion as to which category of water event best fits the damage sustained in relation to insured and uninsured events. These can be on a house-by-house basis. There is considerable and justifiable community anger when people want to clean up and resume their lives but are forced to delay until the arrival of the insurance assessors. Meanwhile, local health inspectors want the area returned to a safe and healthy condition and emergency shelter operators want displaced persons to return to their homes as soon as possible. A new definition of ‘flood’ will remove most of the delay. However, a code of conduct or a new law along the following lines could improve matters:
- a. The insurance ombudsman to establish a field office (or offices, in the case of dispersed events) immediately a major disaster has been declared.
  - b. Insurance companies should be required to identify within two weeks of lodgement all claims that they propose NOT to meet in full. Such claims are then to be passed to the ombudsman’s office within 15 days of lodgement. All other claims are deemed to be approved for full payment. The use of “fully approved for payment” as the default setting for all insurance claims should help to focus the minds of insurance companies.
  - c. If the ombudsman agrees with the insurer that a claim be rejected in full or in part, then the claimant and the insurer are to be notified within a further seven (7) days.

- d. There will still be (say) 20% of claims on which ombudsman and the insurer will disagree. These will still need to be resolved, but 80% of claims will have been resolved within three weeks. The culture of speedy resolution will have been established and should be made to flow through to the disputed claims.
- e. It is recognised that the above time limits are extraordinarily tight and will be difficult for bureaucracies to meet. However, if the other recommendations above regarding clear definition of flood cover and accurate identification of flood prone properties required to carry flood cover are adopted, the problem of disputation will largely go away.

**RECOMMENDATION 18: That the above procedure be adopted to improve the speed and rate of settlement of claims as quickly as possible.**

## Finance Issues

### WHO PAYS FOR WHAT

#### 45. Commonwealth Costs.

- a. Because of the history of the division of financial power and responsibility between the Commonwealth and the states; only the Commonwealth has substantial powers to tax and to borrow. The Commonwealth must therefore meet the lion's share of the cost of this and other natural disasters. Attached is a spread sheet which sets out our understanding of how the costs should be split up. After analysis it may be possible for the Commission to publish a more refined version for approval by the Council of Australian Governments and for the guidance of the governments.
- b. There seems to be three schools of political thought in Canberra as to how the Commonwealth's share of the money should be funded:
- By a one-off levy plus "belt tightening" and deferment of programmes.
  - By belt tightening and deferments alone.
  - By establishing a Commonwealth Natural Disasters Fund, the one-off levy being used to kick-start the fund.
- c. These permutations and combinations become more complex when MPs and parties try to veto specific belt tightening and deferment proposals which are their pet projects. It seems that you can slash anything you like except for 'my hobby horse'. The authors do not offer an opinion on the political aspects.
- d. One of the authors has had some years of experience in local government in an area of NSW which received flood damage grants from time to time. These were tied grants from the Commonwealth which covered all but a nominal initial sum. The grants were administered by the NSW

Department of Main Roads who inspected the damage, approved the estimates, made the grant, administered the progress payments, inspected the completed work and audited the accounts. The DMR then, presumably, certified the expenditure to Canberra in the usual format. It was always understood that these grants were paid from the Commonwealth Natural Disaster Fund which was topped up annually from the ordinary revenues of the Commonwealth. It would seem that this fund no longer exists. According to one report in the Australian Financial Review, an earlier practice of setting aside some \$850 million annually in the federal budget for natural disasters has been replaced by a provision of only \$80 million p.a. (The actual figures are quoted from memory and may be wrong.) If this claim is basically correct, the Commission should see it as its duty to highlight this fact, and hence put pressure on the federal government to adequately fund a natural disasters fund on an annual basis.

- e. The payments into the natural disasters fund should be based on actuarial advice and come out of annual receipts of the Government. Payments out of the fund should be fixed predictable percentages of actual costs, based on an agreement by COAG, similar to an insurance PDS/policy. The politics would thereby be removed. An independent body supervising the fund's operations and investing surplus funds could give an added sense of "arm's length" control.
46. Another area that involves the Commonwealth is relief payments through Centrelink. As there was this time, there needs to be an immediate per person cash grant so that people can buy some food etc. There will be roting and misuse of the money, but the intention is sound and there are neither time nor resources to apply the usual eligibility criteria. In normal circumstances unemployment benefits are only paid when the applicant has extinguished all savings and most of their assets; and has become almost destitute. During natural disasters however people become unemployed involuntarily because their place of employment no longer exists, because there is no means of getting to work or because their primary responsibility is to restore their home to habitability. It would be unreasonable to apply the usual rules in these situations. A period of grace of, say, three weeks would be reasonable. The special circumstances of farmers and employers are mentioned later.

