

**BEFORE THE WELLINGTON CITY COUNCIL**

**UNDER**

Schedule 1 of the Resource  
Management Act 1991

**AND**

**IN THE MATTER**

the Proposed Wellington City  
Council District Plan

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**STATEMENT OF EVIDENCE OF**

**JAMES GARY BEBAN**

**30 JUNE 2023**

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## 1.0 QUALIFICATIONS AND EXPERIENCE

1.1 My name is James Gary Beban. I am a Director at Urban Edge Planning Limited. I have over 19 years' experience as a Resource Management Planner including over 13 years' experience specialising in providing advice and assisting local government in managing their land use activities in relation to the Resource Management Act 1991 and in undertaking research in the field of natural hazard management and land use planning.

1.2 My experience includes:

- Preparing a number of natural hazard focussed District Plan chapters and changes for local government, including the Porirua City Council Natural Hazards and Coastal Hazards provisions, the Waimakariri Natural Hazards and Coastal Hazards provisions, the Pinehaven Stream and Mangaroa River Flood Hazards Plan Change, and the Natural Hazards Plan Change (Plan Change 47) for Upper Hutt City Council. I am currently drafting the Hutt City Council Natural Hazards and Coastal Hazards provisions for their draft District Plan;
- Co-drafting non-statutory national guidance on tsunami hazards;
- Undertaking several research projects over a number of years under the 'Its Our Fault' Research Program, investigating the role of land use planning and how to reduce the risk under the RMA and other legislation;
- Undertake research as a co-author into incorporating vulnerability into land use planning as part of a National Science Challenge funding project with Centre for Public Health at Massey University;
- Being a co-author in the development of the risk-based framework for land use planning for natural hazards; and
- Co-authoring a number of published papers on addressing natural hazard risk under the New Zealand legislative framework.

1.3 I was the author of the Proposed District Plan provisions for Natural Hazard and Coastal Hazard and the associated Section 32 assessment for Wellington City Council.

1.4 I hold a Bachelor of Science Degree (*Hons*) from Victoria University, Wellington, which I completed in 2002.

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- 1.5 I have read, and am familiar with, the Code of Conduct for Expert Witnesses in the Environment Court of New Zealand Practice Note 2023. Unless where stated within my report, the evidence which I present is within my area of expertise.

## **2.0 POTENTIAL CONFLICT OF INTEREST DECLARATION**

- 2.1 I would like to bring to the panel's attention, two potential perceived conflicts of interest associated with this plan change.

### **Toka Tu Ake / EQC**

- 2.2 Toka Tu Ake/EQC is a submitter on the Proposed District Plan.
- 2.3 Urban Edge Planning is currently assisting Toka Tu Ake/EQC in a program of work that aims at meeting the organisation's requirements to other ministries within government. I am personally assisting Toka Tu Ake/EQC with their role in meeting the requirements with the Ministry for the Environment. Due to the confidential nature of this work, I cannot provide any further details to the panel, other than to note that the focus of the work is at a national level as opposed to a city council level. This piece of work started in March this year, well after the lodgement of Toka Tu Ake/EQC's submission on the Proposed District Plan.
- 2.4 As an organisation we (UEP) have not been involved in any submission work for Toka Tu Ake/EQC other than peer reviewing a submission that was lodged on the Christchurch City Council IPI process. This peer review was undertaken by Sarah Gunnell of Urban Edge Planning and I have not been involved with this work.
- 2.5 At no time during my work for Toka Tu Ake/EQC has its submission on the Wellington City Council PDP or proposed changes to the chapters been discussed.

### **Greater Wellington Regional Council**

- 2.6 Greater Wellington Regional Council is a submitter on the Proposed District Plan
- 2.7 Urban Edge Planning is assisting Greater Wellington Regional Council with the writing of their hearing evidence for Proposed Plan Change 1 to the Regional Policy Statement. This hearing is being held at the end of August 2023. This work has been led by Sarah Gunnell of UEP. Sarah has not been involved in the Wellington City Council work at all.

