Memorandum

To	Chair and Members, MEP Hearing Panel
From	David Jackson, Reporting Officer
Date	2 July 2018
Subject	**Propose Marlborough Environment Plan, Minute 27 of the Hearing Panel dated 24 May 2018, Coastal Hazards and Climate Change**

1. The Panel in Minute 27 identified a potential problem in the Ministry for the Environment (MfE) document *Coastal Hazards and Climate Change: Guidance for Local Government 2017.* Table 12 provides guidance in its heading as follows:

   'Minimum transitional New Zealand-wide SLR[1] allowances and scenarios for use in planning instruments where a single value is required at local/district scale while in transition towards adaptive pathways planning using the New Zealand-wide SLR scenarios'

2. The phrase 'a single value is required' for the interim transition period was underlined in the Minute by the Panel because the table fails to provide a single value for categories A and B. By contrast it does specifically provide single values for categories C and D.

3. The Panel asked for my advice on how the Panel 'should realistically assess a single value for sea level rise for that interim transitional period, until the adaptive pathways approach is complete, for Category B developments'.

4. In responding to this request, I have considered:

   a. What the Guidance says,

   b. If a single figure is sought, how should that be assessed, and

   c. Advice sought from the MfE and the authors of the guidance document (attached here as Appendix 1).

What the Guidance says

5. The heading to Table 12 does refer to 'a single value' for use in the transition towards the dynamic adaptive pathways planning (DAPP).

6. I have re-read the guidance, and it seems to me that the heading is wrong (rather than the table itself) as the rest of the guidance document is clear that single sea level rise (SLR) figures are intended to be used in the transition only for categories C and D.

7. The guide states (emphasis added):

   'Use of single SLR value for categories C and D should be transitional, with the adaptive pathways planning approach using scenarios providing a more adaptive framework at local, regional and district scales that can accommodate surprises either way.' [p101, para 3]

   The cornerstone of the sea-level rise (SLR) guidance is the adoption of four New Zealand-wide scenarios for use in hazard, vulnerability and risk assessments and adaptation planning. These need to consider a range of futures that are not implausible. ….Single values are, however,

[1] SLR – sea level rise.

provided as transitional minimum SLR values for some categories of activities. [p104, para 1, text box]

8. The guide thus indicates that singe transitional values are provided for some categories of activities. Page 107, paragraph 2, elaborates that SLR 'allowances' in Table 12 area are expressed as 'scenarios' for some of the categories and as a 'minimum value' for others:

   SLR allowances are provided for four categories (A–D) of activities or types of development and are expressed as either scenarios or a minimum value to use (table 12).

9. On page 107, paragraph 3, (and p111) the guide says that the highest H+ scenario should be used for category A.

10. The guidance for category B is that 'no transitional SLR value is provided':

    - rather the full dynamic adaptive pathways planning approach should be undertaken using all four SLR scenarios (at the scale appropriate to the proposed intensification), before further intensification occurs (to avoid compounding the future risk). [p107, para 4]

11. This is reinforced on page 111 (last paragraph) under the category B heading:

    Taking into account the context of existing development (that may already be at risk), it is recommended that before intensification or change in land use occurs in low-lying coastal areas, that a full dynamic adaptive pathways planning approach is undertaken using all four SLR scenarios, with the higher H+ SLR scenario to stress-test the various pathways.

12. The preceding paragraph on page 111 explains the reasoning for this:

    ..The NZCPS 2010 (Policy 25) requires avoidance of redevelopment (e.g. intensification) or change in land use that would increase the risk of adverse effects from coastal hazards. Given the higher test of avoiding redevelopment that could increase the risk, no transitional SLR value is provided as this could create future path dependency and avoidable increase in future risk if a higher SLR occurred.

13. In summary: From my reading of the guidance document I believe the heading of Table 12 is wrongly expressed, and does not reflect the intent of the text of the guidance. In my view, the guidance in the transition until the DAPP is carried out is:

    a. That a single SLR value is provided for categories C and D;

    b. That the H+ scenario, over at least a 100-year timeframe is used for category A; and

    c. That for category B a DAPP process is undertake, at the scale appropriate to the proposed intensification, using all four SLR scenarios.

14. I wrote to the authors of the Coastal Guidance, via MfE, to seek their comments on the issues raised in the Minute. Their response is attached as Appendix 1 and discussed further below. The authors confirmed that the caption to Table 12 is confusing, and is a carryover from an earlier draft of the document when there were fewer categories. They however reiterate that single values apply to category C and D.

If a single figure is sought, how should that be assessed?

15. For category A, the H+ scenario is reasonably easy to translate into a single value from Table 10 in the guidance documents, as the Panel noted in its Minute.

