

Remember submissions close at 5pm, Friday 21 October 2022

# **Proposed District Plan submission form**

Clause 6 of Schedule 1, Resource Management Act 1991

Feel free to add more pages to your submission to provide a fuller response.

Form 5: Submission on Proposed Far North District Plan

**TO: Far North District Council** 

This is a submission on the Proposed District Plan for the Far North District.

# 1. Submitter details:

Full Name:	Kapiro Conservation Trust			
Company / Organisation	Kapiro Conservation Trust			
Name: (if applicable)				
Contact person (if different):	Dr Melanie Miller			
Full Postal Address:	123 Equestrian Drive, RD1 Kerikeri, Northland 0294			
Phone contact:	Mobile: 0211760211	Home:	Work:	
Email (please print):	kapiroconservationtrust@gmail.com			
2. (Please select one of the two options below)				
I could not gain an advantage in trade competition through this submission  I could gain an advantage in trade competition through this submission.  If you could gain an advantage in trade competition through this submission, please complete point 3 below  3. 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 effect of trade competition  I am not 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 effect of trade competition  Note: if you are a person who could gain advantage in trade competition through the submission, your right to make a submission may be limited by clause 6(4) of Part 1 of Schedule 1 of the Resource Management Act 1991				
The specific provisions of the Plan that my submission relates to are:				
Strategic Direction				
Renewable electricity generation				
Transport				
Natural hazards				
Subdivision				
Coastal environment				
<ul> <li>Zones</li> </ul>	• Zones			
Other sections of the PDP				
Confirm your position:				

The submitter opposes, supports or seeks amendment to various areas of the PDP identified in this

submission. The reasons are provided below

#### My submission is:

### PDP provisions to address the climate emergency

### Reducing greenhouse gas emissions by 2030 and beyond

Scientists have warned that, in order to limit global warming to 1.5°C, CO<sub>2</sub> emissions from human activities need to be cut by about 45% (from 2010 levels) by 2030.<sup>1</sup>

The pressing deadline of 2030 means that the Council and all of us must do our part to change course substantially now, to reduce greenhouse gases in the atmosphere and avoid much larger costly impacts in future.

Wherever feasible, it's important that the PDP should include policies/rules that will reduce greenhouse gas emissions related to activities that may be covered by a DP. This issue cannot be set aside until the next district plan in ten years' time.

A recent Climate Change Commission report (June 2021) points out the key role of local government in achieving essential emission reduction targets.<sup>2</sup>

s7(i) of the RMA requires councils to have particular regard to the effects of climate change, and related issues such as energy efficiency, when exercising functions in relation to managing the use and development of natural/physical resources, and the protection of natural/physical resources –

'In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall have particular regard to' -

- (a) kaitiakitanga
- (aa) the ethic of stewardship
- (ba) the efficiency of the end use of energy
- (f) maintenance and enhancement of the quality of the environment
- (i) the effects of climate change
- (j) the benefits to be derived from the use and development of renewable energy.

FNDC's Long Term Plan consultation document noted the importance of coordinating activities 'to reduce our carbon footprint and find ways to ensure climate change is addressed in all strategy, planning, policy and decision-making.' (p.5)

FNDC's Climate Change Road Map<sup>3</sup> (attached as Appendix 1) sets out guiding principles and recognises the need to <u>act now</u>. It states that 'We will make climate change risks a key consideration in all our planning ...' -

#### **GUIDING PRINCIPLES**

1. We acknowledge the reality of climate change and will act now in response to the risks this poses. There is clear evidence of the need to act now on climate change to reduce future risks and costs for our District. We will make climate change risks a key consideration in all our planning and decisions

The proposed District Plan presents an opportunity for the Council and communities to be proactive and to do significantly more to reduce emissions and protect and safeguard our communities and places against the effects of climate change.

# PDP Strategic Direction / Natural Environment

<sup>&</sup>lt;sup>1</sup> Intergovernmental Panel on Climate Change (2019) *Special Report on Global Warming of 1.5°C: Summary for Policymakers*, page 12, section C.1, <a href="https://www.ipcc.ch/sr15/">https://www.ipcc.ch/sr15/</a>

<sup>&</sup>lt;sup>2</sup> Climate Change Commission (June 2021) *Low Emissions Future for Aotearoa*, p.230-231, <a href="https://ccc-production-media.s3.ap-southeast-2.amazonaws.com/public/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa.pdf">https://ccc-production-media.s3.ap-southeast-2.amazonaws.com/public/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa/Inaia-tonu-nei-a-low-

<sup>&</sup>lt;sup>3</sup> FNDC Climate Change Road Map (2020), https://www.fndc.govt.nz/Your-district/Climate-change-in-the-Far-North

The PDP Strategic Direction objectives for the natural environment include SD-EP-O4: 'Land use practices reverse climate change by enabling carbon storage and reducing carbon emissions'.