**RECOMMENDATIONS 19: a. That COAG be asked to approve a scheme which allocates all of the costs between the tiers of government and other agencies for major floods and other natural disasters.**

**b. That the Commonwealth immediately establish a Natural Disaster Fund [if none exists]; into which the Commonwealth shall annually pay an actuarially assessed sum out of the ordinary receipts of the government and out of which the Commonwealth shall pay to the states and territories specified percentages of actual costs events as agreed by COAG; and that an independent board supervise the operation of the Fund.**

**c. That the criteria for payment of unemployment benefits be temporarily changed for a period of three weeks following a natural disaster, to reflect the needs of flood victims.**

## Employers

47. We have a bad feeling and sense a serious problem that the charity of public appeals and government handouts will not extend to those employers whose premises have been flooded or who for other reasons connected with the flood have been unable to conduct their business as usual. It is the reestablishment of these businesses that will restore a sense of normality and will break the despondency and dependence on welfare of their employees.
48. Small businesses, if they are in the flood zone will have had little success in obtaining insurance cover. (In this regard, there may be a case for requiring such businesses to relocate out of flood prone areas in the medium term after a flood, perhaps as a condition of any immediate support to get them operational again.) After the flood they will have major costs in cleaning and repairing their premises, restoring their production equipment and restocking. Many have lost their computers and their business records. These small businessmen will receive no income until their businesses are again profitable. The mountain will be too big and too steep for many. Those that press on will need large injections of cash during this delicate period, at a time when banks are unlikely to be sympathetic.
49. The flood affected employers and businesses cannot expect an outpouring of sympathy and practical support as seen in the public appeal and in the volunteers cleaning up damaged residences. Employers are basically on their own, even though the community's long term recovery depends largely on their recovery. It is essential that departments which have a responsibility in this area, both state and federal, are immediately mobilised and put into the field. It is useless for these officers to sit in their flood-free offices waiting for applications to arrive on their desks. Officers need to be pro-active, at the scene with cheque book in hand. The employers who suffered flooding to their businesses were clearly in a state of shock and in desperate need of personal and financial counselling backed with money to live on and money to help re-establish their businesses.

**RECOMMENDATION 20: That the state and Commonwealth departments and agencies responsible for helping small business in any way be identified and their roles methodology and budgets to deal with natural disasters clearly defined.**

## Privatisation

50. In assessing the responsibility for flood damage repair [and costs of repair] privatised infrastructure assets will each need to be judged on their individual circumstances. As examples:
  - a. Qantas and Telstra are fully sold off and the companies will have to deal with any damage to their assets.
  - b. The airports, though leased to operators, are essentially Commonwealth owned and unless the leases specify otherwise the Commonwealth would seem to be responsible for flood damage.
  - c. The local infrastructure for water and sewerage in SE Queensland is now "owned" by various corporations [e.g. Unity Water] but in a practical sense

these corporations (though nominally independent) must be regarded as being themselves owned by the constituent councils. The dams, treatment plants and other headworks are generally state owned but with exceptions.

- d. The Queensland government's recent float of Queensland Rail and sale of the Port of Brisbane were unfortunate in their timing. In both cases expensive damage and/or loss of business resulted from the flood. Both will require detailed examination of the documentation to decide the extent that freehold title and responsibility was passed to the new entities. It is suspected that in the case of QR only the rolling stock and goodwill was sold to the new shareholders, while the state retained ownership [and repair responsibility] for the tracks. The Port may be a similar situation

**RECOMMENDATION 21: That the Commission lay down a set of guidelines to determine the responsibility for flood damage repair of public infrastructure assets that have been fully or partially privatised, sold, floated or leased.**

