BEFORE THE IHP

TOPIC: Proposed Plan Change 92 Enabling housing supply to the Western Bay of Plenty District Plan

UNDER	the Resource Management Act 1991
IN THE MATTER	of submissions and futher submissions
BETWEEN	**BAY OF PLENTY REGIONAL COUNCIL**
	Submitter
A N D	**WESTERN BAY OF PLENTY REGIONAL COUNCIL**
	Respondent

STATEMENT OF EVIDENCE OF Mark Christopher Carew Townsend

DATED: 21 August 2023

Topic: Proposed Plan Change 92 Enabling housing supply to the Western Bay of Plenty District Plan

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STATEMENT OF EVIDENCE OF Mark Christopher Carew Townsend

Qualifications, experience and background

1. My full name is **Mark Christopher Carew Townsend**. I am the Engineering Manager at Bay of Plenty Regional Council (**Regional Council**).

2. I have a Bachelor of Engineering (Civil) from Auckland University. I have 30 years civil and environmental engineering experience almost all of which has been gained working in the Bay of Plenty.

3. I have worked in local government, contracting, industry and consulting and thus have a broad knowledge of civil and environmental engineering practices. I have been involved with land subdivision, stormwater management, transportation, coastal engineering and natural hazards, hydrological and hydraulic assessments and geotechnical engineering.

4. My expert opinion covers submission points of the Bay of Plenty Regional Council related to my subject area. I will briefly address matters that have been agreed in general approach with WBOPDC as set out in the s42A Report (which has the status of evidence) and where an agreed approach has not possible I set out more fully the reasons for my expert opinion.

5. I have read the Expert Witness Code of Conduct set out in the Environment Court's Practice Note 2023 and I agree to comply with it. I confirm that the issues addressed in this statement of evidence are within my area of expertise, except where I state I am relying on the specified evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from my expressed opinion.

SCOPE OF EVIDENCE

6. My evidence covers the Te Puke Structure Plan main topic areas, and refers to the following submission and further submission point numbers:

(i) **25.27 Stormwater Management (New) - Seddon Street Structure Plan.** This has been resolved at resource consent stage and as such no further relief is being sought.

(ii) **25.8 Clause (a) 12.4.5.17 (stormwater)** –I am in agreement with the updated rule and thus fully supportive of it for the reasons explained in my evidence below

(iii) **25.29 Appendix 4: (Report 15) Stormwater Management Guidelines for Te Puke** – The Stormwater Management Guidelines should be updated to reflect a minor change whereby the word *impermeable* has inadvertently been used instead of *permeable*.

(iv) **25.30 Appendix 4: Infrastructure Assessment (Report 20) – Te Puke Stormwater Modelling Report (DHI) Table 3** – I am continuing to work with WBOPDC engineers on modelling outcomes that will separate out the effects of intensification and climate change so that this issue can be addressed.

(v) 25.32 **Natural Hazard Maps Flooding -** I refer to the evidence of Mr Mark Ivamy who supports WBOPDC's proposed deletion of the Te Puke flood planning maps. I also support the removal of the Te Puke flood planning maps.

(vi) 25.45: 14A.4.2(d)(i) **Impermeable surface coverage rule** - I support the proposed[1] removal of "net" from "net site area" so that the consideration of the impermeable surface calculation is against the whole site, which will better provide for reductions in runoff and potential increases in adverse effects from intensification including upon downstream assets already under pressure from existing development levels.

INCREASED RUNOFF / ON-SITE ATTENUATION

7. My evidence focuses primarily on mitigating increased run-off from any development/subdivision site required to address effects on off-site flood management infrastructure in Te Puke and/or other downstream infrastructure and landowners in Te Puke.

8. 25.8 Clause (a) 12.4.5.17 (stormwater) – this clause has been updated[2] to include requirements for attenuation in line with that contained in the

[1] S42A Section 14A, Definitions etc, see at page 60 for discussion.
[2] S42A report recommendations for 12.4.5.17, Section 12.

Comprehensive Stormwater Consent (CSC) for Te Puke. The recently granted Te Puke Comprehensive Stormwater Consent has the same requirement for stormwater detention. As such I am fully supportive of the change as being appropriate to manage stormwater as intended and required. This ensures a consistent appropriate standard is maintained across the Bay of Plenty including all of Te Puke.

9. 25.29 Appendix 4: (Report 15) Stormwater Management Guidelines for Te Puke - 1st bullet point on P69 (P2 of Stormwater Management Guidelines) refers to "Impermeable pavement will also be encouraged." This should be changed to "Permeable pavement will also be encouraged." As the intention is to encourage soakage wherever possible. This appeal point does not appear to be covered in the reports for s42A, I assume this is because the Guidelines sit outside of the District Plan. I support the continued reference to and updating of the Guidelines as being necessary to manage stormwater in Te Puke in areas outside of the requirements of the CSC.

10. **25.30 Appendix 4: Infrastructure Assessment (Report 20) – Te Puke Stormwater Modelling Report (DHI) Table 3**

The stormwater modelling undertaken for this plan change did not determine the downstream effects. It was previously highlighted that the modelling report did not separate out the effects of the proposed plan change and the effects of climate change. Consequently, it could not be determined whether effects on the downstream flood protection infrastructure was caused by the plan change or climate change.

Attempts to address this with the modeller has revealed that the model requires further work, and subsequently results are not available yet to address the above concerns.

Given the above it cannot be determined yet whether a 50% limit for impervious surfaces, or a lesser percentage, in Te Puke would be supported.

11. **25.32 Natural Hazard Maps Flooding** – Subsequent to the above points about the adequacy of the stormwater model. The flood maps produced using the new model have highlighted a lot more properties that are subject

to flood hazard. I support the removal of these flood maps for the reasons given in the s42A report.

12. **25.45: 14A.4.2(d)(i) Impermeable surface coverage rule**. I support the proposed[3] removal of "net" from "net site area" so that the consideration of the impermeable surface calculation is against the whole site, which will better provide for reductions in runoff and potential increases in adverse effects from intensification including upon downstream assets already under pressure from existing development levels .

I refer to the evidence of Ms Susan Ira[4] regarding Stormwater Quality. I agree with her conclusion supporting the amendments proposed in the WBOPDC s42A report regarding defining the impervious surface limits for rule 14.4.2(d) on the basis of *site* and not *net site area*, because the proposed amendments will address the previous risk of "unmitigated incremental increases in impervious areas leading to long term cumulative effects." Including increases in water quantity downstream flows.

[3] S42A Section 14A, Definitions etc, see at page 60 for discussion.
[4] At [59].