**BEFORE THE INDEPENDENT HEARINGS PANELS APPOINTED TO HEAR AND MAKE RECOMMENDATIONS ON SUBMISSIONS AND FURTHER SUBMISSIONS ON PROPOSED PLAN CHANGE 1 TO THE NATURAL RESOURCES PLAN FOR THE WELLINGTON REGION**

| | |
|---|---|
| **UNDER** | the Resource Management Act 1991 (the Act) |
| **AND** | |
| **IN THE MATTER** | of Hearing of Submissions and Further Submissions on Proposed Plan Change 1 to the Natural Resources Plan for the Wellington Region under Schedule 1 of the Act |

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# STATEMENT OF REPLY EVIDENCE OF DAVID ADRIAN WALKER

**ON BEHALF OF GREATER WELLINGTON REGIONAL COUNCIL**

**HEARING STREAM 2 – OBJECTIVES**

**14 MAY 2025**

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## INTRODUCTION

1 My name is David Adrian Walker. I am employed by GHD as Business Advisory Market Leader New Zealand and Pacific.

2 This reply evidence is in response to a request for further information from the Panels, as set out in points 19 and 31 of Minute 7 of Hearing Stream 2 for the Proposed Plan Change 1 to the Natural Resources Plan for the Wellington Region (PC1).

## QUALIFICATIONS, EXPERIENCE AND CODE OF CONDUCT

3 My qualifications and experience are set out in paragraphs 5 to 9 of my Statement of Primary Evidence, dated 28 February 2025. I repeat the confirmation given in that report that I have read and agree to comply with the Code of Conduct for Expert Witnesses.

## SCOPE OF EVIDENCE

4 Firstly, this document makes one correction to a table I included in my supplementary evidence dated 28 March 2025, where the timeframe for achieving the s42A recommendations in Taupō was incorrectly stated as 2060 rather than 2040.[1]

5 Secondly, this document responds to Panels' queries as to whether financial constraints played an important role in setting targets and timeframes in the s42A report (points 19 and 31 of Minute 7 of the Objectives hearing).

6 Thirdly, for the wastewater network, it provides an indication of the assumptions made about the extent of pipe replacement required in each part Freshwater Management Unit (pFMU) to achieve the targets set out in the s42A report.

## CORRECTION OF FIGURE 1 IN SUPPLEMENTARY EVIDENCE

7 Figure 1 corrects the table provided in my evidence of 28 March 2025. The timeframe for achieving the targets in Taupō pFMU should have read 2040, not 2060. The affordability and achievability estimates presented in that evidence were accurate, but the table was not.

[1] Statement of Rebuttal Evidence of David Adrian Walker on Behalf of Greater Wellington Regional Council (dated 28 March 2025)

**Figure 1 Extended (mixed) implementation timeframes by pFMU for *E. coli* and metals**

| PFMU | Wastewater | Stormwater |
|---|---|---|
| Taupō | 2040 | |
| Pouewe | 2040 | |
| Wai-o-hata | 2040 | 2040 |
| Takapū | 2040 | |
| Te Rio o Porirua and Rangituhi | 2050 | |
| Ōrongorongo, Te Awa Kairangi and Wainuiomata small forested and Te Awa Kairangi forested mainstems | | |
| Te Awa Kairangi lower mainstem | 2040 | |
| Te Awa Kairangi rural streams and rural mainstems | 2040 | |
| Te Awa Kairangi urban streams | 2060 | 2040 |
| Waiwhetū Stream | 2060 | 2060 |
| Wainuiomata urban streams | 2050 | |
| Wainuiomata rural streams | 2040 | |
| Parangārehu catchment streams and South-west coast rural streams | | |
| Korokoro Stream | | |
| Kaiwharawhara Stream | 2040 | 2040 |
| Wellington urban | 2060 | 2040 |

**RESPONSES TO QUESTIONS RAISED IN MINUTE 7**

7.1 In points 19 and 31 of Minute 7, the Panels sought response on whether financial constraints played an important role in setting targets and timeframes in the s42A report. Below I provide a breakdown of estimated costs of proposed target attribute states (TAS) by pFMU and Council by the 2040 timeframe proposed in PC1 as notified versus the mixed timeframes proposed in the s42A report.