## **The Management of Public Appeals**

### Public Appeals

51. The generous response of Queenslanders and indeed all Australians to the appeal has been outstanding. No less compassionate has been the volunteer work of those close enough and fit enough to assist with the clean up. Once the initial euphoria has died down it is necessary to properly and quickly distribute the appeal funds equitably and in ways that the donors would approve of. For example few people would have donated so that council roads can be repaired and few donated so that people who were merely inconvenienced could benefit [as distinct from those who suffered real hardship]. All of the money needs to be accounted for and the books audited. It is understood that one or more of the local NGOs [Salvation Army, Red Cross etc] will be administering the funds. That is excellent because all have good reputations for integrity, fairness, compassion and accountability, as well as valuable experience at separating the needy from the greedy. We can hope for a very good result. The administrators will have some difficult questions to deal with, such as: will payments be means tested; will claimants with insurance be treated differently from those without; will the cost of repair bills influence the amount paid to a recipient etc? There will be many complex scenarios that both Centrelink and the appeal administrators will have to deal with in the absence of precise guidelines. For example, how to treat the renter who loses his possessions and is involuntarily evicted vis-à-vis the landlord of the same property who lives elsewhere but who now owns a severely damaged house. At the time of submission it is not possible to comment about how well the appeal is achieving its objectives. The Commission is asked to consider the matters raised here at a later date when the success or otherwise of the appeal can be gauged.

**RECOMMENDATION 22: That the Commission assess the longer term effectiveness, fairness and administration of the Premier's public appeal and**

**develop guidelines for the future on these matters based on the experience of this situation.**

### **The Management of Volunteers and Public Sympathy**

52. There was clearly an outpouring of public sympathy following the floods and many felt the need to do something, no matter how small, towards helping those affected. However the question arises as to how well that public sympathy was managed and utilised in the effort to restore flood affected areas to some semblance of normalcy.
53. The Brisbane City Council appeared to have handled the matter with dispatch and significant effectiveness. In other local government areas (LGAs) this appeared to be less well handled. Whether this was due to scale or lack of planning (mentioned elsewhere) is difficult to judge. It is therefore recommended that the Commission gather evidence on this aspect of the recovery process and assess what rectification is needed in LGAs so that volunteers can be organised quickly and effectively in the future.
54. One aspect that needs special attention is the preservation of flood victims' rights with regard to insurance. There needs to be proper balance between the need to record losses in a way that insurers will accept as being *bona fide* losses and the urgency to clean up on health and morale grounds. In particular, insurers should be prepared to sacrifice some evidentiary requirements that they may have so that clean-up is not unreasonably delayed. Public health and safety need to take precedence over bureaucratic requirements of the insurance industry.
55. There are lessons to be learned from this flood which the Commission is ideally situated to document for the future. This opportunity, given the bi-partisan support for the establishment of this Commission of Enquiry, should not be wasted.

**RECOMMENDATION 23: a. That the Commission concern itself with reviewing the performance of local authorities in respect of the above matters, and make appropriate recommendations**

**b. That Commission also make recommendations for the guidance of insurers and flood recovery agencies, especially local government authorities, regarding the conflict between the need to get on quickly with cleaning up and the need for reasonable documentary evidence to support insurance claims. The extensive use of digital photography should be advocated with regard to documentary evidence.**

### **Rebuilding Issues**

## BUILDING MATERIALS

56. It was disappointing to see the effects of inundation on some common building materials.
- a. Gypsum sheeting [“Gyprock”] fell apart after a short period of soaking. More concerning was the television coverage of owners, tradesmen and helpers replacing this water-logged material with the same product.
  - b. Compressed wood chip sheeting [various brand names] used in kitchen, bathroom and other cupboards. This too disintegrated when soaked.
  - c. Fibre cement sheets, which have replaced the now banned asbestos cement sheets [“Fibro”], are universally used as the substrate for tile fixing throughout timber framed houses. Other forms of the material are also used for external cladding. The fibre sheets lack the structural strength to withstand water pressure or the impact of water borne debris. After prolonged inundation the sheets supporting tiles lose most of their strength.
57. These materials, and there may be others, are unsuitable for use in dwellings built on flood-prone land. Councils have compounded their initial error [of permitting construction in such areas] by permitting the use of materials that are unfit for purpose.

