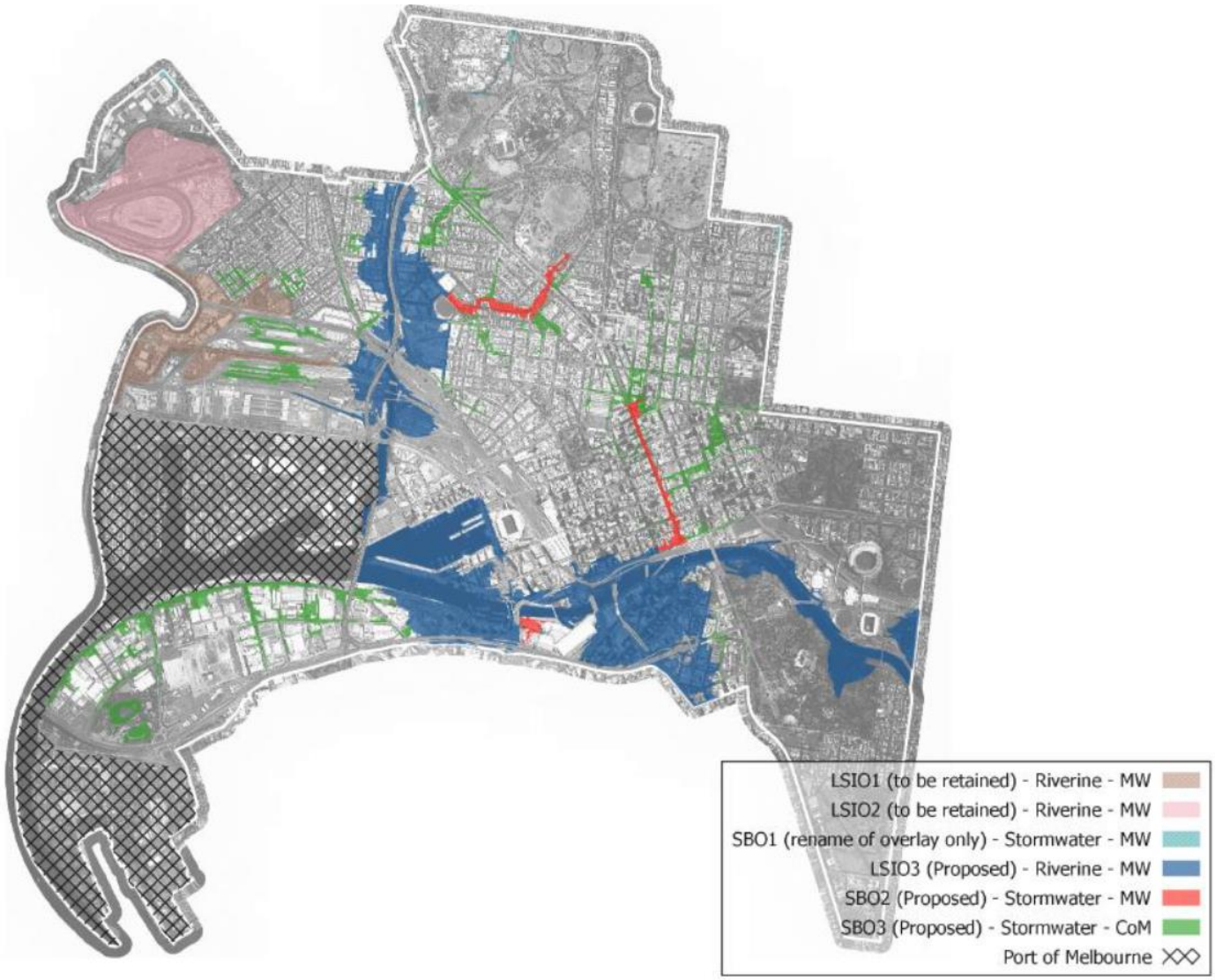
hansen

Melbourne Planning Scheme Amendment C384

Land subject to inundation from riverine and drainage flooding

Statement of Expert Urban Design Evidence,
prepared by Alastair Campbell, Hansen Partnership
for City of Melbourne

Contents



Map showing indicative location and extent of proposed Overlays in relation to the City of Melbourne

1 Introduction

1. My name is **Alastair Campbell** and I am a Senior Associate Urban Designer at **Hansen Partnership.**

2. I have over 19 years' experience as an urban designer in Australia. I hold a Bachelors degree in Planning and completed the Urban Design stream at RMIT and have practised solely as an urban designer. I have a sound appreciation of the urban design and built form issues across metropolitan Melbourne and more specifically within the City of Melbourne, having provided independent urban design services to Council and private clients within the municipality over a period of 15 years. Further details of my experience are set out in Appendix A.

3. On this occasion, I have been engaged on behalf of **City of Melbourne** by Ann-Maree Drakos to provide independent expert evidence in relation to the urban design matters associated with proposed Amendment C384 to the Melbourne Planning Scheme Amendment C384 to the Melbourne Planning Scheme proposes to update two existing LSIO and SBO Schedules and introduce three new LSIO/SBO Schedules to reflect updated flood modelling and seeks to introduce design guidelines to ensure, good urban design outcomes in tandem with addressing increased water inundation requirements.

4. In a brief (dated 1st September 2022) I have been instructed to consider the urban design issues in respect of Amendment C384. More specifically, as they relate to:

    - The appropriateness of considering design outcomes when assessing planning permit applications triggered by a LSIO or a SBO;
    - The appropriateness of the drafting of the proposed planning controls (namely the LSIOs and SBOs); and
    - The role and contents of the Good Design Guide for Flood Affected Areas in the Fishermans Bend, Arden and Macaulay.

5. I have been assisted by Michael Cuccovia (Urban Designer) at Hansen Partnership in the preparation of this Statement of Evidence. However, the opinions expressed within this statement are my own.

6. I have inspected the various City of Melbourne areas affected by inundation events and the broader surrounding context, on numerous occasions and most recently on 30th September 2022, and reviewed the relevant background material, including:

    - The exhibited C384 Amendment documentation, including supporting documents and associated submissions.
    - The Council's Report to the Future Melbourne Committee (dated 2nd August 2022) and associated Council Meeting Minutes.

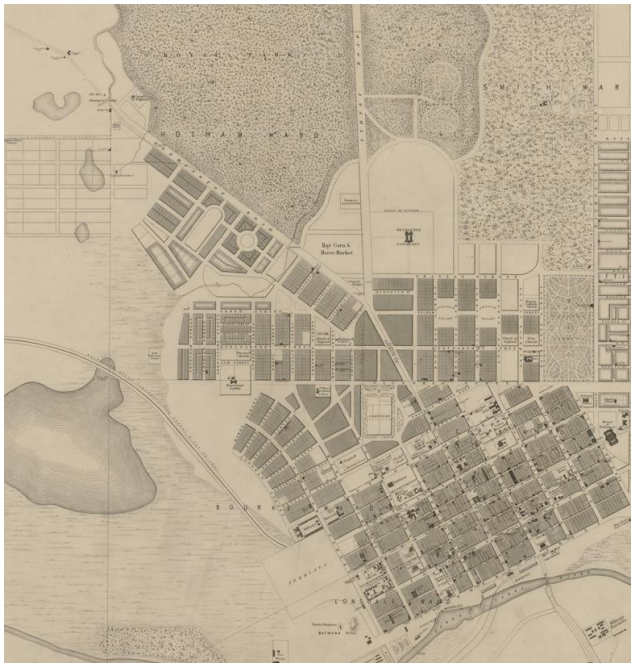
- The relevant sections of the Melbourne Planning Scheme.

7. In summary, I consider the proposed urban design considerations contained within Amendment C384 to be sound and worthy of approval as they seek to ensure resilient new buildings that appropriately balance the future known flooding and inundation impacts while still ensuring equitable environments and good urban design outcomes at the street interface. The strategic work undertaken by the City of Melbourne, City of Port Phillip and Melbourne Water as outlined in the *Good Design Guide for Buildings in Flood Affected Areas* is both comprehensive in outlining the challenge and clear in providing a sound underpinning rationale and design guidance to encourage good design outcomes. While I recommend a few, relatively minor refinements to the guidelines, I consider them to be fit for purpose in ensuring that important matters of designing our public realm and building interfaces for people (of all abilities) critical consideration and must be considered in tandem with issues of flooding. In this regard, I support the proposed Amendment C384 for approval subject to minor refinements – as set out in my Conclusion.

8. I note that this statement has been prepared in accordance with the Planning Panels Victoria Guidelines No. 1 – Expert Evidence and as such I have made all the inquiries that I believe are necessary and appropriate, and that no matters of significance which I regard as relevant have to my knowledge been withheld from the Panel.

2 Setting the scene

9. The proposed Amendment relates to areas prone to flooding and water inundation. Therefore, these areas are, typically low-lying within the topographical context of central Melbourne. They are broadly located relative to the City's watercourses of the Yarra River and Moonee Ponds Creek. They are also historically the areas of the city which were initially avoided for development, due to their low-lying and swampy nature.



Extract; 1855 Melbourne map

10. It is also well known that the alignment of Elizabeth Street generally followed a small watercourse that flowed into the Yarra River. A large stormwater drain now defines the approximate location of the junction with the Yarra River and as highlighted by the 1972 'flash' flooding event that transformed Elizabeth Street into a flowing watercourse.

1972 Elizabeth Street, flash flood

11. Through the City's development evolution, these low-lying areas (beyond the Hoddle Grid) where initially intentionally leapfrogged by city planners and land developers. Later, being utilised in an urban consolidation sense as less valuable land for industrial purposes, which also benefitted from proximity to the flowing watercourses for their disposal of waste and by-products, etc. This industrial focus also coincided with significant hydrological-engineering projects that deepened and formalised sections of the Yarra River and Moonee Ponds Creek to facilitate a working port area and associated docks. As the City has continued to grow and evolve these original port facilities and associated land uses areas have been shifted further away (from the central City) to the mouth of the Yarra River. Unlocking more recent urban renewal opportunities, such as the creation of the Dockland's precinct. Concurrently, industrial and manufacturing land uses along the southern side of the Yarra River has transformed into Southbank, now defined by a proliferation of high-rise towers and its vibrant promenade along the southern bank of the Yarra River, effectively extending the CBD to the south.