8 I attach a number of comparative tables and charts below on larger A3 pages:

8.1 Estimated annual costs and total costs by pFMU and in total across the two whaitua for both the PC1 as notified and Ms O'Callahan's s42A report and rebuttal recommended targets (hereafter referred to as 's42A targets') for both timeframes; and

8.2 Achievability of targets based on current and expected future levels of spending on stormwater and wastewater for both the PC1 as notified and s42A report targets for both timeframes; and

8.3 For each Council in the PC1 area:

8.3.1 Implied rates step-change for both the PC1 as notified and s42A targets for both timeframes; and

8.3.2 Rates track against the Shand benchmark of 5% rates to household income ratio.

9 I acknowledge the sheer amount of data can be overwhelming. Below I briefly summarise the implications of these tables and charts.

9.1 **Annual and total costs**: The largest annual capital expenditure estimates are highlighted in shades of red in Figure 2. The assumed total cost, regardless of whether 2040 (the original proposed timeframes in PC1 as notified) or mixed timeframes (as proposed in the 242A report) are used, is assumed to be constant, as the improvements are assumed to be funded on a pay-as-you-go basis. The rationale for this assumption is that:

9.1.1 With the debt constraints councils already have, they are unlikely to be able to take on further debt.

9.1.2 It is possible that there will be more flexibility or ability to borrow if/when new water entities are formed under Local Water Done Well, but I can only speculate on that possibility and how the money may be allocated.

9.1.3 If I assume improvements are debt-funded, I then have to make further assumptions about potential borrowing interest rates, and repayment time periods.

9.1.4 Assuming borrowing also raises equity issues as costs to fix current problems created by years of under-investment could be foisted onto future generations as debt.

9.2 The annual cost is naturally lower if the timeframes are stretched, while the cost of achieving the PC1 notified TAS could be up to $2.9 billion more than achieving the s42A targets.

9.3 **Achievability**: The physical achievability of targets is shown in Figure 3. Clearly, only the s42A targets and the mixed timeframe are realistic in terms of achievability based on recent and future expected levels of work in stormwater and wastewater capital works programmes in the Wellington Region. I reiterate my earlier comments that even these comparisons are optimistic as they compare the required spend on stormwater and wastewater to achieve the s42A targets against **all** capital spending on stormwater and wastewater in recent times, which includes capital works like wastewater plant upgrades that do not contribute directly to the TAS.

9.4 **Implied rates step-change**: The step-change in rates and rates relative to the Shand Inquire threshold are shown in Figure 4 to Figure 7. Ratepayers have been subject to unsustainably large rates increases in recent years, with more years of large increases to come even without the extra water spending required to achieve the s42A targets. Only the s42A targets and timeframes (which were mixed) lead to a step-change in rates that from a financial perspective, is somewhat affordable, namely one more year of rates increases in the 10-15% range.

9.5 **Rates track versus Shand benchmark**: The Shand Inquiry recommended that councils should view 5% of household income being spent of rates as an upper bound.

9.5.1 Wellington City Council and Lower Hutt (Hutt City Council) are already on course to breach the 5% threshold of household income recommended by the Shand Inquiry as an upper bound for council rates. Faster delivery or more ambitious TAS will drive these two councils further beyond that threshold and will push Porirua City Council (PCC) and Upper Hutt City Council (UHCC) up to or over the threshold as well.

9.5.2 As I noted in my previous evidence, Long-Term Plan estimates of rates increases in the latter half of the decade tend to be optimistically low, so it is likely that the estimates of rates as a share of household incomes that I present here will be low as well and that there is significant risk that rates rises will be higher to cover cost pressures in other types of infrastructure across the council asset portfolios. The fact that with more modest targets and longer timeframes means PCC and UHCC are less likely to breach the 5% threshold in the graphs below should therefore not be seen as an invitation to set more stringent timeframes or targets.

**CONCLUSION ON AFFORDABILITY AND ACHIEVABILITY**

10 Based on the points outlined above, it is my view that of the four scenarios presented in this evidence, only the s42A target levels and timeframe (which was mixed, as opposed to PC1 as notified) will be somewhat affordable and achievable.

**DISTRIBUTION OF ESTIMATED WASTEWATER PIPE REPLACEMENT BY PFMU AND COUNCIL AREA**

11 The 16 pFMUs were mapped against Council boundaries. This allowed me to calculate what share of each pFMU fell in each Council jurisdiction.

