ROTORUA DISTRICT PLAN

TE PŪRONGO WĀHANGA 42A MŌ TE PANONITANGA MAHERE TUAWARU E TŪTOHUTIA ANA (NGA WHAKARITENGA MO NGA TURARU-A-TAIAO –)

SECTION 42A REPORT FOR PROPOSED PLAN CHANGE 8 (NATURAL HAZARDS)

ADDENDUM 2 – Response to Circulated Submitter Evidence and Position Statements

April 2026

CONTENTS

1. INTRODUCTION

1. This addendum to the Section 42A Report for Plan Change 8 (Natural Hazards) ("**PC 8**") to the Rotorua District Plan has been prepared to address matters raised by submitters in expert evidence and position statements circulated prior to the hearing. The addendum is organised by theme, consistent with the analysis of submissions in the Section 42A Report, and should be read in conjunction with that report, as well as Addendum 1, which addresses an oversight in the Section 42A Report for PC 8 relating to the drafting of earthworks standards.
2. This addendum was prepared by Simon Thurston (in relation to wildfire matters) and Kim Smith (in relation to other matters).
3. Updated recommended changes to the annotated text of the District Plan and recommended decisions on submissions are provided in Appendix 1 and Appendix 2 respectively.

2. STRATEGIC DIRECTION

2.1 Objective SDNH-O2

1. The letter tabled by Lisette Balsom on behalf of Waikato Regional Council ("WRC") prior to the hearing continues to request that language about adaptation is included in the policies and objectives of the Strategic Direction section of the District Plan.
2. In the Section 42A Report (section 3.4.4 pages 45-47), I recommended *not* to accept the relief to include "and adaptive" in objective SDNH-O2 sought by WRC as follows (S_15_08):

   > ***SDNH-O2*** *- Land use, subdivision and development are resilient and adaptive to the current and future effects of climate change.*

3. However, WRC disagrees with my reasoning that the concept of resilience is sufficiently broad to encompass adaptive responses. Ms Balsom refers to the following definitions in the National Adaptation Plan 2022:

   > *Resilience - The capacity of interconnected social, economic and ecological systems to cope with a hazardous event, trend or disturbance, by responding or reorganising in ways that maintain their essential function, identity and structure. Resilience is a positive attribute when it allows systems to maintain their capacity to adapt, learn and/or transform*.
   >
   > *Adaptation - In human systems, the process of adjusting to actual or expected climate and its effects, to moderate harm or take advantage of beneficial opportunities. In natural systems, the process of adjusting to actual climate and its effects. Human intervention may help these systems to adjust to expected climate and its effects*.

4. WRC further explains that resilience has a focus around the capacity to cope with risk and the ability to recover from an event while adaptation has a focus around a systemic change to respond to anticipated and actual risk and states that the concepts/processes have distinct definitions, and one is not encompassed by the other.
5. I accept this further explanation given by WRC and now support the inclusion of "adaptive" in the objective and recommend that submission S_15_08 is accepted. I consider that the District Plan forms part of the response to adapting to climate change, providing standards to change design practice as part of the adjustment process.

2.2 Policy SDNH-P1

1. WRC also sought that a clause be added to SDNH-P1 to reference adaptation planning as follows (S_15_9):

> *SDNH-P1: When assessing whether the natural hazard risks associated with subdivision or land use are acceptable, and identifying risks that must be avoided or mitigated:*
>
> 1. *Assess the likelihood and potential consequences of natural hazards affecting the land and any potential to exacerbate risks beyond the site.*
> 2. *Use the best available information, including relevant national and regional guidance.*
> 3. *Take into account:*
>
> *a. The predicted effects of climate change, applying a precautionary approach where the extent of the impact is uncertain.*
>
> *b. Cumulative effects over time and across multiple activities.*
>
> *c. Residual risk, including the potential failure of structural hazard defences.*
>
> *d. For developments undertaken by tangata whenua, the cultural significance of the site or activity, which may justify acceptance of a higher level of natural hazard risk.*
>
> 4. *Promote opportunities to reduce existing natural hazard risks affecting established land uses.*
> 5. *Enable and support short, medium and long term adaptation planning approaches to manage changing climate risks, ensuring that planning decisions remain responsive to evolving hazard information and future climate scenarios.*

