Submission : MP 09-0162 Warriewood Valley Redevelopment.

1.0 Introduction.

My submission specifically addresses the Director General Requirements (by letter dated 23 December 2009) in connection with Flooding Drainage and Surface Water Management issues as outlined at Points 14 & 15.

The documented information accompanying this application fails to address the DG Point 15 requirements in regard to Ground Water Management issues. The documents fail to demonstrate how potential degradation of groundwater quality and ensuing adverse effects on the receiving waters of Warriewood Wetland development may confidently be avoided.

On Point 14 Flooding, Drainage and Surface Water Management issues, I submit there is currently significant uncertainty, for reasons that I elaborate hereunder, regarding how Narrabeen Lagoon and Ocean Boundary backwater effects will adjust in line with the State Sea Level Rise Policy Statement, and beyond that, further SLR adjustment of ***Warriewood Valley Flood Study***- 2005 Pittwater Council.

I submit, this uncertainty can not satisfactorily be resolved until the Flood data from the current revision of *Narrabeen Lagoon Flood Study*-PWD 1990 data is completed and the Warriewood Valley Flood Study is then adjusted to take account of the likely increases in Mean Water Levels in Narrabeen Lagoon as a consequence of Sea Level Rise.

In the absence of this vital data, I further submit it would be unreasonable, and lacking necessary precaution, to conclude that the Director General Requirements on Flooding and associated issues, can be satisfied by acceptance of the proposition that the influence of future backwater effects on year 2100 Warriewood Valley Flood Planning Levels can safely be deduced by hypothecation from pre-sea level rise-influenced ***Narrabeen Lagoon Flood Study*-PWD1990.**

2. Uncertainties that hypothecation does not address in the proposed extrapolated method for prediction of Warriewood Valley flood levels.

- Unresolved uncertainty regarding the as-yet undetermined Ocean boundary conditions for determination of hydraulic flood modelling of Narrabeen Lagoon, vide: ***Appendix to Draft Flood Risk Management Guide: Incorporating sea level rise benchmarks in flood risk assessments*** Department of Climate Change and Water NSW,

- And also, in this regard, vide: ***Coastal Inundation at Narrabeen Lagoon*-Department of Climate Change,** Australian Government 2009 and, **Gordon,**

A.D. (1990) ***Coastal Lagoon Entrance Dynamics,*** International Conference on Coastal Engineering, Delft, Netherlands.

- Uncertainty arising from the incomplete status of vital dynamic modelling of Narrabeen Lagoon Entrance flow regimes within the current revision of ***Narrabeen Lagoon Flood Study***-1990 which will provide the best assessment of the magnitude of increased tidal range and velocities that will occur as a result elevated sea level and the consequent effect on .

- Uncertainty due to the as-yet undetermined effect that the **State Sea Level Rise Policy** will have in consequently improved hydraulic efficiency of the tidal lagoon entrance channel, and;

  (a) The unresolved magnitude of increases in the depth and areas to be affected by inundation that will occur due to normal tidal fluctuations, plus an increase in the frequency and duration of flooding in areas already so affected.

  (b) Present unresolved status of the magnitude of the sea-level- rise backwater reduction in the capacity of existing gravity drainage systems. Principally, those situated at low grade around the lagoon that discharge into sea-level-elevated Mean water levels of the lagoon,--- "which may lead to an increase in localised flooding and more water flowing overland to waterways rather than through drainage systems" – ***Draft Flood Risk Management Guide*** DECCW 2009.

* Uncertainty regarding the Predicted Maximum Flood Level within the lifetime of residential dwellings, the subject of this application. The 4.8 m PMF in use in this application derives from 1990 NLFS. Although not for use in setting residential Flood Floor Levels a Maximum Flood of this extent would exceed the floor levels of the lower units by 30cm. It is quite possible that the revised dimension of PMF which will become available upon completion of the Revised Narrabeen Lagoon could considerably exceed the present PMF. That could result in serious issues to do with safe on-foot-evacuation-routes, downflooding of the underground car parks and temporary downflooding and disablement of the sewerage trunk system

- The ability of the adjoining Warriewood Sewerage Treatment Plant to withstand the hypothecated 1% AEP event (4.1-4.3m AHD)and the current (4.8m AHD) PMF does not appear to have been addressed in any documentation thus far. This is an important omission that should be addressed, when regard is had to potential for disablement of the trunk sewerage drainage system and indeed of the STP itself, having regard to the sill height of the two by-pass ponds (to deal with wet weather peak flows) which is 3.3m and therefore, it appears, subject to overtopping in future hypothecated flood events.

Summary

As an elected Councillor for South Ward, Pittwater Council, I strongly endorse Council's submission with the exception of the section dealing with flood issues, I regret to say, for the reasons that I outline above.

If the determining authority, be it the Minister of Planning or a Planning Advisory Committee, were to move to approve this development as applied for, in advance of necessary cross checking with revised Narrabeen Lagoon Flood Study and adjusted Warriewood Valley Flood Study, it would in my opinion be, in the face of demonstrable great flood uncertainty, an unwise exercise that could not in the circumstances, I believe, constitute a due observance of necessary precautionary duty of care. It should for that reason alone, not gainsaying the many valid objections in Council's submission, be rejected.

Councillor David James
Pittwater Council, South Ward.
AMSA Class one Marine Engineer.
June 14, 2010.