

**Horsham Planning Scheme Amendment C81hors  
Flood protection controls**

**Panel Report**

*Planning and Environment Act 1987*

**27 October 2023**

### How will this report be used?

This is a brief description of how this report will be used for the benefit of people unfamiliar with the planning system. If you have concerns about a specific issue you should seek independent advice.

The planning authority must consider this report before deciding whether or not to adopt the Amendment.

[section 27(1) of the *Planning and Environment Act 1987* (the PE Act)]

For the Amendment to proceed, it must be adopted by the planning authority and then sent to the Minister for Planning for approval.

The planning authority is not obliged to follow the recommendations of the Panel, but it must give its reasons if it does not follow the recommendations. [section 31 (1) of the PE Act, and section 9 of the *Planning and Environment Regulations 2015*]

If approved by the Minister for Planning a formal change will be made to the planning scheme. Notice of approval of the Amendment will be published in the Government Gazette. [section 37 of the PE Act]

Planning Panels Victoria acknowledges the Wurundjeri Woi Wurrung People as the traditional custodians of the land on which our office is located. We pay our respects to their Elders past and present.

### *Planning and Environment Act 1987*

Panel Report pursuant to section 25 of the PE Act

Horsham Planning Scheme Amendment C81hors

Flood protection controls

**27 October 2023**



Tim Hellsten, Chair



Peter Edwards, Member

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## Glossary and abbreviations

1% AEP	1 per cent Annual Exceedance Probability
Amendment	Horsham Planning Scheme Amendment C81hors
ARI	Annual Recurrence Interval
Council	Horsham Rural City Council
DDO4	Design and Development Overlay (Schedule 4 – Flood fringe development)
DDO9	Design and Development Overlay (Schedule 9 – Stormwater management area)
DELWP	former Department of Environment, Land, Water and Planning
FO	Floodway Overlay
FO1	Floodway Overlay (Schedule 1 - Horsham, Wartook, Mt William Creek, Natimuk, Wimmera River flood risk areas)
LiDAR	Light Distance and Ranging
LSIO	Land Subject to Inundation Overlay
LSIO1	Land Subject to Inundation Overlay (Schedule 1 - Horsham, Wartook, Mt William Creek, Natimuk, Wimmera River flood storage or flood fringe areas)
PE Act	<i>Planning and Environment Act 1987</i>
PPRZ	Public Park and Recreation Zone
SBO	Special Building Overlay
SBO1	Special Building Overlay (Schedule 1 - Horsham flood risk area)
UFZ	Urban Floodway Zone
WCMA	Wimmera Catchment Management Authority

## Overview

Amendment summary	
The Amendment	Horsham Planning Scheme Amendment C81hors
Common name	Flood protection controls
Brief description	Implement the recommendations of six flood studies through the application of the Floodway Overlay, Land Subject to Inundation Overlay and Special Building Overlay
Subject land	Land (including waterways) within Horsham and the settlements of Brimpaen, Bungalally, Clear Lake, Dadswells Bridge, Dahlen, Dooen, Douglas, Drung Drung, Duchembegarra, Grass Flat, Heathvale, Jallumba, Jilpanger, Jung, Kalkee, Kanagulk, Kewell, Laharum, Longerenong, Lower Norton, McKenzie Creek, Mockinya, Mitre, Natimuk, Noradjuha, Nurrabel, Pimpinio, Quantong as shown in Figure 1
Planning Authority	Horsham Rural City Council
Authorisation	14 October 2022, with conditions
Exhibition	17 November – 20 December 2022 (later extended for some landowners to 20 January 2023)
Submissions	Number of Submissions: 46 Withdrawn: 8

Panel process	
The Panel	Tim Hellsten (Chair), Peter Edwards
Directions Hearing	By video conference, 21 August 2023
Panel Hearing	Horsham Rural City Council offices, 5 and 6 October 2023
Site inspections	Unaccompanied, 4 October 2023
Parties to the Hearing	<p>Horsham Rural City Council represented by Mark Marsden of Transect Planning Pty Ltd supported by Kirsten Miller, Strategic Planner who called flooding evidence from Ben Hughes of Water Technology</p> <p>Dianne Bell</p> <p>Angela and Gregg Munn</p> <p>Tracey O'Callaghan</p> <p>Denise Hobson</p> <p>Wayne and Maria Beddison</p> <p>Neville McIntyre</p> <p>Wimmera Catchment Management Authority, represented by Tony Baker and Bryanna Bisset who attended to respond to any Panel questions</p>
Citation	Horsham PSA C81hors PSA [2023] PPV
Date of this report	27 October 2023

## Executive summary

Horsham Planning Scheme Amendment C81hors (the Amendment) updates and introduces new flood controls within the Horsham Planning Scheme (Planning Scheme) to implement the findings of six flood studies.

The Amendment revises the mapping extent of the Floodway Overlay and the Land Subject to Inundation Overlay and amends the overlay schedules by updating permit requirements, applications requirements and decision guidelines. The Amendment also introduces the Special Building Overlay to replace existing Design and Development Overlays and makes zoning changes associated with deleting the Urban Floodway Zone in Horsham.

The Horsham Rural City Council is the planning authority for the Amendment. Wimmera Catchment Management Authority prepared the flood studies.

Issues raised in submissions included:

- threshold issues about the flood modelling used or flood levels adopted to apply the overlays, catchment development and management or the effect of the overlays on property values, insurance and future development
- site-specific issues relating to mapping or more complex issues in applying the overlays.

Council reviewed all submissions which resulted in proposed changes to the exhibited flood overlay mapping following the review of modelling, site conditions and topography by Water Technology and input from the Wimmera Catchment Management Authority. Five submissions were withdrawn on the basis of mapping changes. Further changes were proposed to other properties in Horsham, Lower Norton and Natimuk to address site-specific issues.

In relation to the threshold issues the Panel concludes:

- There is clear policy support for the Amendment.
- The methodology of the flood studies, including the modelling, is appropriate and provides a suitable basis for the flood overlay mapping.
- The criteria used to apply the Floodway Overlay, Land Subject to Inundation Overlay and the Special Building Overlay is appropriate and consistent with *Planning Practice Note 12: Applying the Flood Provisions in Planning Schemes*.
- The content of the overlay schedules and other related Horsham Planning Scheme changes are appropriate subject to a minor clarifying policy change.
- The Amendment provides an appropriate decision making pathway for the assessment of flood risk including the impacts on flood storage and impact to existing properties.
- The fact that floodplain management actions or engineering works could change flood impacts is not a reason to remove overlays from land ahead of those actions or works.
- Impacts on property values or insurance premiums or the ability to develop land in a particular way are not reasons to remove the proposed overlays from a property.

In relation to site-specific issues the Panel concludes:

- Council's approach to site-specific objections to the overlays is appropriate.
- The exhibited flood overlay mapping should be removed from relatively small portions of land, at:
  - 1-9 Eastgate Drive, Horsham
  - 12 Madden Street, Horsham

- 1-12 Market Lane, Horsham
- 1-12 Rushbrook Close, Horsham
- 5 Sloss Street, Horsham
- 503 Bridges Road, Lower Norton
- 378 Lake Road, Natimuk
- 767 Three Chains Road, Natimuk
- the withdrawn submission properties (55 Baille Street, Horsham; 14 Wotonga Drive, Horsham; 3912 Henty Highway, McKenzie Creek; Berry Lane, Natimuk and 173 Hughes Road, Quantong).

### **Recommendations**

Based on the reasons set out in this Report, the Panel recommends that Horsham Planning Scheme Amendment C81hors be adopted as exhibited subject to the following:

- 1. Amend the sentence of Clause 02.03-3 (Environmental risks and amenity) relating to the application of overlays to read:**  
**'Flood studies undertaken by the Wimmera Catchment Management Authority have identified flood prone areas and form the basis for the application of the Floodway Overlay, Land Subject to Inundation Overlay or Special Building Overlay.'**
- 2. Remove from the Floodway Overlay Schedule 1 and Land Subject to Inundation Overlay Schedule 1 from the following properties to the extent identified in Council's post-exhibition mapping changes identified in Appendix E and F:**
  - 55 Baille Street, Horsham
  - 1-9 Eastgate Drive, Horsham.
  - 12 Madden Street, Horsham
  - 1-12 Market Lane, Horsham
  - 1-12 Rushbrook Close, Horsham
  - 5 Sloss Street, Horsham
  - 14 Wotonga Drive, Horsham
  - 503 Bridges Road, Lower Norton
  - 3912 Henty Highway, McKenzie Creek
  - Berry Lane, Natimuk
  - 378 Lake Road, Natimuk
  - 767 Three Chains Road, Natimuk
  - 173 Hughes Road, Quantong.



# 1 Introduction

## 1.1 The Amendment

Amendment C81hors (the Amendment) proposes to update and introduce new flood controls within the Horsham Planning Scheme (Planning Scheme). The controls implement the findings of six flood studies:

- *Horsham and Wartook Valley Flood Investigation* (Water Technology, 2019)
- *Natimuk Flood Investigation Study Report* (Water Technology, 2013)
- *Warracknabeal and Brim Flood Investigation* (Water Technology, 2016)
- *Mount William Creek Flood Investigation* (BMT WBM, December 2014)
- *Wimmera River - Yarriambiack Creek Flow Investigation* (Water Technology, June 2010)
- *Lower Wimmera River Regional Flood Mapping Project* (Water Technology, January 2017).

The Horsham Rural City Council (Council) is the planning authority and proponent for the Amendment.

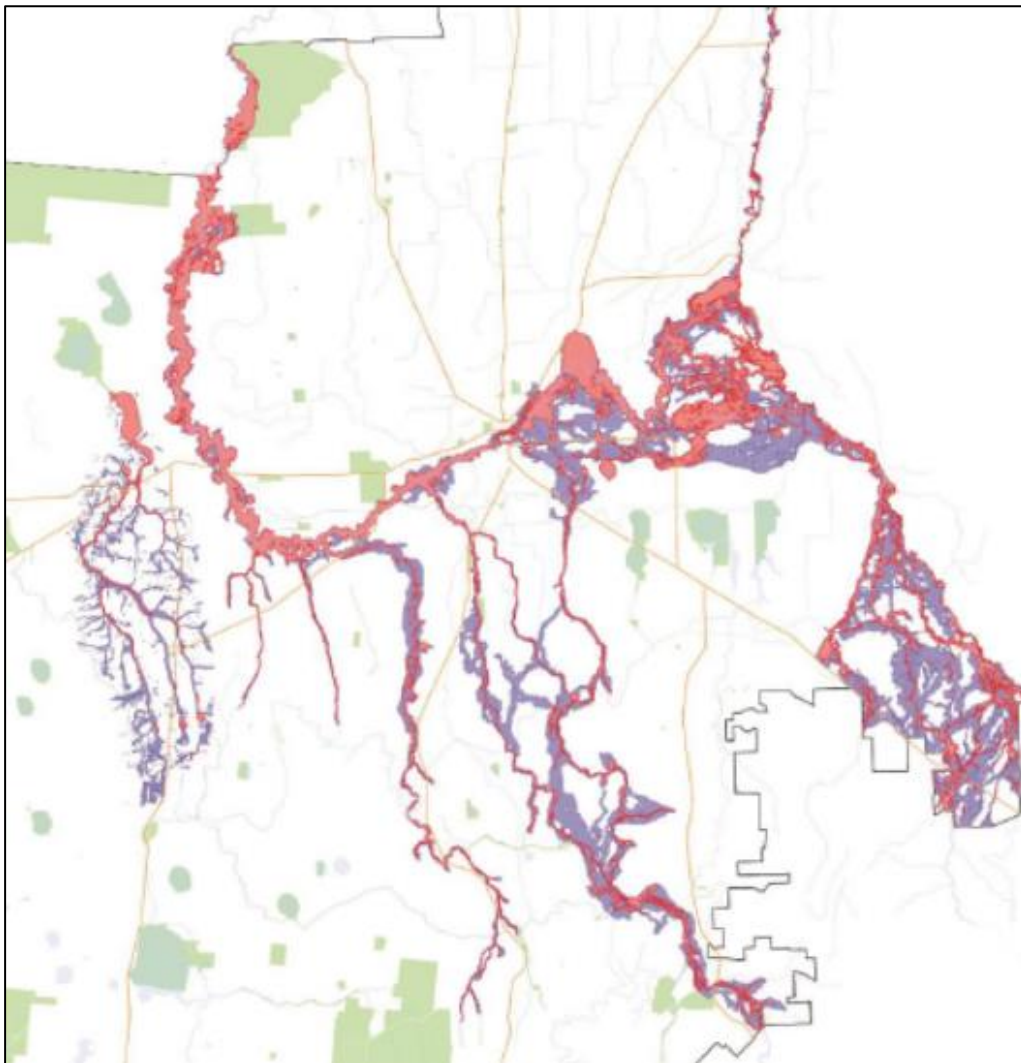
The Amendment:

- amends Clause 02.03-3 (Environmental risks and amenity) to reference the six flood studies and the application of the flood-related overlays
- deletes Clause 13.03-1L (Floodplain management)
- amends the existing Floodway Overlay Schedule 1 (FO1) and the Land Subject to Inundation Overlay Schedule (renumbered LSIO1) to meet the requirements of the *Ministerial Direction on the Form and Content of Planning Schemes*, clarify exemptions, application requirements and decision guidelines and remove duplication
- expands the mapping extent of FO1 and LSIO1 to include the Wartook, Mt William Creek, Natimuk and West Wimmera flood risk areas, and flood storage and flood fringe areas respectively
- deletes Design and Development Overlay Schedule 9 (Stormwater management area) (DDO9) and replaces it with Special Building Overlay Schedule 1 (Horsham flood risk area) (SBO1)
- deletes Design and Development Overlay Schedule 4 (Flood fringe development) (DDO4) based on advice from the flood plain manager that it is redundant and affected land no longer requires flood protection controls
- deletes the Urban Floodway Zone (UFZ) and rezones land south of Barnes Boulevard, Horsham from UFZ to Public Park and Recreation Zone (PPRZ) and Low Density Residential Zone (LDRZ)
- includes the Horsham and Wartook Valley, Warracknabeal and Brim, and Lower Wimmera flood studies as background documents in the Schedule to Clause 72.08
- amends the Schedule to Clause 74.02 (Further strategic work) to reflect that the flood studies have been implemented.

The Amendment applies to 2,816 properties subject to flooding from a 1 per cent Annual Exceedance Probability event (1% AEP, and commonly referred to as a 1 in 100 year storm)<sup>1</sup> and from urban overland flow and stormwater flooding within the municipality of Horsham (Figure 1). This includes land within Horsham and the settlements of Brimpaen, Bungalally, Clear Lake, Dadswells Bridge, Dahlen, Dooen, Douglas, Drung Drung, Duchembegarra, Grass Flat, Heathvale, Jallumba, Jilpanger, Jung, Kalkee, Kanagulk, Kewell, Laharum, Longerenong, Lower Norton, McKenzie Creek, Mockinya, Mitre, Natimuk, Noradjuha, Nurrabiel, Pimpinio, Quantong, Riverside, St Helens Plains, Telangatuk East, Tooan, Toolondo, Vectis, Wail, Wartook and Wonwondah and impacted waterways.

Appendix C1 includes mapping showing the overlay changes in more detail.

**Figure 1** Proposed extent of FO1 and LSI01



Source: Council Part A submission Attachment A (Document 8). Red: Proposed FO1, Purple: Proposed LSI01. Note: Mapping excludes existing LSI0 areas outside the identified flood studies but that are subject to the proposed schedule changes.

<sup>1</sup> The flooding evidence of Mr Hughes (Document 6, p6) included the following definitions of AEP and 1% AEP:  
*The probability of exceedance of a given discharge within a period of one year. Can be expressed as a percentage (e.g. 1% chance in any one year) or 1 in Y [years] (e.g. a probability of 1 in 100).*

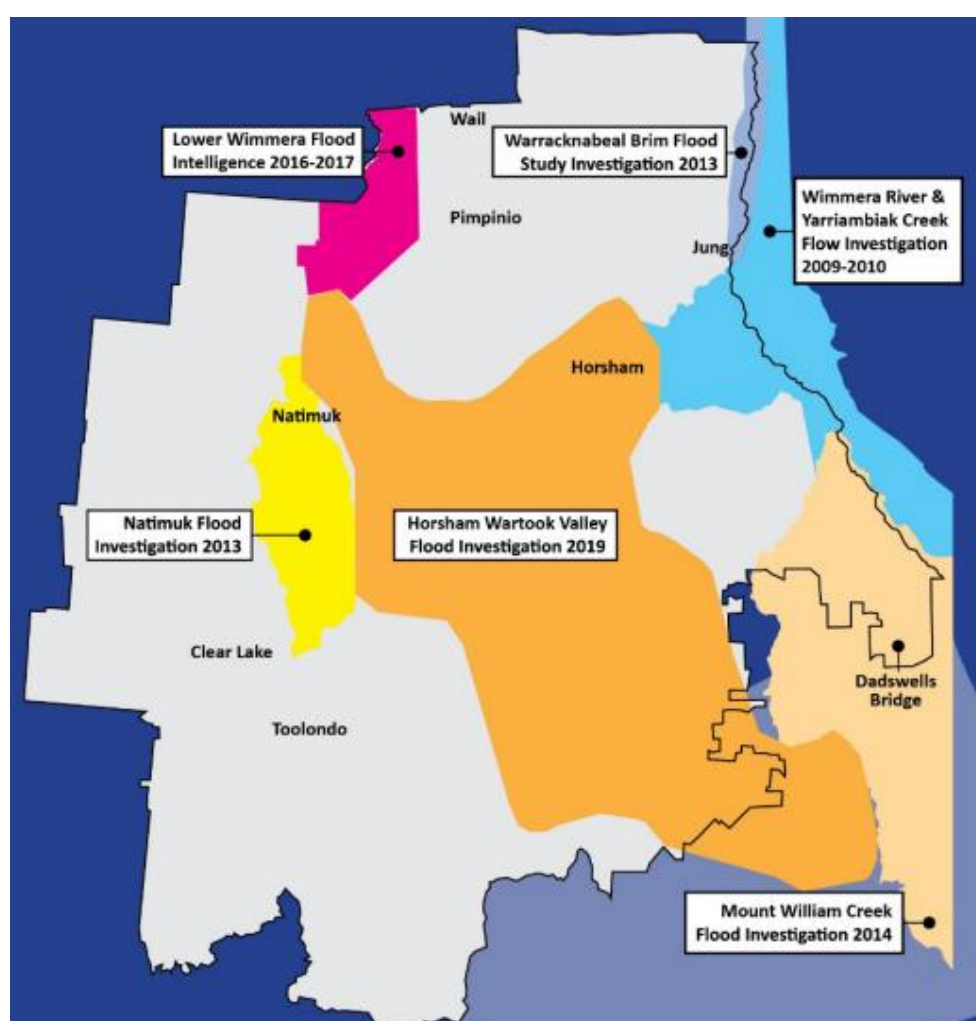
## 1.2 Background

### (i) Flood studies

In response to significant flood events, the relevant floodplain manager Wimmera Catchment Management Authority (WCMA), with the support of the Victorian State Government and Council, commissioned a series of flood investigations in order to understand, and respond to, flood risk throughout the municipality. The extent of these flood studies is summarised in Figure 2 and included in more detail in Appendix C2.

Each flood study includes detailed hydrologic and hydraulic modelling and provides recommendations for mitigation works, emergency warning and response systems and the establishment of appropriate planning scheme controls in areas identified as at risk of flooding.

**Figure 2** Flood studies extent



Source: Council Report 24 July 2023 (Document 2)

The flood studies are:

- Horsham and Wartook Valley Flood Investigation (Water Technology, 2019) – covering rural land and the township of Horsham including the Wimmera River, Mackenzie River, Burnt Creek, Bungalally Creek, Darragan Creek and Sandy Creek. The study identified a reduction of the area affected by stormwater flooding

- Mount William Creek Flood Investigation (BMT WBM, December 2014) – covering a large catchment including several waterways - Mount William Creek, Salt Creek, Fyans Creek, Pleasant Creek, Sheepwash Creek and Golton Creek and associated tributaries. The investigation is a background document in the Horsham Planning Scheme
- Natimuk Flood Investigation (Water Technology, 2013) which included the Natimuk township and entire upstream catchment including Natimuk Creek and Little Natimuk Creek. The study is a background document in the Horsham Planning Scheme
- Warracknabeal and Brim Flood Investigation (Water Technology, 2016) which covered Yarriambiack Creek from Jung to Galaquil East Road north of Brim
- Wimmera River - Yarriambiack Creek Flow Investigation (Water Technology, 2010) – covering the Wimmera River and Yarriambiack Creek between Glenorchy, Horsham and Warracknabeal. The study is a background document in the Horsham Planning Scheme
- Lower Wimmera River Regional Flood Mapping Project (Water Technology, 2017) – covering the Lower Wimmera River between Quantong and Lake Hindmarsh.

### 1.3 Authorisation

The authorisation of the Amendment was subject to the following conditions:

- Amend SBO Maps to include the schedule number e.g., SBO1, to ensure compliance with the Ministerial Direction – the Form and Content of Planning Schemes.
- Amend the Explanatory Report and Instruction Sheet to correct errors, ensure administrative certainty and ensure compliance with form and content.
- Amend the following schedules to ensure compliance with the Ministerial Direction – the Form and Content of Planning Schemes:
  - Schedule 1 to Clause 44.03 (Floodway Overlay)
  - Schedule 1 to Clause 44.05 (Special Building Overlay).
- Amend the Schedule to Clause 72.03 (What does this planning scheme consist of?) which incorrectly deletes DDO maps from the scheme.

Council's Part A submission identifies these changes were made prior to exhibition.

### 1.4 Exhibition, submissions and post-Amendment changes

On 28 February 2022 Council resolved to support the preparation and public exhibition of the Amendment. Council received 46 submissions in response to exhibition of the Amendment including late submissions.