2. WRC's letter tabled prior to the hearing continues to support this addition, stating that explicit adaptation planning provisions would strengthen the plan and that:

> *Omitting explicit reference to adaptation planning increases the risk that communities will face ongoing intolerable effects from natural hazards. When the consequences of natural hazards surpass the threshold of tolerable and become intolerable under a resilience framework, the next step is to implement adaptive pathways or undertake adaptation planning. We consider that if the suggested wording is incorporated into the Rotorua Lakes District Plan, it will enable RLC to undertake adaptation planning should risk thresholds be exceeded.*

3. While I consider that the District Plan, through its rules and design standards, assists to provide for adaptation or being "adaptive" and support the corresponding change to the strategic objective SDNH-O2, I continue to recommend that this submission be rejected (section 3.5.2 pages 48-51 of the Section 42A Report).

4. Policy SDNH-P1 is directed at decision-making on individual subdivision and land use activities and is primarily concerned with activity-scale assessment of natural hazard risk for new development. Adaptation planning, particularly in the short, medium and long term as proposed by WRC, is more appropriately undertaken at a strategic level, potentially involving multiple tools not just the District Plan. In my view, this type of strategic planning does not sit comfortably within a policy focused on assessing the acceptability of individual development proposals.

5. I am also concerned that the inclusion of explicit references to future adaptation planning within SDNH-P1 could dilute the intent of the policy by shifting focus away from the need to appropriately avoid or mitigate natural hazard risks at the time of development. In this context, I consider that the matters raised by WRC are already adequately addressed through clause (3)(a) of SDNH-P1, which requires consideration of climate change effects.

3. APPROACH TO HAZARD MAPPING

1. In the Section 42A Report I noted that I was unsure of the relief sought by WRC in relation to inclusion of primary hazard zones in the District Plan (section 3.8.2 pages 54-59 of the Section 42A Report). WRC has now confirmed that primary hazard zones have not been identified for the Rotorua district and, as such, are not required to be considered any further through this plan change.

2. At this stage, I provide no further updates to my recommendations on this matter and continue to support most hazard mapping sitting outside the District Plan, except for geothermal systems and a new Lake Ōkāreka Resilience Area. Submitter evidence relating specifically to the Lake Ōkāreka Resilience Area is addressed in Section 4, below.

4. FLOODING PROVISIONS

4.1 High Lake Levels and Lake Ōkāreka

4.1.1 Static Overlay v Hazard Mapping Sitting Outside the Plan

1. The evidence of Nicole Marshall, Anna McKay and Mark Ivamy on behalf of Bay of Plenty Regional Council ("BOPRC") supports a dynamic flood level around Lake Ōkāreka through the notified rule framework NH-R4, rather than the static overlay I proposed in the Section 42A Report (para 24 Ms Marshall and para 50 Ms McKay). In summary, they provide the following reasons:

    a) Consistency with Method 23A (Review hazard and risk information) of the Bay of Plenty Regional Policy Statement ("BOPRPS"), which requires councils to review and update hazard and risk information whenever relevant research is released (para 23 Ms Marshall).
    b) Consistency with Policy 5 of the National Policy Statement for Natural Hazards (NPS-NH), which directs natural hazard risk to be managed using the best available information (para 26 Ms Marshall, para 22 Mr Ivamy).
    c) Flexibility to adopt evolving best practice in the context of continually evolving science, potential change in management protocols and scheduled review of the BOPRC Rotorua Lakes Design Levels Report around 2030 (paras 23-24 and 28-31 Ms Marshall and paras 45-48 Ms McKay).