**RECOMMENDATION 24: That the Local Government Departments in all states be advised that certain materials are unsuitable for buildings in flood-prone locations, and be required to issue guidelines to councils as to which materials may and may not be used in buildings constructed on flood prone land**

## PRIVATE PONTOONS

58. Both banks of the Brisbane River are lined with pontoons adjacent to the private houses and properties which have been built along the river frontage. There are [or perhaps we should use the past tense: there were] thousands of pontoons, only a fraction of which are occupied by vessels. It would seem that these were installed because there was a window of opportunity to obtain approval and to enhance the value of the properties. In the web of overlapping jurisdictions that characterises a modern city, it is not known which organisation approved these additions [from a planning perspective and from a structural perspective]. It is also not known which other authorities had to be consulted in the approval process. Almost all the pontoons were identical or similar in design: a floating concrete pontoon held in place by two piles and connected to the bank by a steel or aluminium bridge. Almost all of the piles extended less than 3m above the pontoon deck at highest astronomical tide. Consequently, with a 3m flood the pontoons, being restrained in no other way, floated clear from the piles. Before that level of flooding, in most cases the footbridge became a trap for debris floating down river and adding to the stresses on the piles. It was seen often of television that as the waters rose the piles proved to be too weak when subjected to the severe hydrodynamic forces of flood and trapped debris, now acting at maximum leverage near the top of the pile. The escaped pontoon, some with boats still attached rushed downstream creating navigation hazards, a danger to

shipping and a danger to bridges and every other structure. The ferry terminals suffered badly.

- RECOMMENDATION 25:**
- a. That owners be required to re-apply before replacing destroyed pontoons.
  - b. That the approval process and the design criteria for pontoons be re-examined and appropriately modified to minimise the risk of pontoon escape in future floods.

## Rural Issues

### MUD

- 59. One of the most heart-rending sights on television was to see the mud that has entered the flooded dwellings. It ruins everything. It destroys morale. Outside the houses and on the streets the mud covers everything and is up to 10cm thick. Two weeks after the heavy rain stopped the Pumicestone Passage carried such a heavy sediment load that visibility was only 15cm. No doubt all of the creeks and rivers entering Moreton Bay were similar.
- 60. This huge load of mud, silt and sediment can, of course, come from only one source – soil erosion. In the catchment areas there must be devastating sheet erosion from paddocks and gully erosion from the creek and river banks. The human tragedy of mud deposits in suburban homes will shortly be compounded by economic consequences. The nutrients locked up in the soil are released when the sediment is eventually deposited in estuaries and shallow waterfronts. These nutrients promote algal growth far more than polluted urban run-off, run-off from excessive rural fertilizer use or from the occasional sewerage overflow. This is bound to be a real problem in Moreton Bay. The tourist and recreational industries, professional and recreational fishing and a range of industries related to the marine environment will be adversely affected. The shipping channels into the Port of Brisbane will probably need dredging to remove the deposits in places.
- 61. In contrast, the authors are familiar with the Shoalhaven River catchment in New South Wales, upstream of Welcome Reef. Welcome Reef is the site of the next water supply dam for Sydney [if it is ever built!] The Sydney Water Board has purchased all of the land that will be flooded when the dam is built and all is rented back to tenants under strict land management contracts. These contracts have specified management practises intended to ensure the highest standards of soil and water conservation. Elsewhere in the catchment the Water Board has heavily subsidised the Water Resources and Irrigation Commission to carry out bank stabilisation works on the Shoalhaven and its major tributaries. The state Soil Conservation Service was also heavily subsidised to do soil and water conservation works on every farming property within the catchment of the dam. Some of the properties had very significant erosion problems. The Soil Conservation Service required each farmer to enter into a farm management contract, similar to the tenants within the area to be flooded by the dam. In exchange the Service, at the Water Board's expense, carried out complete restoration and remediation of each property. About half the catchment is state

owned forestry plantations and National Parks, both of which are heavily timbered and exercise good erosion management techniques.

