

28 February 2020

Hon Stephan Knoll MP
Minister for Planning
GPO Box 1533
Adelaide SA 5001

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CC: DPTI.PlanningEngagement@sa.gov.au

Dear Minister,

Re: Regional Climate Partnerships Submission, Phase Three of draft Planning and Design Code

Eleven Regional Climate Partnerships have been established from 2011, in partnership with the State Government under the *Prospering in a Changing Climate* initiative: Resilient Hills & Coasts, Resilient South, AdaptWest, Resilient East, Adapting Northern Adelaide, Northern & Yorke, Barossa, Murraylands & Riverland, Far North & Outback, Eyre Peninsula and Limestone Coast.

Our partners vary from region to region, but include Councils, regional organisations of Councils, RDA Boards, NRM Boards, and the State Government. Our shared goal is to strengthen the resilience of our communities, economies and natural and built environments.

Our partnerships have been recognised and emulated nationally and internationally, due to our success in delivering practical, proactive and positive climate action. Since developing Regional Adaptation Plans in consultation with our communities, we have been in implementation mode. We have successfully delivered significant on-ground strategic projects and real cultural change within our regional communities and partner organisations.

To build resilient communities, we must integrate climate-readiness into all aspects of where we build and what we build. Climate ready development would support a hotter, drier climate, and mitigate risks and liabilities from more intense and frequent hazards like extreme heat, bushfires, coastal erosion and flooding. If the new planning system can deliver climate ready development, it will minimise community vulnerability during extreme events, while providing improved liveability, affordability and health and wellbeing for households every day.

We strongly agree with the State Planning Commission that the housing stock and urban infrastructure we build now must perform well and be fit-for-purpose throughout its life. We agree that what we put in place now must support community liveability, sustainability and prosperity well into the future. We want to see a Planning & Design Code that supports this policy intent.

Three of the Regional Climate Partnerships' six strategic priorities for enhanced collaboration with the State Government relate directly to Phase Three of draft Planning and Design Code, and to the Planning Reforms more broadly. They are:

- **Climate Hazard Mapping** – A centrally coordinated and jointly resourced framework to understand risk, inform decision-making, strengthen transparency and accountability, and reduce exposure to legal liability.

- **What We Build, Where We Build** – A strong focus and commitment in the State Planning Reforms to build climate resilience into our housing stock and urban infrastructure.
- **Green Infrastructure** – Mainstreaming trees, green space and water sensitive urban design via stronger planning, protections and incentives.

Aligned with these strategic priorities, the State Planning Commission is to be commended on its efforts towards delivering on the State Planning Policies, specifically:

- Strengthened greening and canopy cover provisions in the Code, including minimum requirements for deep root zones, soft landscaping space, and site permeability.
- Improved Water Sensitive Urban Design provisions.
- Greater coordination of hazard mapping across South Australia, and promoting the weight of hazard-related policy in decision-making through the use of Overlays.

For the Planning and Design Code to meet the intent of the State Planning Policies, the Regional Climate Partnerships would strongly support:

- Further collaboration between State and Local Governments to undertake centrally coordinated mapping of heat, bushfire, flood and coastal erosion and inundation hazards, and to fully integrate these into the planning policies and overlays.
- A mechanism and process for updating the Overlays with the best available spatial data as it becomes available, not just as generational policy changes are made.
- Policy and zoning that directs development away from areas prone to hazards now and in the future.
- Design provisions that ensure development is resilient to climatic conditions over the expected lifespan of the development, not just to prevailing conditions at the date of application.
- Consistent application of water sensitive urban design policies, to ensure WSUD outcomes are met in all development types and zones.
- Further strengthening of greening and canopy provisions, and added protections and incentives to retain existing trees and gardens, with a particular focus on retaining mature trees that support biodiversity.
- Further work to improve the energy and water performance of buildings, including through orientation, natural ventilation, solar access, landscaping, material choices, on-site energy generation, and water efficiency measures.

Further specific comments are provided at Attachment 1.

At the end of the reform process, we want to see a planning system that goes as far as reasonably practicable to encourage climate-ready, resilient communities.

This input does not reflect formal consideration by the constituent partners and is intended to support and complement submissions made by each Regional Climate Partnership. Submissions made by each of the partnerships, and by Water Sensitive SA, are strongly supported.