2. Method 23A of the BOPRPS states:

    Review and update natural hazard and risk information held by local authorities whenever relevant research is released and, in any case, at the time of plan review or relevant plan change.

3. I interpret this method as directed at hazard information, for example, held in GIS viewers and in reports linked to websites, rather than natural hazard rules. Therefore, I do not agree that it is relevant to the assessment of the options.

4. I agree that hazard maps that sit outside the District Plan can assist to achieve Policy 5 of the NPS-NH. However, consistency with the NPS-NH does not necessitate that flood hazard mapping be excluded from the District Plan. Rather, the key issue is whether the planning framework appropriately enables the use of updated hazard information in assessing risk. This is addressed by the consenting process, which enables consideration of the best available information when consent is triggered, supported by Proposed Strategic Direction Policy SDNH-P1.

5. I also consider that the regional council experts have not fully addressed the implications of applying a dynamic approach in the specific context of a defended area around a lake. As explained in the evidence in chief of Peter Cochrane, the management of lake levels through infrastructure supported by

management protocols is a source of uncertainty and complexity for predicting probabilistic flood levels. As further explained in his rebuttal evidence, there are multiple ways of forecasting high lake levels for lakes with no one 'truth'. In this particular context, I consider there is an ongoing risk that hazard assessment will remain contested, with different professional opinions advanced by different parties at consenting stage. This will also potentially result in reduced certainty about where the rules should apply, and inefficiency and inconsistency in decision-making.

6. Furthermore, in the case of what can be called a 'defended area', planning provisions can be viewed not solely as a response mechanism to natural hazard risk. They also play a role in shaping future development patterns and, in turn, influencing demand for infrastructure. They affect the extent to which the community becomes reliant on infrastructure and associated management practice and the expectation that further investment will be made to maintain, upgrade, or expand that infrastructure over time, with associated cost implications over the long term.

7. Therefore, in the specific context of Lake Ōkāreka, I remain of the view that a non-dynamic overlay is the most appropriate option on which to build planning provisions (section 3.9.2.3 pages 65-70 of the Section 42A Report).

4.1.2 Datum

1. Anna McKay, on behalf of the BOPRC, states that the bespoke provisions I recommended for Lake Ōkāreka in the Section 42A Report (which set an overlay at an elevation set to Moturiki Datum 1953) will increase flood risk compared to the original notified approach. One of the reasons given is that (para 49(ii)):

> *New Zealand Vertical Datum is the standard datum for construction and setting minimum floor levels. The conversion factor from Moturiki Vertical Datum to New Zealand Vertical Datum varies spatially which could result in different minimum floor levels being applied within the High Lake Level Resilience Area*.

2. I am unsure why Ms McKay considers that the datum issue poses more risk in relation to the bespoke provisions that the original notified approach and seek further explanation. The original notified approach requires identification of the 1%AEP flood level (with climate change). The BOPRC Rotorua Lakes Design Levels Report is currently used to identify this level but this also presents elevations in Moturiki Datum 1953.

3. In any case, there may be some benefit in presenting the overlay in New Zealand Vertical Datum 2016 or both the New Zealand Vertical Datum 2016 and Moturiki Datum 1953, once the planning approach is confirmed.

4.1.3 Bespoke Rules

1. It is the opinion of Ms McKay that Rule NH-R4 as originally notified under PC 8 provides a more robust framework to manage flood hazard around Lake Ōkāreka (para 50). In the preceding explanation Ms McKay noted the bespoke rules enable additions, alterations and replacements as a permitted activity subject to performance standards and that this increases risk because it enables activities which increase the asset value and potentially the population exposed to flood risk (through means of additional bedrooms and floor area); and perpetuates existing flood risks of established land uses, through enabling replacement buildings, where these would otherwise have been reduced under the original notified approach after the asset cycle (para 49).

2. A comparison of the approach in the notified provisions and bespoke provisions to the management of development at Lake Ōkāreka is provided in the table below.

Table 4.1.3.1: Comparison of Notified Provisions and Bespoke Provisions for Lake Ōkāreka.