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## **Conclusion**

- 2.8 I can confirm that Urban Edge Planning was not working with either Toka Tu Ake/EQC or GWRC at the time of preparing the objective, policy, and rule frameworks and Section 32 analysis for this Proposed District Plan.
- 2.9 I am therefore confident that while there may be a perceived conflict of interest, there has not been any actual conflict. The decisions that have been reached on submission matters are independent and have been reached on their own merits. They have not been influenced by any of these other two work programs.

## **3.0 MATTERS COVERED IN THE EVIDENCE**

- 3.1 Within my evidence, drawing on my experience with these matters, I provide supporting information and advice with respect to substantial strategic changes to the proposed natural hazard and coastal hazard provisions. I will also provide some background to certain decisions that were made at the time of the provisions being drafted to assist both the s42A reporting planner and the Panel. Specifically, my evidence will cover the following:
- The rationale for the revised hazard ranking for liquefaction;
  - The advice provided in response to the various GWRC submission points seeking a shift in policy direct to minimising natural hazard risk;
  - The rationale for the revised fault rupture hazard provision framework;
  - The sea level modelling that was used and how this related to guidance at the time of notification;
  - The reasons for not including rural flood hazard modelling in the Proposed District Plan; and
  - The reasons for not including a slope stability overlay within the Proposed District Plan.
- 3.2 I would like to emphasize that the recommendations for any changes to the proposed Natural Hazards and Coastal Hazards provisions have been determined by Mr Jamie Sirl, Senior Policy Planner, Wellington City Council. While I have assisted in testing the

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resulting outcomes from these suggested changes, the final recommendations have been independently determined by Mr Sirl, regardless of my position on the matter.

#### **4.0 LIQUEFACTION HAZARD**

4.1 The Liquefaction Hazard Overlay is based on the susceptibility maps produced by GNS Science in 2020. Specifically, it was decided that a land use planning response was required for those areas of the City that have a high and very high susceptibility to liquefaction. These layers were chosen as it means that in the event of significant ground shaking, these are the soils that are most likely to experience liquefaction.

4.2 It is important to note that high susceptibility does not equate to high hazard for the purpose of the Proposed District Plan hazard ranking. When the hazard rankings from a District Plan perspective were determined, a number of matters were considered, including:

- Any national statutory or non-statutory guidance on the hazard and any corresponding hazard ranking provided in this guidance;
- The potential risk to life from the natural hazard;
- The potential for disruption to economic activity when considering the City as a whole;
- The likelihood of the hazard;
- Whether the hazard is addressed by any other legislative response (for example the Building Act 2004); and
- The potential for interventions to occur which may lessen the severity or extent of this hazard, (for example is response to Sea Level Rise).

4.3 When the proposed District Plan was notified, a hazard ranking table was provided in the Introduction section of the Natural Hazards Chapter. Within this table, liquefaction hazard is identified as a high hazard area.

4.4 This table was taken from the Section 32 report, which incorrectly identifies the liquefaction hazard as a high hazard. This is an error and the liquefaction hazard should be identified as a low hazard. The main reasons for this corrected hazard ranking are:

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- It is not a hazard that presents a significant risk to life; and
  - For a number of potential development scenarios, it is addressed under the Building Act 2004.

4.5 This low hazard ranking is reflected in the proposed provisions, which take a less restrictive approach to managing liquefaction hazards within the City commensurate with the low hazard ranking. In particular, the proposed policy and rule framework only applies to emergency facilities, as these activities have a critical post natural hazard function, and it is important that there is access to and from these facilities, both during and after a natural hazard event.

4.6 If it had been intended to classify the Liquefaction Overlay as a High Hazard Area, the District Plan would have included an avoid policy framework (as is common for all the other High Hazard Areas) and would have sought to control a wider range of activities than what the current framework proposes to manage.

4.7 I do not consider that there are any unintended consequences from correcting this table so that the Liquefaction Hazard is recognised as a Low Hazard Area for the purpose of the Proposed District Plan. Rather, I see this change as correcting the table in the Section 32 Report to reflect the intended hazard ranking for this natural hazard.

## **5.0 CHANGES TO THE POLICY DIRECTION FOR LOW AND MEDIUM HAZARD AREAS IN RESPONSE TO THE GREATER WELLINGTON REGIONAL COUNCIL SUBMISSION.**

5.1 The notified PDP Natural Hazard and Coastal Hazard provisions include policy direction for low, medium and high hazard areas to 'reduce or not increase the risk from development'.

