

## Suggested changes to planning provisions

(BOPRC amendments are underlined)

### Suggested amendments to **Objective 3.1 Pukehangi Heights Development Area – Flood Hazard Risk Management**

Natural Hazard risk for flooding is managed within the Pukehangi Heights Development Area and in the downstream environment.

**Comment [NTP1]:** BOPRC: New wording is considered more appropriate more clearly gives effect to Policy NH 4B of the RPS. Following policies are appropriately directive and implement Policy NH 4B.

### **Suggested amendments to Policy 3.1** (Natural hazard risk – Flooding)

'Manage natural hazard risk for flooding within the Development Area and, on the downstream environment through the preparation of Stormwater Management Plan and at subdivision stage.'

### **NEW Objective 3.2** (Effects and Development)

'Cumulative storm water effects are appropriately managed in an integrated manner within Pukehangi Heights Development Area'

### **NEW Policy 3.2** (Effects and Development)

1. Manage the cumulative storm water effects within the Development area and on the downstream environment through a Stormwater Management Plan for the entire Pukehangi Heights Development Area and at subdivision stage.
2. Identifying and protecting overland flow paths for extreme rainfall events (0.2% AEP)
3. Providing for other treatment measures that may arise because of site specific assessments.

### **NEW Performance Standard**

Any subdivision application shall be submitted together with any applications for discharge consents required from Bay of Plenty. The subdivision application shall demonstrate:

- (i) Compliance with the recommended mitigation measures secured as part of the Stormwater Management Plan for the entire Plan Change area; and
- (ii) Demonstrate cumulative effects of granting the particular consent on the flood risk to downstream urban areas, when considered together with other previously granted subdivision and discharge consents within the Development Area.

### **NEW method to implement Policies 3.1 and 3.2**

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'Rotorua Lakes Council will discuss any applications for subdivision consent within the Pukehāngi Development Area with Bay of Plenty Regional Council to enable such applications to be considered together with any applications for discharge consent for the same development, to ensure flooding effects and mitigation are addressed in an integrated manner.'

### Suggested amendment to Rule A5.2.3.2 - allow for limited notification for BOPRC

#### A5.2.3.2 (Non-notification)

1. Any application for resource consent for the activities listed in Table A5.2.3.1 a 4 - 11 shall be considered without public or limited notification. If the Land Use and/or Subdivision are consistent with the Pukehāngi Development Area Structure Plan and Performance Standards, with the exception that:
  - (a) any application that has potential effects on culturally significant sites, downstream water quantity, downstream water quality or Lake Rotorua water quality will require the written approval of Te Rūnanga o Ngāti Kearoa Ngāti Tuarā Trust, Ngāti Whakaue, and Te Arawa Lakes Trust in order to proceed without limited notification.
  - (b) any application for subdivision that does not meet the subdivision performance standards in A5.2.3.4.7 A5.2.3.4.8, A5.2.4.4.4, A5.2.4.4.5 and the NEW Performance Standard and does not obtain the written approval of the Chief Executive or delegate of Bay of Plenty Regional Council, shall be limited notified to Bay of Plenty Regional Council for the purpose of assessing and ensuring compliance with those subdivision performance standards.

### Replace Rule A5.2.3.4.7 and A5.2.4.4.4 with the following:

#### Stormwater Management

##### (a) Stormwater Management Plan Preparation

No subdivision shall commence until a Stormwater Management Plan for the entire Development Area has been approved by the Rotorua Lakes Council for the purposes of both the subdivision and discharge consents to ensure an integrated approach is taken to stormwater management.

A Stormwater Management Plan (SMP) shall be prepared by a suitably qualified and experienced practitioner

##### (b) Information and Assessment Requirements for Stormwater Management Plan

The SMP shall include the following information:

- (i) The intended scale, nature and form (including ground levels) of development and subdivision in the Development Area;

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- (ii) An assessment of potential effects of storm water (velocity, flood depth, flood extent) as well as related erosion effects on the downstream catchment that includes the Lower Utohina catchment;
- (iii) The assessment shall consider the potential for effects related to flood duration including:
  - (1) holding up stormwater discharges to the streams due to elevated and longer duration backwater;
  - (2) increased stream bank erosion and channel instabilities from extended periods of elevated flows;
  - (3) increased length of time buildings, roads, footpath, and structures might be flooded above the key flood hazard threshold for depth and velocity ( $DxV >0.3$ );
- (iv) An assessment of the potential effects on water quality;
- (v) Details of mitigation measures for the entire Development Area. Details shall include:
  - (1) The size of ponds, location, configuration of the outlet structures, discharge locations, and hydraulic performance of the ponds for on-site storm water management; and
  - (2) The size of channels and the related erosion protection measures for primary, secondary and overland flow paths (on-site and off-site) including for the receiving waterways immediately downstream.

