Submission No 19

INQUIRY INTO PROPOSAL TO RAISE THE WARRAGAMBA DAM WALL

Organisation: Penrith City Council

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SUBMISSION

INQUIRY INTO THE PROPOSAL TO RAISE THE WARRAGAMBA DAM WALL

CONTEXT

The Hawkesbury-Nepean Valley is widely acknowledged as one of the highest risk areas for flood risk in NSW, if not Australia. The Valley covers 425 square kilometres and falls within the Penrith, Hawkesbury, Hills Shire and Blacktown Local Government Areas.

Penrith City is home to more than 200,000 residents (2019 Estimated Resident Population 209,210). The City also services a catchment far beyond its local population for employment, health, retail and other services and is identified as a key centre within the Sydney region, central to significant public and private investment including infrastructure such as the Western Sydney International Airport.

Covering 404 square kilometres, the Penrith LGA is dominated by waterways, the most notable being a large section of the Nepean River and South Creek. Both systems are accompanied by wide open floodplains. There are more than 40 creek systems and associated catchments, all draining into the Nepean River or South Creek.

Given this context, Penrith City Council has a significant interest in the management of the floodplain, the decisions and provisioning of new and upgraded infrastructure and understanding of, and decisions made, relating to evacuation capacity for current and future residents.

Council's submission responds to two points under the Inquiry's Terms of Reference in relation to flood evacuation and the potential for infrastructure investment, namely the Castlereagh Connection, a strategic connection that has been proposed since 1951.

OUR SUBMISSION

Our submission relates only to the Select Committee's Terms of Reference 1e & 1f. Because the Environmental Impact Statement into the Warragamba Dam Raising has not been finalised or released; our submission to this enquiry in no way states a Council position on the validity or not of the dam raising. Instead, our submission is to stress to the Inquiry that the broader issue of flooding within the catchment and its impact on people, the environment and property requires multiple solutions of which the dam raising is but one. Additional options like the construction of the Castlereagh Connection must be considered in parallel to the potential raising of Warragamba Dam wall.

RESPONSE TO TERMS OF REFERENCE

1e) the nature and extent of the examination of alternative options for flood management that formed the basis of the cost benefit analysis of the project and the 'Resilient Valley, Resilient Communities' strategy,

The NSW Government has stated[1] around 134,000 people live on the Hawkesbury Nepean Valley floodplain and that currently, the Bureau of Meteorology is able to provide 'around eight to 15 hours warning ahead of a flood reaching a certain height'… The Government also states that: Current road capacity is insufficient to evacuate all residents impacted by large floods in the area within this warning time, which would force the NSW State Emergency Service to order mass evacuation on uncertain flood forecasts."

The Hawkesbury-Nepean Valley Flood Management Review and associated *Resilient Valleys, Resilient Communities Flood Risk Management Strategy* identified the raising of Warragamba

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[1] Standing Committee on State Development Water NSW Amendment (Warragamba Dam) Bill 2018 Submission 74 - NSW Government

Dam as having the highest Net Benefit outcome when compared with other infrastructure options. These benefits were calculated on mitigating risk and the exposure of property and other assets to flood damage. The Strategy stated that "other infrastructure solutions, such as upgrading evacuation roads, can reduce the exposure of the population to flood risk, but will not change the probability or extent of flood events."

It is our view that the Strategy's Taskforce Options Assessment Report (2019)[2] does not consider the financial benefits of improved road infrastructure and the efficiencies it will create in an evacuation scenario, nor the significant day to day congestion savings that may be delivered by alternate options.

Council's own independent modelling[3] with these parameters in mind suggest that the Castlereagh Connection has substantial cost benefit. These benefits of are significantly higher than costs of construction. However, we acknowledge the need for a Business Case to confirm this.