	Notified Provisions	Bespoke Provisions
Buildings of Low Importance	Buildings of low importance are a permitted activity with no performance standards (NH-R4(1)).	Buildings of low importance are a permitted activity and excluded from the floor level performance standard (NH-R5A(1)).
Additions to buildings	Additions less than $20m^2$ are a permitted activity regardless of flood depth at the building site (NH-R4(1)). Additions $\geq 20m^2$ are: • permitted if they meet minimum floor levels where flood depths ≤ 300mm [low flood hazard area] and restricted discretionary if they do not (NH-R4(2) and NH-R4(3)). • restricted discretionary if flood depths > 300mm [high flood hazard area] (NH-R4(4)).	Additions and alterations are permitted provided there is no increase in building importance level, regardless of the size of the addition and flood depths, provided only that, for building importance level > 1, the minimum floor level is at least at the elevation of the existing building (NH-R5A(1)).
Replacement buildings	Not identified as a separate activity – refer to new buildings below.	Replacement of an existing building with building for same or lower building importance level is a permitted activity if minimum floor levels are met (NH-R5A(1)).
New buildings	New buildings (excluding buildings of low importance) are: • permitted if they meet minimum floor levels where flood depths ≤ 300mm [low flood hazard area] and restricted discretionary if they do not (NH-R4(2) and NH-R4(3)). • restricted discretionary if flood depths > 300mm [high flood hazard area] (NH-R4(4)).	New buildings with an importance level > 1 are assessed as a discretionary activity (NH- R5A(3)). Policy NH-PBA is relevant - new residential development and other activities that would significantly increase exposure is to be avoided in the identified resilience area.

3. The analysis in the table shows that:

   - Buildings of low importance are permitted under both approaches.
   - For additions < $20m^2$ (to buildings of importance level >1), there is likely to be little difference in practice. The bespoke provisions require that the floor level is at least as high as the existing building but this would not normally be an issue.
   - For additions > $20m^2$ the bespoke provisions are less restrictive as no consent is needed provided that the minimum floor area is at least as high as the existing building.
   - For replacement buildings in the low flood hazard area, there is likely to be little difference in practice. Under the bespoke provisions, replacement buildings with the same or lower importance level are expressly provided for as a permitted activity. While there are no specific provisions under the notified version, the approach would be the same. Buildings that do not meet the minimum floor levels would be restricted discretionary activities under both approaches.

- The bespoke provisions are more permissive for replacement buildings where flood depths > 300mm (called the 'high flood hazard area' in the Section 42A Report). In the high flood hazard area, replacement buildings are permitted if minimum floor levels are met under the bespoke provisions but restricted discretionary under the notified provisions.
- However, the bespoke provisions are more restrictive for new buildings with an importance level >1. In the notified provisions, these are potentially permitted provided minimum floor levels are met in low flood hazard areas (likely to be most common) and restricted discretionary in the high flood hazard area. However, under the bespoke provisions, these are discretionary activities throughout the whole area and there is no permitted pathway for new residential buildings and other buildings with an importance level > 1 by meeting minimum floor levels. Policy NH-PBA is also more directive and difficult to overcome.

4. In my view, although the bespoke provisions are more permissive for additions and replacements in some circumstances, these activities generally consolidate existing development rather than introduce new exposure. By contrast, the bespoke provisions are more restrictive in relation to new buildings and new residential development across the entire resilience area by removing any permitted pathway for buildings with an importance level greater than 1 and by introducing a strongly directive policy (NH-PBA) that seeks to avoid development that would significantly increase exposure. In recommending this approach, it was my view that constraining new development that would lock in increased exposure and future reliance on flood management infrastructure, is a proportionate and robust response to flood hazard at Lake Ōkāreka, which would also provide additional certainty for continued use (with possibility of some redevelopment) of existing properties.
5. In this regard, I also do not agree with the evidence of Mark Ivamy (para 22) that the notified approach to flood management across Lake Ōkāreka is more appropriate in terms of RPS Policy IR 1B, which requires a precautionary approach where there is scientific uncertainty and a threat of serious adverse effects on the built environment.

