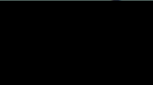


Once you have completed your feedback, please email to regionalplan@gw.govt.nz

Please enter your details below	
* Submitter Name: Full name, or Name of Organisation / Company	Stormwater360 Ltd
Contact person for submission: (If different to above)	Julia Watson
Telephone no: (Not required)	
* Address for service: (Email, or physical address) Please note, an <u>email address</u> is the preferred	juliaw@stormwater360.co.nz
* I wish to be heard in support of my submission	yes
* I would consider presenting a joint case at the hearing with others who make a similar	yes
* I could gain an advantage in trade competition	yes
Only answer this question if you answered 'yes' to the above question. I am directly affected by an effect of the subject matter of the submission that: A) adversely affects the environment; and B) does not relate to trade competition or the effects of trade competition	B
In providing a submission to Greater Wellington, I agree to having read and	
If providing a submission on behalf of a company / organisation	
Date:	14/12/2023
Please enter your feedback in the next worksheet "2) Feedback on Provisions". All of the	

Chapter No and Name	Provision No. & Title	Type of Change	Stance	RMA Process	Reason for feedback:	Decision Sought *
		Amended New Not applicable to Whaitua Not applicable to Te-Awarua-o-Porirua N/A	Support Oppose Neutral Amend Not stated	Freshwater Part 1 Schedule 1 Both	Please provide a summary of the reasons for your feedback on each provision to help us understand your position.	Please describe the actual changes to the provision that you would like to see and, where possible, include your suggested alternative wording. NOTE: Any deletions should be identified using strikethrough , and insertions should be identified using bold .
	Policy P83: Minimising adverse effects of stormwater discharges.	Not applicable to Whaitua	Support	Part 1 Schedule 1		
	Method M43: Supporting the health of urban waterbodies.	New	Support	Part 1 Schedule 1	Suggest looking overseas for practiced schemes and to ensure that treatment goals are 1) achievable 2) monitorable. USA National Pollution Discharge Elimination System (NPDES), for example, uses high-risk and industrial sites' current/existing discharge concentrations of the given contaminant as the base level and works to improve discharge concentrations from there. Rather than trying to apply blanket concentration requirements, each industrial site is required to monitor their stormwater discharge for contaminants, such as heavy metals, at concentrations specific to that site. Where an event causes the concentration to go above the agreed trigger level, exceedance response actions are engaged and the event is documented (CWB, 2023). NZ should work towards a similar model. In addition, there should be a clear process and register for any proprietary device 'deemed to comply', again - looking to the USA, Washington TAPE and California Water Boards publish lists with all relevant data for each device that is subject to specific testing for that approval and 'deemed to comply' for each category/type of treatment device.	California Water Board Example for the NPDES for Storm Water Discharges Associated with Industrial Activities is hyperlinked in the adjacent cell, here the Washington TAPE is linked as an example of the requirements. Note that for enhanced treatment (heavy metals and TSS) influent and effluent concentrations for dissolved metals are defined. Defining influent vs effluent and using dissolved metals only is a much more applicable way to measure treatment efficiencies than percent removal alone. See further comment regarding Schedule 28. We wish to see the types of approaches used in the USA applied to NZ to ensure the best outcomes for the environment.
	Method M45: Funding of wastewater and stormwater network upgrades	New	Support	Part 1 Schedule 1	<i>As above, SW360 suggest NZ regulatory bodies look overseas for funding strategies and ideas. Requiring payment from manufacturers for certification of proprietary treatment devices is one way to source funding, also see the linked example from the Environmental Protection Agency in the adjacent cell.</i>	EPA - GUIDANCE FOR MUNICIPAL STORMWATER FUNDING - Suggestions for NZ
	Objective WH.09: Water quality, habitats, water quantity and ecological processes of rivers are maintained or improved.	New	Support	Freshwater		
