## INQUIRY INTO PROPOSAL TO RAISE THE WARRAGAMBA DAM WALL

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Submission to Parliamentary Enquiry on raising Warragamba Dam



Thank you for the opportunity to provide evidence to this Parliamentary inquiry.

The Committee for Sydney is a champion for the whole of Sydney, providing independent thought leadership beyond the electoral cycle. We advocate for good public policy that enhances that the economic, social, cultural and environmental conditions that make Sydney a competitive and liveable global city.

With this in mind, for the Committee the complex issues around the raising of the Warragamba Dam can be simplified into two areas of policy:

- 1. Life safety the safe evacuation of residents and workers in the event of a flood
- 2. The rising costs to households of living in the floodplain risks to property, the economic value that residents of the flood plain have tied up in those assets, and the rising cost of insurance.

I have spent the past 15 years working at the city, state and national level to reduce the risk of people and infrastructure systems to natural hazards, and the capacity of cities to prepare themselves for future uncertainty linked to climate change, urbanization and other trends. From post-tsunami Sri Lanka, to New York post-hurricane Sandy, and with over 50 small, medium and large cities across south and south east Asia, New Zealand and Australia. While the term 'resilience' is used more and more, my experience in building the resilience of cities has focused on the capacity of cities – their communities, businesses, institutions, and systems – to survive, adapt and thrive in the face the shocks and stresses.

Note that urban or city resilience is not about how well we recover from disaster. Australia is a world leader in disaster relief and recovery, and while we should be proud of this, but wouldn't it be better if we were a world leader in disaster prevention and preparedness – effectively reducing the number of people in harms way, reducing the incidence of natural hazards coming into contact with urban populations.

The focus of the Committee's policy advocacy around flood risk in the Hawkesbury Nepean Floodplain has been to ensure that:

- Firstly, we do everything in our power to reduce the risk to life and property for the current residents of the floodplain.
- Secondly, we do everything in our power to reduce the future growth of development in the floodplain, putting more people and property at risk.

We know that the Hawkesbury Nepean Valley currently hosts 134,000 residents and workers. We know that there are plans for that number to double in the future.

We know that around 60,000 of the 134,000 would need to evacuate in the event of a major flood. And we know that the current evacuation arrangements cannot guarantee that these thousands of residents would be able to safely evacuate due to lagging flood evacuation infrastructure.

We also know that there would be over \$5billion in damage and only some of this would be insured. And we know that it would take months to restore infrastructure services, not to mention rebuild the property and livelihoods that would be affected.

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But the first issue is safe evacuation. As a city we have been chasing our tail trying to catch up with evacuation infrastructure to match the growth of development in the north-western sector. Some of this development is in areas that are flood liable, above the 1:100 flood line but below the PMF, and some of it outside the PMF but in areas that would be cut-off by floods and hence needing evacuation.

We know that if there was a major flood today, there would be a problem trying to evacuate all these residents. Some may not make it out.

There is much good work going on today to develop models and plans to improve this evacuation infrastructure and improve life safety for existing residents and businesses on the floodplain, and we 100% support these efforts.

But intertwined with this first issue of evacuation is the second issue of future development.

We know that residential precincts at Marsden Park North and Alex Avenue have been put on hold by the Minister for Planning due to evacuation risks. While it is important to note that evacuation concerns pausing development, these are just the tip of the iceberg.

As evacuation infrastructure is improved, the case for zoning more land for residential – the highest value use – will become stronger. Putting councils and the state government in a difficult position to say no. Especially in a growing and expensive city.

We are not in that position yet, and are unlikely to be for some years. But why start the cycle again? Why rezone land ahead of evacuation infrastructure, or better yet, why zone land that creates additional evacuation risk at all?

The planning for the aerotropolis has started by drawing a line for the probably maximum flood and working from there. Using spatial planning to reduce hazard risk, rather than chasing their tail with evacuation infrastructure.

And as climate change increases flood risk, and insurance becomes smarter, it will be increasingly challenging for residents of the flood plain to afford insurance (anecdotally upwards of \$40,000 a year), to afford to build flood resilient housing, or to afford to rebuild each time their property is damaged.