12 Dr Michael Greer was able to provide an estimate of the length of wastewater pipes by grade across each pFMU, as well as his estimate of how much overflows and dry-weather leaks would need to reduce to achieve the S42A targets.

13 Figure 8 sets out an estimate of the length (in kilometres) of pipe that would need to be replaced and/or up-gauged to achieve the s42A targets by pFMU and council jurisdiction. It demonstrates both the minimum and maximum estimates used in the analysis.

14 This pipe length information provided a key input into my estimate of the cost of dealing with overflows and dry weather leaks to achieve the s42A targets.

**DATE: 14 MAY 2025**

**DAVID ADRIAN WALKER**
**BUSINESS ADVISORY MARKET LEADER**
**GHD NEW ZEALAND AND PACIFIC**

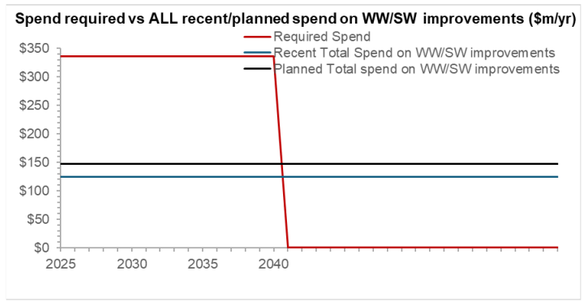
## Figure 2 Annual and total costs of PC1 and S42a report TASs over 2040 and mixed timeframes[2]

