

14<sup>th</sup> September 2023



Benji Crossley  
Sharp Tudhope Lawyers  
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Dear Benji,

## Re: Flood Level Pile Road, Opotiki

I have reviewed the information we have available for 19A Baird Road, Opotiki. The location of the area investigated by the desktop study is outlined in the attached maps. The elevation of the land within the property boundary ranges between 1.6 and 2.9 m RL (Moturiki Datum 1953), excluding local drains. The elevation of the land in the vicinity of the existing dwelling is around 1.8 m RL (Moturiki Datum 1953). The map shows the elevation of the land (from the Digital Elevation Model); with the lower elevation represented by the yellow colour.

The stopbank design levels for the Waioeka River Urban Right bank and the Otarā Urban Left bank that protect the Ōpōtiki township are 1% Annual Exceedance Probability (100 year) + freeboard of 450mm. However this property is just outside of the Ōpōtiki urban area and is situated close to the left bank of the Waioeka River near cross-section 1.5. There are 2-year river scheme stopbanks from cross-section WO1.5 northward, and the elevated road (SH2) protects the property from river and coastal flooding to some extent. Flood risk to property from the river overtopping the stopbanks and road does exist.

### Flood level

The Ōpōtiki Operative District Plan has the following:

#### 2.6.6 FLOOR LEVELS

##### 2.6.6.1 Floor levels

*Floor levels shall be sufficient to ensure that water does not enter **buildings** in a 1% AEP (Annual Exceedance Probability) event within the **Coastal Environment** or 2% AEP event for areas outside the **Coastal Environment**. Council will determine the appropriate freeboard that needs to be added to the flood level to set the required minimum floor level (Sub 17.28).*

Based on the document 'Capacity Review Waioeka and Otarā Rivers' (Cardno, 2022) the:

- 2% Annual Exceedance Probability is 4.3 m RL (Moturiki Datum 1953).

These levels include an allowance for estimate imprecision and phenomena not explicitly included in the calculations. The modelling results have used a climate change allowance to 2135.

Additionally, if an identified house site is located within an overland flow path, the design 2% AEP flood level should be set a minimum of 0.5 m above general ground level and the building should not obstruct any existing flow paths. This level includes freeboard components for estimate imprecision and phenomena not explicitly included in the calculations. This requirement is not applicable to those house sites located on ridges.

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This is not a guarantee that any new dwelling will not be affected by flooding. It is also possible that in the future, the flood levels may be superseded by more up-to-date information. The information in this letter is valid for one year from the letter date.

In determining the required minimum building floor level Ōpōtiki District Council need to consider what additional freeboard components (if any) need to be added for construction tolerances and potential bow waves generated by vehicles traversing water.

### Minimum Floor Level

Minimum Floor Levels are set by Territorial Authorities with consideration to the New Zealand Building Code, the Resource Management Act, the applicable District Plan and the latest information available. Please contact Ōpōtiki District Council for the Minimum Floor Level for this property.

Please contact me if you have any further questions.

Yours sincerely



Rachael Medwin  
Engineering Hydrologist