The key issues raised in submissions were:

- challenges to validity of flood modelling
- land not considered flood prone due to topography or lived experience (no history of flooding)
- role of floodplain development and its management in flood events and adequacy of stormwater infrastructure in contributing to flooding
- impact on insurance and property values
- lack of community consultation
- site-specific submissions.

Council advised that eight submissions had been withdrawn in writing<sup>2</sup>, five of which were the result of Council proposed changes to reduce the mapped extent of FO1 or the LSI01.<sup>3</sup> The related mapping changes are shown in Appendix E, and summarised as follows:

- 55 Baille Street, Horsham – remove FO1 from the backyard
- 14 Watonga Drive, Horsham – remove LSI01 from the western portion of the property
- 3912 Henty Highway, McKenzie Creek – remove LSI01 from the quarry hole
- Berry Lane, Natimuk – remove FO1 and LSI01 from the wastewater storage plant
- 173 Hughes Road, Quantong – remove FO1 and LSI01 from the existing house pad.

Council's Part A submission set out the basis of the proposed post-exhibition mapping changes identified in Appendix E. Council submitted that the proposed mapping changes were modest changes and *"remove unnecessary flood controls that are either no longer within the extent or where they are only very marginally affected"*.

The mapping changes were supported by the flooding evidence of Mr Ben Hughes of Water Technology, the consultants who prepared the flood studies. The WCMA advised the Panel at the Hearing it also supported Council's post-exhibition mapping changes.

The Panel has not considered the withdrawn submissions. However, it notes the proposed mapping changes which resulted in submissions being withdrawn are consistent with the rigorous methodology adopted by Council when reviewing and responding to submissions. The Panel's recommendation includes the post-exhibition mapping changes for completeness.

## 1.5 The Panel's approach

The Panel has assessed the Amendment against the principles of net community benefit and sustainable development, as set out in Clause 71.02-3 (Integrated decision making) of the Planning Scheme.

The Panel considered all written submissions made in response to the exhibition of the Amendment, observations from site visits, and submissions, evidence and other material presented to it during the Hearing. It has reviewed extensive material, and has had to be selective in referring to the more relevant or determinative material in the Report. All submissions and materials have been considered by the Panel in reaching its conclusions, regardless of whether they are specifically mentioned in the Report.

This Report deals with the issues under the following headings:

- Strategic justification
- Threshold issues
- Site-specific submissions.

## 1.6 Limitations or procedural issues

### (i) Wimmera Catchment Management Authority participation

At the Directions Hearing the Panel asked Council whether it was aware if the WCMA was intending to participate in the Hearing. One submitter sought a response from the Panel about

<sup>2</sup> Submissions 1, 2, 5, 6, 7, 40, 43 and 46

<sup>3</sup> Submissions 2, 6, 7 and 43 and 46

why the WCMA were not required to attend the Hearing (Document 5). The WCMA subsequently advised it would not be presenting a submission but would attend the Hearing to enable the Panel to ask questions of it regarding the Amendment or associated flood studies. The Panel and parties appreciated their participation.

## **(ii) Adequacy of community engagement**

The Panel has not considered the issue of adequacy of community engagement in detail. It is satisfied that Council's exhibition and notice period was appropriate, and:

- was consistent with the provisions of the *Planning and Environment Act 1987* (PE Act)
- included direct notification to all affected landowners
- was supported by extensive information on Council's website including Amendment details, interactive mapping, the supporting flood studies, frequently asked questions and information sheets
- included drop-in sessions attended by Council, WCMA and Water Technology
- appropriately extended notification in response to mapping errors
- was supported by subsequent opportunities for one-on-one meetings and technical reviews of some submissions by Council, WCMA and Water Technology where concerns were identified about the accuracy of modelling and historical flooding.

Prior to the Directions Hearing, Council advised:

When preparing Amendment documents for the Panel we had noticed some errors in the maps, which were displayed on the DEECA<sup>4</sup> website exhibition page.

I have since investigated further and appears that the maps were incorrectly displayed by DEECA mapping team in December when we renewed the maps and extended exhibition for Dadswells Bridge. This means that we had two incorrect maps (29 LSIO-FO and 30 LSIO-FO) displayed by DEECA for around 10 days at the end of exhibition for this area.

All property owners at commencement of exhibition had received the correct information from us in Council's letter dated 15 November and the correct maps and information were/are still displayed on Council's website.

Council have raised this matter with our Amendment support team at DEECA and they have advised us that we should send out letters notifying the property owners affected within these map areas. We were also advised that we would be required to provide a calendar month opportunity for them to contact Council and to submit to the Amendment should they wish to.

Council have prepared and sent letters in today's mail, the property owners within these map areas have been given until the 20 September to contact Council or to lodge a submission.

Further to this, Council has received no submissions or enquiries in relation to these map areas to date, either during or following the exhibition period.

Council's correspondence advised of the proposed Hearing dates. The Panel accepted this approach given the two week period between extended submission close and the first day of the Hearing and the ability to extend the Hearing dates to accommodate any resultant late submissions. No additional submissions were received.

<sup>4</sup> The Panel assumes the reference to DEECA was meant to refer to DELWP now Department of Transport and Planning



## 2 Strategic justification

### 2.1 Planning context

This chapter identifies planning context relevant to the Amendment. Appendix C highlights the key relevant provisions and policies which are summarised below in Table 1.

**Table 1** Planning context

	Relevant references
<b>Victorian planning objectives</b>	- section 4 of the PE Act
<b>Municipal Planning Strategy</b>	- Clauses 02.02 (Vision), 02.03-3 (Environmental risk and amenity)
<b>Planning Policy Framework</b>	- Clause 11 (Settlement) - Clauses 13 (Environmental Risk and Amenity), 13.03-1S (Flood management), 13.03-1L (Flood management – Horsham)
<b>Other planning strategies and policies</b>	- <i>Victorian Floodplain Management Strategy</i> , Department of Environment, Land, Water and Planning (DELWP), 2016
<b>Planning scheme provisions</b>	- Urban Floodway Zone - Low Density Residential Zone - Public Park and Recreation Zone - Floodway Overlay - Land Subject to Inundation Overlay - Special Building Overlay - Design and Development Overlay
<b>Ministerial directions</b>	- <i>Ministerial Direction on the Form and Content of Planning Schemes</i> - <i>Ministerial Direction 11 (Strategic Assessment of Amendments)</i>
<b>Planning practice notes and other guidance</b>	- <i>Planning Practice Note 12: Applying the Flood Provisions in Planning Schemes</i> , June 2015 - <i>Planning Practice Note 46: Strategic Assessment Guidelines</i> , September 2022 - <i>Guidelines for Development in Flood-Affected Areas</i> , DELWP, 2019 - <i>A Practitioner's Guide to Victorian Planning Schemes Version 1.5</i> , April 2022 (Practitioner's Guide)

### 2.2 Strategic justification

#### (i) The issue

The issue is whether the Amendment is strategically justified.

#### (ii) Relevant Policy

Clause 13.03-1S (Floodplain management) sets out the objective:

To assist the protection of:

- Life, property and community infrastructure from flood hazard, including coastal inundation, riverine and overland flows.

- The natural flood carrying capacity of rivers, streams and floodways.
- The flood storage function of floodplains and waterways.
- Floodplain areas of environmental significance or of importance to river, wetland or coastal health.

It includes the strategies:

Identify land affected by flooding, including land inundated by the 1 in 100 year flood event (1 per cent Annual Exceedance Probability) or as determined by the floodplain management authority in planning schemes.

Avoid intensifying the impact of flooding through inappropriately located use and development.

The relevant policy document is:

*Victorian Floodplain Management Strategy* (Department of Environment, Land, Water and Planning, 2016)

The *Victorian Floodplain Management Strategy* 2016 is a State Government strategy that clarifies the roles and responsibilities of government agencies and authorities involved in flood management. In relation to planning, the strategy explains:

Enhanced effort in municipal planning, supported by increased knowledge of flood hazards, will go a long way towards securing resilience to floods. Flood overlays need to be introduced or updated as soon as possible after new flood maps are produced to maximise the returns on investment in flood information and help manage risk.

### **(iii) Evidence and submissions**

No submissions opposed the Amendment on strategic planning grounds although at least one submission was unclear on what the strategic prerogative was to apply the controls, particularly given the potential for uncertainty about the accuracy of flood mapping or the management of flood risks through:

- greater restriction on development within the floodplain
- implementation of stormwater and other drainage infrastructure
- the management of culverts and the Horsham Wier during flood events.

These threshold issues are discussed in Chapter 3.

Council's Part A submission set out the strategic basis of the Amendment. It submitted that in addition to clauses 13.03-1S and 71.02-3 and the Victorian Floodplain Management Strategy actions, the Amendment was strategically justified and supported or implemented:

- sections 4 and 6 of the PE Act by providing a safe environment, regulating development in hazardous areas and protecting assets, and balancing the present and future interests of the wider community
- clauses 02.02 and 02.03-3 that seek to:
  - protect safety
  - respond to identified flood risks including along the Wimmera River and waterways, Dadswells Bridge and Western Highway which are at risk from flooding and impact on the capacity of the floodplain to contain and convey flood waters
  - implement the strategic direction to minimise flood risk and maintain the capacity of the floodplain.



#### **(iv) Discussion and conclusion**

There is explicit policy in the Planning Policy Framework to manage riverine flooding. It is uncontroversial that amendments of this type are strategically justified.

Clause 71.02-1 seeks to ensure that:

... the objectives of planning in Victoria (as set out in section 4 of the Act) are fostered through appropriate land use and development policies and practices that integrate relevant environmental, social and economic factors in the interests of net community benefit and sustainable development.

The Amendment provides clear policy direction to ensure that development within areas identified as flood prone from catchment and riverine sources are regulated in order to avoid hazard to human life and property and impacts on floodplain behaviour.

The Amendment seeks to refine the FO1 and LSIO mapping and controls that are already in the Horsham Planning Scheme based on more recent flood studies. As identified in Chapter 3 the Panel considers that these flood studies are appropriately robust and form a sound basis for applying flood overlays including the SBO1 (about which there were no submissions).

The Panel questioned Council and Mr Hughes about whether the flood studies had considered the impacts of climate change consistent with the Planning Policy Framework. Mr Hughes indicated that while all the studies (with the exception of the Wimmera River and Yarriambiack Creek Flows Investigation) had modelled the impact of climate change on flooding, it had not been included in the flood overlay maps. Reasons included:

- there was no consistent advice or limited information available at the time the studies were prepared
- different methodologies and rainfall intensity increases had been used
- a level of ground infiltration was assumed, and the models used were conservative
- the subject land was at the lower end of the catchment (and not where the climate change impacted rainfall events would have a significant impact)
- climate change impacts are more relevant for smaller urban catchments.

The WCMA advised the Panel that it was comfortable about the way in which the studies had been undertaken and Mr Hughes' explanation of the same. It indicated that the flood studies were not divorced from an understanding of climate change impacts.

The application of the suite of flood overlays provides an appropriate basis on which to:

- amend Clause 02.03-3 to reflect the recent flood studies and new or revised overlay schedules
- delete Clause 13.03-1L which becomes redundant and avoids planning scheme content duplication.

The Panel observes however the amended wording of clause 02.03-3 refers to the recommendations of the flood studies including the application of the FO, LSIO and SBO. The Panel considers the policy wording should be more affirmative and written as if the controls (as intended) are in place and correctly refer to 'Floodway'. It also notes that proposed post-exhibition mapping changes may not directly reflect the mapping in the flood studies. The Panel recommends the proposed policy change sentence be rewritten as follows:

Flood studies undertaken by the Wimmera Catchment Management Authority have identified flood prone areas ~~with recommendations to include these areas in either~~ [and form the basis for the application of](#) the Floodway Overlay, Land Subject to Inundation Overlay or Special Building Overlay.

The Panel concludes:

- There is clear policy support for the Amendment.
- The changes to Clause 02.02-3 (Environmental risk and amenity) are appropriate subject to the minor changes.
- The deletion of Clause 13.03-1L (Floodplain management – Horsham) is appropriate.
- The Amendment will deliver net community benefit and sustainable development as required by Clause 71.02-3.

#### (v) Recommendation

That Panel recommends:

1. **Amend the sentence of Clause 02.03-3 (Environmental risks and amenity) relating to the application of overlays to read:**  
**‘Flood studies undertaken by the Wimmera Catchment Management Authority have identified flood prone areas and form the basis for the application of the Floodway Overlay, Land Subject to Inundation Overlay or Special Building Overlay.’**

## 2.3 Relevant Planning Practice Notes

#### (i) The issue

The issue is whether the use and provisions of the Floodway Overlay, Land Subject to Inundation Overlay and the Special Building Overlay are appropriate.

#### (ii) Relevant Guidance

Advice on the application of flood overlays is provided in *Planning Practice Note 12: Applying the Flood Provisions in Planning Schemes – A guide for councils*, DELWP, June 2015 (PPN12).

#### (iii) Submissions

Submissions raised concerns that:

- the overlay schedules were written in a way that encouraged development in the floodplain by allowing applications to be made. For example:
  - Submission 38 considered that allowing development was inconsistent with Clauses 13.03-1S and 13.03-1L which included language that ‘discouraged’ or sought to ‘avoid’ the intensification of land use and development including landfill and dwelling extensions
  - Submission 13 stated the LSIO should be classified as a “no build zone”
  - Submission 14 stated it was impossible to achieve the LSIO purpose of maintaining the free passage and storage of floodwaters and that:
 

The flood mapping should state that no development in (the) LSIO shall remove flood storage or impede flood flows nor increase runoff.
- the overlay schedules did not accord with the DELWP *Guidelines for Development in Flood-Affected Areas*. For example, Submissions 37 stated:
 

State Govt Guidelines in Flood Affected Areas, February 2019, clearly state in respect to greenfield development, for safety reasons, the subdivided sites should be flood free.

...

Any residential-zoned land that is undeveloped and is located in a floodplain or flood area should have an FO (Floodway Overlay) over it to prevent any new development in the floodplain.

- the threshold flood level adopted for applying the FO1 (above 500 millimetres) was inconsistent with the threshold used elsewhere in the state (where 350 millimetres was used).
- The overlays should specify building flood levels. For example, Submission 29 stated:  
... land immediately adjacent to a flood plain should have a minimum building flood level of 500 mm above the 1% flood.

No submissions were made about the application of SBO1 or the deletion of DDO4 and DDO9.

#### (iv) Evidence and Council response

##### Mapping

Council submitted that the application of the flood overlays was informed by appropriately detailed and best practice flood studies and applied in a manner consistent with the DELWP *Guidelines for Development in Flood Affected Areas* and PPN12, with:

- the LSI01 applied on the 1% AEP and where the water is of a lower risk (pooling, rather than flowing) but floodwaters extensively submerge land
- the FO1 applied to areas where a combination of a 1% AEP flood depth greater than 0.5 metres and/or a 1% AEP flood velocity greater than 1.5 metres/second (active floodways where the water is deep, fast flowing or conveys flood waters).

It identified that the:

FO1 covers those areas where land regularly floods and water will be deep (over 500mm) and/or fast moving. This land should remain free from obstruction by buildings and structures. Most development will be discouraged from occurring on land subject to the FO1 due to the high hazard of future flooding, whilst low impact uses can still be considered such as some building extensions, replacement buildings, fences and the like subject to conditions.

LSIO1 is generally applied to the fringe of a floodplain where flooding is more shallow (less than 500mm) and does not have high flow velocity. This means flood water will be generally shallower and slower moving than the FO1. Development will be permitted where it does not expose people and property to risk or would make flooding worse elsewhere. This might include, for example, constructing the floor of a building above the established flood level.

SBO1 applies to land in urban areas liable to inundation by overland flows from the urban drainage system. SBO1 will trigger a planning permit for most buildings, works and subdivisions and assessment of floor levels will be required. There will be exemptions for certain works or structures with floor levels at specified heights above the established flood level.

Council identified that some of the flood investigations overlap geographically. Where two or more investigation areas overlap, the following approach was applied:

- FO:
  - if an area is classified as FO in all overlapping investigations, it was classified as FO
  - If an area is classified as FO in at least one investigation but not in all overlapping investigations, it was classified as LSI0
- LSI0:
  - if an area is classified as LSI0 in all overlapping investigations, it was classified as LSI0.

Council explained that the LSI01 will continue apply to land outside the flood study areas within its current extent. Properties in these areas will be affected by changes to the LSI01 and FO1

schedules. The SBO1 replaces land affected by DDO9 as it is considered a more appropriate planning mechanism to address flooding by stormwater or overland flows from rainfall run-off.

The mapping of the FO1 and LSIO1 was generalised and simplified ('smoothed' and 'cleaned') to remove 'puddles' and 'islands' according to a process identified in Council's Part A submission Attachment C and that applied to areas less than the following minimums:

- 50 square metres for most zones
- 500 square metres in the Rural Living Zone
- 1000 square metres in the Farming Zone.

In relation to flood depth thresholds, Council advised the 500 millimetre threshold was the adopted catchment threshold for transitioning from the LSIO to the FO and represented the depth and/or velocity of water which presents a greater risk to life and property. The application of the overlays provided a trigger for flood levels to be set by the floodplain manager but it was not the role of the overlay provisions to set as minimum floor level.

Mr Hughes considered the threshold was appropriate and representative of the catchment setting which actively allows the conveyance of floodwater at lower velocities. The WCMA confirmed that a depth of 500 millimetres was the adopted level in the WCMA area. This represented a largely rural catchment, rather than a more urbanised setting where a lower level might be applied to manage more intensive flows.

## **Schedules**

Council submitted that the existing FO1 and LSIO schedules were reviewed and redrafted having regard to:

- PPN12
- *A Practitioner's Guide to Victorian Planning Schemes* Version 1.5, April 2022 (Practitioner's Guide)
- advice from the Department of Environment, Land, Water and Planning (DELWP, now Department of Transport and Planning) and WCMA
- simplifying or clarifying requirements and reducing the circumstances in which a planning permit is required for buildings and works
- included exemptions commensurate with the level of risk of flooding.

The same approach was applied to the development of the SBO.

Council submitted that the drafting of the schedules was not designed to prohibit all development in flood prone areas but to manage the flood risk. The schedule changes would bring them in line with form and content rules with the inclusion of objectives, statement of risks, permit exemptions, application requirements and decision guidelines.

## **(v) Discussion and conclusion**

The Panel considers the criteria used to apply the overlays in the areas subject to flooding accords with current practice and guidance including PPN12, Ministerial Directions, the Practitioner's Guide and the Planning Policy Framework.

The purpose of each of the overlays proposed appropriately reflects the potential risks to be managed. The overlay schedules are not able to change the provisions of the header clauses, but can add to them (for example objectives, permit exemptions and decision guidelines). The Panel supports the way in which Council has applied the flood overlays based on technical investigations

of flood extent and risk. The three overlays have been applied appropriately based on the identified flooding conditions and the consequent risk levels sought to be managed, consistent with the overlay purposes. The Panel supports the use of the 500 millimetre trigger to apply the FO1, which reflects localised and catchment conditions and related flood behaviour and associated risk levels.

The deletion of DDO9 (replaced by the SBO1) and DDO4 is appropriate and removes unnecessary controls that are more appropriately managed through the relevant flood overlay. Deletion of the UFZ and managing flood impact through the amended application of the FO1 and LSIO1 utilises the appropriate planning tools and removes the duplication of controls.

The exhibited schedules are considered fit for purpose and no changes are required. Considerable discussion occurred between Council, DELWP (as it then was) and WCMA on the drafting of the schedules, including the exemptions. The changes will bring them in line with form and content rules, provide greater clarity about their application, remove duplication and assist decision making. How they work operationally to support or discourage development is discussed in Chapter 3.

The Panel concludes:

- The use and application of the Floodway Overlay, Land Subject to Inundation Overlay and Special Building Overlay is appropriate.
- The overlay schedule changes are appropriate.
- The deletion of DDO4 and DDO9 is appropriate.
- The deletion of the Urban Floodway Zone is appropriate.
- Amendment should proceed subject to addressing the issues identified in this Report.

## 3 Threshold issues

### 3.1 Validity and accuracy of the modelling

#### (i) The issues raised in submissions

A number of submitters questioned the flood modelling and flood studies that the overlay maps are based on, including:

- the flood measurement methodology applied
- the mapping not reflecting the flood experience including observations from the 2011 flood event.

For example, in terms of the modelling:

- Submission 20 states:  
How can we trust that this investigation will be reliable? I understand LiDAR is the most accurate determination tool at present, however it is not infallible. Errors can occur such as:
  - Instrument error
  - Environmental error
  - Procedural error
  - Human error.
- Submission 13 states:  
How has it established as fact that this research, modelling and evidence is actually the best in the world.
- Submission 38 identified:  
How do we have confidence in it?  
Like all modelling- the results change depending on what data it's based on and we have heard words like "data not infallible", "sometimes not terribly accurate" by the person doing the modelling.  
...we are told this modelling is based on the flood levels listed. But are they?  
We were told in 2011 that it was 1:200 [flood event], then at some point during our discussions it was stated more like 1:80 at our property, now we have also heard "bit more like 1:100". How do we have any confidence in the accuracy of the modelling that the new levels are based on?

In relation to mapping:

- Submission 13 states:  
In the 2011 flood event there was water across some of my front lawn only. There was no damage to our property; there was no inundation of my property; there was no need to contact our insurance agent. This was the only time water has ever touched our property in the 43 years we have owned this property.
- Submission 38 states:  
There has never been water on this area of our block, in fact only about 1/3 up the nature strip. [The] Drive[way] at on the East side of our block is higher than the West side which further discredits the modelling.
- Submission 29 states:  
Another concern is at what point where the levels taken from. If they are taken from very old maps then the terrain has changed. The land has since been filled and developed. Does that then mean that the survey figures are inaccurate for various areas?