| | PC1 as notified 2040 timeframe | | | | PC1 as notified mixed timeframe | | | | s42a recommendation 2040 timeframe | | | | s42a recommendation mixed timeframe | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Wastewater** | **Completion** | **Cost range per year ($m)** | | **Cost over full timeframe ($m)** | | **Completion** | **Cost range per year ($m)** | | **Cost over full timeframe ($m)** | | **Completion** | **Cost range per year ($m)** | | **Cost over full timeframe ($m)** | | **Completion** | **Cost range per year ($m)** | | **Cost over full timeframe ($m)** | |
| **pFMU** | **year** | **Low** | **High** | **Low** | **High** | **year** | **Low** | **High** | **Low** | **High** | **year** | **Low** | **High** | **Low** | **High** | **year** | **Low** | **High** | **Low** | **High** |
| Taupō | 2040 | $1.6 | $1.8 | $25.9 | $28.3 | 2040 | $1.6 | $1.8 | $25.9 | $28.3 | 2040 | $1.1 | $1.4 | $17.8 | $22.8 | 2040 | $1.1 | $1.4 | $17.8 | $22.8 |
| Pouewe | 2040 | $0.4 | $0.4 | $6.2 | $6.2 | 2040 | $0.4 | $0.4 | $6.2 | $6.2 | 2040 | $0.1 | $0.1 | $1.0 | $1.0 | 2040 | $0.1 | $0.1 | $1.0 | $1.0 |
| Wai-o-hata | 2040 | $3.0 | $4.1 | $48.2 | $66.4 | 2040 | $3.0 | $4.1 | $48.2 | $66.4 | 2040 | $2.0 | $2.8 | $31.5 | $44.5 | 2040 | $2.0 | $2.8 | $31.5 | $44.5 |
| Takapū | 2040 | $0.1 | $0.1 | $0.9 | $0.9 | 2040 | $0.1 | $0.1 | $0.9 | $0.9 | 2040 | $0.0 | $0.0 | $0.2 | $0.2 | 2040 | $0.0 | $0.0 | $0.2 | $0.2 |
| Te Rio o Porirua and Rangituhi | 2040 | $33.5 | $33.5 | $535.9 | $535.9 | 2050 | $20.6 | $20.6 | $535.9 | $535.9 | 2040 | $22.0 | $22.0 | $352.6 | $352.6 | 2050 | $13.6 | $13.6 | $352.6 | $352.6 |
| Ōrongorongo, Te Awa Kairangi and Wainuiomata small forested and Te Awa Kairangi forested mainstems | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 |
| Te Awa Kairangi lower mainstem | 2040 | $0.0 | $0.0 | $0.5 | $0.5 | 2040 | $0.0 | $0.0 | $0.5 | $0.5 | 2040 | $0.0 | $0.0 | $0.5 | $0.5 | 2040 | $0.0 | $0.0 | $0.5 | $0.5 |
| Te Awa Kairangi rural streams and rural mainstems | 2040 | $0.8 | $0.8 | $12.7 | $12.7 | 2040 | $0.8 | $0.8 | $12.7 | $12.7 | 2040 | $0.7 | $0.7 | $11.1 | $11.1 | 2040 | $0.7 | $0.7 | $11.1 | $11.1 |
| Te Awa Kairangi urban streams | 2040 | $40.1 | $40.1 | $641.8 | $641.8 | 2060 | $17.8 | $17.8 | $641.8 | $641.8 | 2040 | $40.1 | $40.1 | $641.8 | $641.8 | 2060 | $17.8 | $17.8 | $641.8 | $641.8 |
| Waiwhetū Stream | 2040 | $9.0 | $19.8 | $143.5 | $317.4 | 2060 | $4.0 | $8.8 | $143.5 | $317.4 | 2040 | $8.0 | $19.2 | $128.7 | $307.0 | 2060 | $3.6 | $8.5 | $128.7 | $307.0 |
| Wainuiomata urban streams | 2040 | $6.3 | $6.3 | $100.3 | $100.3 | 2050 | $3.9 | $3.9 | $100.3 | $100.3 | 2040 | $5.5 | $5.5 | $88.4 | $88.4 | 2050 | $3.4 | $3.4 | $88.4 | $88.4 |
| Wainuiomata rural streams | 2040 | $0.1 | $0.1 | $1.0 | $1.0 | 2040 | $0.1 | $0.1 | $1.0 | $1.0 | 2040 | $0.1 | $0.1 | $1.0 | $1.0 | 2040 | $0.1 | $0.1 | $1.0 | $1.0 |
| Parangārehu catchment streams and South-west coast rural streams | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 |
| Korokoro Stream | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 |
| Kaiwharawhara Stream | 2040 | $17.3 | $17.3 | $276.2 | $276.2 | 2040 | $17.3 | $17.3 | $276.2 | $276.2 | 2040 | $17.3 | $17.3 | $276.2 | $276.2 | 2040 | $17.3 | $17.3 | $276.2 | $276.2 |
| Wellington urban | 2040 | $86.3 | $107.9 | $1,381.1 | $1,726.7 | 2060 | $38.4 | $48.0 | $1,381.1 | $1,726.7 | 2040 | $53.3 | $106.4 | $853.4 | $1,701.9 | 2060 | $23.7 | $47.3 | $853.4 | $1,701.9 |
| **Stormwater** | **Completion** | **Cost range per year ($m)** | | **Cost over full timeframe ($m)** | | **Completion** | **Cost range per year ($m)** | | **Cost over full timeframe ($m)** | | **Completion** | **Cost range per year ($m)** | | **Cost over full timeframe ($m)** | | **Completion** | **Cost range per year ($m)** | | **Cost over full timeframe ($m)** | |
| **pFMU** | **year** | **Low** | **High** | **Low** | **High** | **year** | **Low** | **High** | **Low** | **High** | **year** | **Low** | **High** | **Low** | **High** | **year** | **Low** | **High** | **Low** | **High** |
| Taupō | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 |
| Pouewe | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 |
| Wai-o-hata | 2040 | $0.2 | $2.2 | $2.4 | $34.9 | 2040 | $0.2 | $2.2 | $2.4 | $34.9 | 2040 | $0.3 | $0.9 | $4.6 | $13.8 | 2040 | $0.3 | $0.9 | $4.6 | $13.8 |
| Takapū | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 |
| Te Rio o Porirua and Rangituhi | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 |
| Ōrongorongo, Te Awa Kairangi and Wainuiomata small forested and Te Awa Kairangi forested mainstems | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 |
| Te Awa Kairangi lower mainstem | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 |
| Te Awa Kairangi rural streams and rural mainstems | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 |
| Te Awa Kairangi urban streams | 2040 | $3.7 | $61.3 | $59.6 | $980.9 | 2040 | $3.7 | $61.3 | $59.6 | $980.9 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 |
| Waiwhetū Stream | 2040 | $22.6 | $24.4 | $360.8 | $390.0 | 2060 | $10.0 | $10.8 | $360.8 | $390.0 | 2040 | $0.8 | $13.7 | $12.0 | $219.1 | 2060 | $0.3 | $6.1 | $12.0 | $219.1 |
| Wainuiomata urban streams | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 |
| Wainuiomata rural streams | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 |
| Parangārehu catchment streams and South-west coast rural streams | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 |
| Korokoro Stream | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 |
| Kaiwharawhara Stream | 2040 | $12.6 | $13.7 | $202.2 | $218.9 | 2040 | $12.6 | $13.7 | $202.2 | $218.9 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 | 2040 | $0.0 | $0.0 | $0.0 | $0.0 |
| Wellington urban | 2040 | $0.1 | $2.2 | $0.9 | $35.0 | 2040 | $0.1 | $2.2 | $0.9 | $35.0 | 2040 | $0.1 | $2.2 | $0.9 | $35.0 | 2040 | $0.1 | $2.2 | $0.9 | $35.0 |
| **TOTAL** | | **$237.5** | **$335.9** | **$3,800.1** | **$5,374.0** | | **$134.5** | **$213.8** | **$3,800.1** | **$5,374.0** | | **$151.4** | **$232.3** | **$2,421.6** | **$3,716.9** | | **$83.9** | **$122.1** | **$2,421.6** | **$3,716.9** |

