

From: [REDACTED]
To: [Strategic Planning](#)
Cc: [REDACTED]
Subject: UDIA submission re Planning Scheme Amendment C217ball – Flood and Stormwater Overlays
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[UDIA Letter to City of Ballarat re C217ball Flood Overlay.pdf](#)

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Good morning,

Please find attached the Urban Development Institute of Australia (Victoria)'s submission to the City of Ballarat's Planning Scheme Amendment C217ball – Flood and Stormwater Overlays.

Apologies for the late submission, and we appreciate your consideration.

Kind regards,

[REDACTED]

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UDIA Victoria respectfully acknowledge the Wurundjeri People of the Kulin Nation, who are the Traditional Owners of the land on which we work and pay respect to their Elders past, present and emerging.



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1 June 2026

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Re: Planning Scheme Amendment C217ball – Flood and Stormwater Overlays

The Urban Development Institute of Australia, Victoria (UDIA) welcomes the opportunity to make a submission as part of public consultation on the City of Ballarat's Planning Scheme Amendment C217ball – Flood and Stormwater Overlays.

This submission was informed by UDIA's Ballarat Committee, comprising subject matter experts across the urban development industry, working in the City of Ballarat.

UDIA does not oppose in principle the Ballarat Planning Scheme being updated to reflect current flood risk. Effective floodplain management protects both existing communities and future development from genuine hazard and gives everyone greater clarity when planning for affected areas. We recognise the importance of that work and acknowledge the effort invested by the City of Ballarat and its consultant Water Technology in the Ballarat 11 Waterways Flood Study.

However, UDIA has significant and well-founded concerns that the technical work underpinning the Amendment as exhibited contains issues of sufficient significance that progressing the Amendment on the current evidence-base may not fully align with the City of Ballarat's statutory duties under section 12 of the Act. The concern is not that land currently capable of development should remain unaffected where there is a genuine and demonstrated flood risk. Rather, it is that long-term statutory controls should be based on a sound, current and proportionate evidence base so they do not unnecessarily constrain feasible infill and redevelopment opportunities, or impose burdens that are not properly aligned to the level of risk being managed.

Accordingly, UDIA respectfully requests that the City of Ballarat consider deferring further progression of the Amendment until the matters identified in this submission have been addressed through updated modelling and an appropriate community and industry consultation process.

Timing of the Amendment and its implications for the evidence base

The timing of the Amendment's exhibition creates issues for the technical evidence on which it relies.

The flood study for several of the eleven waterways was first commissioned in 2018. The hydraulic models were developed on LiDAR captured in October 2019 and on drainage network data compiled from the Council GIS database at around the same time. The consolidated Technical Reports are dated December 2023. The Amendment was placed on public exhibition in May 2026 - approximately six to seven years after initial modelling commenced.

During that period, the City of Ballarat has been one of the fastest-growing regional cities in Victoria. Significant residential development has occurred across multiple catchments, altering impervious fractions, drainage patterns, and the physical terrain represented in the models.

UDIA's position is not that the delay was necessarily avoidable but that the consequence of that delay must now be acknowledged as the technical basis for the Amendment has been overtaken by physical changes on the ground, by advances in climate science, and by significant changes to the legislative and policy framework within which the Amendment must be assessed. Proceeding to gazette on this basis without updating the evidence would be premature. The preferable course is to update the work so the resulting controls rest on the strongest available evidence for what may be a long-standing statutory control.

We strongly encourage the City of Ballarat to engage directly with local consultants and industry to assist in capturing and compiling an accurate and complete drainage infrastructure dataset. Building an accurate drainage network would materially improve the accuracy of the hydraulic models and would substantially strengthen the technical basis on which any future exhibited Amendment can rest.

Consistency with the City of Ballarat's duties under Section 12 of the Act

Section 12(2) of the *Planning and Environment Act 1987* imposes specific duties on the City of Ballarat as planning authority in preparing this Amendment. UDIA considers that, as exhibited, the Amendment raises material questions in relation to three aspects of those duties.