Regards,

Jen St Jack

Central Coordinator, Regional Climate Partnerships

Attachment 1

Specific Comments on the Planning and Design Code

Built form

Zone policy

Zone	Section	Opportunity to change
All neighbourhood zones	Desired outcomes	An additional desired outcome could be added that reflects the intent of SPP 5.3, for example: “Neighbourhoods that are resilient and sustainable, designed for the future climate and contribute to reducing greenhouse gas emissions”
All neighbourhood zones (apart from Residential Neighbourhood Zone)	Desired outcomes	There is no reference to the maintenance of trees that contribute to amenity, shading and cooling. An additional desired outcome could be added, for example “Neighbourhoods that have space for trees and other vegetation around buildings, maximise greening and enhance residential amenity”

General Development Policies

The inclusion of tree planting, landscaping, and environmental performance outcomes is strongly supported.

General development policy	Section	Opportunity to change
Design in Urban Areas Design in Rural Areas	Desired outcomes DO 1 (d)	Could refer to the need to be sustainable and minimise energy consumption over the life of the development, considering projected climate impacts. This could be achieved by adding the following statement to the end of DO 1 “... over the life of the development”.
	Desired Outcomes	Although the Desired Outcome refers to spaces integrated with the public realm, there is no reference to designing to consider the future climate. An additional outcome could be added for example: “Urban areas are designed to include landscaping and green infrastructure that contribute to shading, cooling, air quality and amenity now and in the future”
	ALL DEVELOPMENT Environmental Performance	These policies are strongly supported and provide great potential to contribute to the development of climate ready built form. Future opportunities for Generation Two Planning Reform could include the development of related DTS criteria. For example a number of Victoria councils have incorporated Sustainable Design Standards or Sustainable Design Assessments (eg Moreland City Council, City of

General development policy	Section	Opportunity to change
		Yarra) that refer to BESS scores (Built Environment Sustainability Scorecard). These include minimum standards for thermal performance, energy efficiency and water management.
	All Development Environmental Performance PO 4.2	Should refer to the need to minimise energy consumption over the life of the development, considering projected climate impacts. Suggest adding the following statement to the end of PO 4.2 “... over the life of the development”.
Design in Urban Areas	ALL DEVELOPMENT - 4 OR MORE BUILDING LEVELS Landscaping PO 10.1, DTS/DPF 10.1	These policies are strongly supported and provide great potential to contribute to the development of climate ready built form.
	ALL DEVELOPMENT - 4 OR MORE BUILDING LEVELS Landscaping PO 10.2, DTS/DPF 10.2	These policies are strongly supported and provide great potential to contribute to the development of climate ready built form.
	ALL DEVELOPMENT - 4 OR MORE BUILDING LEVELS Environmental PO 11.1	This policy is strongly supported and provide great potential to contribute to the development of climate ready built form. Future opportunities for Generation Two Planning Reform could include the development of related DTS criteria. These may relate to the amount of heat absorbed and released by a development.
	ALL DEVELOPMENT - 4 OR MORE BUILDING LEVELS Environmental PO 11.2	These policies are strongly supported and provide great potential to contribute to the development of climate ready built form. Future opportunities for Generation Two Planning Reform could include the development of related DTS criteria (refer previous comment).
	ALL RESIDENTIAL DEVELOPMENT – 3 BUILDING LEVELS OR LESS Landscaping PO 21.1, DTS/DPF 21.1	These policies are strongly supported and provide great potential to contribute to the development of climate ready built form.
	ALL RESIDENTIAL DEVELOPMENT – 3 BUILDING LEVELS OR LESS Landscaping PO 21.2, DTS/DPF 21.2	These policies are strongly supported and provide great potential to contribute to the development of climate ready built form.
Housing Renewal	Landscaping PO 12.1, TS/DPF 12.1	These policies are strongly supported and provide great potential to contribute to the development of climate ready built form.
	Other - Environmental Performance	There are no POs or DTS’ relating to Environmental Performance. An Environmental Performance sections could be added replicating POs from Design in Urban Areas PO 4.1, PO 4.2 and PO 4,3 with suggested amendment to PO 4.2 as described previously.