	Table 8.4: Target attribute states for rivers.	New	Support	Freshwater	<i>In support of measuring dissolved metals, but this is inconsistent with Schedule 28. Target attribute states (TAS) refer to dissolved metals concentration whereas Schedule 28 Table 1 and Table 2 refer only to the percentage of Copper or Zinc to be removed. Suggest consistency throughout rules/policies etc</i>	Speciation to be defined throughout stormwater rules to achieve TAS defined in Table 8.4., specifically Table 1 and 2 of Schedule 28: Stormwater Contaminant Treatments should reflect dissolved metals
	Policy WH.P9: General stormwater policy to achieve the target attribute states and coastal water objectives.	New	Support	Part 1 Schedule 1		
	Rule WH.R5: Stormwater from new and redeveloped impervious surfaces – permitted activity.	New	Support	Part 1 Schedule 1	Stormwater360 support no exposed zinc and copper building materials in new development sites. Wondering if there is an opportunity to regulate retrofitting treatment to downpipes for existing/ sites with high contaminant loading due to large unpainted galvanised roofs. Perhaps would fit better under Rule WH.R4, nonetheless, see reference linked here and reference linked in adjacent cell - roofs in industrial, commercial, and residential are huge contributors to zinc contamination in urban catchments.	UC Research: Performance of downpipe treatment system for removal of dissolved metals from roof runoff
	Table 9.2: Target attribute states for rivers.	New	Support	Freshwater	<i>In support of measuring dissolved metals, but this is inconsistent with Schedule 28. Target attribute states (TAS) refer to dissolved metals concentration whereas Schedule 28 Table 1 and Table 2 refer only to the percentage of Copper or Zinc to be removed. Suggest consistency throughout rules/policies etc</i>	Speciation to be defined throughout stormwater rules to achieve TAS defined in Table 8.4., specifically Table 1 and 2 of Schedule 28: Stormwater Contaminant Treatments should reflect dissolved metals
	Schedule 28: Stormwater Contaminant Treatment.	New	Amend	Part 1 Schedule 1	Support the use of a treatment train approach but think that the approach defined is a little outdated and doesn't take the influent contaminants concentration or the PSD into account. It is widely recognised that influent concentration can affect the performance of a treatment system and that a higher concentration will lead to a higher performance but not necessarily provide a better outcome for the environment. The range of allowable influent concentration for contaminants should be defined and specific parameters for influent and effluent should be defined for various treatment types i.e., bioretention, swales, wetlands etc. See information linked here and the adjacent cell.	Some further information on the basis of the argument is linked here. More than happy to discuss fur
	Table 1: Target load Reductions for Copper and Zinc	New	Amend	Part 1 Schedule 1	<i>Target load reductions seem unrealistic - not sure where the number 90% removal via bioretention comes from? Also, the speciation is not defined. Does the Schedule refer to Total Copper and Total Zinc? If so, this is inconsistent with the Target Attribute States (TAS) as the units for measurement in TAS are dissolved concentrations - suggest consistent measurement is better. In addition, wondering why TSS isn't considered under the schedule? Happy to discuss further.</i>	Realistic target load reductions - 90% may be too high and could set up for failure from the outset. For example, the Water Research Foundations Stormwater BMP Database 2020 summary statistics (linked to this cell - see report for assumptions/calculations) : Table 5-18: Total Zn removed by bioretention (BR) was 78.6% when analysing influent vs effluent. The data uses EMC and is statically analysed at the 95% CI median using 29 Studies and 500 samples. Table 5-19: shows 40% dissolved Zn was removed using influent vs effluent via BR - statistical summary from 13 studies and 292 samples. For Total Cu, Table 5-10, 45.5% removal was achieved using influent vs effluent via BR and 30 studies and 512 samples. Table 5-11: Dissolved Cu - showed no statically significant difference in concentration using up to 16 studies and 360 samples (thought to be due to plants). Also, given that heavy metals are transported via suspended solids thought there might be a reason to include TSS in the target load reductions.