It is worth noting that the corridor is largely in government ownership (almost 90%) with long standing acquisition clauses on the remaining part portions. This corridor has been earmarked since 1951 for future road needs in the Western Sydney region and in Council's view, is required to service existing and future population movement and integrate with current and planned road and rail infrastructure.

The Taskforce Options Assessment Report states:

The development of the Castlereagh/Bells Line of Road Connection between the M7 Motorway and Londonderry shows potential to enhance evacuation capacity either with or without dam raising. The higher the elevation of the Connection, the greater the evacuation potential as can be seen by the decreasing numbers of isolated vehicles.

1f) the flood risk assessment and proposed flood management of the Hawkesbury-Nepean Valley and whether this meets international best practice standards,

We understand and accept the Hawkesbury-Nepean Valley can be highly impacted by flooding and appreciate the efforts taken by Government and agencies to address risk to life and property that has led to the consideration of raising the Warragamba Dam wall.

A number of major evacuation routes out of the floodplain for residents from the Hawkesbury and north of Penrith come via Penrith LGA roads as shown in the Strategy **(Attachment 1)**. The Strategy identifies there is not enough road capacity to safely evacuate the whole population on time, with multiple communities relying on common, constrained and congested road links as their means of evacuation. If a 1 in 100-year flood occurred today, more than 64,000 people would need to evacuate, some 90,000 people in a flood similar to the largest in European history (1867 flood).

In relation to international best practice, it should be noted that institutional evacuation (ie through the SES) should form one part of the framework, the other critical element, based on lessons learned internationally is to provide adequate facilities for people to self-evacuate. It is noted in the Flood Strategy that there is no single or simple solution that can eliminate all flood risk.

The characteristics of the floodplain and identified community behaviour during floods, the Hawkesbury-Nepean Flood Plan approved by the State Emergency Management Committee recognises that, due to the high rate of vehicle ownership and impact of infrastructure, mass

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[2] http://www.infrastructure.nsw.gov.au/media/1976/taskforce-options-assessment-report-2019-v2.pdf
[3] Castlereagh Connection Background Paper – Corview 2019

self-evacuation by private vehicles is the primary method of reducing risk to life during major floods.

The Strategy also identifies that early evacuation is important because many key evacuation routes will be cut off by floods at low points, long before population centres are inundated.

It is our view that increased focus be given to providing adequate road infrastructure to facilitate safe, orderly and efficient egress out of the floodplain by private vehicle. Combined with the benefit of increased evacuation time as a result of the dam wall raising (if this action were to proceed), this in our opinion, would provide a best practice evacuation strategy.

Council would welcome the opportunity to see the economic analysis of the two options (regional road evacuation routes and raising of the dam wall) independently in order to better consider which should be the highest priority given available funds, particularly as we believe there is likely to be greater benefit to personal safety by implementing evacuation capacity improvements via the Castlereagh Connection and that the complementary impacts of both interventions may provide the best solution.

CONCLUSION

Council agrees with the Taskforce in that the matter of safely evacuating residents from the floodplain is complex and requiring multiple solutions. Alongside the business case project for the raising of the dam wall, Council would strongly encourage the Government to undertake a concurrent business case for Castlereagh Connection that considers all the benefits of this new road infrastructure in addition to flood evacuation benefits.

Evacuation constraints and complexity

Evacuating people away from flood affected areas is the primary method of reducing the risk to life during a flood. In the Valley, the NSW State Emergency Service identifies mass self-evacuation by private motor vehicles as the primary method for evacuation, as other transport options are highly vulnerable to floods or have limited capacity. The major regional evacuation road routes are shown in Figure 7.