General development policy	Section	Opportunity to change
Land Division in Urban Areas	Major Land Division (20+ allotments) Open Space PO 8.1	The policy to provide open space to ameliorate urban heat is strongly supported.
Open Space and Recreation	Design and Siting / Landscaping POs	A PO could be added that articulates requirements for considering the future climate in the design of open space, landscaping, materials choices and provision of facilities. For example, material choices to withstand heat and minimise maintenance; minimising heat retention of materials; landscaping with irrigation or low water demand plants; stormwater management; mix of natural and constructed shade; suitable trees that consider growth and safety (limb drop) maintenance; contribution to urban biodiversity, ventilation and natural cooling.
Transport, Access and Parking	Vehicle parking areas	The need to incorporate electric vehicle charging provisions was identified in the Integrated Movement Systems discussion paper as part of Gen 1 reform however there is no related policy within this general section. Suggest DTS provisions be developed for this policy.

Water sensitive urban design

Zone policy

Zone	Section	Opportunity to change
Employment (Bulk Handling) Zone	Table 3 Applicable policies for Performance Assessed Development	Light industry, general industry and store often include a large impervious proportion and hence should refer to water sensitive design policies including Design in Urban Areas [Water Sensitive Design] or Design in Rural Areas

General Development Policies

The inclusion of water sensitive design performance outcomes is strongly supported however it is important that these apply to the function of the development now and into the future (over the life of the development). Future climate impacts need to be considered at planning and design stages to achieve these outcomes. For example, stormwater systems must be able to manage future flows associated with projected increases in rainfall.

General development policy	Section	Opportunity to change
Design in Urban Areas	All environmental performance, environmental and water sensitive design policies	All policies should be strongly supported for their contribution to greening, amenity, cooling, pollution prevention, flood protection and water security.
	ALL DEVELOPMENT	The climate resilience benefit from harvesting water will be achieved through its use. This could

General development policy	Section	Opportunity to change
	Environmental Performance PO 4.3	be achieved by adding “and use” after water harvesting.
	All Development Water Sensitive Design PO 5.1	Could refer to projected drying and increasing frequency and intensity of heavy rainfall events. For example: “Development sited and designed to maintain natural hydrological systems, considering projected changes to rainfall and runoff, without negative impacting ...”
	ALL DEVELOPMENT Environmental PO 11.2	The climate resilience benefit from harvesting water will be achieved through its use. This could be achieved by adding “and use” after water harvesting.
	Residential Development - 3 Building Levels or Less Water Sensitive Design PO 22.1	Could refer to projected drying and increasing frequency and intensity of heavy rainfall events. Suggest adding to end of PO after c): “considering projected changes in rainfall and rainfall intensity” (applicable to a-c)
	Residential Development - 3 Building Levels or Less Water Sensitive Design DTS 22.3	Projected increases to heavy rainfall events will change the ARI/AEP events and associated flood levels. References to storm or flood events could provide a reference date and refer to the need to consider future flood hazard.
	Non Residential Development Water Sensitive Design Water Sensitive Design DTS/DPF 41.3	Projected increases to heavy rainfall events will change the ARI/AEP events and associated flood levels. References to storm or flood events could provide a reference date and refer to the need to consider future flood hazard.
Housing Renewal	Water Sensitive Design PO 13.1	Could refer to projected drying and increasing frequency and intensity of heavy rainfall events. Suggest adding to end of PO: “considering projected changes in rainfall and rainfall intensity”.

Compact urban form, active travel and public transport

Zone policy

Zone	Section	Opportunity to change
City Main Street Zone, Innovation Zone, Urban Corridor (Main Street) Zone	Built form and character Pos	These sections contain good policy to promote active travel and will also support the use and activation of main street areas during hotter and wetter conditions.
Urban Renewal Neighbourhood Zone	Performance outcomes	There are currently no policies relating to the provision of walking and cycling or promotion of public transport use. These zones provide an opportunity to enhance active travel opportunities and policy such as that included in the Urban Neighbourhood Zone could be added to achieve this. For example, in the Desired Outcome the following could be added – Development has

Zone	Section	Opportunity to change
		provision for walking and cycling and promotes active movement and public transport use.

General Development Policies

General development policy	Section	Opportunity to change
Land Division in Urban and Rural Areas	Desired Outcomes and Road and Access performance outcomes	These are good policies to promote development that promotes active travel through the provision of walking and cycling trails.
Transport, Access and Parking	Bicycle Parking in Designated Areas PO 9.1, DTS/DPF 9.1	This policy is good however Table 3 could include student bicycle parking provisions for educational establishments to further encourage cycling.