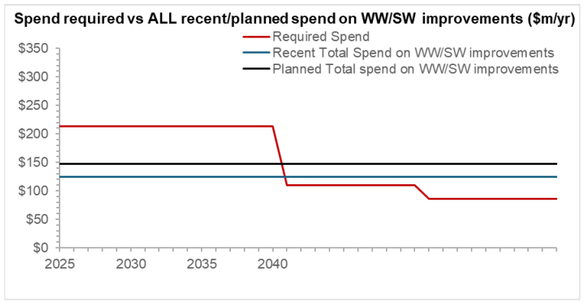
[2] We note that since our work was completed, Dr Michael Greer has updated his estimate for the reductions in overflows and dry-weather leaks for Taupō pFMU, such that the minimum estimate presented here is a slight underestimate. The key data presented in Figure 3 to Figure 8 remain accurate. We further note that Dr Greer has since made a correction to one calculation that affects Waiwhetū Stream pFMU (and therefore Hutt City cost impacts) for the s42A target upper bound cost estimates. We have reflected this correction in the costs and Hutt City data in this evidence statement.

**Figure 3 Achievability of PC1 and S42a report TASs over 2040 and mixed timeframes based on regional workforce and recent spending on wastewater and stormwater capital works**

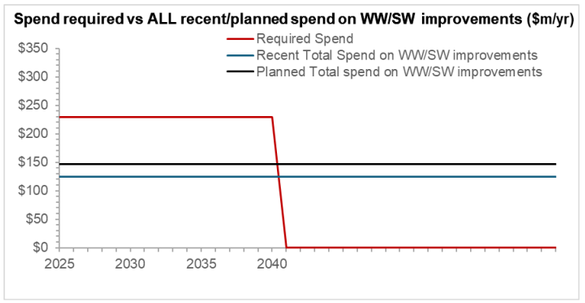
**PC1 as notified 2040 timeframe**




**PC1 as notified mixed timeframe**




**s42a recommendation 2040 timeframe**




**s42a recommendation mixed timeframe**

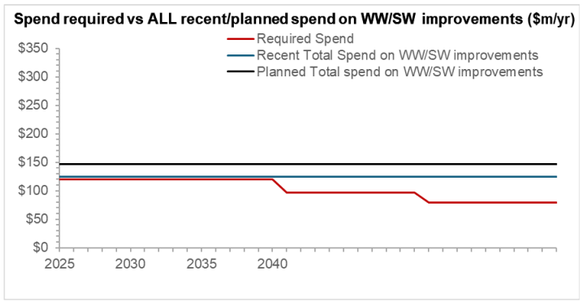


**Figure 4 Lower Hutt (Hutt City Council) implied step change in rates and Shand benchmark comparison of PC1 and S42a report TASs over 2040 and mixed timeframes**