4.2 Other Flood Mapping Concerns

1. I continue to support the recommendation that no further changes to the District Plan (or to the hazard mapping sitting outside the District Plan) are needed to address the concerns relating to 40 Marguerita Street (submission S_43_01) and note that, following site visits and discussions between Fonterra and RLC staff and experts, Fonterra now accepts there is no error in the flood hazard mapping shown in the Western Catchment Flood Model in relation to this property (refer to the letter tabled by Graeme Mathieson, setting out Fonterra's position).

4.3 Overland Flowpaths

1. PC 8 proposes new Rule NH-R5 to limit the potential effects of buildings and structures on overland flowpaths. This is proposed to apply to specific more densely developed zones (Residential zones, City Centre Zones, Commercial Zones, Industrial Zones and Business and Innovation Zones). The rule requires consent as a restricted discretionary activity for buildings and structures that result in a change to the entry point or exit point of an overland flowpath on a site, pipes or reduces the capacity of an overland flowpath. Similar performance standards for earthworks in EW-S1 and Rule 5.0 for the Lakes A Zone are also proposed to apply to the same more densely developed zones, also requiring that earthworks shall not change the size of a catchment. A related amendment to the definition of "overland flowpath" was also proposed, stating that overland flowpaths referred to in rules and performance standards shall be limited to those with a catchment of 4000m^2 or more.

2. Submissions and further submissions were received on several matters relating to Rule NH-R5 and the similar earthwork performance standards. I continue to support my recommendations in the Section 42A Report in relation to most matters.

3. However, having considered the evidence of Ms McKay and Ms Marshall for BOPRC I have reconsidered my recommendation as to the zones to which these rules and performance standards apply (submissions S_45_23 and S_45_31 BOPRC, F_42_19 Kāinga Ora, F_43_05 and F_43_06 Fonterra). I agree with Ms McKay and Ms Marshall that the Rural 2 Zone is an appropriate spatial layer for these rules and standards for the following reasons given in their evidence:

    - these zones also enable concentration of buildings which presents risk similar to the reasons for why the rules and standards were proposed for urban areas; and
    - the 4000m^2 catchment threshold provides a targeted risk-based approach.

4. I note that Fonterra's position statement supported the exclusion of Rural Zones from the rule and performance standards and I have alerted this submitter to the change in my recommendation.

5. WILDFIRE PROVISIONS

5.1 Firefighting Water Supply Requirements

5.1.1 Where Firefighting Water Supply Requirements Apply

1. The focus of the submission and the evidence on behalf of Fire and Emergency New Zealand (FENZ) are in relation to the proposed PC 8 provisions relating to firefighting water supply, in particular the provisions that exempt water supply needing to be provided at the time of subdivision and land use in the Rural 1 zone and the Reserve 1 (Conservation) zone.

2. The Section 32 Report explained that fire-fighting water supply requirements were proposed to be focused on more densely populated zones, where the risks of wildfires starting, and the consequences, are higher due to greater population. At the same time, PC 8 proposed to extend firefighting water supply requirements to apply, not just at subdivision, but also at land use (section 7.8.2 pages 55-57 of the Section 32 Report).

3. It is noted, however, that in the annotated District Plan text changes attached to the Section 32 Report the intended focus on more densely populated development zones was not carried through to the land use rules for Rural Zones, but this intent is clear in the Section 32 Report itself and has now been carried through to the updated track changes in the appendix to this addendum.

4. Alec Duncan, on behalf of FENZ, considers an adequate firefighting water supply essential across all zones, including rural and low-density areas. She considers that limiting this requirement could create long-term service gaps and reduce their ability to respond effectively to both structural fires and wildfires, particularly in areas with higher wildfire risk and access constraints.