62. The purpose of this multi-million dollar expenditure was to ensure that, when built, the Welcome Reef Dam will not silt-up with sediment from the catchment and that the water will need little filtration before being piped to Sydney. When the Shoalhaven is in flood the waters are now barely discoloured. The works have been effective. Furthermore, the farms are now much more drought-proof because most of their run-off is retained in small earth dams, some heavily eroded land has been brought back into production and the severity of flooding has been reduced because of the retention of run-off on farm.
63. The Great Barrier Reef, one of Australia's most priceless assets, is also at risk from such discharges of silt. Indeed, it is understood that the reason no such coral formations exist in the area south of PNG is that there is too much silt in the water there.
64. It is recognised that the implementation of similar erosion protection policies throughout Queensland will be a massive and hugely expensive task. But is that a reason not to make a start, or intensify existing efforts, in that direction?

**RECOMMENDATION 26: That the State Government investigate the locations, severity and causes of erosion that characterised this flood with a view to carrying out works, introducing land management practices and farming techniques and re-zoning as appropriate to significantly reduce this problem.**

#### FINANCIAL SUPPORT FOR RURAL FLOOD VICTIMS

65. The authors have no expert knowledge on rural issues. We all have some understanding of drought relief assistance and "exceptional circumstances". Much of drought relief is in the form of transport subsidisation, tax relief and subsidised loans. It is also well known that farmers, being asset rich and income poor have difficulty in accessing welfare payments during droughts. Floods are a different set of problems...droughts are of long duration, floods are short. The need for support and welfare is however equally long term as the rebuilding of herds, replanting, replacement of farm infrastructure and the rebuilding of soils are all long term recovery tasks. The support offered must match that time frame.
66. Most farmers cannot afford to insure against crop loss, livestock deaths or loss of income. At the very time that they need cash to restock or replant they have no income. We are concerned that in the rush to lavish short term compassion and cash on those in need, our rural community may be overlooked. Their need will not be short term.
67. We are also cognisant that the very nature of farming in Australia is that farmers can expect on average "seven lean years" and then one "bonanza year". It is in the bonanza year that farmers are able to reduce their debts, replace worn out machinery, and the like.

**RECOMMENDATION 27: That industry representatives be consulted to ensure that farmers, graziers and market gardeners [especially those from the**

**Lockyer Valley who suffered acute distress] receive reasonable and equitable support to re-establish themselves, taking into account normal cyclical variations in farm income.**

## **CONCLUSIONS**

68. The authors of this submission conclude that, despite the superb efforts of the emergency service agencies at all levels and many individuals, the major cause of casualties and damage during these floods was faulty operation of the Wivenhoe Dam and years of neglect of sound planning guidelines and practice at both State and local Government levels for many years. While some matters commented on require more investigation by the Commission, and some can be corrected in the short term, there is a long, complex and expensive task ahead to rectify the identified problems. Only when these measures are taken will there be any confidence that future weather events of the kind under discussion will not cause the devastation, loss of life and treasure that they did in January 2011.

## **SUMMARY OF RECOMMENDATIONS**

69. The authors respectfully request that their recommendations 1 to 27 above be adopted by the Commission.

## **ABOUT THE AUTHORS**

### **Ray Bricknell**

Ray had a 15 year career as an Army Engineer Officer and then formed a specialist Professional Project Management company. Through that company he managed the design and construction of hundreds of millions of dollars worth of property development projects in S.E. Queensland during the 1970s, 1980s and early 1990s.

Ray has an engineering degree, before retirement was a Fellow of the Institution of Engineers, and has an MBA from the University of Queensland. A former President of the Australian Investors' Association for three years, he has been for the past three years President of the University of the Third Age, Brisbane Inc.

### **Kenneth Park**

Ken served over 20 years full time in the Australian Army, commanding in Borneo and Vietnam. Subsequently he lived in rural New South Wales and engaged in engineering consulting, contracting, part-time army service and small farming. He served 11 years in local government, five as a shire engineer and six as an elected councillor. He was active in the SES [Local Controller] and the local bushfire organisation [local captain and, while Mayor, Primary Nominee for the district].

Ken is a graduate of the Royal Military College, Duntroon, the Royal Military College of Science [UK], the Australian Staff College and the Royal Melbourne Institute of Technology (FRMIT in Civil Engineering).

In retirement in Queensland Ken is chairman of a small public company and is active in the local Volunteer Marine Rescue unit.