Duty to have regard to the Victoria Planning Provisions (s.12(2)(aa))

The Amendment must have regard to the Victoria Planning Provisions (VPP), which includes Clause 13.03-1S (Floodplain management) and Clause 13.01-1S (Natural hazards and climate change). Provisions require that planning authorities "*protect communities and property from flood risk*" using the "*best available information*" on flood hazard. UDIA submits that the modelling underpinning this Amendment does not represent the best available information for the following reasons:

- The hydraulic models are based on a drainage network GIS dataset in which pit and pipe invert levels were acknowledged to be generally absent and replaced with assumed values based on standard cover depth tables. Where piped drainage infrastructure is omitted from, or incorrectly represented in, a hydraulic model, the model will overstate surface flooding. In UDIA's view, this is difficult to reconcile with the use of the best available information, particularly where the

limitation is known and appears capable of being materially improved through targeted data collection.

- The terrain model uses 2019 LiDAR resampled from 1 metre to 3 metre grid resolution. The 3 metre resampling removes sub-grid drainage geometry - kerb lines, shallow channels, inlet depressions - that in reality routes water into the pipe network. The 3 metre resolution introduces a systematic, conservative bias in surface inundation prediction that is not quantified or acknowledged.

Duty to take into account social and economic effects (s.12(2)(c))

Section 12(2)(c) requires the planning authority to *"take into account its social effects and economic effects"*. UDIA submits this duty has not been examined. The Amendment documentation does not contain any evidential assessment of the economic consequences of applying the proposed flood overlays to affected properties. The explanatory report makes a 'broad-brush' statement focusing primarily on new development applications. This is a significant omission given the direct impacts that flow from flood overlay application, which include:

- **Unnecessary constraint on infill housing and development feasibility:** If the proposed controls are calibrated too conservatively, the Amendment risks imposing unnecessary constraints on sites that would otherwise contribute to Ballarat's housing supply, particularly infill housing within the existing urban footprint. This creates an additional barrier to meeting Ballarat's housing and infill targets and is inconsistent with the policy intent of Plan Victoria and the findings of the Parliamentary Inquiry into Regional Housing Supply, both of which emphasise the need to maximise feasible housing opportunities in established areas.
- **Reduced land value:** Properties affected by a Land Subject to Inundation Overlay (LSIO) or Floodway Overlay (FO) attract lower market valuations. In a regional market such as Ballarat, where residential development is a significant driver of economic activity, the cumulative effect of incorrectly applied overlays on land value and municipal rate revenue is material.
- **Increased development costs and permit burden:** Overlay application triggers permit requirements for a wide range of otherwise exempt development, including outbuildings, fencing, and land fill. For individual homeowners and small developers, the cost and time burden of obtaining permits – including potential referral to the Catchment Management Authority – is substantial.
- **Financing and insurability:** Flood overlay information is used by insurers, lenders and purchasers in property transactions. If an overlay is applied incorrectly, affected properties may face higher insurance premiums or reduced access to finance without any corresponding reduction in actual flood risk.
- **Constraint on economic development:** Ballarat is identified as one of just three Major Regional Cities under Plan for Victoria. Development of appropriately zoned land for housing supply is a state planning priority. Where flood overlays are incorrectly applied to land, they function as an unjustified constraint on housing supply and economic development activity – outcomes that are contrary to state planning policy.

In the absence of any such assessment, it is not clear how the City of Ballarat has satisfied that requirement in respect of the economic effects of the Amendment. This gap is material and the Amendment should be deferred until an appropriate assessment has been prepared and exhibited.

These matters also provide a direct response to the social and economic effects discussion in the Explanatory Report. While it is well understood that flooding can have serious consequences for individuals and communities, section 12(2)(c) requires Council to consider the social and economic effects of the Amendment in a balanced way. The exhibited material places strong emphasis on the benefits of tighter flood controls, but does not appear to give the same level of consideration to the potential social and economic implications. It identifies the benefits of stronger flood controls, but does not grapple with the consequences of an overly conservative control, including reduced housing opportunity, constrained redevelopment of existing sites, reduced development feasibility, and the risk that outdated or overstated controls will prevent site improvements that could in fact deliver more flood-resilient built form.

Duty to have regard to emissions reduction targets (s.12(2A))

The 2024 amendments to the *Planning and Environment Act 1987* (operative from 26 March 2025) inserted section 12(2A), which requires that in preparing a planning scheme or amendment, a planning authority must have regard to emissions reduction targets and to any significant risk from the impacts of climate change. This provision is reinforced by Ministerial Direction No. 22 (Climate Change Consideration, gazetted 11 September 2025), which specifies in detail the matters to which planning authorities must have regard under section 12(2A).