12. In many respects the current urban renewal areas of Fishermans Bend, Arden and Macaulay represent the 'next wave' of urban renewal relative to central Melbourne and seeking to redevelop larger employment land into more intense, mixed use areas. These 'new' areas of the city need to ensure appropriate development occurs. Development, that appropriately engages with and activates the public realm and streetscapes and is also resilient, responding to existing and 'known' future conditions, such as increased risk of inundation.

13. This Amendment seeks to balance the imperatives of flood responsive design, equitable access and good design. To ensure that new development responds holistically and that in responding to increased finish floor levels at the base of buildings in low-lying areas does not come at the expense of inequitable access and poor design outcomes which will negatively impact all future users.

14. Climate change impacts are very important to plan for and creating resilient built environments will minimise the impacts. However, these design outcomes must still consider good urban design outcomes at street level. The '*Good Design Guide*' seeks to guide good design outcomes in flood prone areas.

> *'The Guide provides a range of urban design approaches for building at risk of flooding. It presents guidelines and project examples that will increase the resilience of our city. The aim of the Guide is to help designers achieve good design and equitable access in flood affected areas, while managing the known hazards to human safety and property damage from flooding.'*

15. There is a need to foster successful design outcomes between engineering/flood mitigation solutions while still creating high-quality street interfaces and public realm conditions for all users, not just able-bodied people. One consideration or design solutions should not be at the exclusion or unreasonable compromise of the other. In the low-lying parts of our city this will be a key planning and urban design challenge to overcome.

16. Unlike other natural disasters, flooding (or water inundation) can be more readily predicted and planned for, mitigated and its impacts lessened through the employment of a suite of planning controls. The Flooding Overlay (FO), Land Subject to Inundation Overlay (LSIO) and Special Building Overlay (SBO) depending on the severity of the known and predicted water inundation event/s, are the Overlays utilised across Victoria.

17. In tandem with other strategic initiatives the City of Melbourne is seeking to ensure that new development in flood prone and/or low-lying areas appropriately meets this challenge, while also not undermining the important relationships between buildings and people that occurs at ground level. Particularly in highly urbanised areas, such as inner-city environments. The *Good Design Guide* seeks to address these important design aspects and ensure a balanced consideration of both water level rise, urban design and equitable environments.

3 Existing Planning Controls

18. The Amendment applies to land identified as being subject to inundation from both riverine flooding and drainage flooding. The following Overlays will be introduced by the Amendment:

19. The **Land Subject to Inundation Overlay (LSIO)** which seeks:

- *To implement the Municipal Planning Strategy and the Planning Policy Framework.*
- *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.*

20. The **Special Buildings Overlay (SBO)** which seeks:

- *To implement the Municipal Planning Strategy and the Planning Policy Framework.*
- *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.*

21. The following local and state planning policies are considered relevant:
    - *Clause 11.02-1S - Supply of urban land.*
    - *Clause 11.03-6L-01 – Arden Precinct.*
    - *Clause 11.03-6L – Docklands.*
    - *Clause 11.03-6L-05 – Fishermans Bend Employment Precinct.*
    - *Clause 11.03-6L-06 – Fishermans Bend Urban Renewal Area*
    - *Clause 11.03-6L-07 – Fishermans Bend Urban Renewal Area – Lorimer Precinct*
    - *Clause 12.02 – Marine and coastal environments*
    - *Clause 12.03 – Water bodies and Wetlands*
    - *Clause 12.03-1S - River corridors, waterways, lakes and wetlands.*
    - *Clause 12.03-1R - Yarra River protection.*
    - *Clause 13 - Environmental Risks and Amenity.*
    - *Clause 13.01-1S - Natural hazards and climate change.*
    - *Clause 13.03-1S - Floodplain management.*
    - *Clause 15.01-1S - Urban design.*
    - *Clause 15.01-1R – Urban design – Metropolitan Melbourne*
    - *Clause 15.01-1L-05 - Urban design outside the Capital City Zone*
    - *Clause 15.01-2S - Building design.*
    - *Clause 15.03 – Heritage.*
    - *Clause 17.04 – Tourism.*
22. Other relevant documents include:
    - Plan Melbourne 2017-2050;
    - Central Melbourne Design Guide (2021);
    - Urban Design Guidelines for Victoria (2017);
    - Victorian Urban Design Charter (2010); and
    - Planning Practice Note 12: Applying the Flood Provisions in Planning Scheme (2015);
        - 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.

23. Specific objectives and strategies within the Planning Scheme that are considered relevant to the Amendment from an urban design perspective including:

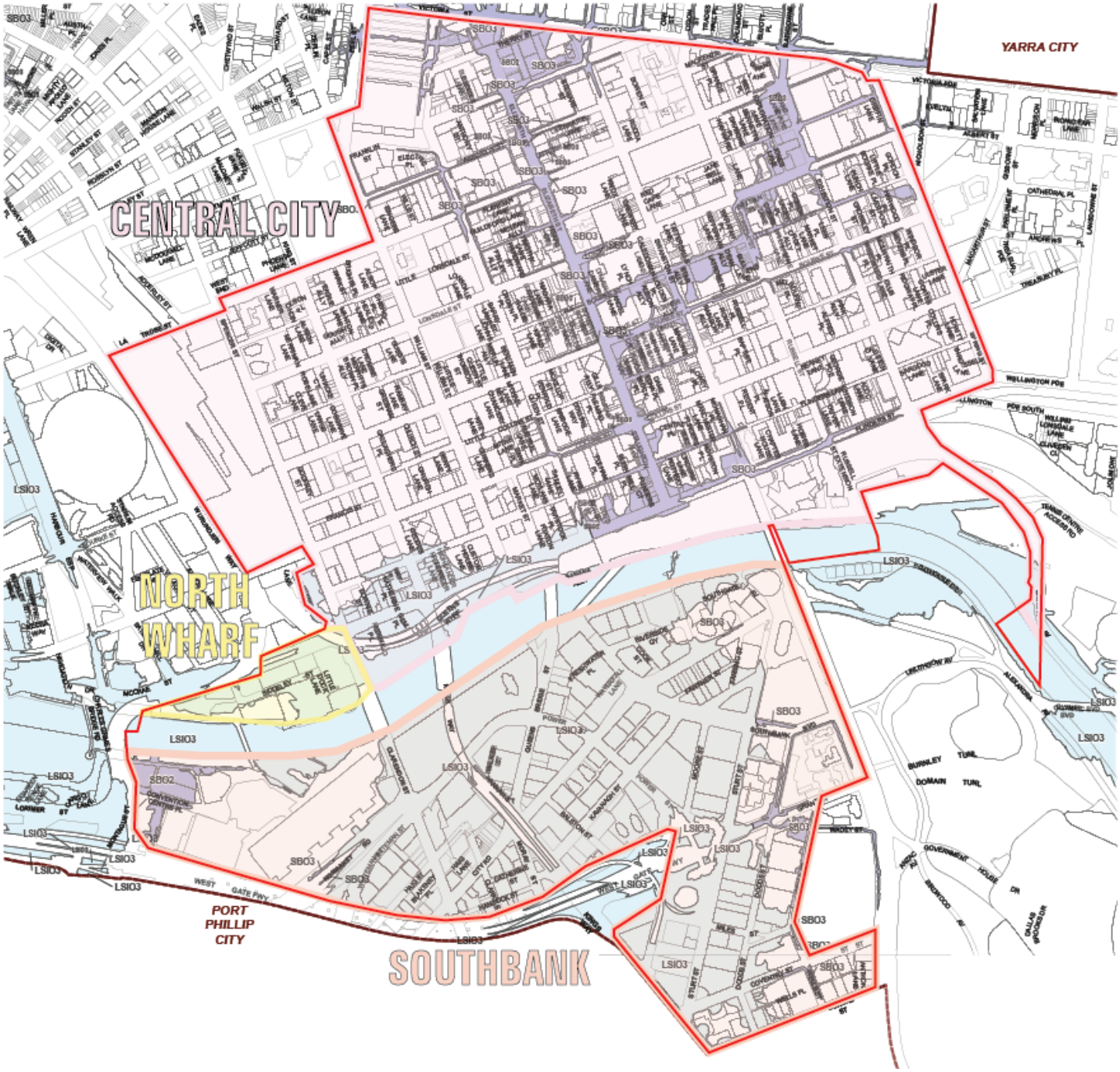
- Clause 11.03-5L- Arden Precinct
  - *To ensure the individual and combined impacts of sea level rise and flooding from storm events is managed through a combination of precinct wide and property specific management measures and physical infrastructure.*
  - *To safely manage the risk of flooding to future development of Arden through innovative and creative flood management solutions in the natural landscape and built environment.*
  - *Ensure the redevelopment potential of the precinct through the delivery of, and development contributions towards, precinct-wide drainage and flood mitigation infrastructure to address flooding.*
  - *Integrate water sensitive urban design into streets and green links including along the Fogarty Street and Queensberry Street urban boulevards and Arden Street.*
  - *Ensure development responds to flooding ahead of the delivery of the precinct-wide flood management strategy and associated infrastructure being delivered.*
  - *Ensure development manages the risk of flooding through innovative and creative flood management solutions in the natural landscape and built environment.*
  - *Locating new public streets, laneways or footpaths in flood affected areas outside of the flood area or be raised above the flood level.*
  - *Providing a visual connection between the public realm and vertical, internal and external transitions of development in flood affected areas.*
  - *Providing safe access and egress including for emergency services in flood affected areas.*
- Clause 11.03-6L-05 – Fishermans Bend Employment Precinct
  - *Discourage sensitive uses at ground floor in flood affected areas*
  - *Ensure that proposals for building and works within the precinct have regard to flood mitigation.*
  - *Facilitate an open space network that supports a diversity of recreational uses, enhances connectivity, supports biodiversity and reduces flood risk.*
- Clause 11.03-6L-06 – Fishermans Bend Urban Renewal Area
  - *To build resilience against the impacts of sea level rise and flooding from storm events without compromising the urban form at ground level.*
  - *Applying design elements and materials that are resilient to flooding, including water proof doors and windows, elevated power outlets and the like.*
  - *Locating essential services, such as power connections, switchboards and other critical services to avoid*

disruption in potential flooding events.

