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ATTENTION: Elizabeth Creswell
E: ecreswell@adcoconstruct.com.au

Dear Elizabeth,

RE: **New Liverpool Public School Development**
Finished Floor Levels

The site is subject to mainstream flooding from Georges River to the southeast of the site and overland flooding from the CBD catchment to the south and west of the site. The Georges River Probable Maximum Flood (PMF) level is 10.80m AHD, while the Liverpool CBD overland flow PMF is approximately 9.30m AHD. The New Liverpool Public School site is located, both, within the Georges River and CBD Overland Flow PMF extent, but outside of the 1 in 100 years ARI flood extent for both Georges River and CBD Overland Flow.

It is also noted, that in accordance with the Council DCP, schools are classified under the Land Use Risk Category of 'Sensitive Uses and Facilities'. For this particular use, the Floor levels should be no lower than the PMF level.

Bonacci have been supplied with documents by School Infrastructure NSW (SI NSW) which illustrate the localised flood risks for NLPS and Liverpool Health & Academic Precinct (LHAP).

Setting the Finished Floor Level (FFL) at mainstream (Georges River) PMF level at 10.80m AHD in accordance with the Council DCP has the following complications:

- The existing ground level around the northeast corner of the site is RL8.80, which is approximately 2m lower than the estimated mainstream PMF level. Appropriate DDA compliant access between the proposed ground floor to the external ground levels would be difficult to achieve.
- Ramps and stairs would need to be provided. Achieving the Disability Discrimination Act (DDA) compliance would require approximately 45m of ramping into and out of the buildings.
- Significant earthworks would be required to fill the site up to the building pad at RL10.80.

Based on site survey, available flood information and our assessment of the risk, it is recommended to set the FFL at **RL9.30**, for the following reasons:

- The FFL at **RL9.30** would be no lower than the 1 in 100 years ARI flood level plus 500mm freeboard. The estimated 1 in 100 years ARI flood level from the Georges River Flooding is approximated at 8.8m AHD, which results in a minimum FFL at **RL9.30.**

- The PMF level from the Liverpool CBD Overland Flow Flooding is approximated as **9.30m** AHD, setting the FFL at **RL9.30** can protect the new development from the PMF of the overland flooding of the CBD catchment.

- The proposed development is mostly concentrated in the northern portion of site which has existing ground levels between RL8.80 to RL9.20. Construction of ramps and stairs would not be necessary if the FFL is set at **RL9.30**. Access, DDA compliance, would be achievable without major earthworks.

Further, based on the Gorges River Flood Study, the site is not affected by the estimated 1 in 100 years ARI flood but only PMF. The Bureau of Meteorology provides 6-12 hours warning of an impending flood, and this would allow for sufficient time, 6-12 hours (refer to the FloodMit Pty Ltd letter – Flood Emergency Response Plan - Response To Issues Raised, dated 8 February 2022), for an evacuation plan to be implemented with advance warning system in place. This, 6-12 hours, time associated with potential slow rise in flood water level, does not create a risk to life associated with the flood levels relative to PMF.

In addition to above, the specific controls would be applied:

- Evacuation – provision of access for pedestrians during flood events towards west of the site (Liverpool Boys High School area).
- Structural soundness – structural design to withstand forces of flood water, debris and buoyancy.
- Fencing – construction of fencing to not obstruct flows.

Yours Sincerely
MEINHARDT-BONACCI (NSW)

George Krzywda
Senior Civil Engineer CPEng NER