5.2 I am advised that during the notification period, the resource consents team found challenges with implementing this policy direction, specifically the 'no increase' aspect of the policy. This aspect of the policy was resulting in a quasi-avoid policy, which was not the intent of the policy approach. Particularly, as in the Medium Coastal Hazard Areas there is an intent that, providing the hazard risk can be mitigated, then the development can proceed. As such, there is validity to this concern raised by the resource consents team.

5.3 Through the submission process GWRC sought to replace 'reduce or do not increase'

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with the word 'minimise', with this terming meaning to reduce as far as practicable. This submission point was supported by EQC.

- 5.4 Mr Sirl has sought my advice on these submissions and the feedback from the resource consents team on the implementation of the policy framework.
- 5.5 A change to a "minimise" policy in low or medium hazard areas would recognise the difference in the hazard risk profile between the different hazard areas and better align with the intended direction for future development within these areas. This approach would also recognise that there will be residual risk in the low and medium hazard areas. However, a new requirement to minimise the risk from the hazard ensures that all reasonable options to address the risk have been considered and implemented as part of a development.
- 5.6 It still consider it inappropriate to use the term minimise in the high hazard areas outside of the Central City Zone, as this would allow for development to occur. This is because the definition of minimise would only require the level of risk to be reduced as far as practicable. As such, this could create the possibility for new development to occur in the high hazard areas. Given the hazard profile of the high hazard areas, I do not support this approach.
- 5.7 I am of the view that it is appropriate that the term minimise is used for the High Hazard Area for the Central City Zone. Policy 27 of the New Zealand Coastal Policy Statement provides an alternative approach to reduce risk in areas of significant investment. The minimise approach will still ensure that the risk from coastal hazards are reduced. However, it is not possible to relocate the Central City Zone, and given the economic, social, and cultural importance of this zone, it is appropriate that development minimise the risk as opposed to avoiding or reducing existing risk.
- 5.8 With the low and medium hazard areas, this revised policy direction provides greater clarity to plan users and decision makers regarding the appropriateness of future development. The previous policy direction had the potential to set a threshold that could be considered to be too high to meet. The term minimise still allows for development to occur, but only where the resulting risk has been minimised as far as practicable. I consider this to be a more appropriate test for new development commensurate with the low or medium hazard risk.
- 5.9 The revised policy wording is considered to be consistent with Policy 51 of the RPS and Policy 27 of the NZCPS.

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5.10 It is considered that this revised policy approach is consistent with Sections 6(h) and 31 of the Resource Management Act 1991. In particular, the revised approach allows for the management of significant natural hazard risk, as well as the avoidance and mitigation of natural hazards.

## **6.0 REVISED FAULT HAZARD FRAMEWORK**

6.1 Upon receipt of the submissions, Mr Sirl sought my opinion on refining the provisions pertaining to the various faults in accordance with the relief sought within the submissions.

6.2 The submissions received from Toka Tu Ake/EQC, GWRC and Ms Vermaey questioned the proposed district plan approach, particularly in reference to the additional development potential in the Wellington Fault Overlay as the submissions seek further refinement of the policies and rules to recognise the different understandings on the confidence of the position of the various faults.

6.3 When considering the matters raised in the submissions, I had regard to relevant guidance from the Ministry for the Environment ('Ministry for the Environment – Planning for development of land on or close to active faults – A guideline to assist resource management planners in New Zealand 2003'). These guidelines represent the current New Zealand based best practice for land use planning around active faults.

6.4 The land use planning approach under these guidelines is a combination of the following:

- The classification of a fault (based on the average return period for fault rupture);
- The classification of the building to be constructed on the fault, based on the Building Code classification of buildings; and
- The known understanding of the position of the fault.

6.5 Essentially, the lower the fault classification (i.e. the more frequent the fault rupture), the higher the classification of the building, and the more well-known the position of the fault, the more restrictive the District Plan provisions. Conversely, the higher the fault classification (i.e. the less frequent the fault rupture), the lower the classification of the building, and the less well understood the position of the fault, the more permissive the provisions.