**(ii) Evidence**

Mr Hughes' evidence set out in detail the methodology applied for each of the six flood studies including their structure, process of modelling and calibration. This included:

- the study being overseen by a Technical Reference Group with representatives from the WCMA, Council, State Emergency Services, DELWP and Grampians Wimmera Mallee Water as the relevant water authority as well as community members
- consultant site visits
- analysis of available data including:
  - previous flood studies
  - Light Distance and Ranging (LiDAR) data, where available, to understand base topography (in some instances verified against feature surveys or earlier LiDAR data)
  - recorded stream flow, height and rainfall data and flood gauge information
- flood model construction reflecting flooding over time and used to determine peak flood heights for historic and design flood events within a specified AEP
- calibration of model using historic events and collected data (stream height and flow data), surveyed peak flood height observations and aerial and ground photography
- production of study outputs identifying design flood levels at 1% AEP and flood intelligence, flood mitigation and flood warning reports
- a third-party technical review (for Wimmera River and Yarriambiack Creek Flow Investigation only)
- internal review of studies applying Quality Assurance Certified System ISO 9001
- three stages of community meeting (involving identified community leaders or community members with flood observation experience) to:
  - identify flood issues and capture community observations on flood events
  - confirm model calibration of historic events and resolve any discrepancies
  - to inform of flood study outcomes including the need for planning controls.

Mr Hughes concluded:

- the structure of the flood studies was comprehensive and consistent with that applied in other studies across Victoria and used an appropriate, best practice methodology
- all studies adopted a similar technical basis using rainfall runoff modelling and/or Flood Frequency Analysis to determine design flows
- all six studies used very sound input data
- there was a high level of accuracy and correlation between modelled levels and observed or surveyed levels
- in all cases the hydraulic model calibration demonstrated the models were fit for use in the determination of the overlays.

**(iii) Council response**

Council responded the modelling was consistent with historic flood levels across Horsham and the proposed controls based on the best available information, best practice modelling and techniques, developed over many years by experts in the field. The use of computer modelling is acknowledged as the only practical method to reliably map the extent of changes to the flood shape across the municipality.

Council submitted:

It cannot be assumed that flooding will not occur simply because there is no recollection of previous flooding on a particular property. The flood controls are based upon the 1% AEP Average Exceedance Probability (AEP) flood extent, which means the flood level each year has a 1% chance of occurring (this was previously referred to as a 1-in-100-year flood). This is a standard used across the industry for flood planning and management. In many cases, the 1% AEP event may only result in flooding and inundation for a short period of time, but it is capable of causing damage. The lived experiences outlined in submissions only includes smaller floods, it cannot be used to directly compare to the modelled 1% AEP.

**(iv) Discussion and conclusion**

The Panel accepts the validity of the flood modelling. It has been carried out in accordance with accepted methodologies. The WCMA has supported the study methodology and use of LiDAR technology for establishing flood controls.

The Panel accepts that the LiDAR data will be the most accurate method for determining topography. Unless there has been a change in topography since the LiDAR data was obtained there is no reason to believe the topography input into the flood models is not accurate. As identified by Mr Hughes, LiDAR data can be extremely precise at measuring vertical height even to the degree of differentiating the height of cereal crops or direction of sowing.

At some scales the LiDAR data will not always pick up small features such as small levees. The adjustment of mapping to account for smaller localised features for some submitter sites is an appropriate response and does not point to more systemic issues associated about the reliability of LiDAR or other data inputs. The lack of absolute certainty is not a reason to not apply flooding controls. This is particularly the case when the calibration of a range of data sets informing the modelling and flood mapping has identified a high correlation between the modelled and observed levels obtained by survey or gauges.

Properties are not uniformly affected by flooding and the impact may depend upon a range of factors. The designation of an area as 'subject to inundation' does not cause or change the likelihood of flooding, but recognises the existing condition of land and its potential to be inundated.

Council submitted the overlay maps are based on 1 % AEP as required by the State Government. AEP is a term which expresses the likelihood of a flood of a given size or larger occurring in a given year. 1% AEP means a flood has a one in 100 probability of occurring in any given year, the same as a 1 in 100 year event. Reliable local knowledge of flood extents does not usually extend back 100 years.

It was apparent that information about the 2011 floods has been communicated to the community in an inconsistent manner and there is confusion about whether or not it was a 1 in 100 year event. In responses to Panel questions, Mr Hughes advised that the 2011 flood event was the largest "*in living memory*" and closely represented the modelled 1% AEP. The WCMA advised the 2011 flood was a 1 in 100 year event for the catchment but was higher or lower in other parts of the catchment, for example in Warracknabeal where it was a 1 in 200 event. Around Horsham it was estimated that levels were approximately 100 millimetres below a 1 in 100 year event.



The Panel concludes:

- The methodology of the flood modelling is appropriate and provides an appropriate basis for the FO mapping.
- The LiDAR data can be relied upon as an accurate measure of topography at the time the flood models were run.

## 3.2 Impacts from development within the floodplain

### (i) The issue raised in submissions

Many submitters raised the theme of impacts from development within the floodplain and the potential exacerbation of existing flood activity and extent. For example:

- Submission 28 stated:  
Too much HRCC approved development in LSIO land is causing flood levels to rise and affect existing homes.
- Submission 33 stated:  
Residents in Southbank within Agnew Court, that were not in the LSIO are now going to be affected by the LSIO all due to the removal of flood storage.
- Submission 36 stated:  
My building was not inundated in the last flood, however I observe that new buildings on the flood plain have foundations with a far greater height than mine. I believe this will push flood waters further onto my property.
- Submission 38 was supported by a detailed submission identifying development activity in the Dooen Road/Sunnyside area and stated:  
Too much HRCC [Council] approved development in LSIO land over the years which raised or impeded flows and/or restrict flow and water storage and is causing flood levels to rise and affect existing homes – we have watched continual development between our location and the River during the last 30 years living in Olga Ave, and had concerns re the ongoing affect on existing buildings being surrounded by new – raised developments.  
Development in floodplains will always impede flood flows and always a loss of flood storage.

Submissions opposed further development in the floodplain, including Greenfields development. For example:

- Submission 16 stated:  
[Council] must stop approving residential and industrial developments which do not accord with the Infrastructure Design Manual.<sup>5</sup>
- Submission 37 stated:  
The WCMA should abide by the state guidelines and refuse development in floodplain areas.
- Submission 16 stated:  
...in respect to greenfield development sites, for safety reasons, the subdivided sites should be flood free
- Submission 13 stated:  
I genuinely don't understand why it is more important to protect homes in that area [undeveloped growth areas to north] from low level flooding, at 1:100 year flooding at the expense of my own property which is already likely to flood.

<sup>5</sup> The Infrastructure Design Manual, Version 5.40 IDM2022 (Local Government Infrastructure Design Association, 1 September 2022)

I definitely don't understand why homes that have not been built yet, are of greater significance than our established home (early sixties) in Rennison Street.

## (ii) Council response

Council submitted:

- it had applied the controls based on the threshold of managing risk identified in the flood studies and consistent with PPN12
- the purpose of the controls was to define what is considered an acceptable threshold for managing risk. They are not designed to prohibit all development in flood prone areas, but to manage the flood risk
- the LSIO provisions consider the impact of development on the floodplain to ensure it does not obstruct floodwater, stormwater or drainage water and does not affect or reduce flood storage, or increase flood levels and flow velocities
- potential displacement of water resulting from development was among the key considerations for the WCMA in its referral responses
- future development proposals *"are required to meet the requirements of the flood controls, such as constructing above the designated flood level. Future development should be designed to not adversely impact adjoining properties"*
- development is allowed on LSIO land under the *Guidelines for Development in Flood Affected Areas* which include conditions for development in the floodplain. These were applied by the WCMA when providing recommendations to Council consistent with the *Victorian Floodplain Management Strategy*.

Council advised that greenfield development must address potential flood impacts and that due to the land being undeveloped, it was often possible to incorporate flood mitigation measures through stormwater retention systems and local drainage schemes. It submitted the WCMA requires development to be outside the floodplain unless it can be demonstrated through detailed flood modelling that no impact on neighbouring properties will occur.

## (iii) Discussion and conclusion

There is a clear concern from submitters in established areas of Horsham that development activity (both infill and from future greenfield development) is or has the potential to further exacerbate flooding through displacement of floodwaters. The inference in many submissions is that unfettered development has created the need to apply controls, which was considered unfair. Whether this is the case or not is difficult to say, and it is not the role of the Panel to comment on prior decisions to allow development in potentially flood prone areas.

Several submissions were of the view that the wording of the controls enabled rather than controlled or restricted development in the floodplain, and that decision makers should more tightly regulate development within the areas affected by the overlays. The Panel observes that what the overlays permit is confined by the provisions of the respective head clauses. A schedule to the FO or LSIO cannot, for example, prohibit buildings and works for which a permit is required (and can be applied for). In this instance the proposed schedules provide for appropriate application requirements and enhance the decision guidelines (including adding a reference to the *Guidelines for Development in Flood-Affected Areas* for the FO1 and LSIO1) of the respective overlays in a manner which:

- assists decision making
- retains the referral role of the floodplain manager

- complements the overlay purposes and decision guidelines
- is consistent with the relevant planning policies.

The Panel considers applying the suite of flood controls as proposed is a balanced approach and maintains a rigorous, merits based assessment pathway to ensure risks are managed or avoided. The overlay exemptions have been deliberately designed to allow minor buildings and works that have minimal impacts on floodplain storage or the movement of floodwaters. They have been informed through discussions with the floodplain manager, PPN12 and are reflective of the anticipated potential risk.

The Panel concludes:

- The Amendment provides an appropriate decision making pathway for the assessment of flood risk including the impacts on flood storage and impact on existing properties.

### 3.3 Floodplain management

#### (i) The issue raised in submissions

A common theme in submissions was that potential flood impacts and flood mapping extent were the result of the way in which the floodplain was managed during flood events including:

- the closure of culverts during flooding events
- the late removal of boards from the Horsham Weir
- impacts from stormwater and the need for stormwater infrastructure improvement.

Some submitters queried whether consideration has been given to whether the management of culverts and the Horsham Weir had exacerbated flooding impacts or not in the flood mapping. For example:

- Submission 13 stated:  
Diverting the flow as a treatment for low level flooding 2 kilometres away in a 1:100 year flood means that our home, which has been there for an equivalent amount of time, is more greatly impacted with a higher flood level impact than it would have at a very large flood event. If the box culverts are permanently blocked, it will impact me on every flood.
- Submission 14 identified concerns that weir boards were not removed or removed late during the 2011 event and modelling did not reflect this artificially raising the flood levels.

In relation to stormwater infrastructure capacity issues, submissions considered Council should implement drainage strategies and invest in new or upgraded drainage infrastructure to prevent the risk of flooding rather than apply planning controls or designate areas as flood prone. For example:

- Submission 38 stated:  
The Flood amendment does nothing to reduce the 1% levels. Council needs to undertake a serious investigation into the drainage and stormwater.
- Submission 13 stated:  
If the drains – sewerage and stormwater – in the HRCC area were improved generally, and to accommodate the additional buildings added to it, they would be less likely to not cope in any likely flood event. I believe the drainage systems servicing the wider Sunnyside area are sub-optimum.

#### (ii) Evidence and Council response

Mr Hughes was of the view that the Horsham Weir boards were removed prior to the peak flooding during the 2011 flood event. However, the level of the spillway and flood storage meant

that its management (removing or retaining weir boards) had minimal impact on downstream flooding, principally due the large volume and speed of floodwater extending well beyond the Wimmera River's banks. It indicated that the issue of culvert management during flood events had been factored into the mapping and was a broader issue outside the consideration of the Amendment.

Council acknowledged that improvements could be made to the stormwater and drainage infrastructure in older urban flood prone areas. However, it said this was beyond the scope of the Amendment, which was *"implementing only one aspect being the land use planning aspect of the flood studies"*. It submitted:

Land use planning was a cost effective way to reduce future impacts of flooding particularly by ensuring floor levels of new or replacement dwellings are above the flood level. By requiring a planning permit it also allows some consideration of flood issues prior to approving significant buildings and works (such as dwellings). The matter of stormwater and drainage is the responsibility of Horsham Rural City Council who have a program of maintenance and upgrades.

Council noted the *Horsham and Wartook Valley Flood Investigation* included urban flood modelling which will be used to develop a Drainage Strategy. The timing, outcomes and any identified works could not be confirmed at this stage and remained a matter for future funding and priorities but were likely to be focused within the SBO1 area.

### **(iii) Discussion and conclusion**

The submissions of several landowners identified a concern from the community about the impacts on flood levels within established areas resulting from the management of the floodplain during or in the lead up to flood events. This included impacts from the management of the Horsham Weir and culverts as well as the adequacy of the stormwater drainage network generally.

While it is not the Panel's role to make recommendations relating to floodplain management during flood events, the Panel observes that there is confusion in the community about why some culverts are blocked off. Improved communication to the community about roles and responsibilities of culvert and weir management during flood events and coordination between Council and the WCMA on this issue may go some way to addressing these concerns.

Applying flood controls is only one measure to address flooding impacts. There may well be merit in reviewing floodplain management responses in flood events or improving drainage in areas, if this is possible from an engineering perspective. However, until such reviews are undertaken, or works are completed, land will still be subject to inundation and development ought to be appropriately managed. Changes to floodplain management practices or the completion of drainage or other flood mitigation works may change the behaviour of floodwater and provide the basis for reviewing flood mapping, but this is a matter for the future.

The Panel concludes:

- The fact that floodplain management actions or engineering works could change flood impacts is not a reason to remove overlays from land ahead of those works.

### 3.4 Impact on property insurance and values, and the ability to develop

#### (i) The issue raised in submissions

Many opposing submissions identified the potential increase in insurance premiums or difficulty in obtaining insurance coverage because of properties now being either designated as flood prone. For example, Submission 36 stated:

I am concerned that insurance premiums will rise exponentially, and the value of my property will decrease. ...Repairing any damage caused by rising waters would be an unwelcome and inestimable cost. Information arising from recent the recent floods along the Murray River and elsewhere in Australia indicate that insurance companies are rethinking their attitude to paying for flood insurance.

Submission 24 questioned:

Why is Council extending LSIO over residential areas that will increase flood insurance premiums by up to 5 times, and in future maybe no flood insurance is obtainable there by homeowners.

Other submissions identified concerns about property devaluation or on the impact to use and develop. For example:

- Submission 32 states:  
The Amendment will have serious financial, social and devaluation ramifications to the property.
- Submission 35 states:  
No idea what amendment means for our land but very concerned for our investment.

Other submissions identifies concerns about the potential ability to develop individual sites. These are discussed in Chapter 4.

#### (ii) Evidence and Council response

Mr Hughes identified that the six flood studies used to develop the LSIO and FO layers were completed a minimum of four years ago and have been available over this time to the insurance industry and public. The Amendment:

... does not make this information more accessible to insurance companies. Rather the overlays inform the community in respect of flood risk. The underlying flood risk exists whether the overlays are implemented or not. Incorporating this flood information into the planning scheme provides transparency to the community and should reduce exposure to flood risk and damage in the future.

Council responded that insurance companies will base their premiums on their assessment of risk. Insurance was not a direct relevant planning matter that Council or the Panel can take into account when deciding whether or not to apply a flood control. It submitted implementing flood controls based on recent studies was a strategic responsibility. Direct financial impacts and impacts on property values were not relevant planning matters while social impacts must be considered in a broader context. It referred to the Stonnington Amendment C221 Panel Report which states at page 26:<sup>6</sup>

<sup>6</sup> Stonnington C221 (PSA) [2018] PPV 113

Previous panels have consistently found that there is no justification for setting aside planning scheme amendments of this type on the basis that property values might be affected, or insurance premiums might increase.

Council identified that Greater Geelong Amendment C339 Part 2 Panel Report referred and supported the Stonnington Amendment C221 finding.<sup>7</sup> Council submitted that the Amendment should have a positive social benefit on the basis that flood damage can disrupt communities and in extreme cases, cause extensive and costly damage to public and private assets, agricultural loss, personal hardship and loss of life. Ensuring development in flood prone areas responds appropriately to the risks should reduce the impacts of future flood events.

**(iii) Discussion and conclusion**

The Panel has previously concluded that the overlays are justified and that the flood controls provide an appropriate basis for managing risk in flood prone areas. The fact that designating a property as flood prone in a planning scheme may increase its insurance premium or reduce its value is not a reason to refrain from such designation.

The Panel concludes:

- Impacts on property values or insurance premiums or the ability to develop land in a particular way are not reasons to remove the proposed overlays from a property.

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<sup>7</sup> Greater Geelong C339ggee Part 2 (PSA) [2023] PPV 42

## 4 Site-specific submissions

In the Figures in this Chapter:

- yellow represents the extent of land from which the current LSIO is proposed to be removed
- orange represents the extent of land from which the current FO1 is proposed to be removed
- light blue represents the extent of land to which the LSIO1 is proposed to be applied
- dark blue represents the extent of land to which the FO1 is proposed to be applied.

### 4.1 Council approach to site-specific submissions

#### (i) The issues

A number of submitters provided specific information about their property or raised more complex issues than the more generic themes and objections.

#### (ii) Council's approach

Council advised that it undertook a review and analysis of all submissions. This included:

- Council officer discussions with submitters (in some instances with WCMA in attendance), with follow up correspondence
- in some instances, on-site inspections conducted by Council, WCMA and Water Technology and the modelling reviewed to account for a range of factors including localised topography and existing structures
- in some instances, WCMA providing written flood advice
- for the Market Lane area, flood level surveys to compare finished floor levels with 1% AEP levels.

As a result, Council proposed mapping changes to the extent of the FO1 and LSIO1 to several properties based on further assessment undertaken by Water Technology and consultation with WCMA. This resulted in the withdrawal of five submissions (refer Appendix E). The proposed mapping changes for the three submissions that were not withdrawn (discussed below) were supported by Mr Hughes and the WCMA.

#### (iii) Discussion and conclusion

The Panel has reviewed Council's approach to site-specific issues. Council has been thorough and diligent in assessing submissions, including further assessment and review of flood modelling and mapping for specific sites with technical input from Water Technology, and in partnership with the WCMA. While the Panel accepts that some property owners do not want the overlays applied to their land, they have been applied in a methodical and rigorous fashion.

As identified in Chapter 1.4, the Panel has not considered the withdrawn submissions, however the Panel accepts the basis on which those mapping changes have been proposed, as well as the additional mapping changes made in response to other submissions. The mapping changes to the extents of the FO1 and LSIO1 are modest and strike an appropriate balance between practicality and avoiding unnecessary controls and the appropriate management of risk and flood impact. The basis of the proposed mapping changes is well documented in Council's Part A submission

(including Attachment E) and in all cases accords with the evidence of Mr Hughes and are supported by the WCMA who instigated the six flood studies.

The Panel concludes:

- Council's approach to site-specific objections, and the proposed mapping changes in response, are appropriate.

#### (iv) Recommendation

For the reasons set out in this Chapter the Panel recommends:

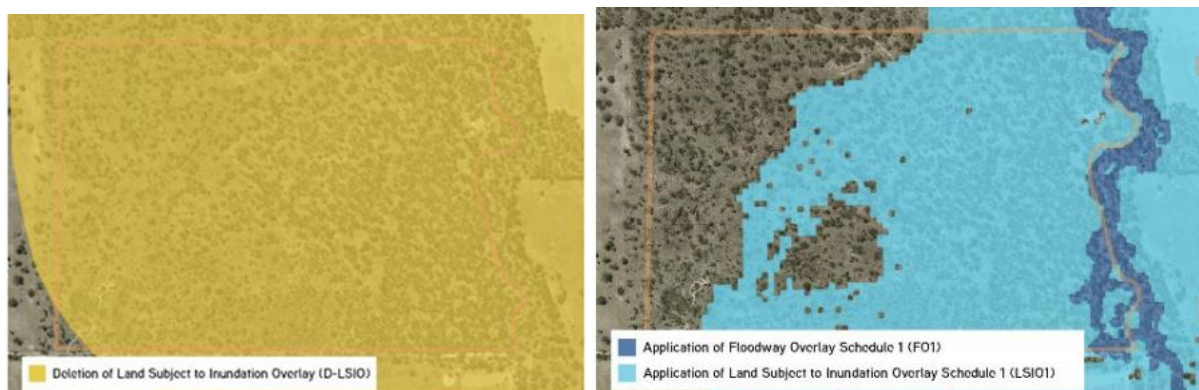
#### 2. Remove from the Floodway Overlay Schedule 1 and Land Subject to Inundation Schedule 1 from the following properties to the extent identified in Council's post-exhibition mapping changes identified in Appendix E and F:

- 55 Baille Street, Horsham
- 1-9 Eastgate Drive, Horsham
- 12 Madden Street, Horsham
- 1-12 Market Lane, Horsham
- 1-12 Rushbrook Close, Horsham
- 5 Sloss Street, Horsham
- 14 Wotonga Drive, Horsham
- 503 Bridges Road, Lower Norton
- 3912 Henty Highway, McKenzie Creek
- Berry Lane, Natimuk
- 378 Lake Road, Natimuk
- 767 Three Chains Road, Natimuk
- 173 Hughes Road, Quantong.

## 4.2 Dadswells Bridge

### 4.2.1 401 Fulbrooks Road, Dadswells Bridge

Figure 3 401 Fulbrooks Road, Dadswells Bridge (proposed)



Source: Council's Part A submission (Document 8) Attachment E 'Submissions Response Table'



**(i) Evidence and submissions**

The landowner:

- considered the flood modelling inaccurate and had not reflected topography or observed flood conditions and would place unnecessary restrictions on building
- sought deletion of the LSIO1 from the south-east corner which includes a house pad and sand ridge.

Council submitted that the extent of the LSIO1 had in fact been reduced and excluded the features identified in the submission which were above the identified flood level. This position was supported by Mr Hughes' evidence.