Design and provision of public places and open space

Zone policy

Zone	Section	Opportunity to change
City Park Lands Zone	Natural / Cultural Landscape Character Performance outcomes	These outcomes could also refer to protection of values considering future impacts of climate change including hotter and drier conditions.
Greenfield Suburban Neighbourhood Zone	Open space PO 4.2	The examples provided in this PO could refer to sustainable and durable infrastructure.
	Tree Canopy PO 7.1	Tree planting policy could refer to trees chosen to thrive in hotter and drier conditions.
General Neighbourhood Zone	Site Dimensions and Land Division DTS/DPF 2.1	In addition to the frontage requirement, policy could require frontage to allow space for street tree planting considering existing infrastructure (eg power/stoby poles)
Housing Diversity Neighbourhood Zone	PO and DTS Criteria	Greening policies to maximise shading, cooling and amenity could be include in this zone. For example those included in the Greenfield Suburban Neighbourhood Zone Tree Canopy PO 7.1: “Tree planting provided on public streets and public open space to create a comfortable micro-climate and improve the amenity of the neighbourhood”.
Innovation Zone	PO and DTS Criteria	The POs for this section talk about public open space linkages and pedestrian and cyclist connections. These areas of public realm could also maximise greening for shading, cooling, air quality and amenity. Suggest add an additional PO that promotes this, for example: “Open space and public realm areas are designed to include landscaping and green infrastructure that contribute to shading, cooling, air quality and amenity.”
Open Space Zone	Desired Outcome	The DO should refer to the biodiversity, greening, cooling and amenity benefits of open space (noting there are also landscaping provision in the general section- open space and recreation).

Zone	Section	Opportunity to change
Suburban Activity Centre Zone	Built Form and Character Performance outcomes	The POs for this section talk about open space linkages and pedestrian and cyclist connections, and streetscapes and spaces that encourage social interaction. These areas of public realm could also maximise greening for shading, cooling, air quality and amenity. Suggest add an additional PO that promotes this, for example: <i>Open space and public realm areas are designed to include landscaping and green infrastructure that contribute to shading, cooling, air quality and amenity.</i>
Suburban Main Street Zone	Desired Outcome	Maintaining and promoting visitation to main street areas during (more frequent) hot weather and high intensity rainfall events will require main streets to be designed to maximise shading, shelter and cooling through well designed green infrastructure. The DOs could reference public realm that is functional, amenable and comfortable.
Township Zone	Desired Outcome	As for Suburban Main Streets, maintaining and promoting visitation to townships (main street) areas during (more frequent) hot weather and high intensity rainfall events will require main streets to be designed to maximise shading, shelter and cooling through well designed green infrastructure. The DOs could reference public realm that is functional, amenable and comfortable.
Township Main Street Zone	Desired Outcome Built Form and Character	As for Township and Suburban Main Streets, maintaining and promoting visitation to townships(main street areas during (more frequent) hot weather and high intensity rainfall events will require main streets to be designed to maximise shading, shelter and cooling through well designed green infrastructure. The DOs could reference public realm that is functional, amenable and comfortable.
Township Activity Centre Zone	Desired Outcome Built Form and Character	As for Township and Suburban Main Streets, maintaining and promoting visitation to townships(main street areas during (more frequent) hot weather and high intensity rainfall events will require main streets to be designed to maximise shading, shelter and cooling through well designed green infrastructure. The DOs could reference public realm that is functional, amenable and comfortable.
Urban Corridor (Boulevard) Zone	PO and DTS Criteria	The Desired Outcome talks about areas of significant open space. Open space provisions are only provide within the POs for Significant Development Sites (over 2500m ² or over 25m primary road frontage) that talk about open space and sustainable design measures. Smaller sites could also contribute to high quality public realm however these are currently not addressed.
Urban Corridor (Main Street) Zone	PO and DTS Criteria Built Form and Character	The DOs talk about safe and walkable street precincts public realm. As with the other Urban

Zone	Section	Opportunity to change
		Corridor Zones, there are no policies about provision of high quality public realm for smaller sites (only Significant Development Sites).
Urban Corridor (Main Street) Zone	Main Street Sub-Zone	As for Township and Suburban Main Streets, maintaining and promoting visitation to townships(main street areas during (more frequent) hot weather and high intensity rainfall events will require main streets to be designed to maximise shading, shelter and cooling through well designed green infrastructure. The DOs could reference public realm that is functional, amenable and comfortable.