Legend

- Castlereagh Road route
- Great Western Highway
- Hawkesbury Valley Way
- Llandilo Road route
- Londonderry Road route
- M4 Motorway
- Old Northern Road route
- Park Road route
- Pitt Town route
- Richmond Road route
- The Northern Road route
- Wallacia alternate route
- Windsor Road route
- Westlink M7

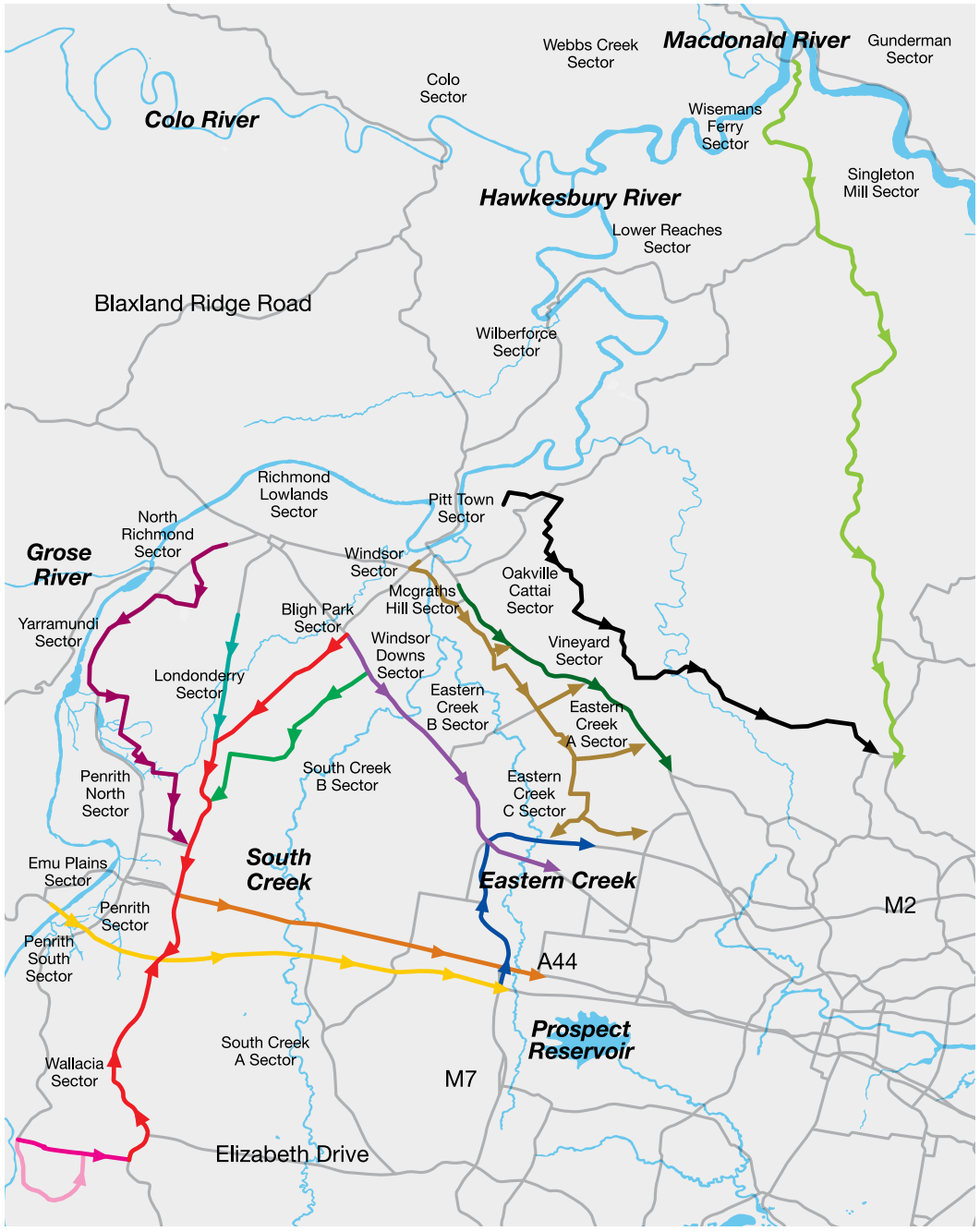

Figure 7 Major regional evacuation road routes out of the Valley