**(ii) Discussion and conclusion**

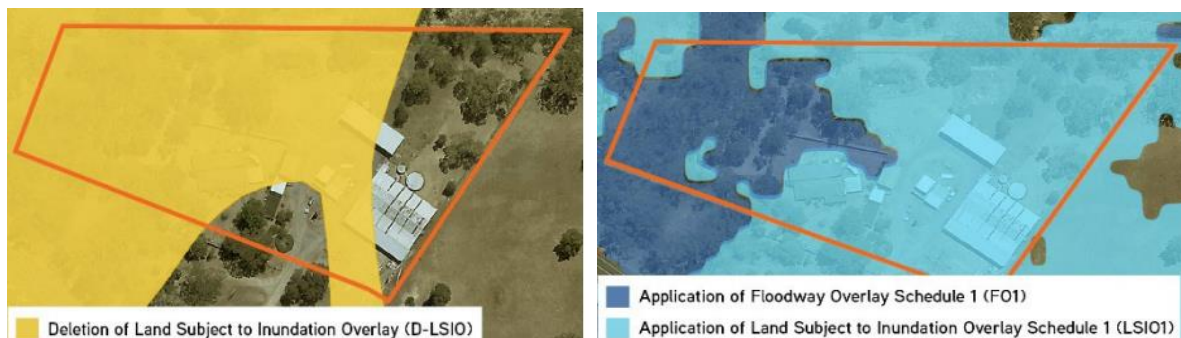
The Panel is satisfied that the modelling, which has been calibrated against the 2011 flooding event, accurately reflects localised conditions and appropriately identifies the level of potential flooding impact.

The Panel concludes:

- The proposed application of FO1 and LSIO1 to 401 Fulbrooks Road, Dadswells Bridge is appropriate.

**4.2.2 5802 Western Highway, Dadswells Bridge**

**Figure 4 5802 Western Highway, Dadswells Bridge**



Source: Council's Part A submission (Document 8) Attachment E 'Submissions Response Table'

**(i) Evidence and submissions**

The landowner was concerned the implications of the Amendment had not been properly explained. It was unclear if the Amendment would prevent subdividing an existing dwelling from the business operating on the property.

Council submitted flood controls did not prohibit the subdivision of land. However, any future subdivision would need to meet the requirements of the flood controls including on the placement of fill and ensuring adjoining properties were not adversely impacted.

**(ii) Discussion and conclusion**

The Panel is satisfied that the flood modelling is sufficiently robust to support the application of the FO1 and LSIO1 as proposed.

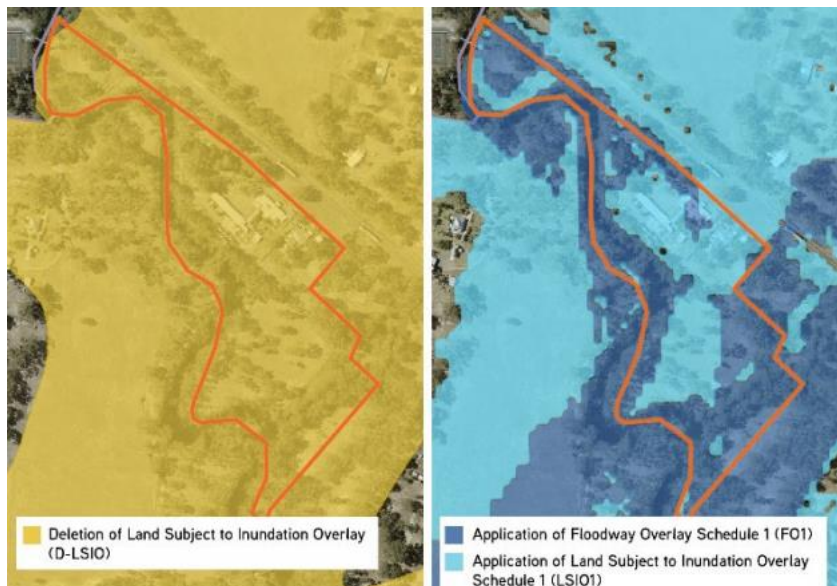
While the proposed controls do not impact existing use rights, the issue of future subdivision or further site development is more appropriately considered at the permit stage and when potential flood impacts from development can be considered in greater detail.

The Panel concludes:

- The proposed application of FO1 and LSIO1 to 5802 Western Highway, Dadswells Bridge is appropriate.

#### 4.2.3 5835 Western Highway, Dadswells Bridge

**Figure 5** 5835 Western Highway, Dadswells Bridge (proposed)



Source: Council's Part A submission (Document 8) Attachment E 'Submissions Response Table'

##### (i) Evidence and submissions

The landowner opposed the Amendment because the implications were unclear including the ability to use and develop a service station on the property.

Council submitted the modelling results were verified by calibrating them against observed flooding in 2011 and the overlays accurately represent the level of flood risk in Dadswells Bridge and provide a sound basis for development control. Future site development was a matter for future permit application.

##### (ii) Discussion and conclusion

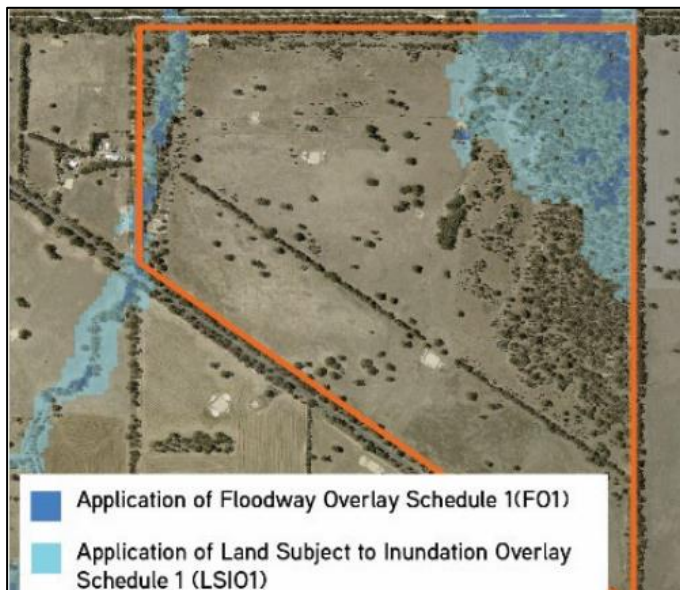
As previously stated, the Panel supports the methodology applied to the relevant flood study and the resultant mapping of the FO1 and LSIO1. Almost the entire site is currently affected by flood controls, and the Amendment refines the controls to more accurately identify the extent of flood risk on different parts of the site. Existing developed areas remain within the LSIO. Issues relating to future development are not determinative of the flood risk or appropriate application of controls to reflect the potential risk. Future development of the property is properly a matter of the permit application process.

The Panel concludes:

- The proposed application of FO1 and LSIO1 to 5835 Western Highway, Dadswells Bridge is appropriate.

#### 4.2.4 CA 190, 191 and 192 Western Highway, Dadswells Bridge

Figure 6 CA 190, 191 and 192 Western Highway, Dadswells Bridge (proposed)



Source: Council's Part A submission (Document 8) Attachment E 'Submissions Response Table'

##### (i) Evidence and submissions

The landowner disputed that the land was subject to flooding, submitting that it had not been flooded in over 50 years of ownership. They submitted the northern portion of the site comprised a geological formation known as 'crab holes' comprising a series of small mounds and depressions. The submission proposed that the overlays not apply beyond the northern and western boundaries of the property.

Mr Hughes' evidence was that the flood control layers for this area were determined based on modelling undertaken for the *Mt William Creek Flood Investigation* study and applied best practice and were considered accurate. He identified that 'crab holes' were a typical topographic formation in the Wimmera region in wet areas which can maintain water for lengthy periods.

Council submitted the flood modelling was consistent with historic flood levels across Dadswells Bridge. The proposed flood controls were based on the best available information, and best practice modelling and techniques. It said the use of computer modelling is acknowledged as the only practical method to reliably map the extent of changes to the flood shape across the municipality.

##### (ii) Discussion and conclusion

A significant portion of the property remains free of the proposed flood controls with only a small portion of the site proposed to be affected by the FO1. As previously stated, the Panel supports the methodology applied to the relevant flood study and the resultant mapping of the FO1 and LSIO1 throughout Dadswells Bridge.

The Panel concludes:

- The proposed application of the FO1 and LSIO1 to CA 190, 191 and 192 Western Highway, Dadswells Bridge is appropriate.

## 4.3 Dooen

### 4.3.1 Riverside Road, Dooen

#### (i) The affected land

The Amendment deletes the FO that currently applies to the entirety of the subject land and replaces it with the new FO1 to the same extent.

#### (ii) Evidence and submissions

The landowner indicated support for the Amendment although identified challenges associated with obtaining approval to build a house and shed on the property. Council advised that the submitter had subsequently indicated the application of the FO1 over the entirety of the property was opposed and that mitigation measures should be implemented instead.

Council identified that the modelling undertaken for the *Horsham and Wartook Valley Flood Investigation* on the Wimmera River floodplain upstream of Horsham was well calibrated and provided an accurate representation of flood risk. Council explained that a range of mitigation options were considered in the flood investigation, but they were costly and would impact many landowners.

#### (iii) Discussion and conclusion

The Panel is satisfied that the relevant flood study supports the application of the FO1 over the subject land. While the future implementation of mitigation options may impact flood levels, there is no guarantee that they would be undertaken or undertaken in the short-medium term, or what impact they would have on individual properties. In the interim, the potential flood risk remains and the controls are appropriate.

The Panel concludes:

- The proposed application of the FO1 to Riverside, Dooen is appropriate.

## 4.4 Horsham

### 4.4.1 Agnew Court, Horsham

#### (i) The affected land

The affected land is shown in Figures 7 to 11 below.



**Figure 7 1 Agnew Court, Horsham (proposed)**



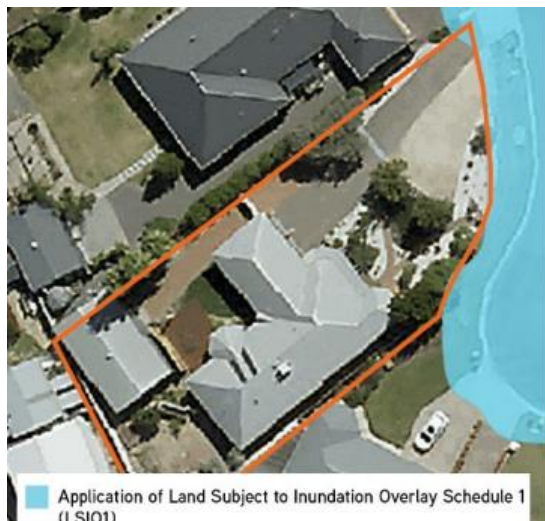
**Figure 8 3 Agnew Court, Horsham (proposed)**



**Figure 9 7 Agnew Court, Horsham (proposed)**



**Figure 10 8 Agnew Court, Horsham (proposed)**



Source: Council's Part A submission (Document 8) Attachment E 'Submissions Response Table'

**Figure 11 9 Agnew Court, Horsham (proposed)**

Source: Council's Part A submission (Document 8) Attachment E 'Submissions Response Table'

## **(ii) Evidence and submissions**

Five landowners within Agnew Court opposed the Amendment on the basis of the threshold issues discussed in Chapter 3 including the associated impacts arising from development permitted within the floodplain. The submissions also identified that the 2011 flood had not impacted privately owned properties and only affected the road reserve, suggesting the modelling did not accurately reflect terrain changes.

Submission 18 identified that the flooding experienced in 2011 within Agnew Court did not extend beyond the road and was from stormwater and not from the Wimmera River.

Mr Hughes's evidence was the January 2011 flood event was somewhere between a 1 per cent and 2 per cent event. His evidence included an aerial image of the 2011 flood which showed the extent of flooding was slightly less than the proposed LSIO1 mapping, which was based on a 1% AEP event and therefore slightly larger than the 2011 flood extent. He considered the basis of the LSIO1 mapping appropriate for a 1 % AEP event.

Council submitted the LSIO1 mapping for Agnew Court was appropriate and based on best practice flood modelling and acceptable risk thresholds.

## **(iii) Discussion and conclusion**

The threshold issues raised in submissions are discussed in Chapter 3. As previously stated, the Panel supports the basis on which the flood investigations were undertaken and the proposed flood mapping.

The Amendment either:

- reduces the extent of the existing LSIO1 (1 and 3 Agnew Court) to a small portion of the front setback garden area
- applies the LSIO1 to a small portion of the front setback garden area (8 and 9 Agnew Court)
- does not extend the LSIO beyond the road reserve (7 Agnew Court).

Council and the WCMA representatives accepted that potential flooding in Agnew Court (and some other locations within Horsham) could be from stormwater rather than riverine flooding, but considered the LSIO1 remained the appropriate tool to manage flood risk. This was particularly the case where there was no current commitment to future drainage mitigation measures and

works. While the Panel understands that Council is preparing a Drainage Study, the timing, the nature and costing of any mitigation works and timeframe for delivery remains uncertain. In the interim it is appropriate to manage potential flood risks by applying the controls as proposed.

The Panel concludes:

- The proposed application of the LSI01 in Agnew Court, Horsham is appropriate.

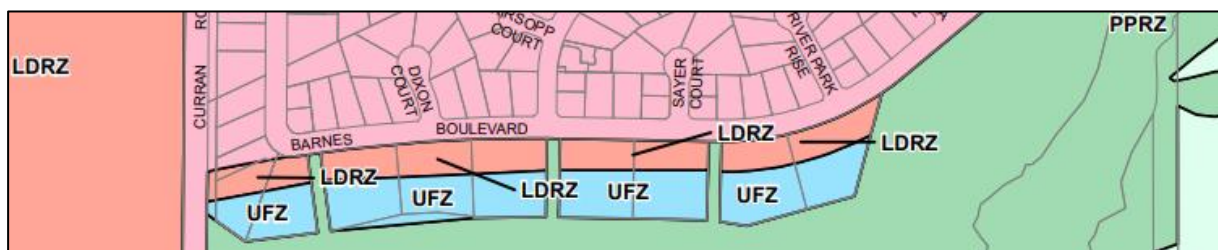
#### 4.4.2 Barnes Boulevard, Horsham

##### (i) The affected land

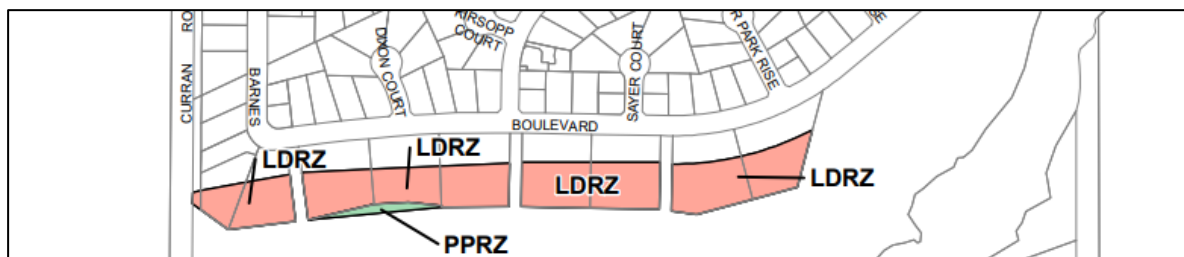
The Amendment affects nine privately owned properties located on the south side of Barnes Boulevard, Horsham together with an adjoining reserve. These properties are currently zoned LDRZ and UFZ (Figure 12) and a portion of the adjoining reserve is zoned PPRZ. Both the FO1 and LSI0 already apply to this land and duplicate the UFZ provisions.

The Amendment proposes to apply the LDRZ to the entirety of the privately owned land and the PPRZ to the portion of public land (Figure 13).

**Figure 12 Existing Zoning – Barnes Boulevard, Horsham**



**Figure 13 Proposed Zoning – Barnes Boulevard, Horsham**



The proposed FO changes in relation to 149 Barnes Boulevard are shown in Figure 14.

**Figure 14 149 Barnes Boulevard, Horsham (proposed)**



Source: Council's Part A submission (Document 8) Attachment E 'Submissions Response Table'



**(ii) Submissions**

The landowner of 149 Barnes Boulevard, Horsham did not support the removal of the UFZ submitting that this portion of land still flooded and that the Amendment could have insurance implications or would encourage building in flood prone areas.

Council identified that:

The UFZ generally applies to areas where the potential flood risk is very high and places restrictive controls over land uses. Applying flood overlays (i.e. FO1 and LSIO1) in conjunction with an appropriate zone (LDRZ) will enable the primary use of land to be recognised whilst acknowledging and addressing flooding characteristics. The FO extent is proposed to be reduced on the land and will control development on the land rather than use of the land. A planning Permit will still be required for any buildings and works and will be referred to the Wimmera CMA for comment.

**(iii) Discussion and conclusions**

The Panel considers the function of the former UFZ will now be achieved through the application of the FO1 and LSIO1 based on more detailed flood analysis. These overlays will provide the appropriate tools to manage the different flooding impacts to the subject and adjoining properties along the Wimmera River.

There were no other submissions from landowners of Barnes Boulevard about the proposed zone and overlay changes. The Panel considers that the zone changes in tandem with the application of the FO1 and LSIO1 is logical and an appropriate use of the Victorian Planning Provisions.

The Panel concludes:

- The replacement of the UFZ with the LDRZ to the balance of private properties on the south side of Barnes Boulevard and the PPRZ to public land is appropriate.
- The proposed application of the FO1 and LSIO1 to private properties on the south side of Barnes Boulevard is appropriate.

**4.4.3 9 Centenary Road, Horsham****(i) The affected land**

The Amendment proposes to delete the existing DDO9. It does not propose to apply any flood controls.

**(ii) Evidence and submissions**

The landowner submission was unclear whether it supported or opposed the Amendment. Council advised it had made a number of attempts to contact the landowner to clarify their submission.

**(iii) Discussion and conclusion**

The Amendment removes an existing control no longer fit for purpose and does not impose any additional controls as a result of flood analysis. On this basis the proposed approach is considered sound and appropriate.

The Panel concludes:

- The removal of DDO9 from 9 Centenary Road, Horsham is appropriate.



#### 4.4.4 1 Culliver Street, Horsham

##### (i) The affected land

The Amendment retains the LSIO over the entire property.

##### (ii) Submissions

The landowner was concerned about threshold issues discussed in Chapter 3 of this Report relating to insurance impacts, flood water depth thresholds for the overlays and the impacts of development.

##### (iii) Discussion and conclusion

While the submission does not specifically address the impact of the Amendment on their property the Panel observes that the Amendment effectively replicates the existing LSIO mapping extent across 1 Culliver Street. The proposed extent is supported by updated flood studies. The other submitter concerns are discussed in Chapter 3.

The Panel concludes:

- The application of LSIO1 to 1 Culliver Street, Horsham is appropriate.

#### 4.4.5 10 Lewis Street, Horsham

##### (i) The affected land

**Figure 15** 10 Lewis Street, Horsham (proposed)



Source: Council's Part A submission (Document 8) Attachment E 'Submissions Response Table'

##### (ii) Evidence and submissions

The landowner opposed the Amendment because it:

- would result in further development in areas prone to flooding, impeding the course of flood waters and removing flood storage
- was inconsistent with guidelines that did not support greenfield development in flood affected areas and would expose residents to flood hazards
- would increase insurance premiums and potentially decrease property values
- was not feasible to raise existing dwelling floor levels.

Mr Hughes' evidence and Council's response to these issues is discussed in Chapter 3.

### (iii) Discussion and conclusion

The Panel has addressed issues raised in relation to insurance, property values and floodplain development in Chapter 3.

For 10 Lewis Court the Amendment more accurately identifies the LSIO1 extent which includes a greater portion of the front and side/rear yards. The Panel considers that the proposed flood controls have been applied based on a sound flood analysis and modelling approach. The Panel agrees with Council's observation that the flood controls do not require the floor levels of existing dwellings to be lifted. As identified for other properties impacted from stormwater drainage, potential future drainage mitigation measures may assist but do not diminish the potential short to medium term risks and the strategic planning rationale for applying the LSIO1 remains sound.

The Panel concludes:

- The application of the LSIO1 to 10 Lewis Street is appropriate.

### 4.4.6 2/31 and 69 Major Mitchell Drive, Horsham

#### (i) The affected land

**Figure 16** 2/31 Major Mitchell Drive, Horsham (proposed)



Source: Council's Part A submission (Document 8) Attachment E 'Submissions Response Table'

**Figure 17** 69 Major Mitchell Drive, Horsham (proposed)



Source: Council's Part A submission (Document 8) Attachment E 'Submissions Response Table'

## (ii) Evidence and submissions

The landowners were concerned the Amendment would impact insurance premiums, would support development in the LSIO1 and apply the LSIO1 at a depth greater than in other areas of Victoria.

Council's response to these issues is summarised in Chapter 3. It submitted the application of the LSIO1 was an appropriate response to the level of risk and based on the flood study analysis and relied on the evidence of Mr Hughes.

## (iii) Discussion and conclusions

The Amendment reduces the LSIO1 extent over 2/31 and 69 Major Mitchell Drive based on more detailed analysis of potential flooding events and local area attributes. The LSIO1 now extends over a very small portion of front setback garden of both properties excluding all existing buildings.

The Panel has addressed issues raised in relation to insurance, overlay application methodology and floodplain development in Chapter 3.

The Panel concludes:

- The proposed application of the LSIO1 to 2/31 and 69 Major Mitchell Drive is appropriate.