We support this objective. However the current PDP provisions mainly pursue a business-as-usual approach and contain very little to support the objective of reducing carbon emissions.

#### **Transport**

A report by the Climate Change Commission estimated that transport accounted for more than 33% of long-lived greenhouse gas emissions in Aotearoa in 2019.<sup>4</sup>

PDP provisions should take account of transport-related guidelines on connectivity in Appendix 2 of the Regional Policy Statement, such as the following points on *Connections* and urban design -

- '(a) Creates safe, attractive and secure pathways and links between neighbourhoods and centres;...
- (c) Places a high priority on walking, cycling and where relevant, public transport; and
- (d) Improves accessibility to public services and facilities.' 5

We seek PDP provisions that will support active modes of transport, including pedestrians, cyclists, disability scooters etc. The PDP needs revised/additional policies and rules to ensure that active transport modes will be supported in practice when consents are assessed/granted. For example, the PDP should require subdivisions and developments to provide cycleways and pedestrian walkways that will be ready to connect into future networks of cycleways and walkways (networks to be identified in plans such as spatial plans, structure plans or community transport planning for townships).

Please refer to our separate submission on cycling and multi-modal transport for further comments.

### Management of Natural Hazards due to climate change

As a matter of national importance, s6(h) of the RMA requires councils to provide for the management of significant risks from natural hazards (e.g. flooding, coastal erosion) in relation to managing the use, development and the protection of natural/physical resources –

'In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance: ... the management of significant risks from natural hazards.'

FNDC's recent Long Term Plan consultation document states that:

'We have identified climate change as the number one risk facing the Far North' (p.5).

#### Flood risks due to climate change

**Inland flooding**: Climate change is expected to make Northland drier overall, however heavy downpours are likely to become more extreme. This will increase the risk of inland flooding in areas near rivers/waterways. Flooding and rising groundwater are likely to affect houses, domestic wastewater tanks and disposal fields, roads and access ways to houses, and other structures built on former flood plains or land that has been drained.

**Coastal inundation**: The average global sea level is expected to continue rising for several centuries in future as a result of long-lived emissions from past decades alone (irrespective of sea level rise due to future emissions). A report by the Parliamentary Commissioner for the Environment in 2015 estimated that 1 in 100-year high water level events would occur very frequently in future - for example, every 4 years at the port of Auckland and once a year at Wellington and Christchurch ports. Furthermore, storm surges can add several tens of centimetres to high tides. 8

<sup>&</sup>lt;sup>4</sup> Climate Change commission (2021) as above, p.88, Figure 6.1.

<sup>&</sup>lt;sup>5</sup> NRC, Regional Policy Statement, p.165, Appendix 2, Part B Regional urban design guidelines

<sup>&</sup>lt;sup>6</sup> Parliamentary Commissioner for the Environment, PCE (2015), *Preparing NZ for Rising Seas*, p.22, <a href="https://www.pce.parliament.nz/media/1390/preparing-nz-for-rising-seas-web-small.pdf">https://www.pce.parliament.nz/media/1390/preparing-nz-for-rising-seas-web-small.pdf</a>

<sup>&</sup>lt;sup>7</sup> PCE (2015) *Preparing NZ for Rising Seas*, p.28.

<sup>&</sup>lt;sup>8</sup> PCE (2015) Preparing NZ for Rising Seas

The NZ SeaRise mapping project (funded by MBIE, supported by NIWA and other scientific bodies<sup>9</sup>) has identified specific coastal locations in the Far North that are particularly vulnerable to sea level rise due to climate change (taking account of land rising or falling due to tectonic movement etc.). SeaRise has published maps specifically for the use of planners.<sup>10</sup>

Low-lying coastal homes will become increasingly impacted by storm surges, erosion etc. as time progresses. A report by the Parliamentary Commissioner for the Environment in 2015 stated that:

- *'Sea level rise is inexorable but gradual, so there is time to develop a better approach, but* we do need to start now.' <sup>11</sup> (Note: this statement was made in 2015)
- 'councils are responsible for planning for the impacts of sea level rise under the RMA'. 12
- 'Both the New Zealand Coastal Policy Statement and the MfE Guidance Manual require councils to take a 'precautionary approach' to planning for coastal hazards.'<sup>13</sup>

We support the principle of PDP Policy NH-P3 which aims to 'take a precautionary approach' to the management of natural hazard risk associated with land use and subdivision. And we support PDP Policy NH-O1 which aims to manage risks from natural hazards taking into account the 'likely long-term effects of climate change'.