General Development Policies

The inclusion of tree planting, landscaping, WSUD, environmental performance and flooding performance outcomes is strongly supported however it is important that these apply to the function of the development now and into the future (over the life of the development). Future climate impacts need to be considered at planning and design stages to achieve these outcomes. For example, landscaped areas need to consider the future climate to ensure they can continue to minimise heat absorption, maximise shade and enhance the appearance of land and streetscapes into the future.

General development policy	Section	Opportunity to change
Design in Urban Areas	Desired Outcomes	Although the Desired Outcome refers to spaces integrated with the public realm, there is no reference to designing to consider the future climate. An additional outcome could be added for example: “Urban areas are designed to include landscaping and green infrastructure that contribute to shading, cooling, air quality and amenity”
Land Division in Urban Areas	All Land Division 3.10	This policy is strongly supported however would be strengthened by the inclusion of DTS provisions that require a minimum area for tree planting in front of each new allotment.
	Major Land Division (20+ allotments) Open Space PO 8.1	The policy to provide open space to ameliorate urban heat is strongly supported.
Open Space and Recreation	Design and Siting / Landscaping POs	A PO could be added that articulates requirements for considering the future climate in the design of open space, landscaping, materials choices and provision of facilities. For example material choices to withstand heat and minimise maintenance; minimising heat retention of materials; landscaping with irrigation or low water demand plants; stormwater management; mix of natural and constructed shade; suitable trees that consider growth and safety (limb drop) maintenance; contribution to urban biodiversity, ventilation and natural cooling.

Biodiversity protection and enhancement

Zone policy

Zone	Section	Opportunity to change
Conservation Zone	Desired Outcome	DO could add reference to the (green and blue) carbon storage values consistent with SPP 5.7 The DO could also refer to the importance of protecting the natural environment to help make it more resilience to the impacts of climate change
	PO and DTS Criteria Land Use	PO 1.1 should also include carbon storage DTS 1.1 should also include carbon planting
Coastal Waters and Offshore Islands Zone	Assessment Provisions Desired Outcome DO1	This DO could also include recognition of the natural marine and coastal environment for (blue) carbon storage.
Open Space Zone	Assessment Provisions Desired Outcome DO1	The DO should refer to the biodiversity, greening, cooling and amenity benefits of open space – it is considered this should be include at zone level (noting there are landscaping provision in the general section- open space and recreation).

Overlay policy

Protecting and enhancing areas of biodiversity is vital to build its resilience to climate change impacts. This is reflected in SPP 5.7 which promotes the protection and enhancement of areas of biodiversity. The Native Vegetation Overlay policy does not include performance outcomes relating to enhancement as was the case in the SAPPL Natural Resources policy. The SAPPL contained ideal policy that should be reinstated here (Principle of Development Control 26 in the General Section - Natural Resources).

“Development should retain existing areas of native vegetation and where possible contribute to revegetation using locally indigenous plant species”.

Overlay	Section	Opportunity to change
Coastal Areas	DO 1	Part of this DO is not consistent with Appendix 2 of the Guide as it does not articulate the need to protect coastal features for their contribution to climate resilience. Could add reference to coastal features to be protected (dunes, salt marsh, mangrove) due to contribution to climate resilience and carbon storage.
	Environment Protection 4.3	This is considered to be good policy as it refers to the effects of changing climatic conditions and sea levels/. This reference could be used in other overlays.
Mount Lofty Ranges Catchment (Area 1) Mount Lofty Ranges Water Supply Catchment (Area 2)	Performance outcomes	There is no reference to the cumulative impact of development and climate change on natural features. An additional PO could be added, similar to the RAMSAR wetland overlay, for example: “Development designed to minimise the cumulative impacts on landscapes and natural features from vegetation clearance, changing climatic condition and human disturbance”.
Native Vegetation Overlay	DO 1	DO 1 refers to restoring areas of native vegetation. There are no related performance outcomes that