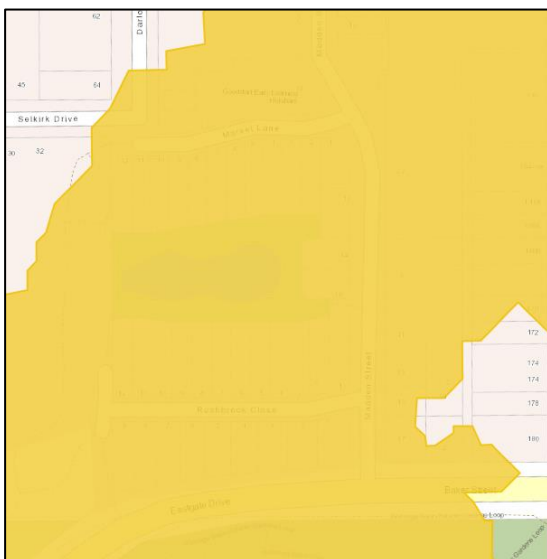
### 4.4.7 Market Lane, Madden Street, Rushbrook Close and Eastgate Drive precinct

#### (i) The affected land

The Amendment proposes to replace the existing LSIO which extends across a residential precinct to the south of the Horsham Central Business District including properties in Market Lane, Rushbrook Close, Eastgate Drive and Madden Street with:

- the FO1 generally extends across waterways, some roadways and other lower lying areas
- the extent of the LSIO1 refined to a slightly reduced extent than the existing LSIO.

**Figure 18** Market Lane and Rushbrook Close, Horsham (existing LSIO extent)



**Figure 19** Market Lane and Rushbrook Close, Horsham (proposed)



Source: Interactive Flood Planning Controls Map, on the Horsham Rural City Council website project page and for Figure 23: Council's Part A submission (Document 8) Attachment E 'Submissions Response Table'

**(ii) Evidence and submissions**

Submissions were received from the landowners of 2, 3, 7, 8, 10 and 11 Market Lane and 7 Rushbrook Close, Horsham. Concerns raised many of the threshold issues discussed at Chapter 3 including the accuracy of modelling and the potential impacts of floodplain development and management (including of the Horsham Weir) on established areas.

The owner of 2 Market Lane provided a detailed submission to the Panel on the concerns of submitters within this precinct. In particular the submission was seeking to ensure that the LSIO1 was removed from the building footprint of 2 Market Lane and its neighbours consistent with floor level surveys and the subsequent review of flood levels by Water Technology and Council.

The evidence of Mr Hughes set out the basis on which flood levels were modelled and calibrated in the *Horsham and Wartook Valley Flood Investigation* and mapped including for the areas around Market Lane and Rushbrook Close. His evidence identified that for 7 Rushbrook Close, the flood height noted by the landowner matched modelling within 1 centimetre and confirmed that independent floor level surveys were undertaken to identify those above the 1% AEP flood level. He recommended removing the building footprints of those buildings (which were between 100 and 200 millimetres higher than the 1% AEP level) from the LSIO1 (as shown in the mapping changes in Appendix F) given their close proximity to each other, high site coverage (density) and limited opportunities for flood water movement between them. This position was supported by Council and the WCMA.

**(iii) Discussion and conclusion**

The dwellings in the Market Lane and Rushbrook Close area were generally built from 2007 after the 2006 flood study. The review of the proposed flood levels and controls were informed by independent floor level surveys, and their dense distribution provides a reasonable approach to reviewing the application of the LSIO1. It is an approach that appropriately balances the modelling with the existing built condition and the lower flood risk levels.

The Panel concludes:

- The LSIO1 should be removed from the building footprints on the following properties so no flood control applies, as proposed by Council and supported by the evidence of Mr Hughes (and included in Appendix F of this Report):
  - 1-12 Market Lane, Horsham
  - 12 Madden Street, Horsham
  - 1-12 Rushbrook Close, Horsham
  - 1-9 Eastgate Drive, Horsham.

**4.4.8 62A McPherson Street, Horsham****(i) The affected land**

The Amendment removes DDO9 from the subject land. No other flood controls are proposed to apply.

**(ii) Evidence and submissions**

The landowner raised threshold issues discussed in Chapter 3 relating to insurance premiums, the threshold depth for the LSIO1 and that the proposed controls supported development.

### (iii) Discussion and conclusions

The Panel has addressed the issues raised in the landowner submission in Chapter 3. While the submission does not specifically address the impact of the Amendment on their property the Panel observes the Amendment removes an inappropriate tool to manage flooding, and in this instance based on flood modelling has not applied new flood controls to the property.

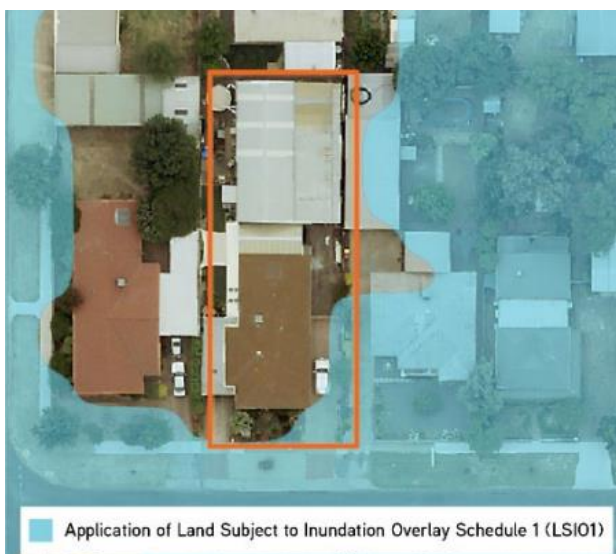
The Panel concludes:

- The removal of DDO9 from 62A McPherson Street, Horsham is appropriate.

## 4.4.9 3 Olga Avenue, Horsham

### (i) The affected land

**Figure 20** 10 Olga Avenue, Horsham (proposed)



Source: Council's Part A submission (Document 8) Attachment E 'Submissions Response Table'

### (ii) Evidence and submissions

The landowner provided a detailed submission to the Panel which addressed threshold issues discussed in Chapter 3 including the localised flooding impacts resulting from floodplain development and management (including of stormwater). The submission was also concerned about the accuracy of modelling, noting that their property had been outside the 1% AEP in previous flood studies but was now identified as being included.

Council supported the basis of the flood modelling and mapping and proposed no changes in relation to the property.

### (iii) Discussion and conclusion

The threshold issues identified in the submission are discussed in Chapter 3. The Panel supports the basis on which the flood modelling has been undertaken and LSIO1 mapping has been applied.

The Panel concludes:

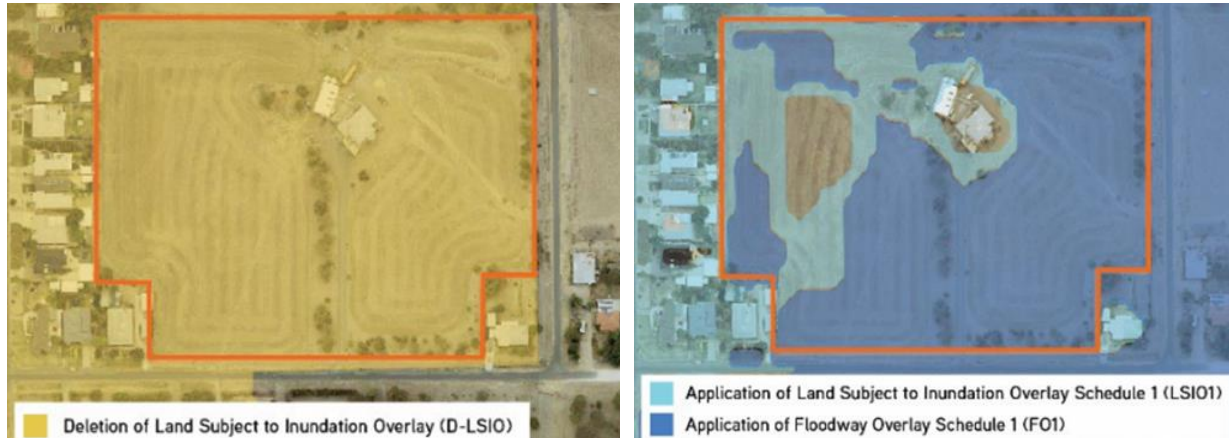
- The proposed application of the LSIO1 to 10 Olga Avenue, Horsham is appropriate.



#### 4.4.10 61 Pryors Road, Horsham

##### (i) The affected land

**Figure 21** 61 Pryors Road, Horsham (proposed)



Source: Council's Part A submission (Document 8) Attachment E 'Submissions Response Table'

##### (ii) Evidence and submissions

The landowners were concerned about the impact of the Amendment on a planning permit issued some 20 years ago for the staged subdivision of the site, 9 lots of which had already been created off Peppertree Lane. The landowner identified that financial contributions for headworks to enable the subdivision had already been paid and a pump installed but that they had been advised by Council that the planning permit may have lapsed. The landowners submitted they wished to work with Council to facilitate the subdivision of the balance of the land, which might involve reducing the number of lots.

The landowner raised concerns about flooding activity and extent resulting from the closure of the culvert under the railway line at Peppertree Lane to Police Paddock in Horsham North.

The evidence of Mr Hughes did not address the specific flood issues relating to the site. The culvert closure was considered necessary during flood events to avoid extensive flooding in Horsham North, an established and developing residential area.

Council advised that the exiting LSIO covering the site was:

- based on a 1981-82 flood study
- in place in the 1999 new format version of the Horsham Planning Scheme (Document 15)
- likely in place when the planning permit for subdivision was approved.

##### (iii) Discussion and conclusion

The Panel notes that 61 Pryors Road is roughly split in half between the General Residential Zone to the west and LDRZ to the east (which includes the existing dwelling). The Amendment mapping proposes the FO1 and LSIO1 cover a substantial portion of the property with the exception of two more elevated areas, one including the existing dwelling.

The Amendment retains the current LSIO requirement for a planning permit for development, subdivision and works and the consideration of flood impact for the property, although the Panel acknowledges that the application of the FO1 identifies a higher potential flood risk and contains more onerous requirements than the LSIO.

The basis for issuing the earlier subdivision planning permit and its legal status is outside the Panel's scope. The issue relating to impacts of the Amendment on development and floodplain management are discussed in Chapter 3.

The Panel supports the basis on which the flood mapping has been developed and its application to this property. The Amendment provides an appropriate basis for considering any future development on the property requiring a planning permit based on the consideration of:

- associated flood impacts
- other planning policies and provisions in the Horsham Planning Scheme, including those related to housing and settlement growth.

The Panel concludes:

- The proposed application of the FO1 and LSIO1 to 69 Pryors Road, Horsham is appropriate.

#### **4.4.11 33 Rennison Street, Horsham**

##### **(i) The affected land**

The Amendment retains the LSIO extent over the entire site.

##### **(ii) Evidence and submissions**

The landowners provided a submission to the Panel which included photographs of the property and Rennison Street following the 2011 floods. Their experience was that the flood reached their front porch but did not enter the house, carport or backyard and did not extend to the same extent it did for the adjacent property which had a lesser LSIO1 extent proposed.

The landowners submitted that the flooding impacts experienced in 2011 were a result of stormwater flooding and the closing of culverts to Police Paddock and Rasmussen Road in Horsham North, and the management of Horsham Weir.

Council supported the proposed LSIO1 mapping extent based on the flood modelling approach and evidence of Mr Hughes. Its response to threshold issues is discussed in Chapter 3.

##### **(iii) Discussion and conclusions**

The Amendment does not change the flooding controls currently applying other than simplifying them, reducing duplication and reducing the need for permits for more minor works. Application of the LSIO1 is considered an appropriate response to the modelled flood risk at a 1% AEP event.

Threshold issues are discussed in Chapter 3.

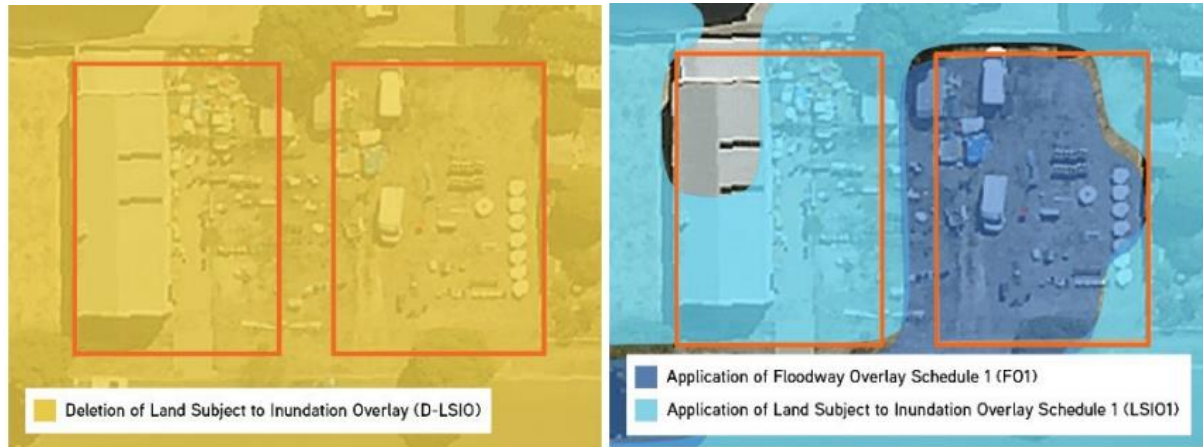
The Panel concludes:

- The proposed application of the LSIO1 to 33 Rennison Street, Horsham is appropriate.

#### 4.4.12 3 and 5 Sloss Street, Horsham

##### (i) The affected land

**Figure 22** 3 and 5 Sloss Street, Horsham (proposed)



Source: Council's Part A submission (Document 8) Attachment E 'Submissions Response Table'

##### (ii) Evidence and submissions

Submitter 10 opposed the Amendment because of the potential impacts on the future site development for a factory or warehouse and associated impacts on land value. The submitter proposed stormwater flooding issues be dealt with by Council, and the land could be developed through raised floor levels or fill.

The evidence of Mr Hughes identified:

Submission 10 raised concerns around developability at 5 Sloss Street, Horsham, particularly around a small portion of FO at this address. No concerns were raised about the potential for the site to be inundated by a flood event. I reviewed the modelled 1% AEP depths, which were marginally over the 0.5m depth threshold and agreed the use of LSIO was more appropriate. It was agreed with Horsham Rural City Council to remove the FO and replace it with LSIO; ...

This change was supported by Council and the WCMA (refer mapping changes in Appendix F).

##### (iii) Discussion and conclusion

The proposed Council changes based on Mr Hughes' analysis of the marginal difference in the modelled flood depth threshold between applying FO1 and LSIO1 is considered a reasonable and balanced approach. Replacing the FO1 with the LSIO1 across 5 Sloss Street ensures that flood impacts from any future development of the land can be considered in a balanced way with other planning considerations at the permit stage.

The Panel concludes:

- The Panel supports substituting the FO1 on 5 Sloss Street with the LSIO1 proposed by Council and supported by the evidence of Mr Hughes and included in Appendix F of this Report.

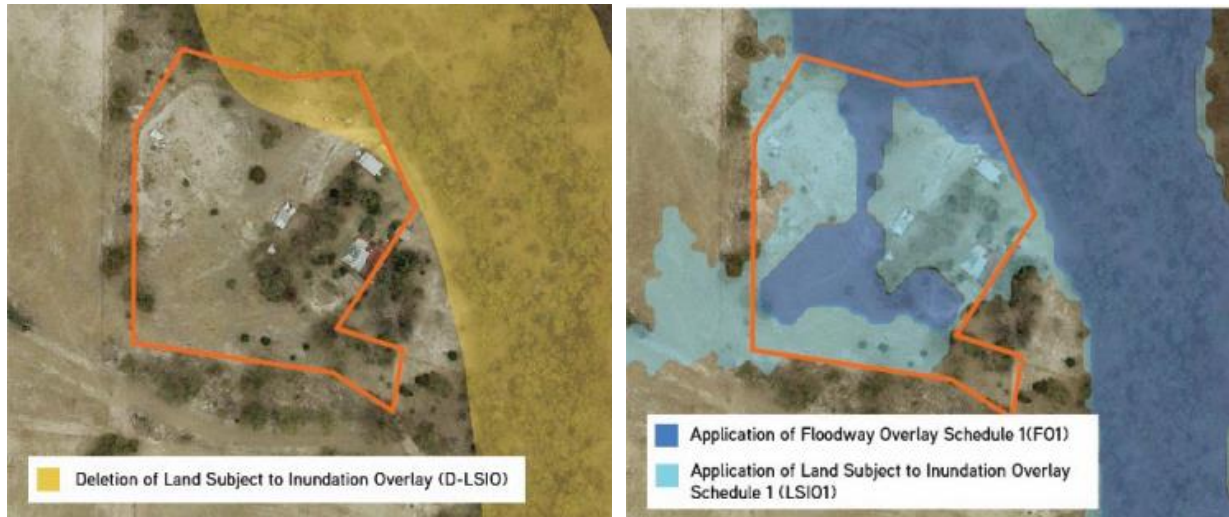


## 4.5 Lower Norton

### 4.5.1 503 and 593 Three Bridges Road, Lower Norton

#### (i) The affected land

**Figure 23** 503 and 593 Three Bridges Road, Lower Norton (proposed)



Source: Council's Part A submission (Document 8) Attachment E -Submissions Response Table'

#### (ii) Evidence and submissions

The landowner considered:

- the Amendment had applied incorrect flood mapping to the property, with the house never having been flooded
- from the flood risk on the property was increased because of the condition of McKenzie Creek, including from wattle trees.

Council advised that a site inspection identified a levee protecting the buildings which had not been included in the modelling. Water Technology had subsequently reviewed the modelling and proposed amending the LSIO1 mapping to exclude land inside the levy bank around the existing dwelling. This approach was confirmed and supported by the evidence of Mr Hughes (who identified that the scale of grid mapping did not always pick up smaller features) and the WCMA (refer mapping changes in, Appendix F).

Council advised the landowner about the proposed refinement to the LSIO1 mapping. The landowner requested further modifications to the mapping extent, which were not supported by Water Technology. The further areas requested for exclusion were identified as being considerably lower than the areas previously identified as appropriate for removal and were prone to flooding and should therefore remain within the designated mapping areas.

Council submitted that issues related to vegetation within the river potentially contributing to flooding was a matter for the WCMA. Its submission set out the technical assessment and approval process by which works could be undertaken in a waterway, consistent with the *Victorian Floodplain Management Strategy*.

### (iii) Discussion and conclusion

The proposed Council changes to the flood control extent on this property to reflect on ground conditions is an appropriate response and is supported. The further exclusions sought by the landowner have not been justified through the provision of appropriate information and are not supported.

The current condition of the waterway is matter that may be subject of future works, but it is not the basis for reducing the extent of potential flood prone area mapping (which is based on current conditions).

The Panel concludes:

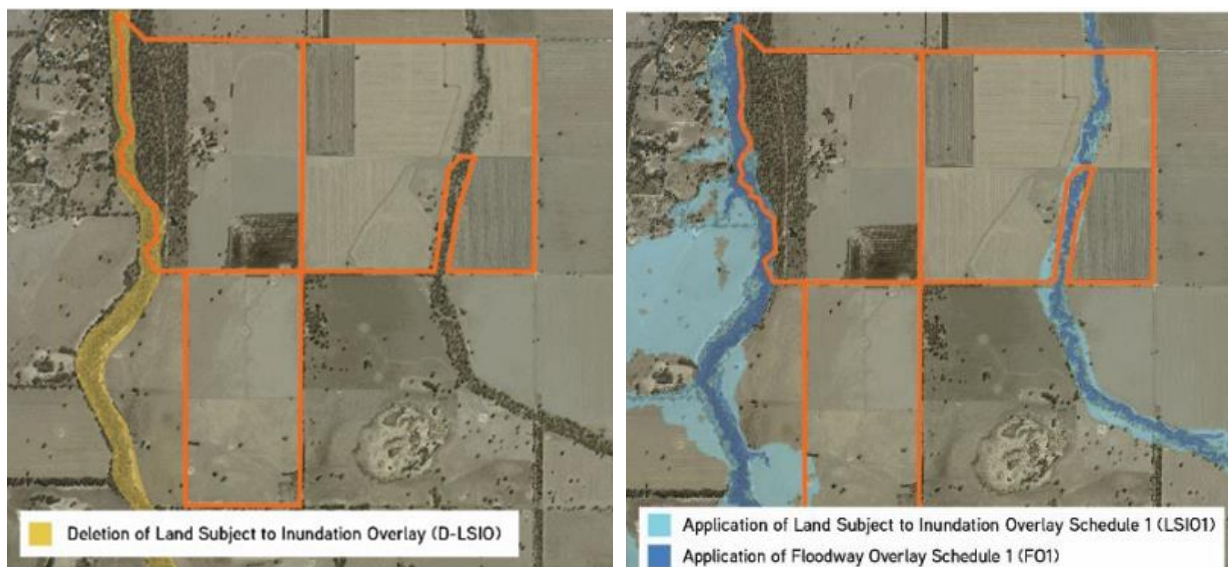
- The Panel supports Council's proposed changes to the LSIO1 mapping on 503 and 593 Three Bridges Road, Lower Norton. The changes are supported by the evidence of Mr Hughes and included in Appendix F of this Report.

## 4.6 McKenzie Creek

### 4.6.1 101 McKenzie Creek Reserve Road, McKenzie Creek and 820 Grahams Bridge Road, Bungalally

#### (i) The affected land

**Figure 24** 101 McKenzie Creek Reserve Road and 820 Grahams Bridge Road, Bungalally (proposed)



Source: Council's Part A submission (Document 8) Attachment E 'Submissions Response Table'

#### (ii) Submissions

The landowner identified potential future insurance impacts and impacts on farmers from the displacement of flood waters resulting from future development upstream in the floodplain. He also questioned the impact of the Amendment on the ability to construct an additional dwelling on the property although acknowledged that the proposed extent of the FO1 and LSIO1 was unlikely to impact this.

Council advised that the issue of a second dwelling should be managed through the planning permit process which would enable the consideration of an application taking into account flooding and other issues.

### (iii) Discussion and conclusion

The Amendment has a marginal impact on the subject land with:

- a small area of FO1 extending from McKenzie Creek to the south-east corner
- the FO1 and LSI01 extending along Bungalally Creek.

The Amendment is unlikely to have any material impact on the ability to construct buildings related to the rural land use outside the identified flood prone areas subject to the permit process. The construction of additional dwellings on the property is a planning permit matter and not relevant to the application of the proposed flood overlays.