Council has stated in its Explanatory report that Ministerial Direction No.22 – Climate Change Consideration “is not applicable to the amendment”. UDIA considers that conclusion should be revisited, particularly given the direction’s application under part 3(a), subsequent to Section 8(1) of the Act, to “amendments to any provision of the planning scheme”.

UDIA submits that the Amendment as exhibited appears to sit in significant tension with the duties imposed by section 12(2A). The tension arises as follows:

The Technical Reports confirm that the proposed flood overlay boundaries were derived exclusively from the RCP 8.5 climate change scenario - the most extreme of three scenarios modelled. RCP 8.5 is a “no climate policy” baseline scenario that assumes annual coal consumption will be seven to ten times higher in 2100 than today. It does not represent a plausible future given current policy trajectories; it represents the theoretical upper bound of a future in which no emissions reduction action is taken by any government, anywhere, at any time.

Additionally, the Amendment relies on RCP8.5 as the primary 2100 climate assumption. UDIA acknowledges that Council used the State guidance and scenario settings available at the time the technical work commenced on the exhibited controls. However, the evidentiary context has since shifted. RCP8.5 is no longer an active reference, with its closest later equivalent being SSP5-8.5 under the CMIP6 modelling cycle. The latest [ScenarioMIP-CMIP7 framework](#) now states that those CMIP6 high-emissions levels (equivalent to the RCP8.5 modelling) have “become implausible” on account of renewable energy cost trends, the rise of impactful climate policy and emissions trends. Long-term property-affecting flood controls should therefore not be based on climate modelling that leading

climate scientists now regard as implausible, without also testing the proposed controls against the more realistic and probable medium-emissions scenarios

This matters for section 12(2A) for the following reason: the Victorian State Government has, through legislation, committed to an emissions reduction trajectory that is the direct opposite of the world implied by RCP 8.5. Victoria's legislated emissions reduction targets under the Climate Change Act 2017 (as amended) are:

- 28-33% below 2005 levels by 2025 (achieved, with a 31.4% reduction recorded for 2023);
- 45-50% below 2005 levels by 2030;
- 75-80% below 2005 levels by 2035;
- Net zero emissions by 2045.

The Victorian Government has also legislated a new climate change objective into the planning framework - section 4(2)(da) of the Act - requiring planning authorities to provide for "explicit consideration of the policies and obligations of the State relating to climate change, including but not limited to greenhouse gas emissions reduction targets."

Adopting RCP 8.5 as the sole basis for flood overlay mapping appears difficult to reconcile with a future that Victoria's own legislation is explicitly designed to achieve. There is a structural contradiction between:

- the State's mandatory emissions reduction commitments, which define a pathway to net zero by 2045; and
- a planning scheme amendment that imposes long-term statutory controls on private land based on a climate scenario premised on the total failure of every emissions reduction commitment made by every government in the world.

A planning authority preparing an amendment under the Act must have regard to both limbs of the climate change consideration framework – not just adaptation resilience (the risk side) but also the State's obligations in respect of emissions reduction (the mitigation side). Using RCP 8.5 as the design scenario for a planning control that will govern land use for decades satisfies neither limb appropriately:

- **On resilience:** It may overstate the flood risk that will actually materialise if Victoria and the world meet their emissions commitments - producing overlays that are more restrictive than the physical reality they purport to represent.
- **On emissions reduction consistency:** It embeds into the planning scheme a tacit assumption that Victoria's emissions reduction program will fail completely, which is inconsistent with having regard to the State's policy obligations under section 12(2A)(a).

UDIA does not suggest that climate change risks should be ignored in floodplain mapping. Flood overlays should reflect current and reasonably projected future flood risk. However, the appropriate scenario for that purpose is a central or moderate projection - such as RCP 4.5 (SSP2-4.5) or SSP3-

7.0 - that reflects a plausible future consistent with the State's own climate commitments, not the extreme boundary scenario used to test the limits of model sensitivity.

It is also noted that the Technical Reports were prepared using the CMIP5 RCP scenario framework. The Victorian Government has since released the Victorian Climate Science Report 2024 (VCSR24), which adopts the updated CMIP6 Shared Socioeconomic Pathway (SSP) framework. The climate change inputs to this study may therefore not represent the best available climate science at the time of exhibition, further weakening the basis for applying overlays derived from those inputs as long-term statutory controls.