5. Ms Duncan's evidence states that the Rural 1 zone represents 72.6% of the district and the Reserve 1 (Conservation) zone represents 4.891% of the district. As part of her evidence Ms Duncan provided a map showing widespread incidents in the Rotorua district from 2015 to 2026.

6. Based on her experience working with FENZ, she states that fires can start anywhere, and she believes that relying on population density as the primary factor for ignition risk and operational effectiveness of providing a firefighting water supply is misplaced. She also states that longer response times also make on-site firefighting water supply more, not less, critical outside dense zones. Later in her evidence she further explains that in unreticulated areas like the Rural 1 Zone and the Conservation (Reserve 1) Zone, providing a dedicated, accessible firefighting water supply is critical because fire appliances carry limited

water (approximately 2,000L) and tanker shuttles can be slower and capacity constrained (para51). In her opinion, requiring firefighting water supply supports community health and safety and gives effect to the purpose of section 5 of the Resource Management Act 1991.

7. I consider that there are three potential purposes for firefighting water supply:
    a. Reducing damage to a structure once it is on fire.
    b. Managing structural fires to preventing them spreading into a wildfire which could damage other property beyond the structure.
    c. Protecting a structure from an approaching wildfire.
8. My interpretation of Ms Duncan's evidence is that the case for firefighting water supply is advanced primarily in relation to purpose b and c in the case of the zones not proposed to be covered by PC8 (structural fires are discussed with language focusing on containment – refer to para 54).
9. While I acknowledge the map of 'incidents' may suggest ignition risk is dispersed (noting that the detail about these 'incidents' is not provided), the evidence does not fully explain how a requirement for dispersed, on-site water tanks across less densely developed areas would function as an effective firefighting resource in relation to purpose b) and c). In particular, the evidence does not demonstrate how such supplies would be accessed or relied upon, or how they materially reduce risk to neighbouring properties or the wider environment. Nor does it examine whether requiring on-site water supply in all locations represents a proportionate response, having regard to local wildfire risk, development intensity (assets exposed), or the role of alternative mitigation measures. These matters are relevant when assessing whether a blanket regulatory requirement is necessary and efficient at a district-wide plan level.
10. At present, I am not convinced that requiring firefighting water supply throughout the entire district, in particular the Rural 1 and Reserve 1 zone is a proportionate response to the level of risk and at present I maintain my original approach as detailed in the Section 42A Report, which concentrates on more densely populated areas (section 3.10.2.3 pages 100-104 of the Section 42A Report). Should more evidence be presented at the hearing I would be willing to consider this further.

5.1.2 Land Use Activities Subject to Firefighting Water Supply Requirements

1. FENZ have requested amendments to the rules for activities to apply performance standard RURZ-S5A to all new buildings across Rural 1 zone, Rural 2 Zone and Rural 3 Zone, and that failure to comply with this performance standard should result in a restricted discretionary activity status, with a matter of discretion being "the extent of consistency with the requirements of the New Zealand Fire Service Firefighting Water Supplies Code of Practice SNZ PAS 4509: 2008" (S_07_15 and Attachment 2, Evidence Ms Duncan).
2. I believe that applying such a blanket requirement will create implementation and monitoring difficulties and risks imposing disproportionate costs where the fire risk does not justify the level of infrastructure required. Should this approach be adopted, I am concerned that this would capture, for example, a small storage building of little value and with contents and use that has limited risk of fire.

6. FAULT RUPTURE PROVISIONS

1. Fault rupture provisions have not been a focus of submitter evidence received and, at this stage, aside from a minor formatting issue as explained below, there is no need to update my recommendations.

2. Mark Ivamy on behalf of BOPRC noted that sub-clause a) of NH-R2 uses letters when it should use roman numerals and sub-clause b) is given as a) by mistake. This has been corrected in the updated annotated text (Appendix 1).

