Coby Tomlins

From: Benjamin Pechey

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Sent: Monday, 15 June 2015 6:56 PM

To: Ben Craig

Cc: Jonathon Carle; Jesse McNicoll **Subject:** 32 Junction Street, Forest Lodge

Ben, below is the advice from our flooding engineer. I was keen to speak to you before sending the below advice however I'm in training tomorrow and then on leave for the rest of the week.

The City would like to continue to work with you on this. I think it is worthwhile having a meeting with our respective flooding experts and your architects to discuss ways forward once you've reviewed the advice. While I'm away you can contact Jon Carle to arrange a meeting. thanks, Ben

Advice on flooding issues:

The site is located within a major trapped low point. Flood levels in the trapped low point are as follows:

- The level of the Probable Maximum Flood (PMF) is 18.5m AHD
- The level of the 1% Annual Exceedance Probability (AEP) Flood is 14.4m AHD
- The level of the 5% AEP flood is 13.3m AHD

In addition to the above there is an overland flow path down St Johns Road than needs to be managed. The typical depth of flooding down St Johns Road is as follows:

- The typical depth of the 1% AEP flood is 0.25m
- The typical depth of the 5% AEP flood is 0.20m

The proposal will have to comply with the requirements of the City's Interim Floodplain Management Policy.

The proposal will have to demonstrate that there will be no adverse impact on flooding up to the 1% AEP flood. Flood levels within the trapped low point are sensitive to changes in volume therefore as a minimum we would require no net loss of floodplain storage volume for the 1% AEP flood in the trapped low point. There is also the overland flow path from St Johns Road that would need to be accommodated through the site.

The proposal will have to comply with the flood planning level requirements set out in the Interim Floodplain Management Policy. Some of the key minimum levels are as follows:

- Habitable floor levels no less than the 1% AEP flood plus 0.5m freeboard
- Enclosed car parks no lower than the 1% AEP flood
- Open car parks no lower than the 5% AEP flood
- All entry points to basements no lower than the PMF

It should be noted that the depth of flooding in Larkin Street is quite high therefore these levels are significantly higher than Larkin Street and significantly higher than land levels within the site.

Emergency evacuation alarms and procedures are not appropriate due to the following:

- flash flooding nature of runoff in this catchment
- lack of effective warning to implement protective actions
- the rate of rise of floodwaters
- population and density

The Interim Floodplain Management Policy does not allow any scope for emergency alarms or evacuation procedures in lieu of the minimum FPLs and these will not be considered as they are completely inappropriate for this situation.

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