The Panel has addressed common issues relating to insurance in Chapter 3.

The Panel concludes:

- The proposed application of the FO1 and LSI01 to 101 McKenzie Creek Reserve Road, McKenzie Creek and 820 Grahams Bridge Road, Bungalally is appropriate.

## 4.7 Natimuk

### 4.7.1 333 Natimuk Hamilton Road, Natimuk

#### (i) The affected land

Figure 25 333 Natimuk Hamilton Road, Natimuk (proposed)



Source: Council's Part A submission (Document 8) Attachment E 'Submissions Response Table'

## (ii) Evidence and submissions

The landowner sought the removal of the FO1 and LSIO1 from a disused dam that was obsolete.

Mr Hughes explained:

The submitter notes the layers include a dam which has been filled in, this dam was previously supplied with water through the GWMWater Stock and Domestic supply system. It was agreed with Horsham Rural City Council the LSIO and FO layers should be removed.

These changes to the extent of the FO1 and LSIO1 mapping were supported by Council and the WCMA (refer mapping changes in Appendix F).

## (iii) Discussion and conclusions

The Panel supports the basis on which Council has proposed to amend the mapping extent of the FO1 and LSIO1 in response to the submission and further analysis by Mr Hughes.

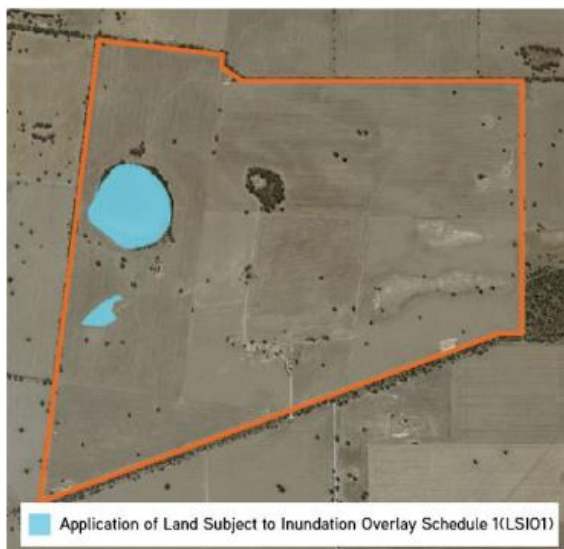
The Panel concludes:

- The Panel supports Council's proposed changes to the LSIO1 and FO1 mapping on 333 Natimuk Hamilton Road, Natimuk. The changes are supported by the evidence of Mr Hughes and included in Appendix F of this Report.

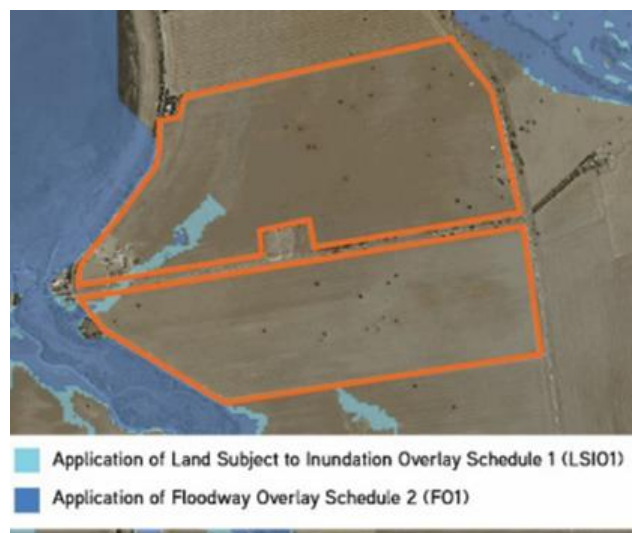
## 4.7.2 767 Three Chain Road and 378 Lake Road, Natimuk

### (i) The affected land

**Figure 26** 767 Three Chain Road, Natimuk (proposed)



**Figure 27** 378 Lake Road, Natimuk (proposed)



Source: Council's Part A submission (Document 8) Attachment E 'Submissions Response Table'

## (ii) Evidence and submissions

The landowner disputed the proposed flood mapping extent based on topography, observations over 47 years and removal of the Wimmera Mallee Channel system.

Mr Hughes reviewed the submission in relation to 767 Three Chain Road and identified:

It is important to note there are no proposed changes to the LSIO layer on the property, just an amendment to Schedule 1. However, review of the available topographic data does indicate the highlighted portion of the LSIO is not representative of an area likely to be

flooded. This area has been recommended for removal from the LSIO layer, and agreed by Horsham Rural City Council.

Council adopted Mr Hughes's evidence, but did not include reference in its submissions about the mapping change recommended by Mr Hughes to remove the LSIO1 over the small area to the south of the larger dam (identified in Appendix F) for 767 Three Chain Road.

In relation to 378 Lake Road, Mr Hughes identified that Council had agreed to remove a section of the LSIO1 and small portion of FO1 (refer to Appendix F) which he supported. This was confirmed in Council's submission and supported by the WCMA.

**(iii) Discussion and conclusions**

The Panel supports the process undertaken by Council to review submissions with input from Mr Hughes and the WCMA. It is unclear to the Panel why Council's submission did not include the mapping change supported by Mr Hughes for 767 Three Chain Road. The Panel is of the view that this was likely an oversight given:

- Council adopted the evidence of Mr Hughes and supported the methodology applied by him and Water Technology in the review of submissions
- Council did not ask him questions about this recommendation in his evidence
- Mr Hughes did not identify this recommended change was not supported by Council.

The Panel supports the evidence of Mr Hughes and the technical basis for his recommended changes for both 767 Three Chain Road and 378 Lake Road, Natimuk.

The Panel concludes:

- The proposed application of the flooding controls to 767 Three Chain Road, Natimuk and 378 Lake Road, Natimuk is appropriate subject to the changes to the FO1 and LSIO1 supported by the evidence of Mr Hughes and included in Appendix F of this Report.



## 4.8 Riversdale

### 4.8.1 102 Horsham Lubeck Road, Riverside

#### (i) The affected land

Figure 28 102 Horsham Lubeck Road, Riverside



Source: Council's Part A submission (Document 8) Attachment E 'Submissions Response Table'

#### (ii) Submissions

The landowner's key concerns related to financial impacts relating to land value and future utilisation of the subject land. Council's submission to these issues is included in Chapter 3 and not repeated here.

#### (iii) Discussion and conclusion

As set out in Chapter 3 the Panel considers the basis for the flood controls is well considered and based on a robust approach to flood modelling. While the submission does not specifically address the impact of the Amendment on their property, the Panel observes that in relation to 102 Horsham Lubeck Road, Riversdale the mapping is more accurate and has resulted in a reduction of the existing LSIO1 extent including adjacent to the existing dwelling and limited the extent of FO1 to adjacent to the waterway.

The Panel has addressed common issues relating to insurance in Chapter 3.

The Panel concludes:

- The proposed application of the FO1 and LSIO1 to 102 Horsham Lubeck Road, Riversdale is appropriate.

## Appendix A Submitters to the Amendment

No.	Submitter	No.	Submitter
1*	Acestarcom Pty Ltd	24	Rodney and Jenny Clarke
2*	Grampians Wimmera Mallee Water	25	Eric and Leanore Hedt
3	Uliana Ondrik	26	Ross Warrick
4	David Sudholz	27	Diane Hayes
5*	Kellie and Rohan Mann	28	Peter Hayes
6*	Lindsay and Susan Smiths	29	Colleen Dumesny
7*	Chris Schirmer	30	Michelle Rethus
8	Fuyuko Lehmann	31	Ken Shepherd
9	Michael Crook	32	Andrew Harrington
10	Barry and Kaye Hahne	33	Steve and Gloria McRae
11	Noel Maslamoney	34	Neville McIntyre
12	Helena Lindorff	35	Wayne and Maria Beddison
13	Angela Munn	36	Frances MacDonald
14	Brian and Pam Hedt	37	Lynley MacDonald
15	Beverley Bell	38	Dianne Bell
16	Greg Munn	39	Brian and Faye Eastwell and Patricia Brooksby
17	Brian Klowss	40*	Matt Perry and Kerry Friend
18	Tracey O'Callaghan	41	Jennifer Thomson
19	Beverley Shalders	42	Robin Barber
20	Denise Hobson \	43*	McKenzie Creek Quarrying Company
21	Katie Taylor	44	Department of Energy, Environment and Climate Action (DEECA)
22	Robyn Creek	45	VicTrack
23	Robyn Creek	46	Bipin Abraham

\* Withdrawn submission

## Appendix B Document list

No.	Date	Description	Provided by
1	22 Aug 23	Panel Directions and Hearing Timetable (version 1)	Planning Panels Victoria (PPV)
2	22 Aug 23	Council report 24 July 2023	Horsham Rural City Council (Council)
3	1 Sep 22	Links to flood studies	Council
4	1 Sep 22	Consolidated overlay change maps (Maps 1-4)	Council
4	13 Sep 23	Site inspection route - table and maps	Council
5	13 Sep 23	Correspondence regarding WCMA attendance at Panel	Di Bell
6	27 Sep 22	Ben Hughes expert witness statement	Council
7	27 Sep 23	Updated Hearing Timetable (version 2) and distribution list	PPV
8	28 Sep 23	Council Part A submission and attachments	Council
9	28 Sep 23	Denise Hobson submission	Denise Hobson
10	2 Oct 23	Wayne and Maria Beddison submission	Wayne and Maria Beddison
11	4 Oct 23	Council Part B submission and attachments	Council
12	4 Oct 23	PowerPoint presentation of Mr Hughes	Council
13	5 Oct 23	Greg and Angela Munn submission	Greg & Angela Munn
14	5 Oct 23	Dianne and Melvin Bell submission and attachments	Dianne & Melvin Bell
14	6 Oct 23	Link to Bell submission photos and USB	Dianne & Melvin Bell
15	12 Oct 23	Additional information requested by Panel following Council submission: <ul style="list-style-type: none"> <li>- citations for Panel reports referred to</li> <li>- extent of LSIO in August 1999 relating to Pryor Road area</li> </ul>	Council

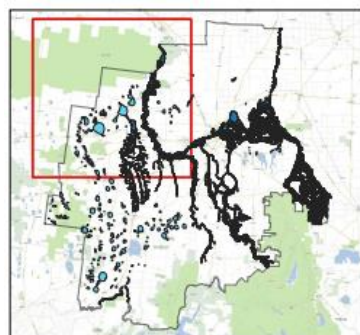
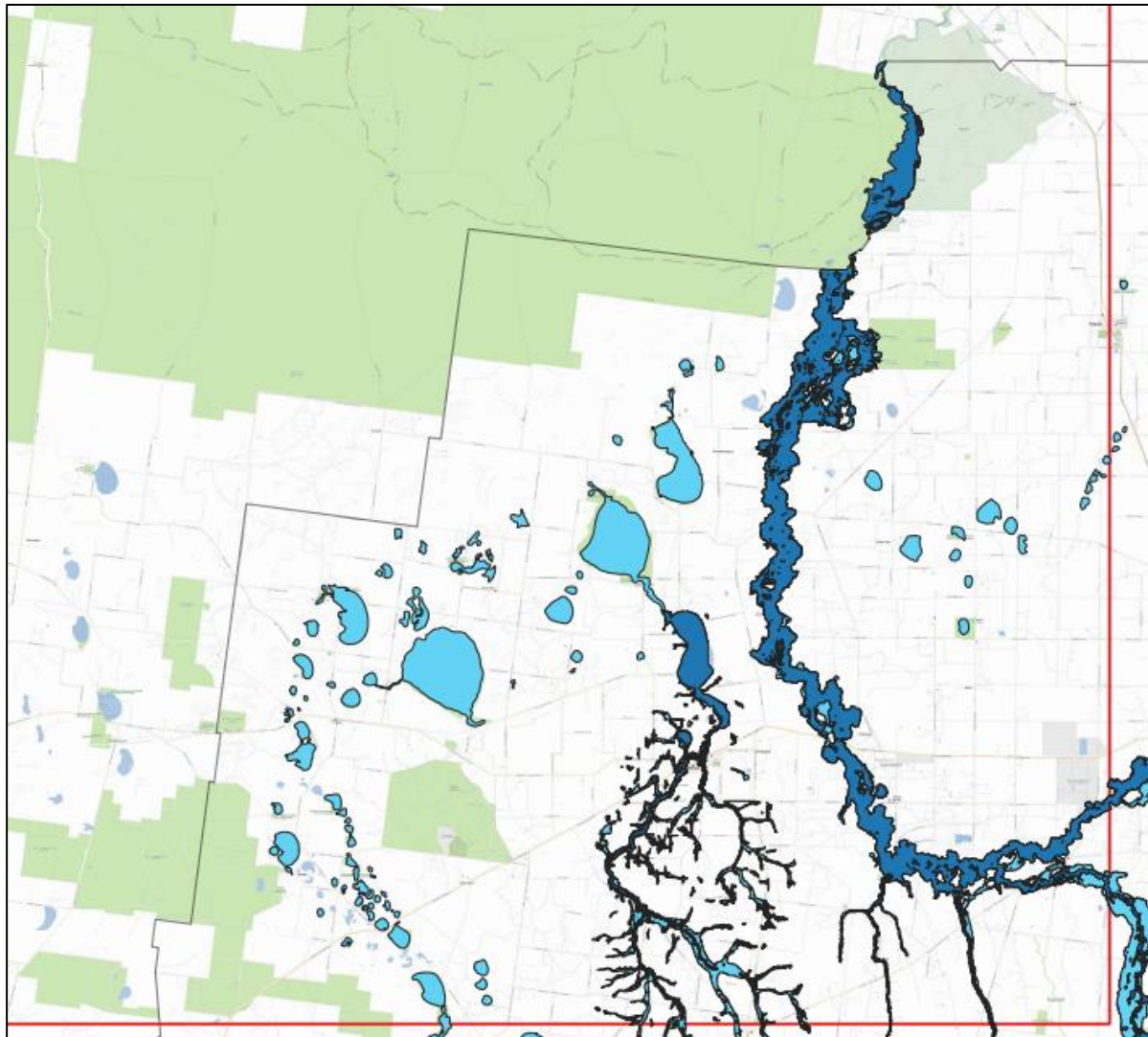


## Appendix C Proposed flood controls and study extents

### C:1 Proposed overlay changes

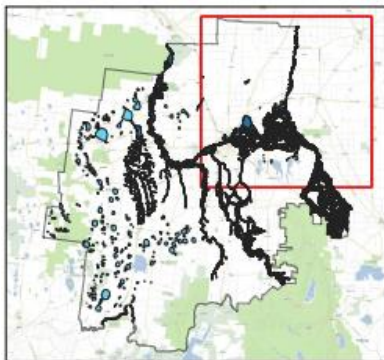
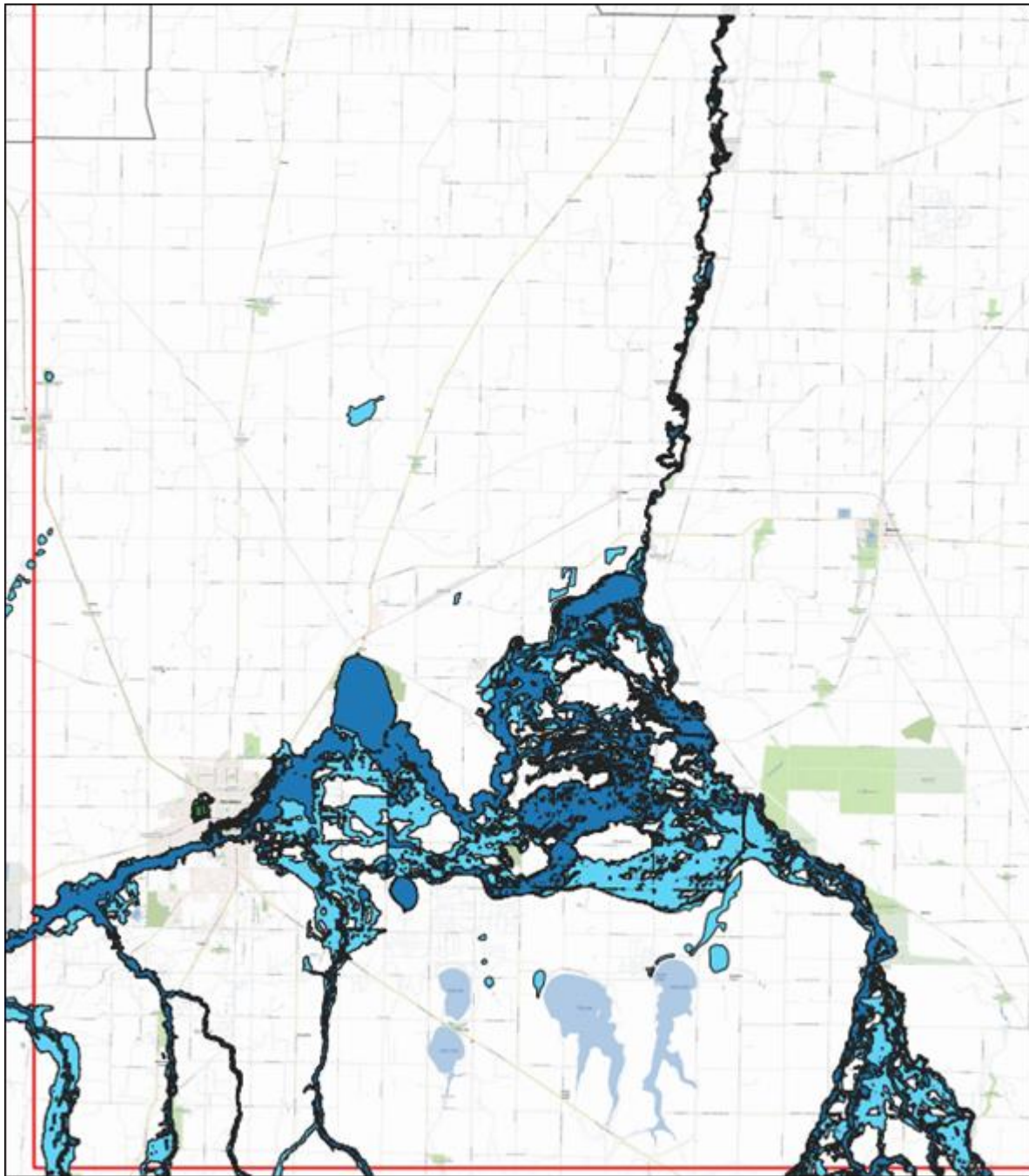
Note: Maps 1–4 include existing LSI0 areas outside the flood study extents but which are to be retained unchanged. These areas are affected by the changes to the LSI01 schedule. These maps were provided by Council (Document 4) in addition to the SBO1 mapping.