- *Incorporate innovative approaches to flood mitigation and stormwater run-off, and best practice Water Sensitive Urban Design.*

- Clause 12.03-1S – River corridors, waterways, lakes and wetlands
  - *Ensure development does not compromise bank stability, increase erosion or impact on a waterbody or wetland's natural capacity to manage flood flow.*
- Clause 13.03-1S – Floodplain management
  - *To assist the protection of life, property and community infrastructure from flood hazard, including coastal inundation, riverine and overland flows.*
- Clause 15.01-1S- Urban Design
  - *Require development to respond to its context in terms of character, cultural identity, natural features, surrounding landscape and climate.*
  - *Ensure the interface between the private and public realm protects and enhances personal safety.*
  - *Ensure development supports public realm amenity and safe access to walking and cycling environments and public transport.*
- Clause 15.01-2S - Building design
  - *Ensure the form, scale, and appearance of development enhances the function and amenity of the public realm.*
  - *Ensure buildings and their interface with the public realm support personal safety, perceptions of safety and property security.*
  - *Ensure development provides safe access and egress for pedestrians, cyclists and vehicles.*

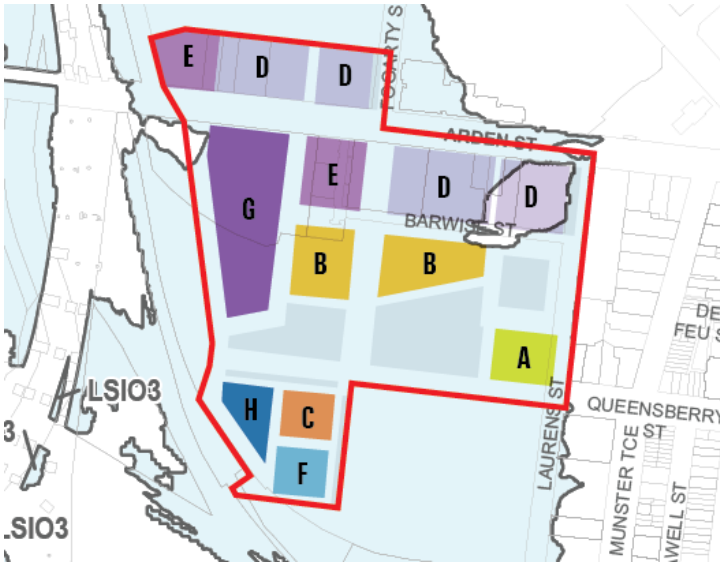
24. Within the Planning Scheme there is a series of design requirements, objectives and strategies related to mitigating flood risk. These can be found within relevant DDO's, IPO's or DPO's in areas that may be prone to the increased risk of flooding, relevant Clauses include:
25. The Design and Development Overlay – Schedule 1 (DDO1): Urban Design in Central Melbourne is considered relevant from an urban design perspective, with pertinent objectives relating to flood prone areas as follows.
    - 2.8 Public Interfaces: Design requirements:
      - *'In flood prone areas or on sloping sites, a direct connection should be established at grade to usable space within ground level tenancies, with level transitions contained within the building envelope'*
      - *'In flood prone areas, transitions in floor levels should not rely on external stairs, ramps or platform lifts which disconnect interior spaces from the public realm.'*



Map showing DDO1extent with proposed LSIO and SBO extents overlayed

26. The **Design and Development Overlay – Schedule 80 (DDO80): Arden Precinct – Arden Central Innovation**

- 2.9 Public Interface and Design Detail: built form outcomes:
  - *'Design the street interface where finished floor levels are raised in response to flooding, including direct connections at grade to usable space within the ground level with level transitions contained within the building envelope.'*
- Table 7: Public Interface and Design Detail, active frontages requirement:
  - *'In flood prone areas, transitions in floor levels should not rely on external stairs, ramps or platform lifts which disconnect interior spaces from the public realm unless otherwise agreed by the relevant floodplain management authority.'*
- Decision guidelines: Public Interface and Design Detail:
  - *'The appropriateness of active street frontages including integration of required servicing into the façade away from key pedestrian spaces and public spaces, colocation of service cabinets internal to loading, waste or parking areas where possible, and resolving interaction with the public realm to address the views of the relevant floodplain management authority'.*

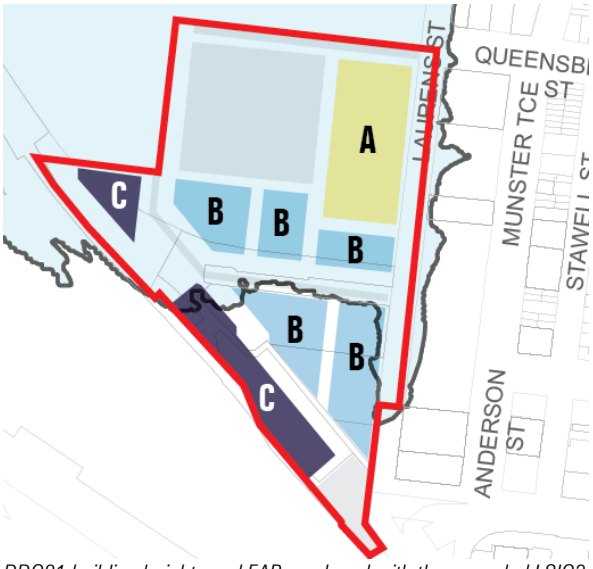


Extract: DDO80 building heights and FAR overlayed with the amended LSIO3 extent

- This DDO80 also includes building heights in relation to discretionary floor area ratios (FAR) as follows:

Location on Map 1	Discretionary Building Height	Maximum FAR	Mandatory or discretionary FAR
Lot A	33 metres	6:1	Discretionary
Lot B	57 metres	8:1	Discretionary
Lot C	65 metres	8:1	Discretionary
Lot D	81 metres	10:1	Discretionary
Lot E	85 metres	12:1	Discretionary
Lot F	90 metres	13:1	Discretionary
Lot G	90 metres	13:1	Discretionary
Lot H	105 metres	13:1	Discretionary

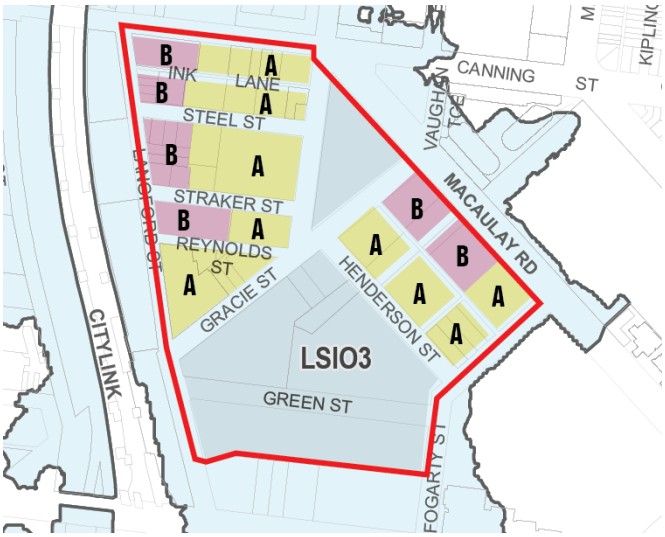
27. The **Design and Development Overlay – Schedule 81 (DDO81): Arden Precinct – Arden Central Mixed Use** contains the same objectives in regards to flood management as DDO80, DDO82 & DDO83.
28. It is also considered pertinent from an urban design perspective as it includes building heights in relation to mandatory or discretionary floor area ratios (FAR) as follows:



DDO81 building heights and FAR overlayed with the amended LSIO3 extent

Location on Map 1	Discretionary Building Height	Maximum FAR	Mandatory or discretionary FAR
Lot A	51 metres	6:1	Discretionary
Lot B	83 metres	12:1	Discretionary
Lot C	134 metres	17:1	Discretionary

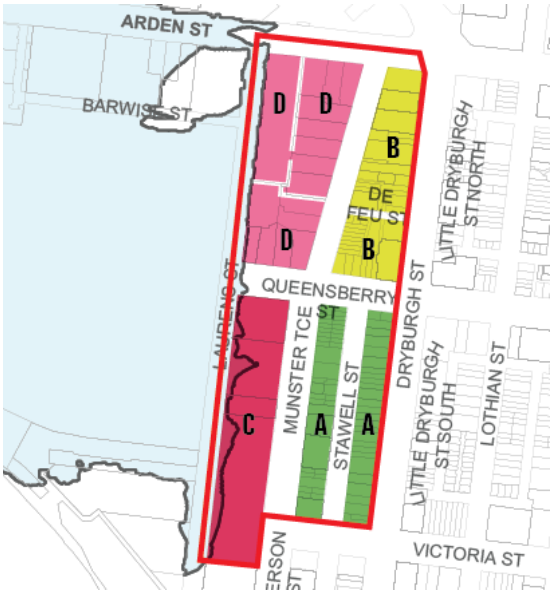
29. The **Design and Development Overlay – Schedule 82 (DDO82): Arden Precinct – Arden North** contains the same objectives in regards to flood management as DDO80, DDO81 & DDO83.
30. It is also considered pertinent from an urban design perspective as it includes building heights in relation to mandatory or discretionary floor area ratios (FAR) as follows:



DDO82 building heights and FAR overlayed with the amended LSIO3 extent

Location on Map 1	Discretionary Building Height	Maximum FAR	Mandatory or discretionary FAR
Lot A	51 metres	6:1	Mandatory
Lot B	64 metres	9:1	Mandatory

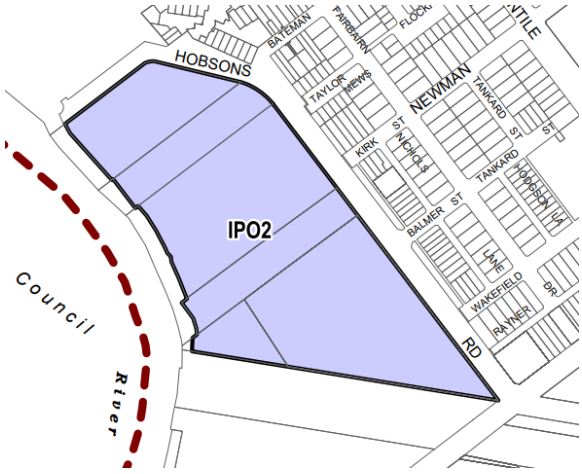
31. The **Design and Development Overlay – Schedule 83 (DDO83): Arden Precinct – Laurens Street** contains the same objectives in regards to flood management as DDO80, DDO81 & DDO82.
32. It is also considered pertinent from an urban design perspective as it includes building heights in relation to mandatory or discretionary floor area ratios (FAR) as follows:



DDO83 building heights and FAR overlayed with the amended LSIO3 extent

Location on Map 1	Discretionary Building Height	Maximum FAR	Mandatory or discretionary FAR
Lot A*	25 metres	5:1	Mandatory
Lot B	33 metres	6:1	Mandatory
Lot C	64 metres	7:1	Discretionary
Lot D	64 metres	8:1	Discretionary
*Applies to land not subject to a Heritage Overlay only			

33. The **Incorporated Plan – Schedule 2 (IPO2): Hobsons Road Mixed Use Precinct**
    - Purpose: *'To achieve an adequate setback of buildings to the Maribyrnong River to provide for appropriate flood management of the site.'*
    - Flood mitigation: *'Buildings and works must meet the following requirements of Melbourne Water to ensure that development is protected from flooding from the Maribyrnong River'*
        - *To ensure compliance with the requirements of Melbourne Water, the owners of the land are required to fill the land at least to the applicable 1% ARI flood level.*

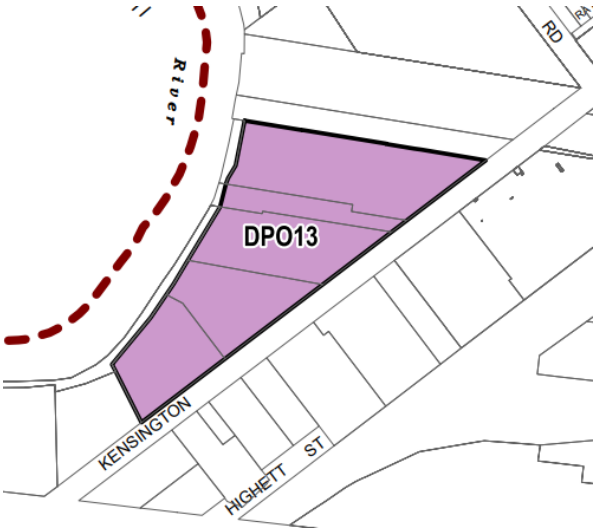


Extract Melbourne Planning Scheme Map 4, showing IPO2 extent

- *All buildings are to attain a finished floor level of a minimum of 600mm above the applicable 1% ARI flood level. The owners of the land are to provide safe pedestrian and vehicular access from the development during a peak flood event by raising the height of Hobsons Road to a minimum level no lower than 350mm below the applicable 1% ARI flood level.*
- *Basements, including entry and exist points for carparking should be designed to prevent flooding through the construction of a flood proof apex, a minimum of 600mm above the applicable 1% ARI flood level.*

34. The **Development Plan Overlay –Schedule 13 (DPO13): West Melbourne Waterfront – 156-232 Kensington Road, West Melbourne**

- Condition – Flood Mitigation
  - *Prior to the occupation of the works authorised by the permit, the owner of the land is to provide for safe pedestrian and vehicular access from the development during a peak flood event (1 in 100-year flood level) to the satisfaction of Melbourne Water and the Responsible Authority.*
  - *The finished floor level of any residential building be constructed to a minimum of 600 mm above the applicable 1 in 100-year flood level of 2.46 metres to AHD.*



Extract Melbourne Planning Scheme Map 4, showing DPO13 extent

- Development Plan
  - *A Stormwater and Flood Management Plan, prepared by a suitably qualified person(s) to the satisfaction of Melbourne Water and the Responsible Authority that identifies and considers:*
  - *The historical flooding of the site;*
  - *The unique flooding characteristics of the site, in particular aspects such as flood conveyance, flood storage and accessibility during floods. A model should be prepared demonstrating the 'base case', impacts of redevelopment on the land and mitigation options;*
  - *The control of flows in and around the site for discharges up to and including the 1 in 100-year ARI event;*
  - *Works required to create safe pedestrian and vehicle access and egress to and from the land;*
  - *That residential buildings are to attain a finished floor level of a minimum of 600mm above the applicable 1 in 100-year flood level of 2.46 metres to AHD; and*
  - *Mitigation works in the context of local conditions that do not prejudice potential future regional outcomes.*

4 Proposed Amendment C384

35. The proposed Amendment C384 seeks to update the LSIO and SBO extents within certain catchments to reflect updated flood modelling to address the effects of climate change. The Amendment proposes to change the following ordinance:

- Amends Schedules 1 (Maribyrnong River Environs) and Schedule 2 (Flemington Racecourse) to Clause 44.04: Land Subject to Inundation Overlay to update the format to comply with the requirements set out in *Ministerial Direction Form and Content of Planning Schemes* which is an administrative change. The mapping extent of LSIO1 and LSIO2 will be unchanged.
- Introduces a new Schedule 3 '*Moonee Ponds Creek and Lower Yarra River Waterways'* to Clause 44.04: Land Subject to Inundation Overlay and includes Objectives to be achieved, a statement of risk, permit requirements, application requirements and decision guidelines.
- Introduces a new Schedule 1 '*Melbourne Water Main Drains'* to Clause 44.05: Special Building Overlay to update the format to comply with the requirements set out in *Ministerial Direction Form and Content of Planning Schemes* which is an administrative change. The existing SBO maps require deletion and identical maps have been prepared which are named SBO1 to comply with the new naming convention of the Schedule which is a form and content change.
- Introduces a new Schedule 2 '*Melbourne Water Main Drains - Elizabeth Street, Arden, Macaulay and Moonee Ponds Creek, Fishermans Bend and Southbank catchments'* to Clause 44.05: Special Building Overlay which includes flood management objectives to be achieved, statement of risk, permit requirements, application requirements and decision guidelines.
- Introduces a new Schedule 3 '*Council Drains - Elizabeth Street, Arden, Macaulay and Moonee Ponds Creek, Hobsons Road, Fishermans Bend and Southbank catchments'* to Clause 44.05: Special Building Overlay which includes flood management objectives to be achieved, statement of risk, permit requirements, application requirements and decision guidelines.
- Amends the Schedule to Clause 72.03 to update the list of maps that form part of the Planning Scheme.
- Amends the Schedule to Clause 72.08 (Schedule to Background Documents) to introduce new background documents as follows:
  - Technical Report 01: *Australian Rainfall Runoff Sensitivity Analysis* (Engeny Water Management dated 22 July 2020);
  - Technical Report 02: *Southbank Flood Modelling Update and Climate Change Scenarios* (Water Modelling Solutions dated 21 April 2020);

- Technical Report 03: *Southbank Stormwater Infrastructure Assessment: Final Report* (BMT WBM dated August 2015);
- Technical Report 04: *Elizabeth Street Melbourne Flood Modelling Report* (Water Technology, dated August 2017) including the Memorandum's dated 9 April 2020 and 13 February 2020;
- Technical Report 05: *Arden Macaulay Precinct & Moonee Ponds Creek Flood Modelling* (Engeny Water Management dated August 2020);
- Technical Report 06: *Lower Yarra River Flood Mapping* (GHD dated 24 September 2020);
- Technical Report 07: *Hobsons Road Catchment Flood Mapping Update* (Venant Solutions dated 17 June 2020) including the review response dated 22 April 2020;
- Technical Report 08: *Fishermans Bend Flood Mapping* (GHD dated November 2020);
- Technical Report 09: *Overlay Delineation Report* (Engeny Water Management dated 27 October 2020);
- *Guidelines for Development in Flood Affected Areas* (Department of Environment, Land, Water and Planning, 2019);
- *Planning for Sea Level Rise Guidelines* (Melbourne Water, 2017); and
- *Good Design Guide for Buildings in Flood Affected Areas in Fishermans Bend, Arden and Macaulay* (Melbourne City Council, Melbourne Water and City of Port Phillip, June 2021)

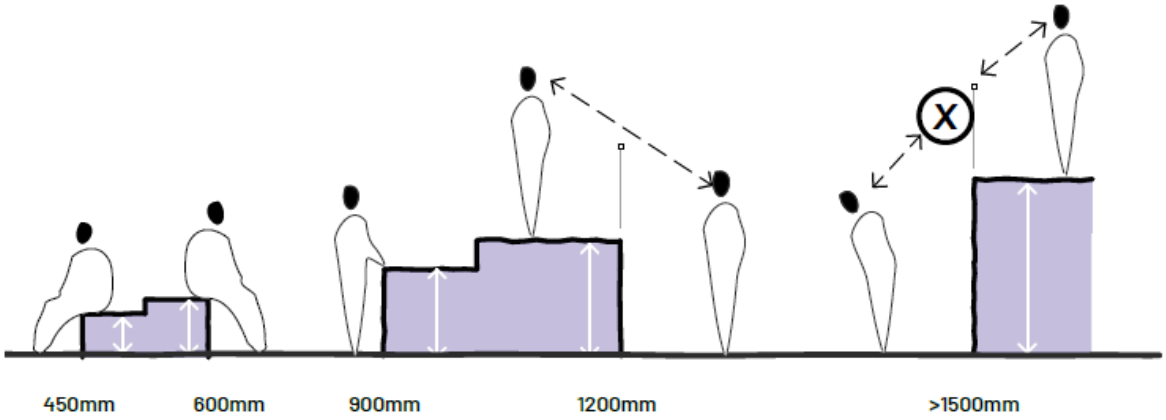
- The *Good Design and Guide for Buildings in Flood Affected Areas in Fishermans Bend, Arden and Macaulay* (the Guide) is proposed to be listed as a Background Document within the Melbourne Planning Scheme and has been developed to support the building design process in managing flood risk for both the public and private realm. The role of the document is to provide guidance on how development can achieve flood responsive design, good design and equitable design in flood effected areas of Fishermans Bend, Arden and Macaulay. The document has two primary parts, 'Setting the scene' and 'Design guidelines'.

Extract: Cover of the Guide

- The following table provides an overview of flood management strategies within part 2: design guidelines.