6.6 I agree with the submitters that it is possible to refine the policies and rules pertaining to fault rupture, so that they reflect the known understanding of the position of the fault. The revised provisions are outlined in Appendix A of the s.42 assessment by Mr Sirl. The proposed amendments to the policies and rules reflect the known location of the faults and the return periods of the faults, as per the approach set out by the MfE guidelines. The approach has been modified to reflect the risk based approach under the Proposed District Plan. This means that instead of relying on the building code classification, it uses the approach to hazard sensitive activities, potentially hazard sensitive activities and least hazard sensitive activities.

6.7 The proposed approach seeks to have more restrictive provisions, where the fault has a shorter return period, the position of the fault is well known and the activity sensitivity is high. Conversely, the approach becomes more permissive as the above factors reduce. The revised approach is summarised in Tables 1 and 2 below:

Table 1 – Policy direction for the Fault Hazard Overlays

	<b>Less Sensitive Activity</b>	<b>Potentially Sensitive Activity</b>	<b>Hazard Sensitive Activity</b>
<b>Wellington Fault Overlay and Ohariu Fault Overlay– Well defined or well defined extensions</b>	Allow	Avoid	Avoid
<b>Wellington Fault Overlay and Ohariu Fault Overlay – poorly constrained, uncertain constrained and distributed</b>	Allow	Provide for	Provide for
<b>Terawhiti Fault Overlay</b>	Allow	Allow	Allow (with the exception to a limited number of activities)
<b>Shepherds Gully Fault Overlay</b>	Allow	Allow	Allow (with the exception to a limited number of activities)

Table 2 – Activity status for applications for the Fault Hazard Overlays

	<b>Less Sensitive Activity</b>	<b>Potentially Sensitive Activity</b>	<b>Hazard Sensitive Activity</b>
<b>Wellington Fault Overlay and Ohariu Fault Overlay– Well defined or well defined extensions</b>	Permitted	Non-Complying	Non-Complying
<b>Wellington Fault Overlay and Ohariu Fault Overlay – poorly constrained, uncertain constrained and distributed</b>	Permitted	Restricted Discretionary	Restricted Discretionary
<b>Terawhiti Fault Overlay</b>	Permitted	Permitted	Restricted Discretion (limited to named activities)
<b>Shepherds Gully Fault Overlay</b>	Permitted	Permitted	Restricted Discretion (limited to named activities)

6.8 The revised framework modifies the notified provisions in the following way:

- The revised provisions do not allow for a second residential unit on any site within the well-defined areas of the Wellington Fault Overlay and Ohariu Fault Overlay as a permitted activity.
- The revised framework is less restrictive for the poorly constrained, uncertain constrained and distributed areas of the Wellington and Ohariu Fault Overlays. This recognises the lesser understanding of the position of the fault in respect to these areas. In particular, resource consents are a restricted discretionary activity in these areas of the Fault Hazard Overlays as opposed to the initially proposed non-complying activity status (which was supported by an avoid policy).

6.9 The revised framework does not significantly alter the provisions for the Terawhiti Fault Overlay or Shepherds Gully Fault Overlay. Any changes made to these provisions have been in response to submissions as outlined in Mr Sirl’s evidence.

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6.10 I am of the view that the revised provisions better implement a risk-based approach to the management of natural hazard risk in relation to fault hazards. The revised provisions are consistent with high order direction, national guidance on this hazard and achieves the purpose of Section 6(h) of the RMA.

## **7.0 SEA LEVEL RISE MODELLING**

7.1 The proposed District Plan maps relating to Sea Level Rise account for a Sea Level Rise of 1.43m (RCP 8.5) and include the impacts from a 1% Annual Exceedance Probability storm, accounting for climate change. The proposed modelling took into account Vertical Land Movement as per the 2017 Ministry for the Environment guidance at the time.

7.2 In August 2022, an update was issued to the 2017 Ministry for the Environment guidance, which specifically related to the modelling of sea level rise in New Zealand. This update was published after Wellington City Council maps were notified.