The mitigation measures shall be designed to:

  - (a) manage the potential adverse effects identified in A5.2.3.4.7(a)(ii) and (iii); and,
  - (b) achieve the **Performance Measures** set out in A5.2.3.4.7(b).
  - (c) comply with the **Methodology – Design Criteria** set out in A5.2.3.4.7(c); and
- (vi) Consideration of the sensitivity of proposed storm water management measures to the staging of

**Comment [NTP2]:** Will need to be applied to A5.2.4.4.4 for these performance standards – same as below

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### development in the Development Area:

- (vii) An assessment of potential effects of storm water management measures on land stability and liquefaction;
- (viii) The condition of existing infrastructural assets;
- (ix) The intended staging and timing for the provision and vesting and/or upgrading and replacement of infrastructural assets.
- (x) Detail of ongoing operational procedures and maintenance requirements for any water quantity and/or quality control structures or formed features such as ponds/dams.
- (xi) The outcomes of consultation with the Regional Council, Te Rūnanga o Ngāti Kearoa Ngāti Tuarā Trust, Ngāti Whakaue, and Te Arawa Lakes Trust and other affected stakeholders

### **Performance Measures:**

- (b) The site-wide mitigation measures (A5.2.3.4.7(v)) shall comply with the following Performance Standards:

**Comment [NTP3]:** Will need to be applied to A5.2.4.4.4(v) for these performance standards – same as below

#### Downstream storm water effects:

- (i) The on-site storm water management (including mitigation measures) shall achieve no increase in velocity, flood depth and flood extent in the downstream catchment (including the lower Utuhina stream and tributary channels and, the adjacent floodplains) for the storm events listed in A5.2.3.4.7(c)(iv), except in the 0.2% AEP 2130 storm.

#### Natural hazard risk (downstream of the development site)

- (ii) Stormwater effects downstream of the Pukehangi Development Area must not result in an increase in flood risk to:
  - (1) any building(s) that would be functionally compromised;
  - (2) health and safety of people;
  - (3) lifelines.

The risk assessment required in order to demonstrate compliance with this standard shall consider the 10%, 2% 1%, and 0.2%

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(c) AEP 2130 storm events.  
**Methodology – Design Criteria for Mitigation Measures**

The site-wide mitigation measures (A5.2.3.4.7(v)) shall be consistent with the following Design Criteria.

**Comment [NTP4]:** Will need to be applied to A5.2.4.4.4(v) for these performance standards – same as below

- (i) The Soil Conservation Service (SCS) rainfall-runoff method is to be used; runoff curve numbers shall be in accordance with Table 4.1 of the WSP report (Version 2 dated 19 August 2020);
- (ii) Initial abstraction (losses) of 0mm;
- (iii) 72-hour centrally located fully-nested storm profile based on rainfall intensities from the NIWA's HIRDS software;
- (iv) Calculated by the RLC floodplain storm water models and the BOPRC Greater Uthina Catchment Model (the Models) for the following storms:
  - (1) 10% AEP current climate storm;
  - (2) 1% AEP current climate storm;
  - (3) 1% AEP 2130 (RCP 8.5) storm;
  - (4) 2% AEP 2130 current climate storm; and
  - (5) 0.2% AEP 2130 (RCP 8.5) storm.

(v) Overland flow paths

The sizing and location of overland flow paths (originating upstream of the Development Area) shall be designed to take into account the 0.2% AEP 2130 storm, to show that each flow path:

- (1) is of adequate capacity to cope with the anticipated flow; and
- (2) discharges to a location that does not detrimentally affect other properties.

(vi) Secondary flow paths

The design of secondary flow paths (flows originating within the Development Area) shall be designed to take into account the 1% AEP 2130 storm:

The design of secondary flows paths shall consider conditions of total inlet blockage at critical culverts and other critical structures (such as pond and dams) and shall provide for emergency spillways and safe passage of the design storm through private property.

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Flow on roads shall be designed for a depth and velocity (D x V) that demonstrates compliance with the Australian Disaster Resilience Handbook Collection, Guideline 7-3 (Technical flood risk management guideline) or otherwise demonstrates that the carriageway is safely passable by people and by a light vehicle, or that public safety can be protected to an appropriate level.

Secondary flow paths within the Development Area on private property shall be protected by legal easements.

(vii) Dams and ponds

The geotechnical safety and stability of dams and pond structures shall be demonstrated by a suitably qualified and experienced practitioner.

Pond outlet structures shall be configured to ensure adequate drainage rates. As a minimum, 50% of the volume in any pond or dam that is only served by the lowest outlet shall drain in no more than 24 hours. Pond outlet structures shall be suitably protected against debris blockage.

(viii) Geotechnical

The designer shall carry out a geotechnical assessment when considering the large-scale use of infiltration systems including effects on downstream environment.

### **NEW Performance Standard: Joint Applications**

Any subdivision application shall be submitted together with any required applications for discharge and earthworks consents required from Bay of Plenty Regional Council. The subdivision application shall demonstrate:

(i) Compliance with the recommended mitigation measures secured as part of the Stormwater Management Plan; and

(ii) Demonstrate cumulative effects of granting the particular consent on the flood risk to downstream urban areas, when considered together with other previously granted subdivision and discharge consents within the Development Area.