UDIA requests that the City of Ballarat coordinate with the CCMA to obtain a formal written position in accordance with the State climate change scenario framework and seek advice on whether the Amendment, as exhibited, can be prepared and adopted in compliance with section 12(2A) of the Act and Ministerial Direction No. 22 in light of these issues.

Technical considerations relevant to the proposed overlay boundaries

The statutory issues outlined above are closely linked to a number of technical aspects of the flood study methodology. UDIA raises these matters not as isolated criticisms, but to highlight areas where the modelling could be strengthened to provide a more robust and reliable basis for long-term statutory controls.

Next steps

UDIA would welcome the opportunity to work with the City of Ballarat to ensure that any updated flood overlays are based on modelling that is technically sound, legally compliant, and proportionate to the actual risk. Our members include practitioners with expertise across planning, engineering and development who can also assist in bringing a practical understanding of the issues raised by the Amendment.

We propose the following staged approach:

Stage 1 - Drainage network data collection (immediate)

The City of Ballarat should, as a priority, commission a targeted engagement program with consultants to compile a more complete and verified drainage infrastructure dataset for the affected catchments. This should draw on:

- as-built drawings held by Council for drainage infrastructure approved through subdivision and development permits over the past ten years;
- infrastructure data held by local consultants who have designed drainage systems in the growth corridors; and
- field verification of critical structures, including culvert inverts, road drainage crossings, and retarding basin spillways, in the upper tributary catchments.

This does not need to be a lengthy or expensive exercise compared to the cost of gazetting incorrect overlays and then defending resulting permit applications and appeals.

Stage 2 - Model update and climate scenario review (short term)

The hydraulic models should be updated using the improved drainage network data. For catchments where the proposed overlays affect significant areas of developed or developable land, Council should also complete sensitivity testing comparing 1 metre and 3 metre grid resolution outputs.

The climate change scenario selection should be reviewed against Ministerial Direction No. 22 and the VCSR24 framework, with formal advice sought on the appropriate scenario for setting statutory overlay boundaries under the current legislative requirements.

Stage 3A - Re-exhibition with economic impact assessment (medium term)

An updated Amendment, incorporating the improved modelling, should be re-exhibited with a proper economic impact assessment prepared in accordance with section 12(2)(c) of the Act. The exhibition material should publish flood extent maps for all modelled climate change scenarios so that affected parties can assess the sensitivity of proposed overlay boundaries to scenario selection.

Stage 3B - Housing delivery assessment (medium term)

A balanced assessment should also be prepared of the Amendment's implications for housing delivery within the existing urban footprint. Consistent with the policy intent of Plan Victoria and the recommendations of the Ministerial Inquiry into Regional Housing Supply, that assessment should consider whether the proposed controls unnecessarily constrain developable land, reduce net developable area, and undermine Ballarat's capacity to accommodate planned infill housing growth.

Recommendations

For the reasons set out in this submission, UDIA requests the City of Ballarat and any appointed Panel:

- **Defer further progression of the Amendment** until the deficiencies identified in this submission have been appropriately addressed and the proposed flood overlays can be supported by an updated and robust evidence base.
- **Confirm** whether the Amendment can be confidently prepared and progressed consistently with section 12(2A) of the Planning and Environment Act 1987 and Ministerial Direction No. 22, given the reliance on RCP 8.5 as the primary basis for overlay derivation without testing the proposed controls against more realistic medium-emissions scenarios.
- **Commission a targeted drainage data collection program** in partnership with local consultants to produce a verified and complete 1D drainage network dataset before any further modelling is undertaken.
- **Publish the flood extent outputs** for all modelled climate change scenarios, so industry and affected landowners can understand how much the proposed overlay boundaries change depending on the scenario used.
- **Commission an economic impact assessment** of the proposed overlays in accordance with section 12(2)(c) of the Act, having regard to impacts on land values, development costs, housing supply and investment certainty across the City of Ballarat.

UDIA is available to meet with Council officers and to provide further technical input in support of this submission. We appreciate the significant effort that has gone into the Ballarat 11 Waterways Flood Study and remain committed to working constructively with the City of Ballarat toward a technically sound and legally robust outcome.

If you would like to discuss this submission further, please contact [REDACTED] from UDIA's policy team at [REDACTED]

Yours sincerely,

[REDACTED]
[REDACTED]
[REDACTED]