It is difficult to undo the decisions of the past. But we don't need to make them again.

We need a plan that sets a clear vision and action plan for how the Government will reduce the number of people at risk to floods across the Hawkesbury-Nepean Floodplain.

Through zoning, tradeable development rights, and upgrading evacuation routes, the plan must reduce the risk to current residents, and stop adding new ones.

And through a buy-back policy, provide a safety net for those unable to afford insurance, or to rebuild post-disaster, to exit the floodplain.

## Media Release

Warragamba Dam: To raise or not to raise... That is the question, or is it?



To supporters, raising the wall of Warragamba Dam offers a way to protect hundreds of thousands of people living in low-lying areas in Western Sydney. Opponents point to the threat of environmental and cultural destruction from higher water levels upstream of the dam.

The NSW Parliament is conducting a <u>Senate Inquiry</u> on raising the dam wall 17 metres higher, a move supported by the Department of Planning and Infrastructure NSW.

In theory, the idea is to use a higher dam as flood protection rather than water supply, which means keeping the new extra capacity empty at all times.

There is one problem with this strategy: in a major rain event, the higher dam wall will still not be nearly enough to protect the flood plain. It will only work for smaller amounts of rain.

If a flood similar to the record-setting 1867 flood occurred today, the estimated damage across the valley would be \$5 billion, and it would take six months or more to restore critical infrastructure. Raising the dam would not prevent this damage.

Raising the dam might be useful for other reasons, but it won't solve the problem of badly-located development. We have to face the fact that 134,000 people are living and working in the flood plain today, and they are living with a severe risk.

This is why the <u>Flood Prone Lands</u> package release by Planning last week is an important first step. It provides local government with the flexibility to manage the complexity of flood risk, rather than just using a line on a map.

But it's not the end game. It's just the beginning of improving how we manage risk.

For instance, some evacuation routes are already at capacity, leading the relevant Minister to hold back development in places like Marsden Park North until this human safety issue is resolved.

We think the Minister is onto something here. Don't stack more demand onto atcapacity roads. Don't create more uninsurable addresses. In short, don't put more people in the way of the floods.

And make this plan future proof, especially as events like the March 2021 floods are projected to increase in frequency and intensity, increasing insurance premiums and reducing the length of time available for recovery.

It's time to make a long term plan to reduce the number of people and households living in harm's way, for assisting vulnerable people to relocate to safer grounds, and to absolutely, totally prohibit new housing in locations like this where it is not safe.

In 1810, Governor Macquarie sought to move settlers from the Hawkesbury and Nepean rivers to higher ground after repeated floods.

Two centuries later, in 2015, the <u>Productivity Commission</u> identified land use planning as "perhaps the most potent policy lever for influencing the level of future disaster risk."

Today, the NSW Government is working on a Regional Land Use Planning Framework to manage the Hawkesbury-Nepean Valley.

This plan needs to set a clear vision and action plan for how the Government will reduce the number of people at risk to floods across the floodplain.

Through zoning, tradeable development rights, and upgrading evacuation routes, the plan should reduce the risk to current residents, and stop adding new ones. And through a buy-back policy, it should provide a safety net for those unable to afford insurance, or to rebuild post-disaster, to exit the floodplain.

## Media Release

Building back better may mean building back somewhere else – Statement

March 26, 2021



As the costs of the response, recovery and rebuild of the past week's devastating floods add up, commentators have begun to ask how we can build back better – we believe this time, building back better may mean building back somewhere else.

Several thousand people have been evacuated in western Sydney over the past week, with the downpour leaving communities isolated, submerged roads, and forcing schools to close. As the weather clears, they are returning to pick up the pieces of flood affected homes and businesses, and coming to terms with the emotional and financial realities of recovering from a disaster.

The bill will be enormous. The insured costs of the areas affected in western Sydney are not available yet, but it will likely be most of the estimated \$2 billion statewide insurance bill.