Overlay	Section	Opportunity to change
		refer to restoring native vegetation. Refer to next comments on suggested additions to POs.
	Environmental Protection PO 1.1	<p>SPP 5.7 refers to the need to enhance biodiversity (protect and enhance areas that provide biodiversity and ecological services and maximise opportunities for carbon storage)</p> <p>Performance outcomes could be added relating to enhancing native vegetation similar to that included in the State Significant Native Vegetation Areas Overlay PO 1.1 (development enhances biodiversity and habitat values through revegetation ...).</p> <p>The SAPPL contained ideal policy that could be reinstated here (Principle of Development Control 26 in the General Section - Natural Resources) "Development should retain existing areas of native vegetation and where possible contribute to revegetation using locally indigenous plant species".</p>
	Performance outcomes	There is no reference to the cumulative impact of development and climate change on natural features. An additional PO could be added, similar to the RAMSAR wetland overlay, for example: "Development designed to minimise the cumulative impacts on landscapes and natural features from vegetation clearance, changing climatic condition and human disturbance".
Water Resources Overlay	Water Catchment PO 1.5, DTS/DPF 1.5	This is considered good policy to restore native vegetation along watercourses where development will increase surface water runoff.

General Development Policies

General development policy	Section	Opportunity to change
Design in Rural Areas	Performance outcomes	The Design in Urban Areas policy refers to including landscaping to provide for biodiversity however this is not included in the Design in Rural Areas policy. Replication of the policy included in PO 21.1 and PO 21.2 could improve this.

Natural hazards and risk mitigation

Zone policy

The following table summarises opportunities to better consider climate change in relation to hazards in zones policy of the Draft Code Phase Three.

Zone	Section	Opportunity to change
Hills Face Zone	PO and DTS Criteria Environment and Amenities	PO 10.6, DTS/DPF 10.6 refers to the 1% AEP flood event. It is strongly recommended that flood hazard refers to a date of assessment and that this

		could also refer to flood protection over the life of the development. For example, this PO could ensure development is located outside of the 2070 1% AEP flood event.
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Overlay policy

In the Guide to the Planning and Design Code, the natural hazards topic includes reference to climate change increasing the severity and frequency of hazards however this has not consistently been applied across all hazards within the Code. It is referred to for coastal risks (in the Coastal Areas Overlay) but not for flooding and bushfire. A consistent approach that requires consideration of future hazards for all hazard overlays would provide greater alignment with the Climate Change and Natural Hazard State Planning Policies.

Heatwaves kill more people in Australia than any other natural hazard and climate projections for longer, hotter and more frequent heatwaves mean the risks to human health and safety are increasing. The design, siting and construction of buildings and open space can contribute significantly to reducing heat loads in urban areas and so the planning system has potential to mitigating heat-related risks. Heat mapping has been undertaken across the Adelaide metropolitan area and it is understand that although the mapping is not seamless or completely consistent, it could be used to develop an approach to consider heatwave hazard as an overlay and associated policies. The development of a heat hazard overlay would likely need to consider issues of scale, applicability, design approaches and consider the local or downwind benefits of cooling or mitigation approaches.

Overlay	Section	Opportunity to change
Hazards (Bushfire – General) Hazards (Bushfire – High Risk) Hazards (Bushfire – Medium Risk) Hazards (Bushfire – Urban Interface)	Desired Outcomes	For all bushfire hazard overlays, the DO could refer to the need to consider how bushfire hazard will change as the climate changes. This could be achieved through an addition to DO 1 that articulates the increasingly frequency of dangerous fire weather due to climate change (similar to Coastal Areas Overlay DO 1)– for example “Development is located to minimise the threat and impact of bushfires on life and property, recognising the projected increase in dangerous fire weather as a result of climate change” An additional DO that considers risks to adjoining land similar to the Hazards (Flooding) overlay PO 3.2 could also improve the consideration of risk in these zones, for example “development should not increase the risk of hazards to adjoining or local natural or constructed assets”.
Hazards (Flooding)	DO 1	The DO could refer to the need to consider how flood hazard will change given the projected increasing frequency and intensity of extreme weather events, as identified in SPP 5.5 and similar to Coastal Areas Overlay DO 1. For example:

Overlay	Section	Opportunity to change
		Minimise impacts on people, property, infrastructure and the environment from exposure to current and future flood hazard
	Flood resilience PO 3.1	The PO could require consideration of future flood potential considering projected climate change over the life of the development. For example – “Development promotes a built environment resilient to projected flood hazard over the expected life of the development”
Sloping Land	Land slip and Soil Erosion PO 1.1	Should refer to consideration of increasing frequency and intensity of heavy rainfall and potential impact on land slip and soil erosion, as identified in the <i>Guide to the Code</i> and SPP 5.5. Suggest the addition of the following statement at the end of the PO “... considering projected increases in heavy rainfall events as a result of climate change”
Heatwave - NEW	Recommendation for Generation 2 reform	New data capture may be required to develop a consistent and seamless heat hazard later. The development of overlay policies should consider issues of scale, applicability, design approaches and consider the local or downwind benefits of cooling or mitigation approaches.

General Development Policies

The Land Division in Urban Areas and Land Division in Rural Areas general development policies sections include a desired outcome to avoid areas of high natural hazard risk which is strongly supported. There are no Performance Outcomes or associated DTS/DPF provisions, however, relating to avoiding high natural hazard risk.

General development policy	Section	Opportunity to change
Design in Urban Areas	All Residential Development Flooding PO 17.1	Could refer to projected increasing frequency and intensity of heavy rainfall events. Suggested wording: “Residential accommodation ... to present the entry of floodwaters <i>considering projected increases in heavy rainfall events, ...</i> ”
	Residential Development - 3 Building Levels or Less Water Sensitive Design DTS 22.3	Projected increases to heavy rainfall events will change the ARI/AEP events and associated flood levels. References to storm or flood events could provide a reference date and refer to the need to consider future flood hazard.
	Non Residential Development Water Sensitive Design Water Sensitive Design DTS/DPF 41.3	
Design in Rural Areas	Residential Development - 3 Building Levels or Less Water Sensitive Design DTS 16.2	Projected increases to heavy rainfall events will change the ARI/AEP events and associated flood levels. References to storm or flood events could provide a reference date and refer to the need to consider future flood hazard.

General development policy	Section	Opportunity to change
Land Division in Urban Areas	DO 1	<p>DO 1 (r) refers to avoiding areas of high natural hazard risk but there is no associated PO or DTS/DPF. A PO and associated DTS could be included that refers to avoiding areas of high natural hazard risk.</p> <p>It is not clear if this DO means that land division should be avoided on all land identified in the Hazards (Bushfire – High Risk) Overlay. There is no reference to avoiding land division within this overlay.</p>
	All Land Division PO 2.6	<p>This policy suggests that land division will result in land subject to flooding being free from development.</p> <p>This is not consistent with the Hazards (Flooding) Overlay where the Performance Outcomes</p>
	Minor Land Division (Under 20 allotments) Water Sensitive Design DTS/DPF 7.2	<p>Projected increases to heavy rainfall events will change the ARI/AEP events and associated flood levels. References to storm or flood events should provide a reference date and refer to the need to consider future flood hazard.</p>
	Major Land Division (20+ allotments) Water Sensitive Design DTS/DPF 9.1 DTS/DPF 9.2	<p>Projected increases to heavy rainfall events will change the ARI/AEP events and associated flood levels. References to storm or flood events should provide a reference date and refer to the need to consider future flood hazard.</p>
Land Division in Rural Areas	DO 1	<p>DO 1 (f) refers to avoiding areas of high natural hazard risk but there is no associated PO or DTS/DPF.</p> <p>A PO and associated DTS could be included that refers to avoiding land division that results in development in areas of high natural hazard risk. (Refer to PO 2.6)</p>
	Water Sensitive Design DTS/DPF 7.2, DTS/DPF 9.1, 9.2	<p>Projected increases to heavy rainfall events will change the ARI/AEP events and associated flood levels. References to storm or flood events could provide a reference date and refer to the need to consider future flood hazard.</p>
Waste Treatment and Management Facilities	Landfill DTS/DPF 6.4 Organic Waste Processing Facilities DTS/DPF 7.5	<p>Projected increases to heavy rainfall events will change the ARI/AEP events and associated flood levels. References to storm or flood events could provide a reference date and refer to the need to consider future flood hazard.</p>
	Organic Waste Processing Facilities DTS/DPF 7.1	<p>This policy refers to the coastal high water mark. As sea levels continue to rise, this mark will also move. A defined storm sea water level event (for example 2019 1% AEP) could be referenced to provide greater clarity.</p>