16. In terms of category B proposals, it seems to me that the guidance intends that a DAPP process be used in the transition until a DAPP process for the region has been undertaken.

17. There is an inherent contradiction in here, but it seems the guide intends a DAPP process focused on the site of the proposed redevelopment or intensification. That is a 'targeted DAPP', to the scale appropriate to the proposed development, as distinct from the regional DAPP.

18. The email from the guideline authors explains the intent of the transitional provisions for categories A and B as follows:

Category A:

Greenfields, new coastal subdivisions and major new infrastructure require (via the NZCPS) avoidance of the hazard risk including climate change. Originally, a single value was proposed, but was changed to allow users some flexibility in the timeframe used (but ≥ 100 years as per the NZCPS), recommending that only the top H+ scenario is used e.g. major new infrastructure such as an airport or motorway may need longer planning horizons.

Category B:

Intensification of existing development is more problematic – which essentially is an amalgam of new and older development and the infrastructure that services that area. Compounding issues arise around mismatch of floor and finished ground levels and impacts of rising seas and groundwater on drainage, coastal flooding and infrastructure ('3 waters", road accessibility). Also the overall suburb or area may need to move to an alternative adaptation option or pathway at a future juncture – given ongoing sea-level rise (with the risk assessments informing the adaptation threshold for the area when the risk becomes intolerable or objectives fail).

Therefore applying a single value for sea-level rise to intensification nationally is not appropriate as it depends on the local context and risk exposure of the existing development that is proposed to be intensified. After discussion amongst the authors and officials on this matter, it was decided that intensification of existing coastal development could pose significant increases in risk in areas potentially affected by coastal hazards over at least 100 years [NZCPS Policy 25 (a)(b)].

Therefore the recommendation is that the full pathways approach is applied to intensification proposals considering the entire suburb or area - tested using the full suite of sea-level scenarios, risk assessments (using increments of sea-level rise) and taking into account the type and lifetime of the proposed activities. Simple use of a single transitional value for sea-level rise for intensification could lock in path dependency for future adaptation (maladaptation) or distort ground drainage patterns and road accessibility in the area if the full extent of the future emergent risk is not well quantified.

19. I appreciate what the guideline is proposing for category B with respect to intensification of existing coastal towns or suburbs. Single SLR figures can create unusual outcomes, with amenity issues and complications for drainage or other infrastructure. As an example, see the photograph and article in the Nelson Mail relating to Weka St, in the 'The Wood' area of Nelson. https://www.stuff.co.nz/nelson-mail/103523322/climate-changed-how-changing-weather-patterns-already-affect-us. In such situations, I agree with the authors that a more comprehensive community discussion – and agreement – on the desired outcome and approach is appropriate, through a DAPP process, to avoid a 'pepper-potting' of different ground levels or floor heights within a development area.

20. The situation may be different for developments involving single entities – for example, a coastal resort expanding where issues of multiple lots and complex infrastructure are not involved. In that situation, it is arguable whether it would be category B (intensification/ change in land use) or category C (existing coastal development). I would tend to see it being the later, unless there was a significant change in the nature of the development e.g. into multiple or shared ownership of new accommodation units. That view is perhaps reinforced by the category B comments from the guideline's authors, where there is a particular concern about the development of suburbs or areas, suggesting the issues they raise may be of less concern on discrete sites.

21. My advice therefore, for category B, is to remain with the guidance approach and to not have a single figure specified in the policy. I think that category B is likely to apply only where the Council (or possibly a developer) wanted to undertake a plan change to increase the density of an existing urban area that is subject to SLR. That situation is not going to happen often, if at all, during the period the region-wide DAPP process is occurring. In the unlikely event of that situation arising, in my view a targeted DAPP process would be appropriate rather than using a single SLR figure for the reasons discussed in paragraphs 18 and 19.

22. If the Panel is still minded to have a single figure for category B, then I would suggest the following:

    a. To avoid the issues raised in the guideline (an '*increase in future risk if a higher SLR occurred'* (refer para 12 above)) then a worst-case figure would be needed. That would be either the RCP8.5 (median) or H+ scenario. But the guidance in Table 12 is to use a range of scenarios, and the worst case would be H+, which makes it the same as category A.

    b. In terms of timeframe, a hundred years minimum is needed to comply with NZCPS Policy 25 ('..at least 100 years..'). In my view, a timeframe out to 2030 should be used to give a minimum of 100 years over of the life of plan, and not just at the start. From Table 10 in the guideline this would give a SLR of 1.52m for the H+ scenario (1.18m for RCP8.5).

