



Our Ref 22-000251

22 May 2024

Megan Munari
The Hills
3 Columbia Court
Norwest NSW 2153
Australia

Dear Megan

Subject: Marketown Planning Proposal – Council RFI Stormwater Matters

Please find the response to the Request For Information regarding the stormwater matters for the Marketown Planning Proposal.

Council Comment

The assessment of the proposal from a flooding perspective is generally satisfactory, noting that the Stormwater Management Report concludes that without on-site detention, in a 1% Annual Exceedance Probability event, the planning proposal would increase flood levels in Norwest Lake by 10mm and would not have a negative impact on any surrounding properties. However, the Stormwater Management Report has not accounted for the increase in stormwater catchment, as taller buildings increase the aerial coverage for rain capture. Wind which blows rain horizontally against the vertical walls of the high-rise building will cause the site to capture more rainfall than the plan catchment area. Based on the recommendation of AS/NZS 3500.3, the effective catchment area considered in the hydrologic calculations is to be increased by 50% of the exposed building walls. The Stormwater Management Report should be amended to consider the larger stormwater catchment areas of the proposed high-density development.

Response

As noted, an assessment was undertaken for the scenario with no on-site detention provided, alternatively as part of the proposal the detention was sized based on the Site Storage Requirements for Council.

Councils request for assessment of the slope factor or wind effects on vertical structures is a requirement for assessing guttering and pit catchments, assessing the local potential catchments draining to a drainage structure. The wind effect assessment is not relevant when assessing total catchments like the study undertaken for the Marketown Precinct. The study assesses the total catchment, any diversions as a result of vertical walls is captured in the total catchment assessment.

The assessment is considered sufficient to address the stormwater management at this stage, additional details will be provided as part of the design process for the Development Application phase.

Council Comment

The planning proposal material is inconsistent in regard to the proposed stormwater detention and treatment measures. The Stormwater Management Report includes either two separated On-Site Detention (OSD) systems or a bioretention basin to treat stormwater before discharging into the Lake. Council typically prefers development to include one centralised or integrated OSD system to manage the quantity and quality of stormwater to facilitate easy monitoring and maintenance. At the development application stage, further flooding and stormwater studies will be required to include higher potential flood events, further analysis on the existing storage capacity of the lake, consideration of existing Sydney Water sewer manholes located near the lakefront and a Flood Emergency Plan.

Response

The proposed stormwater strategy has identified two distinct catchments for provision of end of line detention, the two locations were identified to work with constraints of the site and the proposed development. The provision of two systems also reduces the potential blockage of the total detention storage. The study has identified the volume requirements, and as part of the design phases opportunities could be reviewed to look at opportunities for a single system. The development of a flood emergency plan will be prepared as part of the proposed detailed assessment and design.

The proposed water quantity and quality modelling has demonstrated that the land in Marketown is suitable for development and the flooding impacts, detention and water quality requirements can be appropriately managed in line with Council's policies and community expectations. The strategy has been prepared to manage the water cycle objectives for the Precinct and as design occurs in later stages of the process, the preferred strategy can be refined and detailed as required.

Yours sincerely,

A handwritten signature in black ink, appearing to read 'Troy Eyles'.

Troy Eyles
Leader – Water Resources

Egis Consulting Pty Ltd