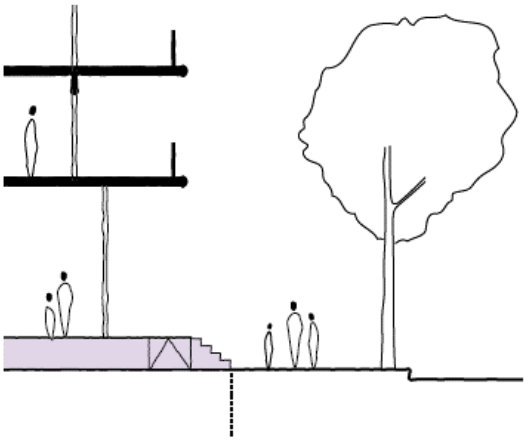
Location	Flood management design strategy
	1. Design principles
External	2. Urban structure, including: a. Raising the level of any proposed new public spaces b. Raising existing footpath level in front of the site where appropriate
	3. Site planning, including: a. Raising the level of any proposed publicly accessible open spaces b. Use existing topography to locate access and egress points and flood sensitive elements above flood level.
	4. Public interface, including: a. External transition
Internal	b. Internal transition
Details	5. Design detail and management

- The following design principles have been developed to inform assessment of applications and to provide a benchmark to assess compliance with the overarching aims of the Guide.
  - **Vision and policy:** *'the design solutions are guided by strategic and water policy to deliver on the established visions for the precincts.'*
  - **Flood resilience**: *'risks to life, health and potential for property damage is mitigated'.*
  - **Place resilience:** *'design strategies respond to place specific conditions'.*
  - **Equitable access/ universal design:** *'dignified access is achieved for people of all abilities'.*
  - **People centred:** 'solutions enable and enrich social connections.'
  - **Activation:** *'dynamic, active and interesting for everyone'.*
- Importantly, and relevant to urban design considerations the Guide seeks to ensure design that maintains an appropriate relationship between built form and human scale. It identifies typical height thresholds to ensure appropriate dimensions and proportions of the human body at Ground Level are achieved.

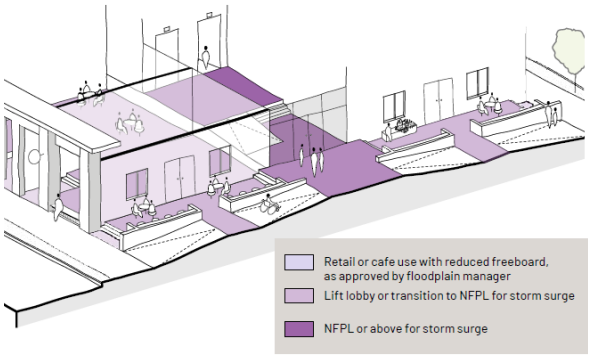


Extract: Fig 11 - Design of level changes to ensure human scale is taken into consideration

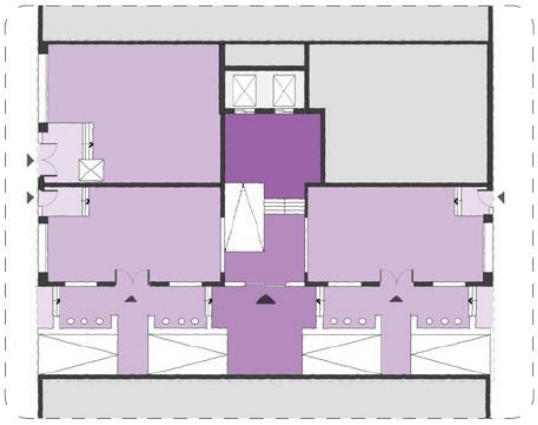
- The guideline section of the Guide is structured in a logical order in relation to addressing urban design considerations. It is arranged in a 'top down' approach which is completely appropriate when conceiving a design response. Commencing at the Urban structure level then progressing to Site planning matters, and onto more detailed considerations of Public interface and building design details. This linear arrangement of guidelines will parallel the design and assessment processes of a project and therefore, will suitably provide guidance to both the project's design team and those assessing it at the Responsible Authority.
- The Guide provides clear diagrammatic and precedent images to demonstrate both good and bad examples (to avoid) of how to appropriately respond different design aspects of the Ground Floor levels of buildings, both addressing external and internal considerations. This graphic material is clearly conveyed in simple plan form, clear cross-sections and also three-dimensional isometric illustrations to fully demonstrate how best to design buildings to address these overlapping challenges.
- These illustrative graphics are also similar in the 'look' and level of details to those graphics already contained within the State-wide, Urban Design Guidelines for Victoria (2017), which is another Background Document within the Planning Scheme.
- Therefore, I consider this Guide to appropriately demonstrate and inform good design outcomes in a comparable manner to the now established Urban Design Guidelines.



Extract: Fig 37 cross-section



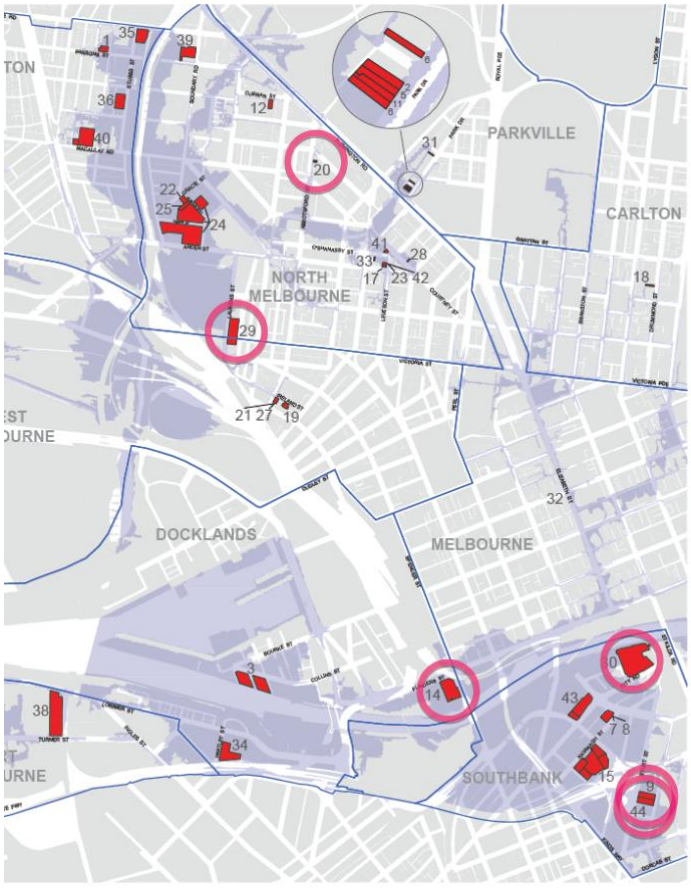
Extract: part Fig 39 three-dimensional isometric illustration



Extract: part Fig 39 correlating site plan diagram

5 Submissions

36. The Amendment was on public exhibition from 14th October 2021 to 29th November 2021, a period of 46 days.
37. I understand that 44 submissions, including 1 late submission (#44) were received and that subsequently 1 submission (#10) was withdrawn.
38. The submissions considered relevant to matters of urban design are Submissions: #9, #13, #14, #16, #20, #29, #30, #37 and #44.
39. Key issues raised in these submissions include:
    - Lack of transitional provisions;
    - Impact of higher Ground Floor Levels on overall heights subject to mandatory or discretionary height controls;
    - Potential policy conflicts between design provisions within DDO1 and those proposed by way of the Good Design Guide for Flood Affected Areas;



Extract: Location of submissions map with relevant submissions circled in pink

    - Lack of clear hierarchy of design objectives within the Good Design Guide for Flood Affected Areas;
    - Uncertainty of the 'legal' status of the Good Design Guide for Flood Affected Areas within the Planning Scheme;
    - Where a proposal is subject to a FAR that the ground floor ramps and stairs be removed from the calculation;
    - That the NFPL data should be freely available in a GIS format;
    - How heritage sites and buildings are to be considered, when converting an existing building for re-use;
    - Whether the basement definition at Clause 73.01 should be amended in relation to NFPL;
    - Exemptions for minor works unrelated to flood or inundation impacts;
40. I have considered these submissions and also undertaken targeted site inspections to confirm the existing conditions on these relevant sites.

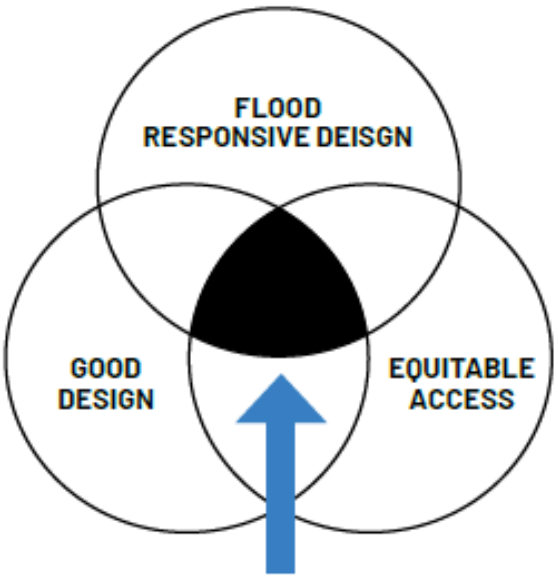
6 Design Assessment

The appropriateness of considering design outcomes when assessing planning permit applications triggered by a LSIO or SBO

41. The assessment of development must be undertaken in a holistic approach against all the relevant provisions of the Melbourne Planning Scheme. The flooding impacts or the need to provide a certain ground floor finished floor level (whether directed by an LSIO, SBO or referral from Melbourne Water) cannot be considered in isolation of design outcomes.

42. From an urban design perspective, it is critical to consider all aspects of design in relation to how building's 'hit the ground', address their street frontage/s and successfully resolve matters of 'human scale', activation and engagement with the street. Unfortunately, given that the LSIOs and SBOs inevitably seek new buildings to be set or positioned higher relative to natural ground level or the streetscape levels, generally results in a disconnect between the Ground Floor level of buildings and the street.