### **John Snell**

John is a retired soldier, Commonwealth public servant and TAFE teacher. He served in the Australian Regular Army for nearly 25 years and as a senior officer in the Commonwealth Public Service for 14 years after that. He then taught part-time as a TAFE teacher, teaching in the Business Studies and Information Technology faculties of the NSW Illawarra Institute of TAFE (Goulburn Campus).

John is a graduate of the Royal Military College, Duntroon, the Royal Military College of Science, Shrivenham (UK), the Australian Army's Command and Staff College, Queenscliff, and holds a Bachelor of Arts (Administration) degree from the University of Canberra where he majored in Administration and Law. He also has a post-graduate certificate in National Security Management from the National Defense University in Washington DC and a Certificate IV in Workplace Training and Assessment. He is also a Chartered Member of the Chartered Institute of Logistics and Transport in Australia.

Since retiring he has been a volunteer fire-fighter with the NSW Rural Fire Service and has authored submissions to both State and Federal Government enquiries into environmental and emergency management matters on behalf of volunteer and community groups in south eastern NSW. He has also appeared before those enquiries giving further evidence in support of these submissions.



## FINANCES. WHO PAYS WHAT?

		Insurance payments	Public appeals	NGOs	Visiting rescuers	Local govmnt	State govmnt	Commonwealth Defence	Government Centrelink	Grants to or through states
Individual Costs [Urban]	Damage to buildings & contents	X	X							
	Temp accommodation & feeding			X						
	Loss of income		X						X	
Individual Costs [Rural]	Damage to buildings & contents	X	X							
	Temp accommodation & feeding			X						
	Loss of income		X						X	
Rescue Costs	Losses to crops, livestock etc	X								X
	State based rescue & police						X			
	Interstate assistance				X					
Employer Costs	Defence Force assistance							X		
	Damage to buildings & contents	X								
	Loss of income/profits								X	
Council costs	Reestablishment loans/grants						X			
	Damage to council owned assets, infrastructure, etc					X	X			X
State Costs	Damage to state owned highway rail and other infrastructure						X			X
Commonwealth Costs	Damage to Commonwealth owned assets									X

Note 1. NGO = non-government organisations, most of which receive some government funding.

Note 2. See additional comments re repair of "privatised" assets.



**ADDENDUM**  
to  
**SUBMISSION TO THE COMMITTEE OF ENQUIRY INTO THE SOUTH  
EAST QUEENSLAND FLOODS – JANUARY 2011**  
By  
**Ray Bricknell, Ken Park and John Snell**

This document is offered as an addendum to our original submission because the material could not be sensibly edited into that submission in time to meet the deadline. It does not materially affect the conclusions or recommendations of the original submission.

The material that has just been featured in the media concerns the reports that some 10,000 buildings in Brisbane, that had supposedly been built above the Q100 level (i.e., the flood level predicted to occur once in 100 years), in fact suffered substantial damage in the January 2011 floods. The Brisbane City Council is now reportedly in the throes of revising its Q100 level for all future construction in its area of jurisdiction.

The authors have no more information than has been reported in the media, but they have formed a view of the problem and recommend that the Commission investigate it further.

The features that stand out are:

- a. The Q100 level used was developed **after** the 1974 floods and took into account (allegedly) the flood mitigation effect of the Wivenhoe Dam. The present Q100 level is **lower** than the 1974 flood level.
- b. The January 2011 flood level in Brisbane was **lower** than that experienced in the 1974 floods.
- c. If the modelling that resulted in the current Q100 level was accurate it clearly assumed certain flood mitigation effects from the Wivenhoe Dam that did not eventuate in the January floods.

Under these circumstances there appear to be only two explanations for what happened: the modelling was terribly wrong or the Wivenhoe Dam was not operated to produce the flood mitigation effect that was assumed in the modelling. In other words, there was a complete ‘disconnect’ between the two authorities (Brisbane City Council and SEQWater). This needs careful scrutiny by the Commission to determine what occurred and how this can be rectified in the future. The ‘error’ has the potential to cost many millions of dollars that has to be funded by the community, one way or another, on top of the costs already incurred.

**RECOMMENDATION: That the Commission investigate the latest claims that Brisbane’s Q100 (flood) level may be wrong and determine how this occurred and what needs to be done to avoid similar disasters of this kind in the future. In particular, the Commission needs to direct how to harmonise the operations of the two authorities in respect of these matters.**