However, the PDP contains insufficient provisions to implement these policies. Overall, the PDP fails to address the urgent need to reduce greenhouse gas emissions wherever possible now, and fails to adequately avoid or mitigate the anticipated effects.

# Adverse effects of consenting new buildings/infrastructure in at-risk areas

Giving consent for a new house or building to be constructed in a location gives people the expectation that buildings can remain there in perpetuity. However, the government has indicated that a retreat from affected coastal areas will be needed in future due to climate change.<sup>14</sup> The retreat from climate hazard areas will be complex and very challenging for the Council and for affected communities.

If the Council continues to allow new buildings and infrastructure in future climate-risk areas, it would be irresponsible, because it would generate an unnecessarily large social disruption and economic cost for the retreat – a financial burden that taxpayers and ratepayers will be forced to pay.

We note that the New Zealand Coastal Policy Statement (NZCPS) of 2010 emphasises placing coastal subdivision and greenfield developments away from areas prone to coastal hazard risks (including climate change) and the need to avoid these risks.

The Regional development guidelines in the Regional Policy Statement (Appendix 2) state that:

'New subdivision, use and development should ... be directed away from 10-year and 100-year flood areas and high risk coastal hazard areas'.

FNDC's Climate Change Road Map (p.8) also acknowledged that 'Under the NRC Regional Policy Statement future development of land will need to be located away from coastal and low-lying areas vulnerable to sea-level rise, coastal erosion and flooding'.

The PDP is required to give effect to the NZCPS and Regional Policy Statement (under the RMA), and may adopt stricter requirements. Although the PDP rules on natural hazards (e.g. NH-R3, CE-R12) indicate that new buildings constructed in locations mapped as '1 in 100 year river flood hazard areas' or 'coastal hazard area' would often be regarded as restricted discretionary activities, these provisions should be strengthened. The PDP does not implement the *precautionary approach* indicated above.

Already, some locations mapped as 1 in 100 year river flood areas experience severe flooding at much more frequent time intervals. In order to apply the precautionary approach and take account of

<sup>&</sup>lt;sup>9</sup> NZ SeaRise project, <u>https://www.searise.nz/about</u>

<sup>&</sup>lt;sup>10</sup> NZ SeaRise maps for planners, <a href="https://www.searise.nz/">https://www.searise.nz/</a>

<sup>&</sup>lt;sup>11</sup> Parliamentary Commissioner for the Environment (2015) FAQ,

 $<sup>\</sup>underline{\text{https://www.pce.parliament.nz/media/1388/preparing-nz-for-rising-seas-faq-final.pdf}}$ 

<sup>&</sup>lt;sup>12</sup> Parliamentary Commissioner for the Environment (2015) FAQ.

<sup>&</sup>lt;sup>13</sup> Parliamentary Commissioner for the Environment (2015) *Preparing NZ for Rising Seas*, p.66.

<sup>&</sup>lt;sup>14</sup> For example, <a href="https://resiliencechallenge.nz/wp-content/uploads/2018/08/Owen-et-al-2018">https://resiliencechallenge.nz/wp-content/uploads/2018/08/Owen-et-al-2018</a> planning-quarterly.pdf

longer-term changes due to climate change, it would be necessary to apply additional large safety margins in areas at risk of flood/inundation.

We note that NRC Natural Hazard maps provide data on 1 in 100 year + cc (climate change) river flood extent (hazard zone) for priority rivers as well as data on coastal flood 100 years + rapid sea level rise scenario (hazard zone 3). <sup>15</sup> It appears that, at minimum, the available '+ CC' climate flood estimates could be referenced in the district plan. We notice that some applications for subdivision in this District already refer to +CC flood estimates.