43. Therefore, **the nexus between good design, equitable access and flood mitigation is vital to be considered together**. This is precisely the design challenge the Guide is seeking to tackle and ensure that good design outcomes prevail. It would be a bad outcome if in responding to climate change impacts and increased flooding water levels we detrimentally impact the urban design and pedestrian focussed aspects of our streets. Particularly, in inner areas and within urban renewal areas, where walkability and vibrant streetscapes are actively encouraged.



Extract Figure 2: The Guide seeks to achieve the nexus between good design, responsive design and equitable access, while minimising hazards and property damage from flooding.

44. In most (if not all) cases, planning permits for development within Melbourne's low-lying and urban renewal areas also trigger permits for other reasons – Zone provisions, DDOs, HOs, etc. Therefore, **I do not consider that the introduction of new or expanded LSIOs or SBOs will unreasonably burden land with additional permit triggers.**

The appropriateness of the drafting of the proposed planning controls (namely the LSIOs and SBOs)

45. From an urban design perspective, Planning Overlays which address flooding and water inundation are particularly important as they inform the 'starting point' of the Ground Floor Level relative to the public realm (streetscape) and abutting properties.
46. The LSIO relates to riverine or coastal areas affected by the 1 in 100 year flood event. While the SBO relates to urban areas liable to inundation by overland flows from urban drainage systems.
47. The Melbourne Planning Scheme currently contains planning controls (Overlays) for both LSIO and SBO. Therefore, I consider their continued and expanded implementation within the Planning Scheme to be appropriate.
48. In terms of the specific drafting of the proposed LSIOs and SBOs, I will largely defer to the town planning experts. Note: I understand that Mr. Barnes (from Hansen Partnership) has also been engaged by City of Melbourne to provide town planning evidence. However, I do consider it to be entirely appropriate for both the LSIO and SBO provisions to call up consideration of design matters relating to urban design in tandem with determining and assessing flooding implications.
49. I consider the order of the Objectives (outlined for LSIO3, SBO2 and SBO3) to be appropriate and reflect the order of importance attributed to each of the five Objectives. Being, to firstly identify the affected areas, protect life, property, public health, etc. and minimise impacts and ensure new development is suitably designed. Lastly, the objectives seek to ensure that development simultaneously achieves (balances) matters relating to safe access and egress, good urban design and equitable access.
50. I consider it important for the new LSIOs and SBOs to contain such a design outcome focussed final objective, given the need to successfully resolve the challenging spatial and level relationships at the base of new buildings on low-lying properties.
51. The Guide is a complementary design guideline document which seeks to assist and demonstrate appropriate design solutions to address these overlapping and some-what competing requirements for increased finish floor height, provision of equitable access and good relationships between new buildings and the public realm.
52. Therefore, I support the reference to the '*Guidelines for Development in Flood Affected Areas*' and the '*Good Design Guide for Buildings in Flood Affected Areas in Fishermans Bend, Arden and Macaulay*' being contained within the Decision guidelines.
53. I consider their discretionary nature sufficient to 'trigger' consideration of such subjective design implications to be appropriate.

54. Unlike other State-wide design controls (such as ResCode and BADS) which guide design outcomes based on a 'fixed' ground plane and more measurable (quantifiable) amenity outcomes. In comparison the relative flexibility afforded to address the variable finish floor levels and more 'fluid' nature of the impact/s across the various low-lying areas is therefore appropriate. It will ensure a more holistic consideration of flood impacts in tandem with other importance access and activation aspects, which could otherwise be detrimentally affected as a result of implementing increased finish floor levels and potentially overly dominant engineering solutions to interface with the public realm.
55. The inclusion of the Guide as a consideration within the Decision Guidelines will ensure the inclusion of good urban design responses and provision of integrated equitable access is not detrimentally disregarded while responding to increased finish floor levels.
56. I note the submissions #9 and #14, raise concern that the new provisions do not contain **transitional provisions** in relation to existing permits or current applications.
57. I consider this to be primarily a town planning matter and will therefore defer to the planning experts. However, from an urban design perspective, I would observe that transitional provisions are typically implemented in relation to built form controls or State-wide provisions to not significantly impact or potentially neutralise a site's development potential, without fair warning.
58. Given that these provisions relate to flooding implications in low-lying areas of the city and generally will require a Ground Floor increase in the order of 0.3m to a maximum of approximately 2m the potential impost on future development is not unreasonable. Also, due to the flooding protection nature of the provisions, based on known impacts and the potential danger to life or property, knowingly permitting a development approval in a flood prone area that is not in accordance with the new provisions and would set a dangerous precedent contrary to orderly planning considerations.
59. Therefore, **I consider it appropriate that the proposed provisions do not contain transitional provisions.**
60. I note that submission #13, raises the consideration of where a site is subject to a **FAR** that the ground floor ramps and stairs be removed from the calculation. Sites currently subject to a FAR are located within the Arden Urban Renewal Precinct, as identified by DDO Schedules 80-83. I note that only submission #29 is spatially affected by both a FAR calculation and proposed LSIO3. The FAR provisions (DDO83) relative to submission #29 are discretionary and comprise a 64m overall building height and FAR ratio of 7:1.
61. Given the discretionary nature of the FAR provisions I consider the impact of removing the ramps and stair provision at Ground Floor necessary to transition future development above the NFPL to be negligible. Therefore, **I see no need to revise the FAR calculation formula in relation to necessary ramp and stair provision in relation to NFPL.**

62. I note that submission #13, also raises the consideration of **heritage matters**, particularly when converting an existing building for re-use. I consider this to be a valid consideration, but to be one best addressed on an individual application basis. I appreciate that it would be too difficult to identify and address the potential numerous permutations of existing heritage conditions, types of heritage fabric, existing relationships to the public realm and draft appropriate design guidelines to suitably respond to the latest flood levels.
63. Also, I consider this to be primarily a heritage and water inundation matter and is therefore, best resolved on a case by case basis and by the appropriate experts. The urban design guidance in relation to how best to resolve the transition between the natural ground level and NFPL within the Guide, is still sufficient to inform a future design response and assessment process that also has the additional layer of heritage to respond to.
64. Therefore, while I agree that for heritage sites and buildings, these proposed provisions do add another layer of design control and complexity to conceiving and assessing an application. I consider this to be appropriate. **I also consider that it is not necessary for the Guide to provide specific guidance in relation to sites subject to a Heritage Overlay.**
65. In relation to **LSIO1**, I understand that this existing Schedule is to be revised to clearly demonstrate that it relates to the Maribyrnong River Environs, by-way of adding a waterbody reference title to the provision. Otherwise, I appreciate that the other refinements to LSIO1 are policy neutral and relate to formatting matters.
66. In relation to **LSIO2**, I understand that this existing Schedule is to be revised to clearly demonstrate that it relates to the Flemington Racecourse, by-way of adding a place specific title to the provision. As the existing provision relates to racecourse land which is already covered by a Special Use Zone – Schedule 1 (SUZ1) which specifically guides use and development of the Flemington Racecourse primarily as a major recreational and entertainment precinct, I appreciate that sufficient planning control is provided by the Zone provision. Also, I understand that the racecourse is protected by a levee bank from the Maribyrnong River and therefore its flooding or inundation impacts are not anticipated to increase – hence no Statement of risk is specified, and the Permit requirements are to be maintained.
67. The Application requirements have been revised, with refinements to both create a format and wording more consistent with the proposed (new) LSIO3 provision and also to more clearly convey the application documentation expectations, in terms of existing ground levels and the layout of all existing and proposed buildings and works, etc. The amended requirements also call up the *Guidelines for Development in Flood Affected Areas* (2019).
68. I consider the revised Application requirements to be appropriate.
69. In relation to **LSIO3** this is proposed to be a new provision that relates to the Moonee Ponds Creek and the Lower Yarra River Waterways. This Schedule 3 contains five objectives (to be achieved) by the provision and a Statement of risk, which outlines the cause and need for this provision and identifies the relevant background

documents to be located at Clause 72.08. Permit requirements are listed for 'minor' buildings or work which do not require a permit and include: elevated boardwalks; 'minor' earthworks; a sign on a single pole or structure; and bollards, bus and tram shelters. I consider these building and works exemptions to be appropriate.

70. In relation to SBO1, I understand that this existing SBO is to be revised to clearly demonstrate that it relates to the Melbourne Water Main Drains associated with Royal Park and the northern end of Nicholson Street, by-way of adding reference title to the provision and now to be numbered as Schedule 1, to the SBO. Otherwise, I appreciate that the other refinements to SBO1 are policy neutral and relate to formatting matters.

71. In relation to SBO2, this is proposed to be a new provision which to other Melbourne Water Main Drains, being generally relative to Elizabeth Street, Arden, Macaulay, the Moonee Ponds Creek, Fishermans Bend and Southbank. This spatial extent of proposed SBO2 is appropriately referenced in the Schedules title. This Schedule 2 contains five objectives (to be achieved) by the provision and a Statement of risk, which outlines the cause and need for this provision and identifies the relevant background documents to be located at Clause 72.08. Permit requirements are listed for 'minor' buildings or work which do not require a permit and include: elevated boardwalks; 'minor' earthworks; a sign on a single pole or structure; and bollards, bus and tram shelters. I consider these building and works exemptions to be appropriate.

72. In relation to SBO3, this is proposed to be a new provision which to other Melbourne Water Main Drains, being generally relative to Elizabeth Street, Arden, Macaulay, the Moonee Ponds Creek, Fishermans Bend and Southbank. This spatial extent of proposed SBO2 is appropriately referenced in the Schedules title. This Schedule 3 contains five objectives (to be achieved) by the provision and a Statement of risk, which outlines the cause and need for this provision and identifies the relevant background documents to be located at Clause 72.08. Permit requirements are listed for 'minor' buildings or work which do not require a permit and include: elevated boardwalks; 'minor' earthworks; a sign on a single pole or structure; and bollards, bus and tram shelters. I consider these building and works exemptions to be appropriate.