7.3 I understand from Mr Andrews from NIWA that revised modelling to reflect the current guidelines would increase the modelled sea level rise scenario by 0.61m. This would result in a number of properties being included within the coastal inundation extent, including sea level rise, that were not included in the mapped extent that was notified.

7.4 As a result the PDP coastal inundation extent with sea level rise and 1:100 storm event overlay represents a smaller area of inundation than what the national guidance would suggest to map. Regardless of this discrepancy, the PDP coastal inundation overlays represent the best practice at the time of the notification and represent the best current information that is held by the Council. It is my view that retaining the notified maps represents an outcome that is consistent with Section 6(h) of the Act and the New Zealand Coastal Policy Statement 2010.

7.5 I am also of the view that this issue can be rectified through a future plan change, where impacted parties can be appropriately consulted on the revised coastal extent maps incorporating sea level rise.

## **8.0 RURAL FLOOD MODELLING**

8.1 In their submission GWRC request to include rural flood maps within the Proposed District Plan.

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- 8.2 I agree that flood hazards are not limited to the urban environment and there is a likelihood of flooding along the Makara Stream and Ohariu Stream. However, at the time of notifying the Proposed District Plan there were no flood hazard maps for the rural environment that were prepared to a sufficient level of robustness to be included within the District Plan maps. I acknowledge that there are susceptibility maps for the rural catchments that have been prepared by GWRC, however it is my understanding that these are relatively high level maps that have not been prepared to a comparable level as the urban environment maps prepared by Wellington Water Limited.
- 8.3 I am of the opinion that, if better quality rural flood hazard maps became available after the receipt of submissions, it would not be appropriate to introduce these maps at the hearing stage of the process. Those properties that would be impacted by the newly introduced flood hazard overlays would not have had the opportunity to submit on either the extent of the flood hazard, or the provisions that would impact their properties. It is my view that this represents a significant process issue.
- 8.4 I am of the opinion that once sufficient modelling is undertaken for rural streams and robust rural flood hazard maps are available, then these can be brought into the District Plan through a separate plan change process.

## **9.0 SLOPE STABILITY MAPS**

- 9.1 Greater Wellington Regional Council and Toka Tu Ake/EQC in their respective submissions request to include slope hazard maps within the Proposed District Plan.
- 9.2 At the start of the Proposed District Plan review it was decided that slope stability issues would be addressed through the proposed earthworks provisions and that there would not be a specific slope hazard overlay. At the time of drafting the provisions this was a relatively common approach to the management of slope hazards through a District Plan.
- 9.3 Within the last 12 months, I have observed amongst my peers there has been an evolution in the thinking around how District Plans should manage slope hazards,. This evolution has been driven by the large flood events in Nelson in 2022 and in Auckland, Gisborne and Hawkes Bay in 2023 and the very wet Wellington conditions in 2022. As a result, best practice non-statutory guidance has moved towards the mapping of slope hazards in District Plans as an overlay, with objectives, policies and rules managing

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the slope hazard. This change in thinking and approach has largely occurred during the notification period of the proposed plan change.

- 9.4 Wellington City Council does have access to slope stability maps prepared under the SLIDE program at GNS Science. While these maps represent best practice in terms of mapping slope stability hazards, I am of the view that if a slope hazard overlay was introduced at the current stage of the plan change process, there is a process issue for those properties that would be impacted by the overlay, as there would be no ability for these parties to submit on the extent of the overlay or the associated provisions.

## **10.0 CONCLUSION**

- 10.1 I have been asked by Mr Sirl to provide advice responding to several of the submissions or key points raised.
- 10.2 I consider that the liquefaction hazard provisions are appropriate and note that they reflect the low hazard ranking which the relevant table in the Section 32 Report should have indicated. I am of the view that the changes as outlined in Mr Sirl's Section 42 assessment pertaining to several of the submissions align with higher order direction and are consistent with existing non-statutory guidance.
- 10.3 In regards to the submissions regarding the inclusion of the rural flood hazard and slope stability maps, I am of the view that there are sound planning reasons for not including these maps at this stage of the plan change process. I am however of the view that if appropriate maps became available, then these could be introduced into the District Plan through a separate plan change process.

Date 30 June 2023



James Gary Beban