We recognise that it is feasible to build properties on stilts, however related issues would need to be addressed, such as requiring raised accessways (above the high flood level) so that people are able to leave a flooded property, and ensuring that domestic wastewater tanks and disposal fields are well above any flood level, to avoid risks to public health from sewage-contaminated water inside flooded houses and the receiving environment.

Taking a precautionary approach means it's necessary to focus primarily on <u>avoiding</u> new residential or sensitive structures/infrastructure in hazard areas, rather than just managing or mitigating the impacts and paying the costs of retreat.

We consider that new buildings and infrastructure should not normally be permitted in hazard areas, with the exception of essential/unavoidable infrastructure. In principle, PDP policies/rules should ideally be strengthened to apply 'no build' areas to prevent new buildings, residential wastewater tanks and disposal fields, accessways and infrastructure in areas that are likely to be flooded or inundated, taking into account the *precautionary approach* and *likely long-term effects*.

Failing this, council should, at the very least, place LIM notices on property files. Future liabilities should also be addressed. We note there are existing cases where Council exempts itself from financial liability in relation to subdivision - FNDC has imposed a number of legally-binding fencing covenants that exempt FNDC from all financial liability for fencing on boundaries adjacent to FNDC land. In a similar manner, Council could specify in new subdivision/development consent notices (and building consents) that if a building/infrastructure is constructed in a climate hazard area it is done entirely at the landowner's own risk, and local authorities bear no financial responsibility. Without these types of measures, the council would impose an untenable cost burden on ratepayers and taxpayers in future years.

### Using updated flood hazard maps

A pop-out window in the PDP map, entitled *News Feed – How to use the Eplan*, points out that the coastal and flooding hazard maps in the draft plan are out of date, and asks users to check the updated NRC Natural Hazards Maps on NRC website<sup>16</sup> -

#### **Hazard Mapping**

The coastal and flooding hazard maps in the draft district plan, no longer reflects the most updated hazard information created and published by the Northland Regional Council (NRC). This is due to the draft district plan being created in March 2020, and Northland Regional Council releasing new hazard information in April and December 2021. To confirm if a property is affected by a coastal or flood hazard please refer to the NRC Natural Hazards Maps or for background information please refer to the Northland Regional Council as the draft district plan hazard maps may be not showing a hazard on a property or incorrectly identifying a property as being affected by a hazard.

However, the sections of the PDP that refer to flooding and natural hazards do not provide the above warning to users. As a result, people may use out-of-date mapping information. The PDP section should

<sup>&</sup>lt;sup>15</sup> NRC Natural Hazard map, River Flood Hazard Zone 100 year CC extent - priority rivers, https://nrcgis.maps.arcgis.com/apps/webappviewer/index.html?id=81b958563a2c40ec89f2f60efc99b13b

https://nrcgis.maps.arcgis.com/apps/webappviewer/index.html?id=81b958563a2c40ec89f2f60efc99b13b

refer specifically to the most recent NRC Natural Hazards maps, and PDP maps should be updated regularly, as soon as possible.

# Permeable surface area and water sensitive designs

Heavy downpours are expected to become more extreme due to climate change. Our group strongly supports intensification in urban areas while also noting that the PDP should address the fact that intensification can result in much larger impermeable surfaces covering a very high percentage of the urban land with houses, garages, other buildings, driveways, paving, tarmac, concrete etc.

We support the principle of PDP provisions controlling the area of impermeable surface per site, and consider it is probably also necessary to monitor and limit the total **cumulative** impermeable area in residential/urban zones.

The intensification of urban zones needs to be carefully managed, as discussed in our submission on multi-unit development. It should be encouraged in the form of well-designed two or three storey buildings, for example, with requirements for permeable open areas including garden/landscaped ground. Developments should use permeable materials wherever feasible for surfaces such as driveways, paths.

PDP provisions should require best practice water-sensitive designs and measures to prevent problems associated with more extreme rainfall events in future:

- Flood risk: If the majority of land in residential/urban areas becomes covered by impermeable surfaces, it would eliminate much of the existing soakaway area for stormwater and increase the risk of flooding in residential/urban areas during high rainfall events.
- Water quality: Large impermeable surface area would increase urban runoff to waterways during heavy rain. The latest government guidance on the NPS for Freshwater Management (Guidance on the National Objectives Framework of the NPS-FM, 2022, p.8<sup>17</sup>) states that *district plans* must be reviewed to give effect to the NPS-FM:

'District plans must be reviewed and, if necessary, amended to give effect to the NPS-FM "as soon as reasonably practicable".'