73. The Decision guidelines for LSIO3, SBO2 and SBO3 all require applications must be considered, as appropriate, by the Responsible Authority and references both the 'Guide' and 'Good Design Guide' as relevant design guidelines. I consider it appropriate to require an assessment to consider these discretionary design guideline documents. Further Decision guidelines consider matters of: specific site flood risk; good urban design and equitable access; good physical and visual connection, activation to street edge; management of flood risks and resilient of materials and finishes. **I consider these assessment considerations to be consistent with the underpinning 'Guide' and also to cover the 'overlapping' perspectives of flood responsive design, good design and equitable access.**

74. I also note the consistent way in which LSIO3, SBO2 and SBO3 have been drafted as provisions. I consider this to be an appropriate approach, given the underpinning background work and to demonstrate a coordinated implementation process.

The role and contents of the Good Design Guide for Flood Affected Areas in the Fishermans Bend, Arden and Macaulay

75. The title of the Guide is potentially confusing, given its specific reference to the areas of Fishermans Bend, Arden and Macaulay, given that the LSIO and SBO Schedule Areas it is proposed to apply to other parts of the city, such as along Elizabeth Street and within Southbank.
76. While I appreciate that the Guide was initially drafted in relation to these urban renewal areas and hence its current title. I would support the title of the Guide being renamed to not include these areas and simply be titled: '*Good Design Guide for Buildings in Flood Affected Areas*'.
77. Obviously, its actual spatial implications would be identified by the relevant LSIO or SBO Overlay Schedules that reference the Guide and therefore the document could be implemented in other or future LSIO or SBO Schedules in both the Melbourne Planning Scheme or other inner urban municipalities experiencing flood impacts and urban renewal or infill development.
78. As I appreciate the Guide was developed in partnership between the City of Melbourne, Melbourne Water and the City of Port Phillip, it could be implemented within the City of Port Phillip as well.
79. I also acknowledge that the Guide was developed in consultation with other relevant State Government Departments and Authorities, including:
    - Department of Jobs, Precincts and Regions (DJPR);
    - Department of Environment, Land, Water and Planning (DELWP);
    - The Office of Victorian Government Architect (OVGA); and
    - Victorian Planning Authority (VPA).
80. All of these organisations play important roles in informing the quality and resilience of the built environment/s of our State's urban areas. Therefore, I am satisfied that the drafting and refinement process in conceiving these guidelines is well considered and aligned with other State provisions and design principles.
81. The Guide is drafted in clear and concise language, that is easily understandable and therefore accessible to a wide audience, including the general public, design professionals, town planners, engineers and technical experts. It contains a comprehensive glossary of terms up front to outline the key technical definitions to the reader. It is then structured in a clear and logical order comprising Part 1 to set the sense and outline the who, what, where and why. Part 2 sets out the design guidelines, the how to appropriately respond and address design considerations relative to flooding impact. Again, this guidance is arranged in a logical order starting at a precinct level and then drilling-in to a site specific and detail design aspects of a building.

82. Each section is suitably structured to comprise a written introduction, then design guidelines – illustrated by a combination of clear spatial diagrams, cross-sections, three-dimensional illustrations, plus precedent photographic imagery of good and bad built examples.

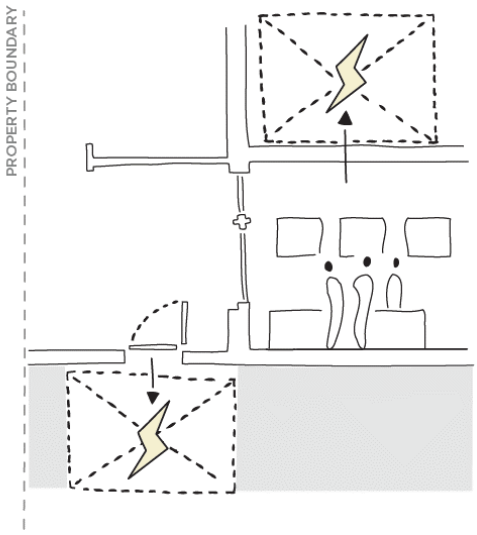
83. I note that the Guide contains a similar desktop published presentation and graphic material of a consistent hand to that of the City of Melbourne's 'Central Melbourne Design Guide' which underpins DDO1 and encourages good urban design outcomes at street level.

84. I note that submission #13, raised concern that the Guide **lacks a clear hierarchy** of design objectives.

85. The Guide does not contain any standards, design objectives or specific metrics which are to be met. I consider their more flexible and discretionary nature to be appropriate in relation to both informing the design response and when assessing the merit of a proposal. The design considerations 'in play' are fundamentally discretionary and subjective in nature. A specific design configuration that works for a site and particular Ground Floor uses and finish floor levels in Southbank, may not be applicable within Elizabeth Street. Therefore, a process of design refinement and collaboration between the design team (applicant) and Council officers (Responsible Authority) is encouraged to explore and confirm the most appropriate Ground Level arrangement and interface.

86. The Guide (on page 16) outlines six overarching Design Principles that form a benchmark when assessing applications against the guidelines.

87. The Guide (on page 29) contains guidance in relation to siting essential services, such as substations and fire booster cabinets. From an urban design perspective, it is important to consider the positioning and presentation of such building services in relation to the public realm, often to minimise their impact within the building façade.



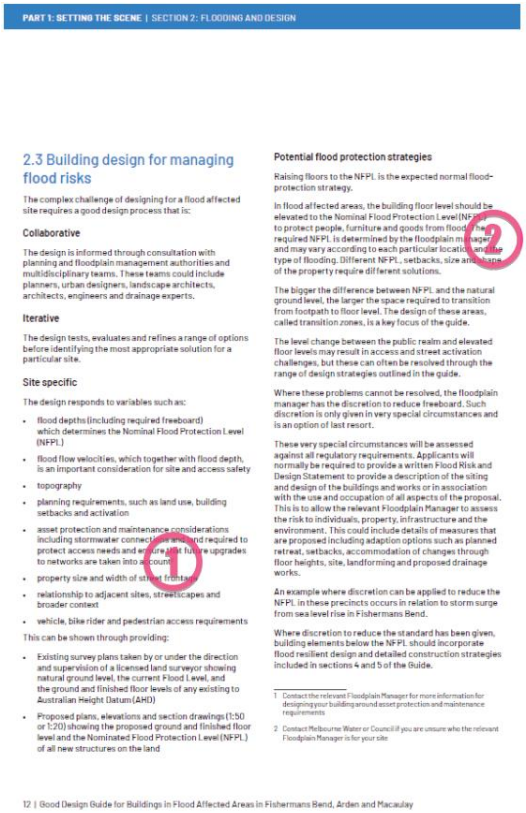
Extract Figure 28 of Central Melbourne Design Guide

Extract: Design Principles: Part 2: Design Guidelines page 16

88. However, I am not a service engineering expert and acknowledge that often a process of design refinement occurs (during the application assessment) to explore and determine an appropriate and sometimes compromised arrangement which enhances the urban design outcome, but also still meets the service access requirements.
89. Therefore, while I support the contents of the proposed Guide and consider them sufficient to identify the design challenge, ultimately, **I consider that more work or guidance could be undertaken to fully investigate and document potential solutions in relation to the provision of particularly substations above the NFPL.**
90. Overall, **I consider that the design contents and guidance contained within the Guide to be sufficient in terms of its context, explanation and depiction to assist all relevant parties in both formulating design responses and assessing them.**
91. In terms of the drafting of the Guide, I have noted the following relatively minor refinements to further improve it.
    - Adjustment to the footnote numbering throughout the document;
    - Adding NFPL designation (as a red dashed line) to cross-section Figures 31, 32, 33, 37 and 46;
    - Remove specific reference to photographer for Figures 22 and 27, in Appendix – Photo Credits.
92. I make these recommendations for the following reasons:

Footnotes

93. The footnotes commence on page 12 of the Guide, with two footnotes occurring. However, in the text body of the page, reference to footnote #2 occurs twice, with no reference to footnote #1 provided. Presumably, the first reference to #2 should be amended to relate to #1.
94. The next footnotes occur on page 32, with two footnotes occurring within the text body of the page. These are numbered #1 and #2. However, only footnote #2 occurs at the bottom of the page and appears to relation to both footnote instances. Firstly, this footnote reference number should be #3, given the two prior footnotes occurring on page 12. Secondly, I would suggest that the lead dot point should contain the footnote reference, and would therefore apply to both the sub dot points equally – as the footnote references both 600mm and 1200mm level differences.


PART 1: SETTING THE SCENE | SECTION 2: FLOODING AND DESIGN

2.3 Building design for managing flood risks

The complex challenge of designing for a flood affected site requires a good design process that is:

Collaborative

The design is informed through consultation with planning and floodplain management authorities and multidisciplinary teams. These teams could include planners, urban designers, landscape architects, architects, engineers and drainage experts.

Iterative

The design tests, evaluates and refines a range of options before identifying the most appropriate solution for a particular site.

Site specific

The design responds to variables such as:

- flood depths (including required freeboard) which determines the Nominal Flood Protection Level (NFPL)
- flood flow velocities, which together with flood depth, is an important consideration for site and access safety
- topography
- planning requirements, such as land use, building setbacks and activation
- asset protection and maintenance considerations including stormwater connections and ground required to protect access needs and ensure that future upgrades to networks are taken into account 1
- property size and width of street frontage
- relationship to adjacent sites, streetscapes and broader context
- vehicle, bike rider and pedestrian access requirements

This can be shown through providing:

- Existing survey plans taken by or under the direction and supervision of a licensed land surveyor showing natural ground level, the current Flood Level, and the ground and finished floor levels of any existing to Australian Height Datum (AHD)
- Proposed plans, elevations and section drawings (1:50 or 1:20) showing the proposed ground and finished floor level and the Nominated Flood Protection Level (NFPL) of all new structures on the land

Potential flood protection strategies

Raising floors to the NFPL is the expected normal flood-protection strategy.

In flood affected areas, the building floor level should be elevated to the Nominal Flood Protection Level (NFPL) to protect people, furniture and goods from flooding. The required NFPL is determined by the floodplain manager and may vary according to each particular location and/or type of flooding. Different NFPL, setbacks, size and shape of the property require different solutions.

The bigger the difference between NFPL and the natural ground level, the larger the space required to transition from footpath to floor level. The design of these areas, called transition zones, is a key focus of the guide.

The level change between the public realm and elevated floor levels may result in access and street activation challenges, but these can often be resolved through the range of design strategies outlined in the guide.