7. LAND STABILITY HAZARDS PROVISIONS

7.1 Policy NH-P2

1. BOPRC's submission sought amendments to the wording of Policy NH-P2. This change aligns with wording changes sought by BOPRC to other provisions and would also extend the policy to land use activities (S_45_16):

> ***Land Stability Hazards***
>
> *NH-P2 Require an assessment of slope stability and ground condition hazards (including landslides, liquefaction and soft, compressible soils), associated risks and mitigation options, for sites proposed to be used subdivision, land use and/or development ~~sites proposed to be subdivided for development~~. The assessment shall be undertaken by a suitably qualified and experienced person and appropriate to the site's hazard susceptibility and risks.*

2. In the Section 42A Report, I recommended that this submission be rejected (section 3.12.2.1 pages 129-131). I explained that the policy is intended to reflect the performance standards that apply at subdivision and no equivalent performance standards apply at land use. Rather, assessment under the Building Act and earthworks standards is the key means by which land stability hazards are managed. I noted that section 106A of the RMA now also provides a consent authority the power to refuse a land use consent, or impose conditions, if it considers that there is a significant risk from natural hazards including from land instability. However, I stated that this need not be reflected in the policies as the power sits outside the District Plan.

3. The evidence of Anna McKay and Nicole Marshall on behalf of BOPRC continues to support the extension of this policy to land use (para 51 Ms McKay and para 55 Ms Marshall). Ms McKay states that it is common to receive standalone land use applications for land use that has already been subdivided and, if there is a land stability risk present on the site, it is necessary to assess the activity's effects on land stability at the time of land use consent (para 21). Ms McKay also states that many structures such as pools, plumbing and drainage structures, platforms, decks, bridges and others do not require building consent under Schedule 1 of the Building Act 2004 but can adversely impact land stability through the following mechanisms (para 18):

    - Modified slope geometry from preparatory earthworks (within proposed permitted thresholds)
    - Changes in hydrological regime and introduction of concentrated stormwater discharges directly into or onto ground near land stability hazard,
    - Increased surcharge on or near slopes
    - Vibrational effects during construction, and
    - Cumulative effects over time.

4. Ms Marshall notes that where stability risk is not well defined at subdivision consent, there is an increased reliance on provisions applying to land use activities to appropriately manage the land stability effects and that not all development involves subdivision (para 53). She considers that it is unclear why other natural hazard policies refer to both land use and subdivision but the land stability policy is focused on subdivision (para 54).

5. I agree with Ms McKay and Ms Marshall that land use activities may occur that have not been considered through the subdivision process and are not subject to building consent and, in this context, land use

provisions provide an opportunity for management. However, the list of examples provided by Ms McKay may overstate the extent of this issue. Swimming pools, decks, platforms, bridges are subject to thresholds and conditions under Schedule 1 of the Building Act 2004 and will require supervision by a building consent where those thresholds are exceeded. In the case of plumbing and drainage, it is my understanding that exemptions are generally limited to minor repairs, maintenance, or alterations to existing systems. As such, while there may be instances where land use effects have not previously been assessed, this is likely to be more limited and case-specific than suggested in the evidence, rather than indicative of a widespread regulatory gap.

6. I have also confirmed with our land development team that land use applications do, from time to time, involve activities that raise land stability issues that are addressed under general discretions. This is primarily a matter of timing, where a land use consent is sought before a building consent is lodged. In these circumstances, it is considered to be in the interest of all parties for natural hazard risks to be identified alongside other land use planning issues where possible, rather than being deferred to a later stage in the development process.