'To give effect to Te Mana o te Wai, councils must consider matters such as how urban growth and increases in impervious surfaces will impact on stormwater flows, how stormwater affects the water bodies it is discharged to, and methods to manage urban growth and stormwater discharge. The identification and control of urban growth areas must prioritise the health and well-being of water bodies.'

# Drought, rainwater harvesting and efficient use of water

During drought, water supplies in parts of the District become over-stretched. Climate change is expected to make the situation significantly worse in future decades.

The Regional development guidelines in the Regional Policy Statement (Appendix 2, Part A) state that:

'New subdivision, use and development should: ... Adopt, where appropriate, sustainable design technologies such as the incorporation of ... rain gardens, ... rainwater storage and grey water recycling techniques ...' 18

The PDP should require all new buildings to store/use roof water wherever possible, to avoid the need for expensive reticulation systems and reduce the need for water top-ups via water tankers.

New buildings connected to a public water supply should be required to collect roof water in storage vessels to use for gardens and flushing toilets (at minimum) and contribute to other household water uses such as laundry connections. Water storage vessels do not need to be a traditional round tank — other useful shapes exist, such as rectangular upright vessels that are easy to install against the side of a house or garage, or short flat vessels designed to be completely buried underground or placed under the foundations of new builds.

<sup>&</sup>lt;sup>17</sup> https://environment.govt.nz/assets/publications/NOF-Guidance-ME1658-Final-28.7.pdf

<sup>&</sup>lt;sup>18</sup> NRC, Regional Policy Statement, p.163, Appendix 2, Part A, clause (p).

Greywater harvesting and re-use should also be required for new buildings.<sup>19</sup> These types of water-saving measures would also reduce future Council infrastructure costs for additional water supplies and wastewater.

## Renewable energy & energy efficiency

A recent Climate Change Commission report stated that:

'Replacing fossil fuels with low-emissions electricity is an essential part of the transition and will require major expansion in the electricity system that <u>needs to start now'</u>. <sup>20</sup>

The District Council is required to give effect to the Regional Policy Statement (under s75(3) of the RMA). The RPS Regional development guidelines (in Appendix 2) state that:

'New subdivision, use and development should: ... Adopt, where appropriate, sustainable design technologies such as the incorporation of energy-efficient (including passive solar) design, low-energy street lighting, ... renewable energy technologies ... <sup>21</sup>

Given the climate crisis, it is necessary to give active support and incentivise energy efficient designs and renewable energy generation, especially in cases where it is cost-neutral or there are cost benefits to the developer or house occupier.

Traditionally, district plans include rules/standards for a range of items such as water supply, stormwater management, wastewater system, etc. We note that resource consent conditions may also include diverse additional requirements - such as recessive paint colours, non-reflective windows, specific provisions for ancillary buildings, landscaping plans, controls on dogs, etc. Those consent conditions aim to address adverse effects on natural character, landscapes, biodiversity, etc., in order to meet the RMA provisions. Given that 'the effects of climate change' has been added into the RMA, it is logical and appropriate that the district plan and consent conditions should now require items to help mitigate climate change.

It is time to bring the PDP into the 21<sup>st</sup> century by updating rules/standards in the light of climate change and developments in social/environmental issues and improved technologies and designs.

For example, standards should preferably require, or at minimum actively encourage, the adoption of 'sustainable design technologies such as the incorporation of energy-efficient (including passive solar) design, low-energy street lighting, ... renewable energy technologies', as stated in the RPS.

Passive heating and cooling designs, for example, reduce energy consumption and the on-going costs of heating/cooling. Solar panels with batteries, for example, can be purchased on lease-to-buy schemes so that the owner/occupier only pays the amount that they would have paid anyway for grid electricity. Additional electricity generation by households will be essential for powering EVs in future because current national generation capacity is not sufficient.