    c. A figure of 1.52m is conservative – that is, precautionary, but onerous for developers. A would-be developer might prefer to have the ability to use the DAPP to refine this for their location and degree of risk, or for some other reason particular to their development proposal. They would be supported in doing this by the guideline, since it favours a DAPP approach over a set figure. One option could be to have both in the MEP policy – a set figure, but with the option to vary this if the proponent of the development undertakes a DAPP in accordance with the guideline and satisfactory to the Council. That would give developers – and the public – the certainty and simplicity of a figure, but the ability to look at modifying that figure if they wished to go through the time and cost of undertaking a DAPP. The DAPP could then form part of the AEE and documents supporting any consent application or private plan change for the proposal.

    d. Such a policy for category B might be something along these lines:

        Changes in land use and redevelopment (intensification) – use of minimum 1.52m sea level rise, or a level set by conducting a risk assessment using the range of scenarios and a dynamic adaptive pathways planning approach at a scale appropriate to the proposed development.

    e. If this approach were taken, the explanation to the policy would need to be modified to explain the dual approach, and to indicate that it would be the responsibility of the developer/ proponent of the proposal to undertake the DAPP, and that the outcome of the DAPP would form part of the AEE supporting any consent application or plan change for the development.

23. Having said that, my favoured approach for category B would be to remain with MfE Table 12 as I think it is a better approach. While it requires a DAPP process, I consider there is a very low likelihood of a development triggering this in the transitional period, and of any party being adversely impacted by the requirements involved.

David Jackson
Principal Planner

Appendix 1; Email from Rob Bell (on behalf of co-authors of the MfE Coastal Hazards and Climate Change: Guidance for Local Government

From: Rob Bell [mailto:Rob.Bell@niwa.co.nz]
Sent: Wednesday, 6 June 2018 12:42 PM
To: David Jackson <David.Jackson@wsp-opus.co.nz>
Cc: Emma Lemire <emma.lemire@mfe.govt.nz>
Subject: Fwd: Marlborough Environment Plan - Minute issued by Hearing Panel relating to Coastal Hazard Guidance Document

Dear David

Thank you for sending through Minute 27 from the Hearing Panel on the Proposed Marlborough Environment Plan.

The queries relate to Table 12 in the MfE Coastal Guidance (or Table 2 in the MfE summary *Preparing for Coastal Change*).

The confusion has arisen because this Table was amended in the penultimate draft early in 2017. Originally only 3 categories were provided for - each with a single value for sea-level rise.

The revision introduced a fourth category – by separating out greenfields developments (or major new infrastructure) from intensification of existing development.

Consequently, the original caption that remains is somewhat confusing as it implies a "single value" is provided for each category.

Note: Category C and D text and the appropriate single value for sea-level rise was unchanged in the revision.

The intent for the transitional provisions covered by Categories A and B is as follows:

A) Greenfields, new coastal subdivisions and major new infrastructure require (via the NZCPS) avoidance of the hazard risk including climate change. Originally, a single value was proposed, but was changed to allow users some flexibility in the timeframe used (but ≥ 100 years as per the NZCPS), recommending that only the top H+ scenario is used e.g. major new infrastructure such as an airport or motorway may need longer planning horizons.

B) Intensification of existing development is more problematic – which essentially is an amalgam of new and older development and the infrastructure that services that area. Compounding issues arise around mismatch of floor and finished ground levels and impacts of rising seas and groundwater on drainage, coastal flooding and infrastructure ('3 waters", road accessibility). Also the overall suburb or area may need to move to an alternative adaptation option or pathway at a future juncture – given ongoing sea-level rise (with the risk assessments informing the adaptation threshold for the area when the risk becomes intolerable or objectives fail).

Therefore applying a single value for sea-level rise to intensification nationally is not appropriate as it depends on the local context and risk exposure of the existing development that is proposed to be intensified. After discussion amongst the authors and officials on this matter, it was decided that intensification of existing coastal development could pose significant increases in risk in areas potentially affected by coastal hazards over at least 100 years [NZCPS Policy 25 (a)(b)].

Therefore the recommendation is that the full pathways approach is applied to intensification proposals considering the entire suburb or area - tested using the full suite of sea-level scenarios, risk assessments (using increments of sea-level rise) and taking into account the type and lifetime of the proposed activities. Simple use of a single transitional value for sea-level rise for intensification could lock in path dependency for future adaptation (maladaptation) or distort ground drainage patterns and road accessibility in the area if the full extent of the future emergent risk is not well quantified.

Hope that provides some further insight on applying Table 12.

Regards

Rob Bell (on behalf of the co-authors of the Coastal Guidance)

Sent from my iPhone

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