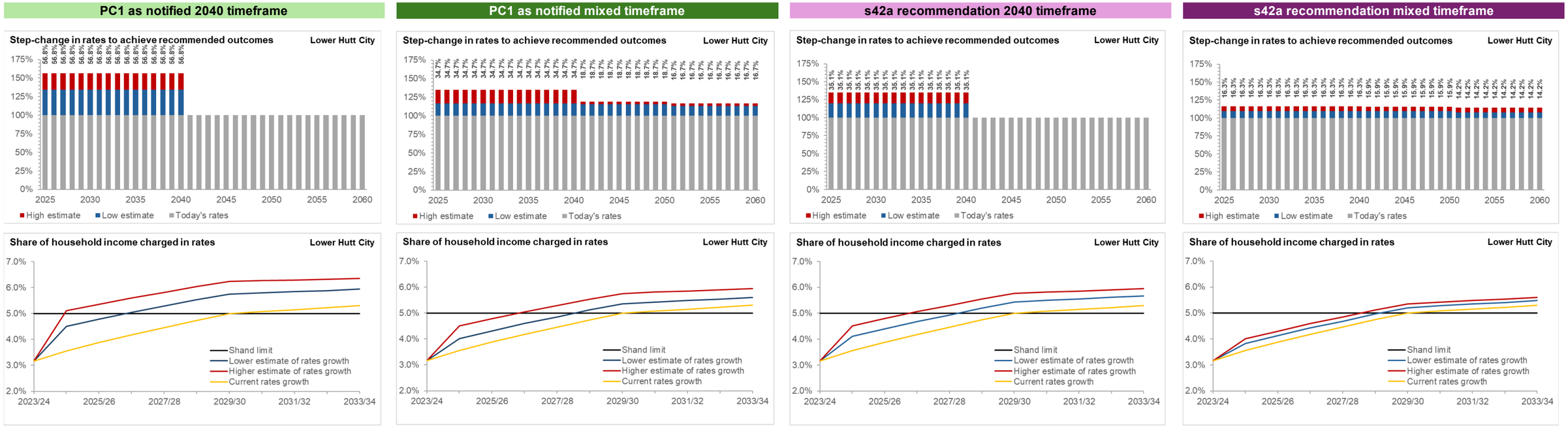



**Figure 5 Upper Hutt implied step change in rates and Shand benchmark comparison of PC1 and S42a report TASs over 2040 and mixed timeframes**

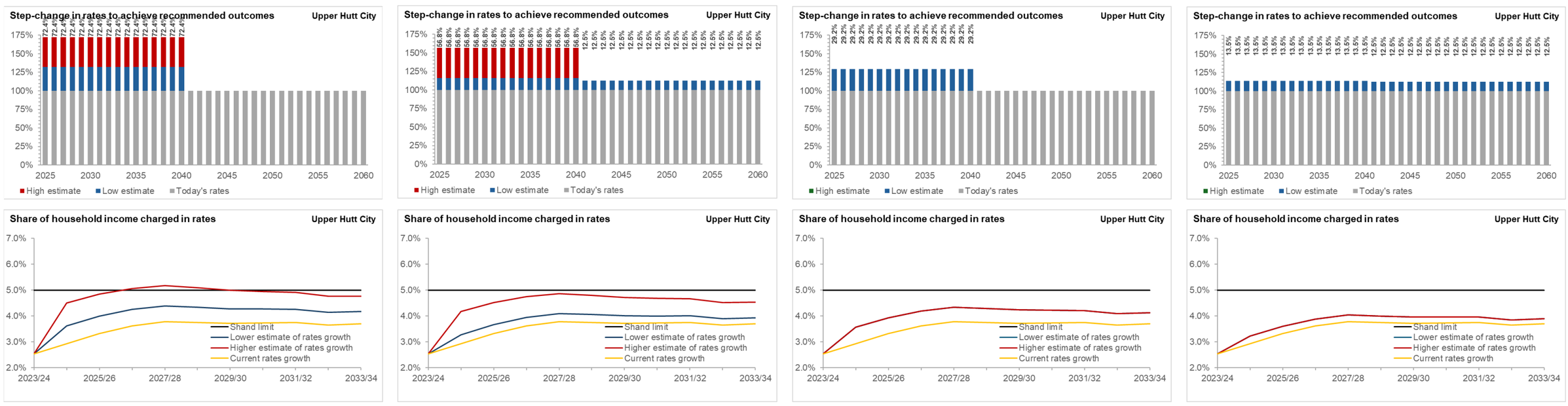


**Figure 6 Porirua implied step change in rates and Shand benchmark comparison of PC1 and S42a report TASs over 2040 and mixed timeframes**