#### Land affected by Amendment (Map 1)



- New Floodway Overlay (FO1)
- New Land Subject to Inundation (LSIO1)
- HRCC Boundary

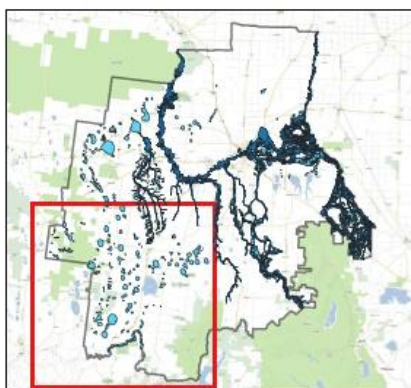
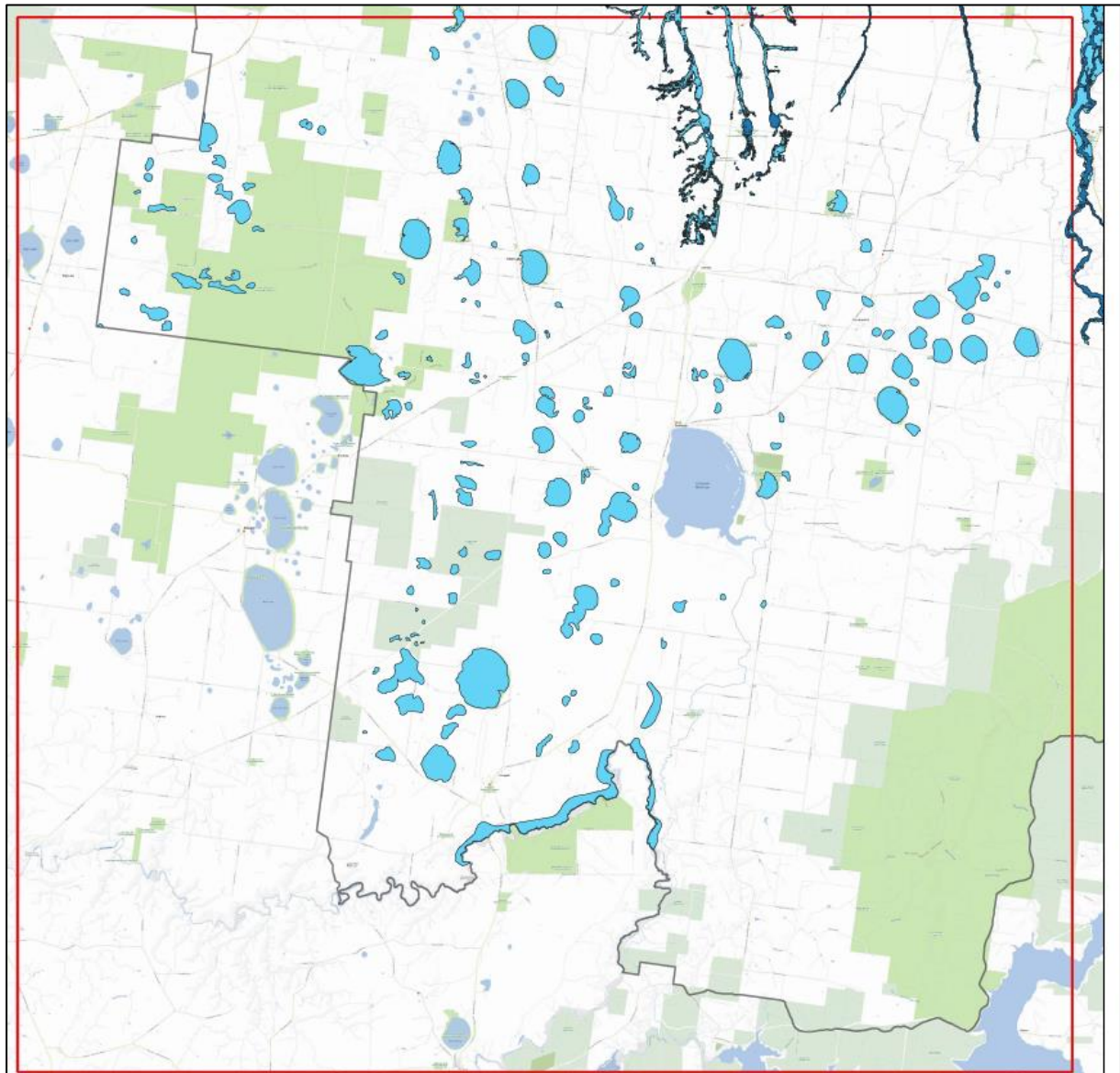
Land affected by Amendment (Map 2)



- New Floodway Overlay (FO1)
- New Land Subject to Inundation (LSIO1)

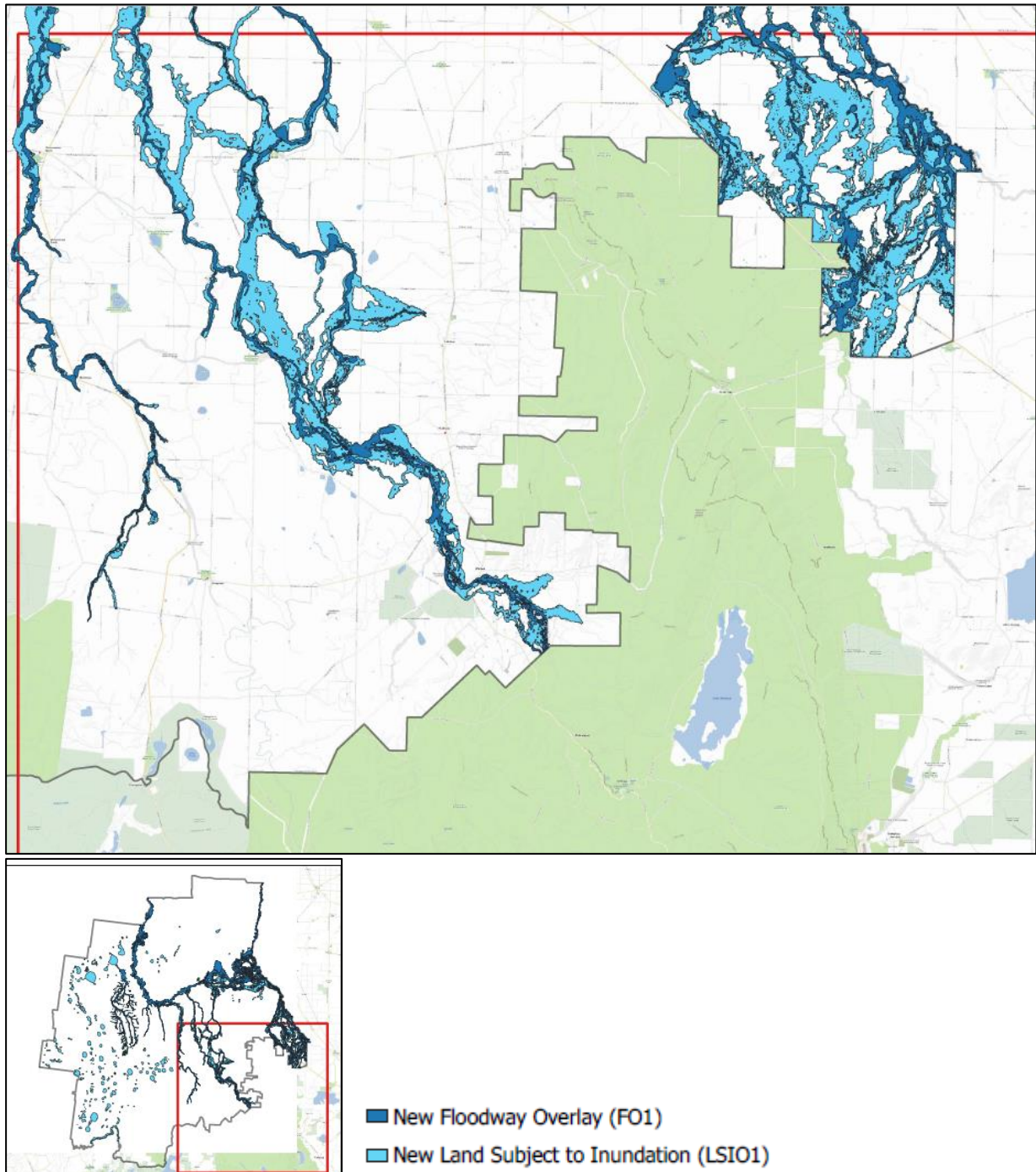


Land affected by Amendment (Map 3)



- New Floodway Overlay (FO1)
- New Land Subject to Inundation (LSIO1)

Land affected by Amendment (Map 4)



### Proposed SBO1 mapping extent



Source: Council's Part A submission Attachment A (Document 8)



## C:2 Flood studies

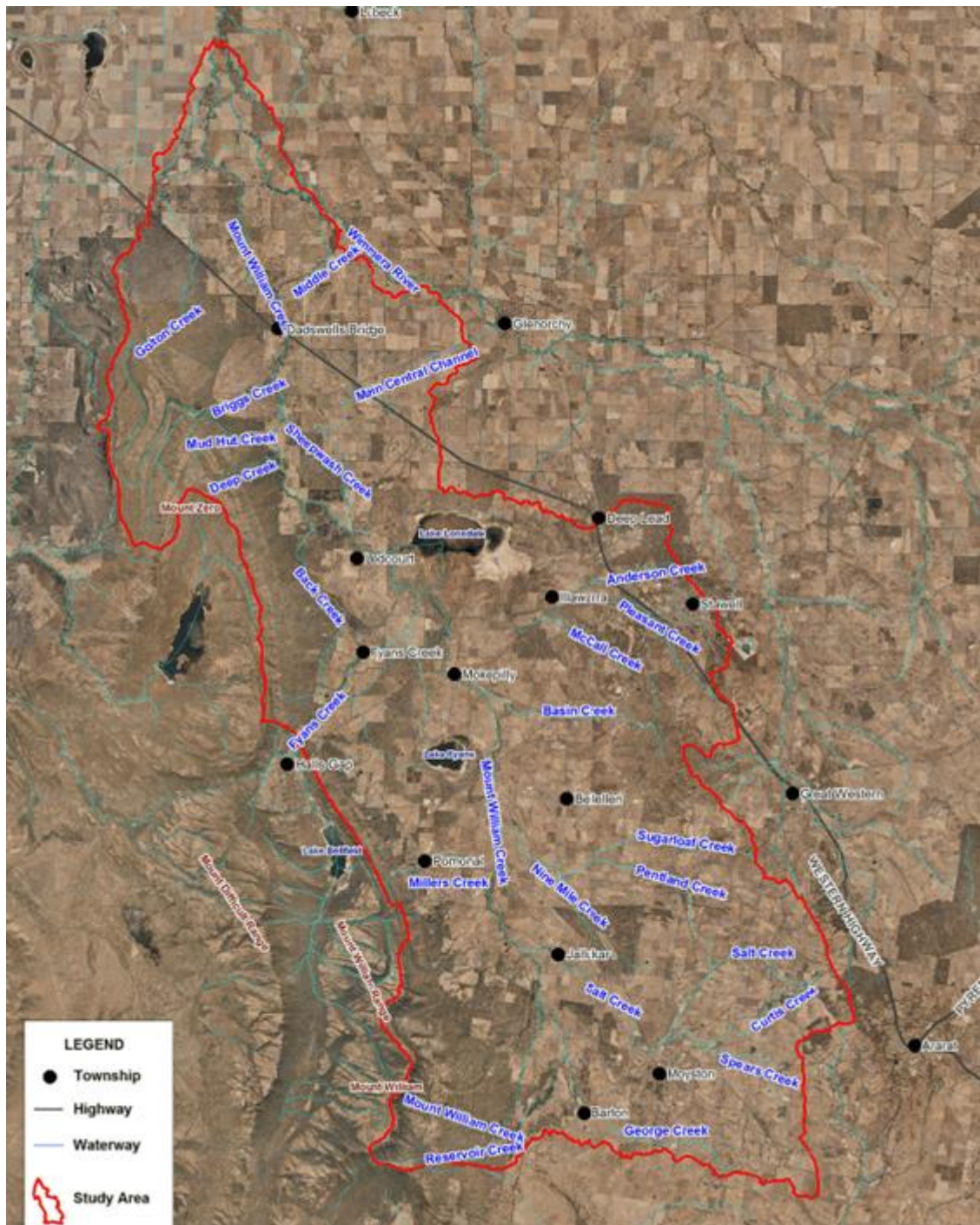
### Horsham and Wartook Valley Flood Investigation study area



Source: Horsham and Wartook Valley Flood Investigation

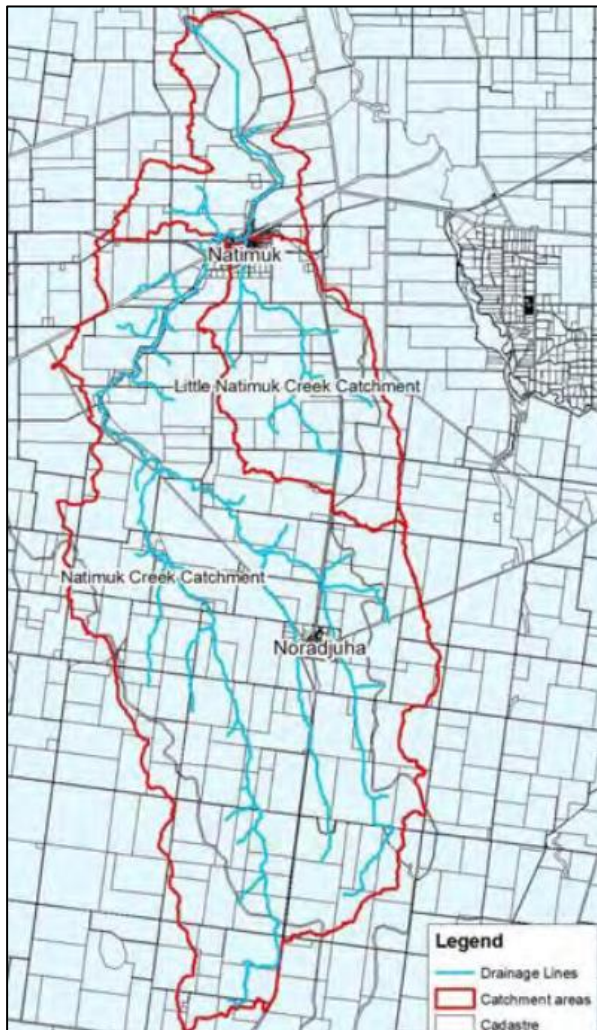


### Mount William Creek Flood Investigation study area



Source: Mount William Creek Flood Investigation

### Natimuk Flood Investigation study area



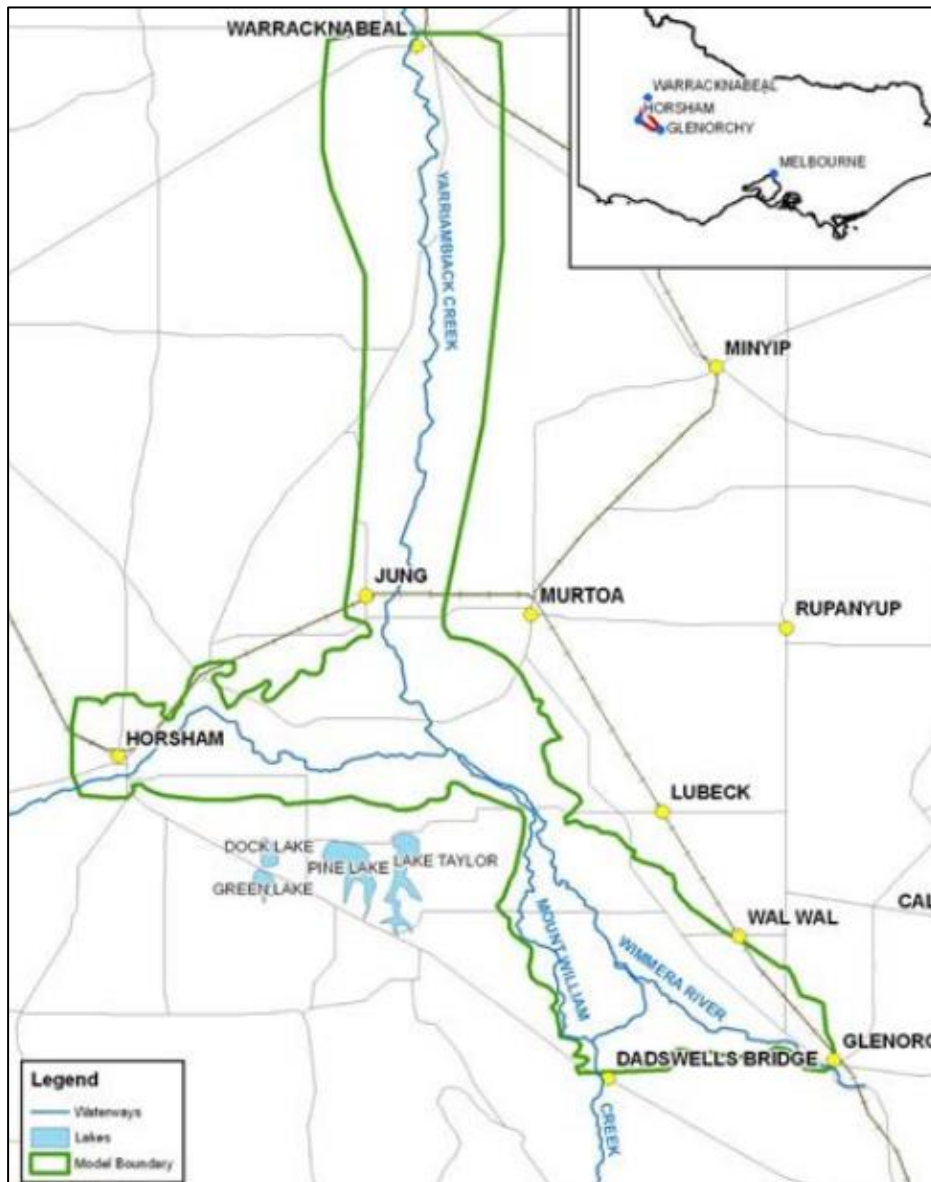
### Warracknabeal and Brim Flood Investigation study area



Source: Natimuk Flood Investigation Study Report and Warracknabeal and Brim Flood Investigation



Wimmera River - Yarriambiack Creek Flow Investigation study area



Source: Wimmera River - Yarriambiack Creek Flow Investigation



## Appendix D Planning context

### D:1 Planning policy framework

Council submitted that the Amendment is supported by various clauses in the Planning Policy Framework, which the Panel has summarised below.

#### Victorian planning objectives

The Amendment:

- will assist in implementing State policy objectives set out in section 4 of the PE Act particularly:
  - To provide for the fair, orderly, economic and sustainable use, and development of land;
  - To secure a pleasant, efficient and safe working, living and recreational environment for all Victorians and visitors to Victoria;
  - To balance the present and future interests of all Victorians.
- is consistent with section 6 of the PE Act which identifies that planning schemes can provide for, among other things, the ability to regulate or prohibit any use or development in areas which are in or likely to become hazardous areas.

The Amendment responds to these objectives and responsibilities by:

Identifying flood related hazards within the municipality, and putting in place a decision making framework to manage use and development to ensure all people are provided with a safe environment, assets are appropriately designed and located, and future development does not compromise natural systems.

Assist[ing] landowners in understanding potential hazards and guiding development on their land and will assist Council and the Wimmera Catchment Management Authority in making more informed and effective decisions on development of land affected by flooding.

Consistent with Clause 71.02-1, the Amendment provides clear policy direction to ensure that development within the areas identified as flood prone from catchment and riverine sources are regulated in order to avoid hazard to human life and property and impacts on floodplain behaviour.

#### Clause 2 (Municipal Planning Strategy)

The Amendment supports the Municipal Planning Strategy by:

- protecting and promoting the municipality as a safe place to live, respecting and protecting the natural environment and considering the impacts of climate change consistent with Clause 02.02 (Vision)
- minimising flood risk and maintaining the capacity of the floodplain consistent with Clause 02.03-3 (Environmental risks and amenity).

#### Clause 11 (Settlement)

The Amendment supports Clause 11 by documenting the extent of flooding and the degree of risk from its impacts by using the FO for areas that are at risk of faster flood flows and depths and the LSIO for overflow areas. The SBO applies to land in urban areas liable to inundation by overland flows from the urban drainage system. This will ensure the planning of settlements has regard to health and safety and documenting the extent of flooding and the degree of risk from its impacts by using appropriate overlay controls.

### Clause 13 (Environmental Risk and Amenity)

The Amendment supports Clause 13 by:

- providing a framework for the inclusion of flood provisions
- being consistent with the objectives of Clause 13.03-1S (Floodplain Management) by:
  - protecting life, property and community infrastructure from flood hazard
  - maintaining the natural flood carrying capacity of rivers, streams and floodways
  - protecting the flood storage function of floodplains and waterways
  - providing an improved basis for minimising flood damage
  - continuously improving the planning scheme with the best available information of this environmental risk
- implementing Clause 13.03-1L (Floodplain management – Horsham) which supports the application of the FO1, LSIO and DDO9 and associated strategies and policy guidelines. The Amendment proposes to delete this policy on the basis the policy guidelines can be included as policy objectives or decision guidelines in the schedules.

## D:2 Planning scheme provisions

The existing FO1 and LSIO apply to 12,816 properties within the municipality.

A common overlay purpose is to implement the Municipal Planning Strategy and the Planning Policy Framework.

### i) Floodway Overlay

The purposes of the FO are:

To identify waterways, major floodpaths, drainage depressions and high hazard areas which have the greatest risk and frequency of being affected by flooding.

To ensure that any development maintains the free passage and temporary storage of floodwater, minimises flood damage and is compatible with flood hazard, local drainage conditions and the minimisation of soil erosion, sedimentation and silting.

To reflect any declarations under Division 4 of Part 10 of the *Water Act, 1989* if a declaration has been made.

To protect water quality and waterways as natural resources by managing urban stormwater, protecting water supply catchment areas, and managing saline discharges to minimise the risks to the environmental quality of water and groundwater.

To ensure that development maintains or improves river and wetland health, waterway protection and flood plain health.

The FO allows a schedule to contain:

- floodway management objectives to be achieved
- a statement of risk.

The FO requires a permit to construct a building or to construct or carry out works (unless a schedule states that a permit is not required).

Where a local floodplain development plan has not been prepared a permit application must be accompanied by a flood risk report.

Permit applications must be referred to the relevant floodplain management authority.

The current FO1 contains no floodway objectives or statement of risk. It includes exemptions for a range of buildings and works and includes application requirements for:

- a flood risk report
- site description
- elevation and construction details
- report demonstrating fences will not obstruct flood flows.

The Amendment proposes extensive changes to FO1.

## ii) Land Subject to Inundation

The purposes of the LSIO are:

To identify flood prone land in a riverine or coastal area affected by the 1 in 100 (1 per cent Annual Exceedance Probability) year flood or any other area determined by the floodplain management authority.

To ensure that development maintains the free passage and temporary storage of floodwaters, minimises flood damage, responds to the flood hazard and local drainage conditions and will not cause any significant rise in flood level or flow velocity.

To minimise the potential flood risk to life, health and safety associated with development.

To reflect a declaration under Division 4 of Part 10 of the *Water Act, 1989*.

To protect water quality and waterways as natural resources by managing urban stormwater, protecting water supply catchment areas, and managing saline discharges to minimise the risks to the environmental quality of water and groundwater.

To ensure that development maintains or improves river, marine, coastal and wetland health, waterway protection and floodplain health.

The LSIO allows a schedule to contain:

- floodway management objectives to be achieved
- a statement of risk.

The LSIO requires a permit to construct a building or to construct or carry out works (unless a schedule states that a permit is not required).

Permit applications must be referred to the relevant floodplain management authority.

The current LSIO schedule contains no floodway objectives or statement of risk. It includes exemptions for a range of buildings and works and includes application requirements consistent with the FO.

The Amendment proposes extensive changes to the LSIO schedule.

## iii) Special Building Overlay

The Amendment proposes to introduce the SBO. The purposes of the SBO are:

To identify land in urban areas liable to inundation by overland flows from the urban drainage system as determined by, or in consultation with, the floodplain management authority.

To ensure that development maintains the free passage and temporary storage of floodwaters, minimises flood damage, is compatible with the flood hazard and local drainage conditions and will not cause any significant rise in flood level or flow velocity.

To protect water quality and waterways as natural resources by managing urban stormwater, protecting water supply catchment areas, and managing saline discharges to minimise the risks to the environmental quality of water and groundwater.

The SBO allows a schedule to contain:

- floodway management objectives to be achieved
- a statement of risk.



The Special Building Overlay requires a permit to construct a building or to construct or carry out works (unless a schedule states that a permit is not required).

Permit applications must be referred to the relevant floodplain management authority.

The proposed Schedule 1 to the Special Building Overlay contains no floodway objectives or statement of risk. It includes exemptions for a range of buildings and works and includes application requirements consistent with the FO1 and LSIO1.