Where these problems cannot be resolved, the floodplain manager has the discretion to reduce freeboard. Such discretion is only given in very special circumstances and is an option of last resort.

These very special circumstances will be assessed against all regulatory requirements. Applicants will normally be required to provide a written Flood Risk and Design Statement to provide a description of the siting and design of the buildings and works or in association with the use and occupation of all aspects of the proposal. This is to allow the relevant Floodplain Manager to assess the risk to individuals, property, infrastructure and the environment. This could include details of measures that are proposed including adaption options such as planned retreat, setbacks, accommodation of changes through floor heights, site, landforming and proposed drainage works.

An example where discretion can be applied to reduce the NFPL in these precincts occurs in relation to storm surge from sea level rise in Fishermans Bend.

Where discretion to reduce the standard has been given, building elements below the NFPL should incorporate flood resilient design and detailed construction strategies included in sections 4 and 5 of the Guide.

1 Contact the relevant Floodplain Manager for more information for designing your building around asset protection and maintenance requirements

2 Contact Melbourne Water or Council if you are unsure who the relevant Floodplain Manager is for your site

12 | Good Design Guide for Buildings in Flood Affected Areas in Fishermans Bend, Arden and Macaulay

Extract page 12 showing correct footnote numbers 1 & 2

Add NFPL designation to cross-sections

95. Figure 7, introduces the graphic representation of NFPL in the document, by-way of a red dashed line on the cross-section. This graphic convention is then utilised on Figures 25 and 26, in relation to substation positioning and car park access ramps. Therefore, for clarity I consider that this red dashed line should also be added to further cross-sections within the Guide. I consider the relevant five cross-sections that the NFPL level should be depicted to be Figures 31-33, 37 and 46.

Remove photo reference

96. Part 3: Appendix – Photo Credits, references the numerous photographic images utilised throughout the Guide to demonstrate good design outcomes as precedents. The appendix references the location, design team and photographer for each image. However, in the case of Figures 22 and 27 the identity of the photographer is not known and is provided as 'Photo: xx'. In these two instances I would recommend removing this individual reference and simply state the Design team, only.

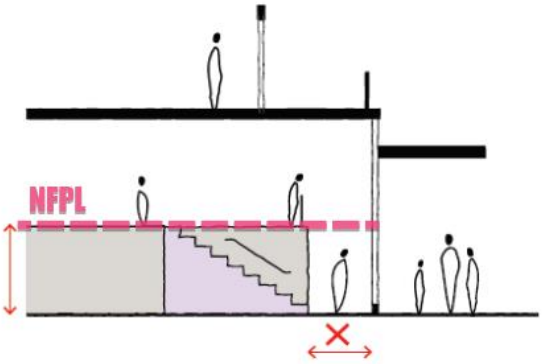


Figure 31: This transition zone creates single step transition that is out of human scale and ground floor front space that is too narrow for activation. The narrow front space below NFPL is also a poor flood management outcome.

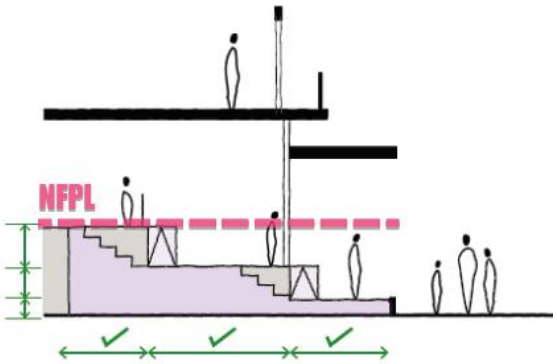


Figure 32: Transition zones can be spread across the floor to allow for gradual transition.

Extract of Figures 31 & 32 showing NFPL on cross-sections

7 Conclusion

97. In conclusion, I have reviewed the exhibited Melbourne Planning Scheme Amendment C384 and its associated background, numerous underpinning technical documents and relevant submissions. On review, I am satisfied that the key principles, objectives and design guidelines contained within the Guide appropriately convey and demonstrate how to achieve good design outcomes in the affected, flood prone areas of central Melbourne. The Amendment is underpinned by a comprehensive body of technical and strategic work and seeks to identify and guide future development outcomes that balances the challenges of the need for increased ground floor level heights without compromising good streetscape and public realm relationships between new buildings and equitable access. Ensuring consideration of human relationships, human scale and ease of access for all users is important in fostering vibrant streetscape and successful urban areas. It is important that these relationships are considered in tandem with the need for flood impact and water inundation considerations. Therefore, I support this more holistic and forward focussed approach to developments in these low-lying parts of the City.
98. These proposed City of Melbourne provisions could be a precursor to future State-wide provisions in relation to the impacts of climate change, sea-level rise and increased run-off and water level rise, across Victoria's urban areas, riverine and coastal townships and low-lying land.
99. Therefore, in my opinion Amendment C384 should be supported, subject to the following and relatively minor refinements.

Recommendations

100. Based on my review of Amendment C384, I recommend the following refinements to this underpinning 'Guide':
    - Revise its title to remove reference to 'Fishermans Bend, Arden and Macaulay;
    - Adjustment to the footnote numbering throughout the document;
    - Add NFPL designation to cross-section Figures 31, 32, 33, 37 and 46; and
    - Remove specific reference to photographer for Figures 22 and 27, in Appendix – Photo Credits.
101. I also consider that more work or guidance could be undertaken to fully investigate and document potential solutions in relation to the provision of substations above the NFPL. This could be undertaken as a separate technical investigation and pending its outcome, the Guide could be revised and expanded to better address this matter.

102. I have made all the inquiries that I believe are desirable and appropriate and no matters of significance which I regard as relevant have to my knowledge been withheld from the Panel.

Alastair Campbell
BAppSc (Planning/UD)
Senior Associate
Hansen Partnership Pty Ltd:
3rd October 2022

Appendix A

Curriculum Vitae: Alastair Campbell

Alastair Campbell: BAppSC (Planning/UD)

Qualifications	**Bachelor of Applied Science (Planning/Urban Design),** RMIT University 2005. **Certificate IV Applied Design (Product Design),** Swinburne University of Tafe 2001. **Studio 108 – Young Designers Preparation Program** Monash University 1999
Position:	**Senior Associate, Urban Designer** Hansen Partnership Pty Ltd, Melbourne
Professional Affiliations:	Planning Institute of Australia, PIA Victorian Planning and Environmental Law Association, VPELA
Professional Experience:	**Senior Associate Urban Designer**, Hansen Partnership 2022 to present **Associate Urban Designer**, Hansen Partnership 2015-2021 **Senior Urban Designer**, David Lock Associates 2008-2015 **Urban Designer**, David Lock Associates 2006-2008 **Assistant Urban Designer**, David Lock Associates 2006 **Urban Designer**, Taylors Development Strategists 2005-2006 **Student Urban Designer**, City of Melbourne – Design and Culture Branch 2004-2005
Professional Experience	I have over 19 years' experience as an urban designer based in Melbourne, working in both the private and public practise. I have regularly appeared at VCAT as an expert witness since 2015. I have appeared at Panels as an expert witness since 2020.

Alastair Campbell:

Key Project Experience:

Panel Evidence
Melbourne Planning Scheme – Amendment C370
Maribyrnong Planning Scheme – Amendment C162
Yarra Planning Scheme – Amendment C293

VCAT Evidence
168-176 Hotham Street, Elsternwick
233 Burke Road, Glen Iris
78-83 Nepean Highway, Seaford
18-24 Moray Street, Southbank
142-144 Johnston Street & 3 Chapel Street, Fitzroy
90-94 Mimosa Road, Carnegie
15-17 Marriott Parade, Glen Waverley
162-182 Woolleys Road, Bittern
47 Showers Street, Preston
43 Separation Street, Mornington
496-504 Elizabeth Street, Melbourne
560-566 Lonsdale Street, Melbourne
St Andrews Beach Golf Course
36 Showers Street, Preston
274-282 Flinders Street, Melbourne
Lots 1 & 2, 140 Esplanade, Brighton
19-25 Russell Street, Melbourne
445-467 Blackburn Road, Mount Waverley
263 William Street, Melbourne
175 Sturt Street, Southbank
251 Hutton Road, Keysborough
10 Pasco Street, Williamtown
76-78 Beach Road, Sandringham
129-134 Perry Road, Keysborough
35-51 Hancock Street, Southbank
59-101 Alfred Street, North Melbourne
103-109, 115-177 Boundary Road, North Melbourne
8-10 Wellington Pde & 1071-1081 Hoddle St, East Melbourne
101 Gisborne Road, Bacchus Marsh
26 Cook Street, Port Melbourne
9 Myriong Avenue, Clayton
1419 Centre Road, Clayton
18-20 & 22 Princes Highway, Werribee
209 Sandy Road, Fingal - St Andrews Beach Golf Club
61-65 Victoria Parade, Collingwood
4A Montrose Street, Hawthorn East
371-377 Hawthorn & 3 Olive Street, Caulfield South
7 Wellington Road, Box Hill
8 Edith Court, Doncaster
39 Bay Street & 9 Helen Street, Rippleside

Structure Plans
Boronia
Beaufort
Prospect Vale
Tunstall Square, Donvale
Balwyn
Highpoint
Moe-Newborough, Morwell, Traralgon, and Churchhill

Urban Design Framework
Victoria Parade
Smith Street
Fitzroy East
Johnston Street
Collingwood
Dromana
Boronia
Ebdale
Fairfield
Mowbray
Kings Meadows
Sunshine North
Evans Road
Gaffney Street, Coburg
Grovedale Station
Highpoint
West Hawthorn

Master Planning
Baw Baw Civic Precinct
Maidstone former Student Housing Campus
Redfern and Waterloo estates
Tooronga village
Amcor Paper mill site

Precinct Structure Plans
Cranbourne East
Cranbourne West

Outline Development Plans
Blackstone Heights
Baranduda South
Swan Hill
Mildura South
Irymple, Etiwanda, Riverside and Nicols Point

Development Plans
the Orchards, High Street Road, Wantirna South
Wicks Road, Maiden Gully
Carrington Park, Rosebud
Marimba, Narre Warren North
Tower Hill, Swan Hill
Seven Creeks, Kialla West

Neighbourhood Character
Hume, Stage 1 Assessment
Boroondara, My Neighbourhood II