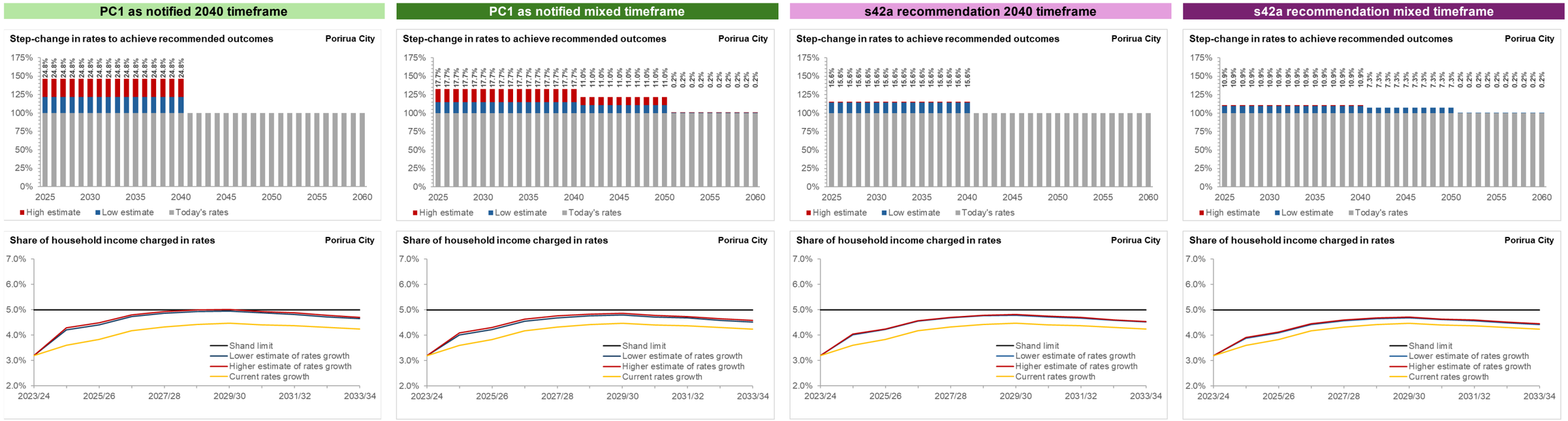



**Figure 7 Wellington City implied step change in rates and Shand benchmark comparison of PC1 and S42a report TASs over 2040 and mixed timeframes**