7. On this basis, I agree that some amendment of the policies is required to reflect the methods. However, I suggest the following wording would provide greater detail and alignment between policies and methods:

> ***NH-P2 – Land stability hazards***
> *Manage the risks to people and property associated with land stability hazards by:*
>
> 1. ~~*Require*~~ *Requiring an assessment of slope stability and ground condition hazards (including landslides, liquefaction and soft, compressible soils), associated risks and mitigation options, for sites proposed to be subdivided for development. The assessment shall be undertaken by a suitably qualified and experienced person and appropriate to the site's hazard susceptibility and risks;*~~:~~
> 2. *Applying earthworks standards and controls; and*
> 3. *Identifying where land use activities that require consent may give rise to land stability risks and requiring consideration of those risks where relevant.*

8. GEOTHERMAL HAZARD PROVISIONS

8.1 Building Conversions

1. BOPRC's submission expressed concern that the rules requiring assessment of geothermal hazards and mitigation options did not capture conversion of non-habitable buildings to habitable spaces that do not require building consent. BOPRC sought that the heading of NH-R8 is amended to include conversions from non-habitable buildings and, if NH-R8(4) is retained, that the 'where' statement include a non-habitable building which is being converted to a residential use (S_45_26).

2. In the Section 42A Report, I acknowledged that habitable spaces are more likely to be insulated and sealed, allowing geothermal gases to accumulate. I also acknowledged that occupants of habitable spaces are more likely to experience adverse health effects from uncomfortable temperatures when spending extended periods of time in those spaces, particularly when sleeping; and that habitable spaces are typically associated with higher value structures, contents, and activities, meaning the potential consequences of damage or loss of function may be greater. I further acknowledged that the recent RLC *Guidelines for Identifying and Designing for Geothermal Hazards* also supported consideration of geothermal hazards at the time of conversion, for example, in the case of basement conversions (section 3.13.2.4 pages 143-144 of the Section 42A Report).

3. Notwithstanding, I recommended that conversion of building spaces from non-habitable to habitable not be addressed through rules because:

    - Many building conversions may involve little physical work to trigger regulatory processes that enable the consideration of natural hazard risks and monitoring of compliance.
    - While there are potential risks associated with conversions of existing non-habitable buildings or spaces, these are likely to be relatively low. As the building or space already exists, any geothermal hazards are likely to have already affected the building or occupants and to have been understood over time.

4. However, in the event that the Hearings Panel wished to consider this issue further, I recommended in the Section 42A Report that any extension of the rule should be limited to circumstances where a building consent or a Project Information Memorandum (PIM) is required as part of this conversion.

5. The planning evidence of Nicole Marshall on behalf of BOPRC advises that a focus on conversion activities requiring building consent or PIM is acceptable to BOPRC. Ms Marshall states that while it does not fully address the concerns raised in BOPRC's submission (as some conversions may not require a building consent or PIM), it is a reasonable and proportionate response to the issue and aligns with the precautionary approach in Policy IR 1B of the RPS as outlined in Mr Ivamy's evidence (refer to paragraph 14) by allowing geothermal hazard risks to be considered where relevant.

6. However, I remain of the view that the risks associated with conversion of non-habitable spaces to habitable use are likely to be low and that there would be limited value in extending Rule NH-R8 to capture these activities. While Policy IR 1B of the BOPRPS promotes a precautionary approach where information is uncertain or incomplete, the application of precaution should also be proportionate to the scale and likelihood of potential effects.

7. It is also my understanding that the recent changes relating to small standalone dwellings ('granny flats') provide the main example where a Project Information Memorandum (PIM) may be required in place of a building consent. These provisions apply to the construction of new dwellings rather than to the conversion of existing non-habitable spaces within buildings and are already recommended to be addressed.

8. Where a building consent is sought for works that could give rise to geothermal hazard concerns, the Building Code continues to provide a mechanism for managing risks to building occupants. Relevant compliance clauses within the Building Code relating to hazardous agents, including heat and gas, as outlined in the Section 32 Report (section 11.5.2 page 102).

9. Should the Hearings Panel support the position advanced by BOPRC, I request the opportunity to provide alternative drafting to ensure that any amendment to Rule NH-R8 uses terms that correspond to those in the definitions and there is no ambiguity about application of the rule being confined to when a building consent or PIM is required.

APPENDICES

Appendix 1: Updated Recommended Changes to the District Plan Text.
Appendix 2: Updated recommended decisions on submissions.