Then there's the uninsured costs. Over the past decade, insurers have improved their ability to assess the risk of specific households, which means pricing risk more highly for those most at-risk. That means much higher insurance costs for many in the floodplain. Anecdotally, many have given up.

This leaves the government, as insurer of last resort, with the bill for large scale deployment of emergency services, defence forces and longer-term relief and recovery support.

The final cost will be in the billions of dollars. As residents, businesses and governments face the stark reality of rebuilding and reestablishing homes, farms and businesses in this increasingly hazard prone location, we have an opportunity to use that money differently to support Western Sydney residents and businesses for the long term.

Raising the dam wall has been put forward as a way to mitigate the impact of future flooding. But a report from the NSW State Emergency Service last year laid out why floods in this area tend to be so large, deep and dangerous, and how a 1 in 100 year flood event would require 55,000 people to evacuate. While a raised dam would prevent more minor flooding, we also know that it would not prevent the major flood events like what we saw last week.

If nothing is done to address this escalating risk from extreme weather and climate change, by 2100 Sydney will have a projected 91,000 'uninsurable' addresses — the most of any city — with over five times as many uninsurable properties in 2100 than in 2019. The most 'uninsurable' areas will be concentrated near the Georges River in the south-west, the Hawkesbury River to the north and the Nepean River in the west.

In Norfolk, Virginia, the city's response to sinking into the sea has been to take a long-term approach to gradually shift development away from the places that will be flooded. They created a 'traffic-light' overlay of the city that groups places into green, yellow and red zones based on risk for future flooding. New growth is directed into areas of low risk, and there are incentives to gradually shift development away from the places that will be impossible to protect in the future. In effect, it is a road map for promoting future development out of harm's way where possible.

Closer to home, the 2011 Queensland floods affected over 38,000 residents and businesses with an insured cost of \$1.5 billion, including around 20,000 households and businesses in Brisbane. To break the cycle of disaster and recovery, Brisbane City Council introduced a Voluntary Home Purchase Scheme, purchasing \$35 million worth of flood-affected land once shared between 73 private property owners across Brisbane, transforming the land into parklands, green space, conservation areas or green links to bikeways.

These case studies give us models that could help navigate this complex question:

• Create a Norfolk style map of the floodplain identifying areas of high, medium and low risk, and a long-term vision for reducing the risk to life and property across the floodplain. Led by local government and agencies like the Western Parklands City Authority and Resilience NSW, this vision would identify a pathway to reducing existing risk hotspots, identify where evacuation infrastructure needs to be enhanced, and replace planned development in the floodplain with opportunities to re-establish market gardens and recreation uses.  Introduce 'transferable development rights' style approach to land on floodplain. This approach would build on the Norfolk style map to help each local government area identify where increased density would be acceptable

 in areas of the floodplain where development was targeted for reduction, developers could buy existing residential lots and transfer that development potential (or existing use). Effectively this mechanism would act, over time, to redirect development from areas of high risk to areas of low risk and planned growth.

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- Establish a voluntary purchasing scheme that supports residents to move out of the way of the floods. Scaling back development in the floodplain would move people out of harm's way and reduce growing pressure on our emergency services agencies. Funded by state government, this scheme would provide a mechanism for residents to sell flood risk properties to the government at market rates, transferring ownership into Landcom or Western Sydney Parklands Authority to be managed consistent with designated land uses.
- Strengthen evacuation infrastructure. Unlike Norfolk, we know there is no practical means to protect existing building structures in the Hawkesbury-Nepean floodplain against damage from either water depth or velocity in severe floods. We need evacuation routes to reduce risk to life and increase the time for people to leave, recognising this is purely a safety measure for existing populations rather than an enabler of additional development potential.

Regardless of what Sydney decides to do, the question before Western Sydney is this: do we really want to continue to put people in the flood plain? Previous governments ignored the science, hoping it would be all right. The result has been tragedy for thousands of people.

The recent floods should make it clear it is not responsible to put people where they will be exposed to this level of harm.

It's time for Sydney to look at a long-term plan to reduce the cycle of disaster, response and recovery that continues to test the safety and resilience of at-risk communities and stretch the resources of our emergency management agencies

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