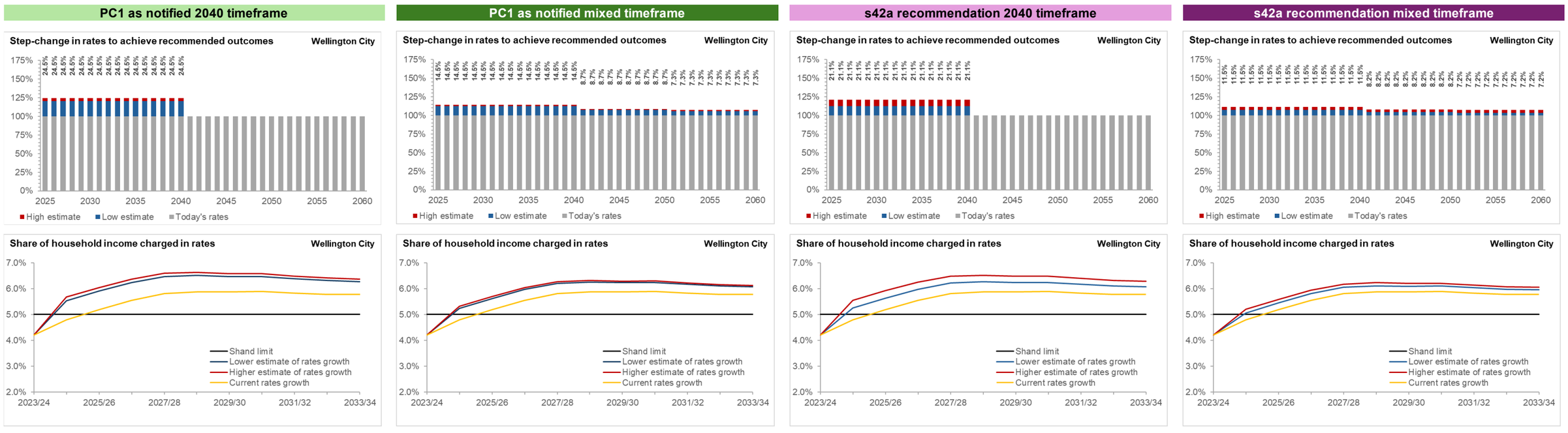


**Figure 8 Estimated total pipe network and share that would need to be replaced and/or up-gauged to achieve s42a report targets[3]**

| | Estimated total pipe network length | | | | | Minimum KM estimate of pipe replacement (replacing grade 4 and 5 and increasing capacity) | | | | | Maximum KM estimate of pipe replacement (replacing grade 4 and 5 and increasing capacity) | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| pFMU | *Porirua City* | *Upper Hutt City* | *Lower Hutt City* | *Wellington City* | *Total* | *Porirua City* | *Upper Hutt City* | *Lower Hutt City* | *Wellington City* | *Total* | *Porirua City* | *Upper Hutt City* | *Lower Hutt City* | *Wellington City* | *Total* |
| Taupō | 22 | 0 | 0 | 0 | 22 | 4 | 0 | 0 | 0 | 4 | 4 | 0 | 0 | 0 | 4 |
| Pouewe | 5 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Wai-o-hata | 39 | 0 | 8 | 7 | 54 | 4 | 0 | 1 | 1 | 6 | 7 | 0 | 1 | 1 | 9 |
| Takapū | 16 | 1 | 1 | 3 | 21 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Te Rio o Porirua and Rangituhi | 330 | 0 | 0 | 228 | 558 | 40 | 0 | 0 | 28 | 68 | 40 | 0 | 0 | 28 | 68 |
| Ōrongorongo, Te Awa Kairangi and Wainuiomata small forested and Te Awa Kairangi forested mainstems | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Te Awa Kairangi lower mainstem | 0 | 1 | 1 | 0 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Te Awa Kairangi rural streams and rural mainstems | 0 | 14 | 0 | 0 | 15 | 0 | 3 | 0 | 0 | 3 | 0 | 3 | 0 | 0 | 3 |
| Te Awa Kairangi urban streams | 9 | 290 | 302 | 0 | 602 | 2 | 76 | 79 | 0 | 157 | 2 | 76 | 79 | 0 | 157 |
| Waiwhetū Stream | 0 | 0 | 144 | 0 | 144 | 0 | 0 | 25 | 0 | 25 | 0 | 0 | 69 | 0 | 69 |
| Wainuiomata urban streams | 0 | 0 | 105 | 0 | 105 | 0 | 0 | 17 | 0 | 17 | 0 | 0 | 17 | 0 | 17 |
| Wainuiomata rural streams | 0 | 0 | 6 | 0 | 6 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Parangārehu catchment streams and South-west coast rural streams | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Korokoro Stream | 0 | 0 | 11 | 5 | 17 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kaiwharawhara Stream | 0 | 0 | 0 | 140 | 140 | 0 | 0 | 0 | 68 | 68 | 0 | 0 | 0 | 68 | 68 |
| Wellington urban | 0 | 0 | 82 | 742 | 824 | 0 | 0 | 16 | 148 | 165 | 0 | 0 | 38 | 339 | 377 |
| | | | | | | | | | | | | | | | |
| **TOTAL** | **422** | **307** | **662** | **1125** | **2516** | **51** | **78** | **138** | **245** | **512** | **54** | **78** | **204** | **436** | **772** |

[3] Pipe lengths and assumed reduction in overflows and dry-weather events were provided by Dr Michael Greer. We note that our total pipe lengths here include both pipes that are grade 4 and 5 and need replacing to avoid dry-weather leaks, and an estimate of the share of pipes that need to be up-gauged to avoid overflows in wet weather. These totals may therefore be different from those in Dr Greer's evidence that provides an estimate of Grade 4 and 5 pipes needing replacement only.