The measures mentioned above would also benefit the community and support Council objectives beyond the DP – such as generating jobs and increasing the number of healthy homes in the Far North. The Climate Change Commission notes that energy efficiency requirements can generate jobs.<sup>22</sup>

### We seek the following decisions from the Council:

➤ The PDP objectives, policies and rules needs to be updated in order to implement Council statements on the need to address climate change in all planning and policy — to reduce climate emissions and help reduce the adverse effects of climate change:

S443 00<sup>,</sup>

<sup>&</sup>lt;sup>19</sup> Auckland Watercare, https://www.watercare.co.nz/Help-and-advice/Be-Waterwise/Recycling-grey-water

<sup>&</sup>lt;sup>20</sup> Climate Change Commission (June 2021) *Low Emissions Future for Aotearoa*, p.86, <a href="https://ccc-production-media.s3.ap-southeast-2.amazonaws.com/public/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa/Chapter-15-inaia-tonu-nei.pdf">https://ccc-production-media.s3.ap-southeast-2.amazonaws.com/public/Inaia-tonu-nei-a-low-emissions-future-for-Aotearoa/Chapter-15-inaia-tonu-nei.pdf</a>

<sup>&</sup>lt;sup>21</sup> NRC, Regional Policy Statement, p.163, Appendix 2, Part A, clause (p).

<sup>&</sup>lt;sup>22</sup> Climate Change Commission (June 2021) Low Emissions Future for Aotearoa, p.294, Recommendation 22.

- FNDC's Long Term Plan consultation (p.5) recognised the importance of coordinating activities 'to reduce our carbon footprint and <u>find ways to ensure</u> climate change <u>is addressed in all</u> strategy, planning, policy and decision-making'.
- FNDC's Climate Change Road Map 2020 stated that: 'We will <u>operationalise</u> climate change adaptation <u>so it becomes 'business as usual' through our plans</u> and strategies including the Long Term Plan, <u>the District Plan</u>, our Infrastructure Strategy, ....'
- ➤ We ask the council to acknowledge that the climate emergency requires <u>a new approach</u> in the district plan right now. The Council's Climate Change Road Map recognised the need to 'act now'. This matter cannot be set aside until the next district plan in ten years' time.
- Wherever feasible, the PDP should include policies/rules/standards that will reduce greenhouse gas emissions related to the activities covered by district plans.
- ➤ PDP should promote and support active transport and multi modal integrated transport please refer to our separate submission on this topic.
- FNDC's Climate Change Road Map (p.8) recognises that 'Under the NRC Regional Policy Statement future development of land will need to be located away from coastal and low-lying areas vulnerable to sea-level rise, coastal erosion and flooding'. To implement this change, the PDP needs stronger rules, including 'no build' areas, to prevent new buildings, wastewater systems, accessways, roads and other infrastructure in areas that are likely to be impacted by sea level rise, storm surges, flooding etc. New construction in hazard areas makes little or no sense; it will generate high costs of remediation and retreat which will have to be paid by future rate payers and tax payers, or will generate increased insurance premiums for everyone.
- The PDP should apply the precautionary approach with regard to mapped inland flood and coastal hazard areas, to take account of longer-term changes expected from climate change, as well as the limitations in mapping.
- ➤ The PDP should require best practice water-sensitive, low-impact designs and measures for all stormwater and wastewater engineering, infrastructure and related development, to prevent problems associated with more extreme rainfall events in future, including provisions to implement relevant parts of NPS-FM refer to details in our detailed Submission text above.
- ➤ We support greater limits on impermeable areas (and/or requirements for minimum permeable areas) for subdivision, use and development. In urban/residential zones, it will also be necessary to adopt measures to limit the cumulative total impermeable surface and/or protect a specified cumulative total permeable area.
- The PDP should include objectives, policies and rules/standards that require best practice environmentally sustainable techniques for new developments, including -
  - Permeable materials wherever feasible for surfaces such as driveways, paths etc.
  - Best practice for lowest environmental impact and water sensitive designs, requiring grey
    water recycling techniques and other technologies to ensure efficient use of water, rain storage
    tanks for properties connected to a public water supply, additional water storage for buildings
    that rely solely on roof water (to cope with drought), and other measures
  - Renewable energy technologies and energy-efficient technologies, and similar requirements that foster improved environmental design/technologies and lower lifecycle climate impacts
  - Specified area (percentage) of tree canopy cover and green corridors should be required within new subdivisions. These will be increasingly important for shade/cooling for buildings and pedestrians in future.
- > Please refer to additional changes we seek in our detailed Submission text above.

I wish to be heard in support of my submission
I do not wish to be heard in support of my submission
(Please tick relevant box)

S443.002

S443.003

S443.004

S443.005

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S443.008

S443.009

If others make a similar submission, I will consider presenting a joint case with them at a hearing  Yes No		
Do you wish to present your submission via Microsoft Teams?  Yes No		
Signature of submitter: Melanie Miller		
Date: 21 October 2022		
SUBMISSION NUMBER		