It includes within the decision guidelines consideration of the *Guidelines for Development in Flood-Affected Areas* DELWP, 2019. The same guidelines are proposed to apply to the amended FO1 And LSIO1.

#### iv) Background documents

The following flood studies are background documents identified in the Schedule to Clause 72.08 (Background documents):

- Mount William Creek Flood Investigation (BMT WBM, December 2014)
- Natimuk Flood Investigation Study Report (Water Technology, 2013)
- Wimmera River - Yarriambiack Creek flow modelling Study report (Water Technology, June 2009).

The Amendment proposes to add three additional flood studies to the schedule.

#### v) Further strategic work

The Schedule to Clause 74.02 (Further strategic work) identifies the following strategic work to be undertaken:

Complete flood investigations and develop provisions to protect areas from flood hazards and support floodplain function as recommended in:

- *East Horsham Drainage Recommendation Report* (2013).
- *East Horsham Flood Intelligence Report* (2013).
- *Horsham Flood Study (Wimmera Catchment Management Authority, 2003).*
- *Natimuk Flood Investigation* (Water Technology, 2013).
- *Mount William Creek Flood Investigation* (Water Technology, 2014).
- *Wimmera Floodplain Management Strategy* (Wimmera Catchment Management Authority, 2012).

Identify the full extent of areas where overland flooding and stormwater management issues occur to inform application of the Special Building Overlay.

The Amendment proposes to delete references to all but the East Horsham Drainage Recommendation Report flood studies and retain the Special Building Overlay work.

#### vi) Victorian Floodplain Management Strategy

*The Victorian Floodplain Management Strategy*, DELWP, 2016 sets the direction for floodplain management in Victoria. The relevant parts relating to flood mapping and the application of planning controls are:

- 'Assessing flood risks and sharing information', which provides the technical basis for assessing flood risk and commits to sharing flood risk information. It sets the framework to prioritise flood mitigation activities based on the level of flood risk.

- ‘Avoiding or minimising future risks, through the use of planning controls to manage the potential growth in flood risk’. It sets accountabilities in land use planning to avoid increased stormwater runoff from new developments.

Clause 13.03-1S requires consideration of the Strategy. Council identified that while some of the flood studies undertaken on behalf of the WCMA were completed prior to the final *Victorian Floodplain Management Strategy* in 2016, each study identifies appropriate flood response based on risk using widely accepted methodology.

## D:3 Ministerial Directions, Planning Practice Notes and guides

### i) Ministerial Directions

The Explanatory Report states the Amendment meets the relevant requirements of Ministerial Direction 11 (Strategic Assessment of Amendments) and the Ministerial Direction on the Form and Content of Planning Schemes (section 7(5) of the Act) through the drafting of the overlay schedule provisions, the use of the Municipal Planning Strategy and the mapping.

Council submitted:

The FO and LSIO schedules were completely re-written to ensure compliance with the Ministerial Direction on the Form and Content of Planning Schemes. The Department of Energy, Environment and Climate Change (DEECA) were consulted in the preparation of all amendment documentation and authorised the amendment subject to conditions which has been complied with.

### ii) Planning Practice Notes

The Explanatory Report states the Amendment has considered the relevant requirements of *Planning Practice Note 46: Strategic Assessment Guidelines*, August 2018 (PPN46). That discussion is not repeated here.

#### **Planning Practice Note 12: Applying the flood provisions in planning schemes**

This practice note provides guidance about applying the flood provisions in planning schemes including the preparation of policy, identifying land affected by flooding, preparing a local floodplain development plan and the application and operation of the flood provisions, including the preparation of schedules:

##### **Which flood zone or overlay should apply?**

The nature of the flood risk and the type of flood information available will determine how and to what extent the flood provisions are applied in the planning scheme. The flood zone and overlay provisions ensure that the use and development of land subject to inundation is made compatible with the level of flood risk through the planning permit process. The UFZ applies to urban areas where the potential flood risk is high and strict controls over land use are required. The three overlays (FO, LSIO and SBO) cover a range of situations in both urban and rural areas where the potential flood risk is less than in the UFZ, and where control over development (buildings, works and subdivision) and not land use, is sufficient. One or more of these tools can be applied to cover a particular flooding situation.

##### **Urban Floodway Zone**

The UFZ applies to mainstream flooding in urban areas where the primary function of the land is to convey active flood flows. It applies to urban floodway areas where the potential flood risk is high due to the presence of existing development or to pressures for new or more intensive development. The UFZ restricts the use of such land, as the risk associated with flooding renders it unsuitable for any further intensification of use or development. The land use is therefore restricted to activities such as apiculture, animal husbandry and

recreational activities. Most other uses are prohibited ,,, Sometimes the UFZ can cover the full extent of land subject to inundation, including situations where the floodplain is relatively narrow and deep. The UFZ is not widely used due to its restrictive nature. As an alternative, a flood overlay can be used in conjunction with an appropriate zone (such as the Floodway Overlay and the Public Park and Recreation Zone) to enable the primary use of the land to be recognised at the same time as acknowledging its flooding characteristics.

#### **Floodway Overlay**

The FO applies to mainstream flooding in both rural and urban areas. These areas convey active flood flows or store floodwater in a similar way to the UFZ, but with a lesser flood risk. The FO is suitable for areas where there is less need for control over land use, and the focus is more on control of development. As with the UFZ, in some cases the FO can cover the full extent of land subject to inundation, for example, in situations where the floodplain is relatively narrow and deep. The FO can be applied in three situations ...[diagrams referred to]

#### **Land Subject to Inundation Overlay**

The LSIO applies to mainstream flooding in both rural and urban areas. In general, areas covered by the LSIO have a lower flood risk than UFZ or FO areas. The LSIO can be applied in three situations ... [diagrams referred to]

#### **Special Building Overlay**

The SBO applies to stormwater flooding in urban areas only. Before 1975, drainage systems were designed to a lower standard than those used today. Often they were designed for a five-year ARI storm capacity, and sometimes for a lesser standard. Usually no provision was made for overland flows, so land is often flooded when the capacity of the underground drainage system is exceeded. With the redevelopment of existing urban areas and the proposed development of new areas, there will be pressure to develop within overland flowpath areas. The purpose of the SBO is to manage development in these areas. While the SBO is primarily intended for overland flow path areas in the Melbourne metropolitan area, it can also be applied to urban areas affected by stormwater flooding in regional towns.

### **Planning Practice Note 11: Applying for a planning permit under the flood provisions**

This practice note provides a guide for councils, referral authorities and applicants, including explanation of the requirements of the flood provisions and about making an application for a planning permit where flooding is a consideration and about how an application will be assessed.

#### **iii) Guidelines for Development in Flood-Affected Areas**

The *Guidelines for Development in Flood-Affected Areas*, DELWP, 2019 provide an assessment framework and method to assist decisions on development in flood affected areas. The purpose of the guidelines is to provide a clear, consistent and transparent process for managing land use and development in flood affected areas in Victoria. They are intended to be used with the land use planning and development system.

The guidelines comprise three parts:

- Part One introduces the guidelines, plus basic information on flood risk management and climate change
- Part Two contains information on the regulatory framework used in decision-making and the administrative processes for preparing, assessing and reviewing planning permits
- Part Three provides the methodology used by floodplain management authorities when assessing development proposals referred to them based on four objectives:
  - safety
  - flood damage
  - off-site impacts
  - waterway and floodplain protection.



#### **iv) Practitioner's Guide**

The Practitioner's Guide sets out key guidance to assist practitioners when preparing planning scheme provisions. The guidance seeks to ensure:

- the intended outcome is within scope of the objectives and power of the PE Act and has a sound basis in strategic planning policy
- a provision is necessary and proportional to the intended outcome and applies the VPP in a proper manner
- a provision is clear, unambiguous and effective in achieving the intended outcome.

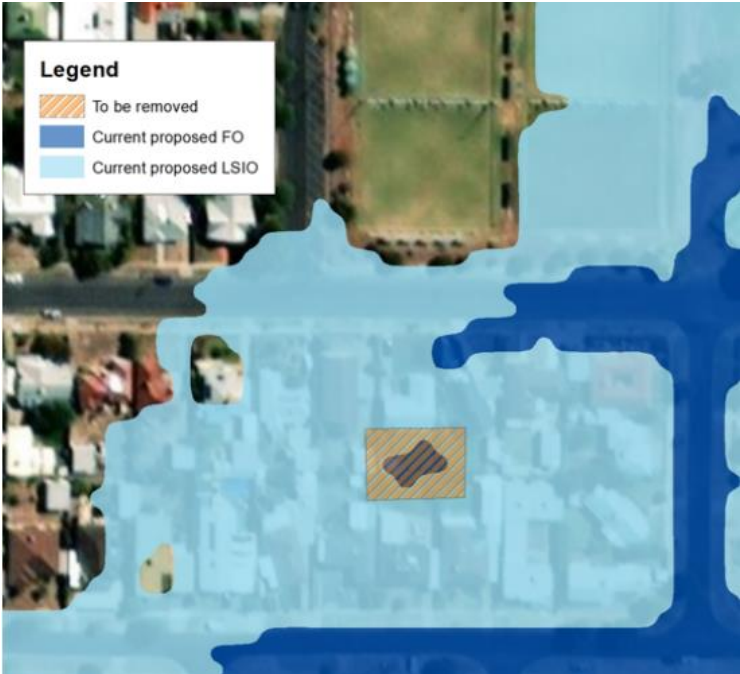

Council submitted the Amendment documentation is consistent with the Practitioner's Guide.

### **D:4 Other amendments and strategic projects**

Council advised that the Amendment did not have any impact on the following amendments or strategic projects:

- Amendment C82hors correcting errors and anomalies in the Horsham Planning Scheme
- review of the Horsham Planning Scheme
- Horsham South Structure Plan.

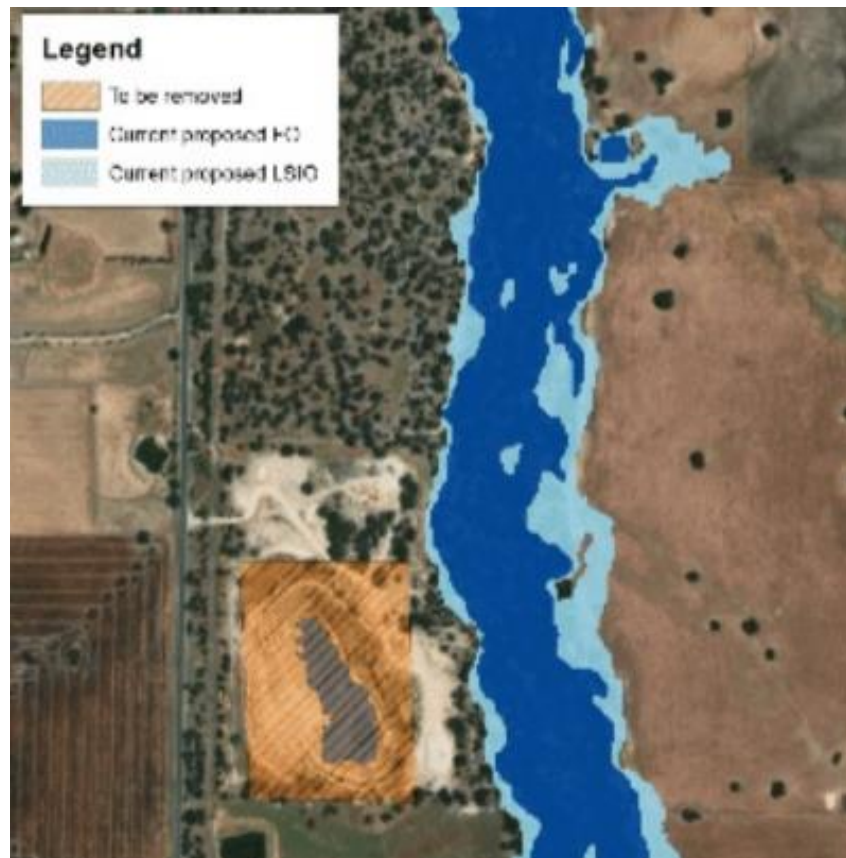
## Appendix E Council proposed post-exhibition mapping changes (Withdrawn submissions)

Property	Summary of Council's proposed mapping changes
<p>55 Baille Street, Horsham</p>	<p>Remove FO1 from the backyard</p> 
<p>14 Wotonga Drive, Horsham</p>	<p>Remove section of LSIO1 from east side of property</p> 

Property	Summary of Council's proposed mapping changes
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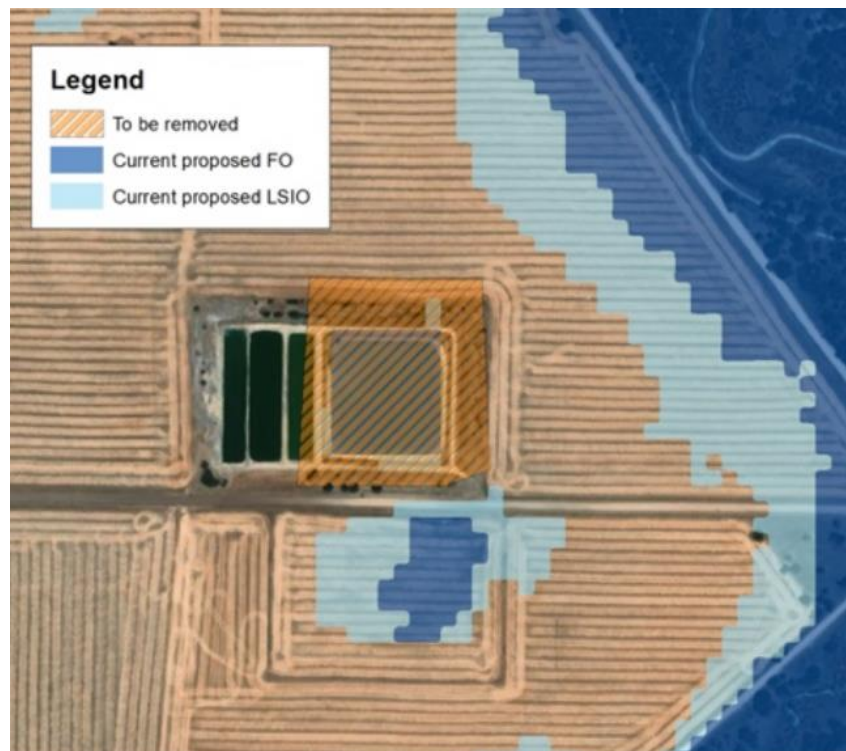
3912 Henty Highway,  
McKenzie Creek


Remove FO1 from quarry hole



Berry Lane, Natimuk

Remove FO1 and LSIO1 from wastewater storage basin north of Berry Lane


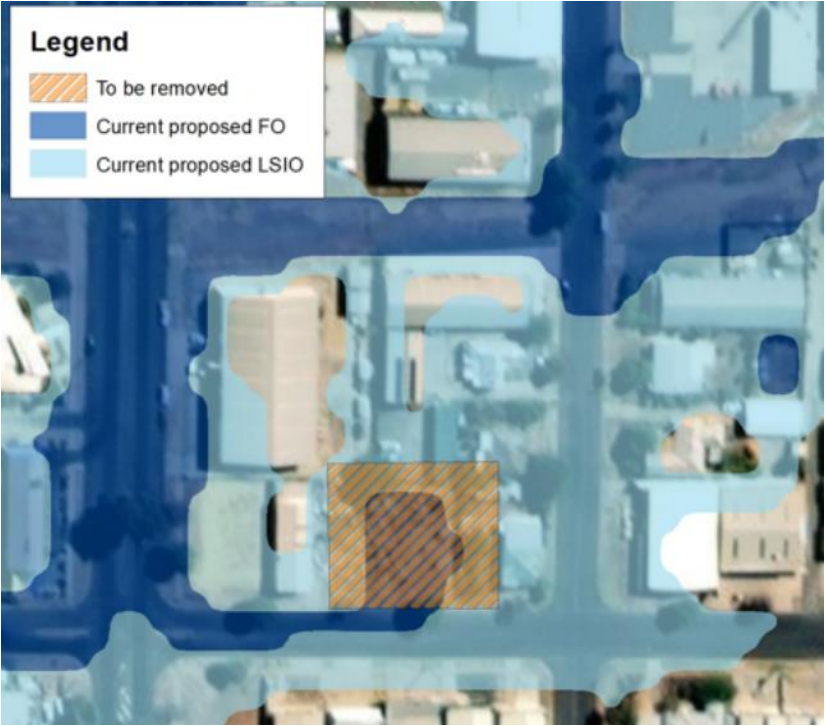


Property	Summary of Council's proposed mapping changes
173 Hughes Road, Quantong	<p>Remove portion of FO1 and LSIO1 from house pad</p> 

Note: Maps included with Council's Part A submission Attachment E (Document 8)



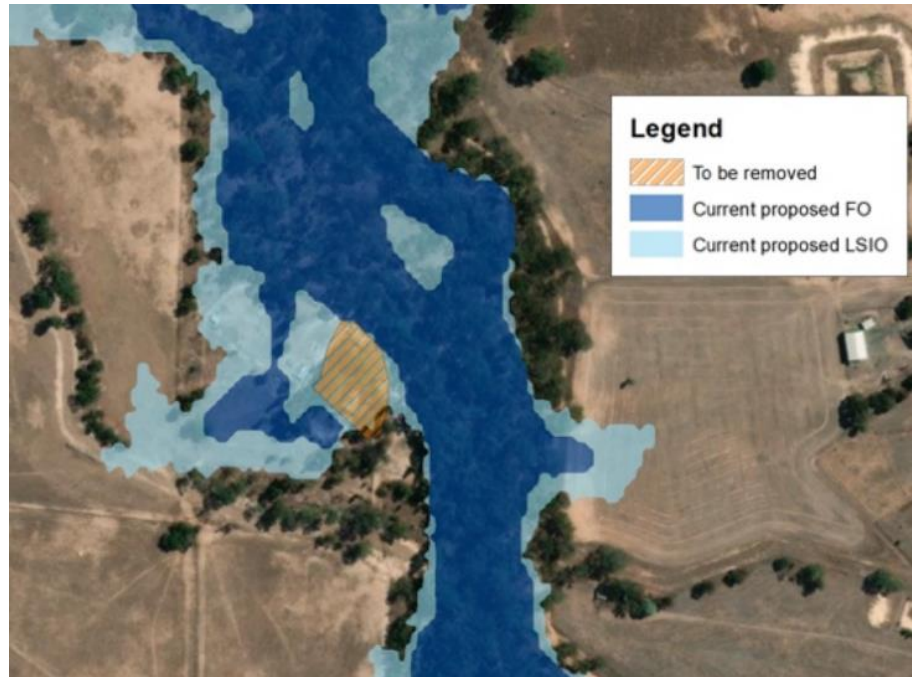
## Appendix F Council proposed post-exhibition mapping changes (other submissions)

Property	Summary of Council's proposed mapping changes
1-12 Market Lane, Horsham, 12 Madden Street, Horsham, 1-12 Rushbrook Close, Horsham and 1-9 Eastgate Drive, Horsham	
5 Sloss Street, Horsham	

**Property**

**Summary of Council's proposed mapping changes**


503 Bridges Road,  
Lower Norton



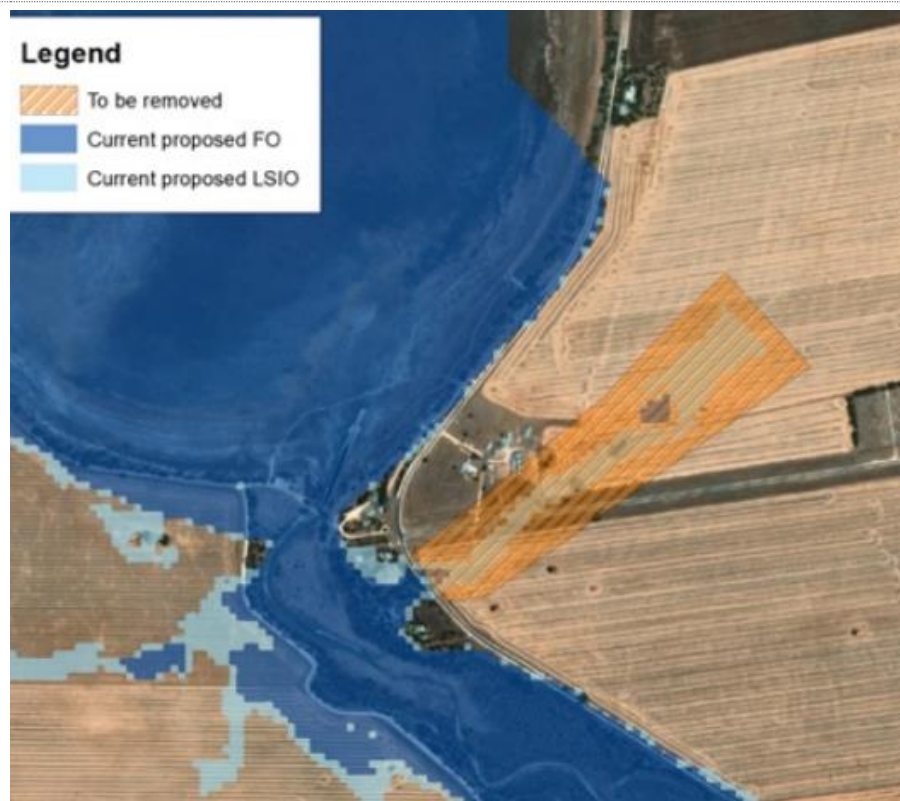
333 Natimuk Hamilton  
Road, Natimuk





Property	Summary of Council's proposed mapping changes
767 Three Chains Road, Natimuk	Delete LSIO1 from area within black box
	

378 Lake Road, Natimuk



Note: Maps included with Council's Part A submission Attachment E (Document 8) and Figure 8-5 in the evidence statement of Mr Hughes (Document 6) for 767 Three Chains Road, Natimuk