Campbelltown (Sustainable City) Development Control Plan2015

VOLUME 2

Site Specific DCPs

Part 17: Ingleburn CBD

Creating Campbelltown's Future 2025

CAMPBELLTOWN

Note:

The Ingleburn CBD Development Control Plan (DCP) came into effect on 15 December 2023 and has been incorporated as Part 17, Volume 2 of Campbelltown (Sustainable City) DCP 2015.

It should be read in conjunction with relevant Parts in Volume 1. In the case of any inconsistencies this Part will prevail to the extent of that inconsistency.

17.1 Application

17.1 Application

This Part applies to the land shown in Figure 17.1.1 – the Ingleburn CBD - The Core Precinct which includes land zoned MU1 Mixed Use (MU1); R3 Medium Density Residential (R3) and surrounding high density residential land zoned R4 High Density Residential (R4). It relies on other relevant Parts in Volume 1 of Campbelltown (Sustainable City) DCP 2015 (CDCP2015) including:

- Part 2 Requirements Applying to All Types of Development;
- Part 3 (Low and Medium Density Residential Development (applies to land zoned R3 within the Ingleburn CBD Area).
- Ancillary Residential Structures)
- Part 5 Residential Flat Buildings and Mixed-Use Development; and
- Part 6 Commercial Development.
- Part 8 to Part 19 as they provide development controls that relate to specific land uses and vegetation management that are not covered by this site specific DCP.

This Part provides requirements additional to Volume 1 to achieve the specific vision established for the future development of Ingleburn CBD and applies to the land shown in Figure 17.1.1 below.

Part 17 sets out the following:

- Desired future character for high density residential neighbourhoods in areas zoned R4.
- Desired future character for mixed use development in the area zoned MU1.
- Development controls for:
  - residential flat buildings in areas zoned R4;and
  - mixed use development in the area zoned MU1;
- Desired outcome for the public domain.
- Development controls and special provisions for flooding.

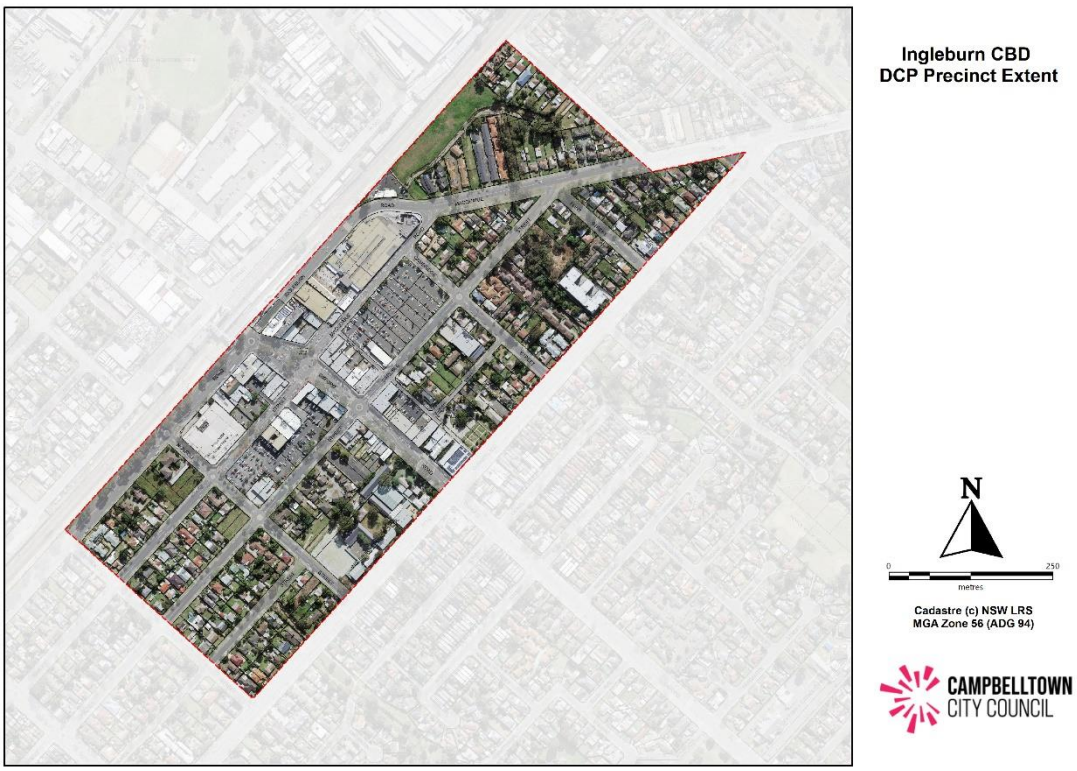


Figure 17.1.1 Ingleburn CBD

Background

In December 2017, the NSW Government released the final Glenfield to Macarthur Urban Renewal Corridor Strategy which included a Precinct Plan for Ingleburn.

The Ingleburn Precinct is divided into three distinct areas as shown in Figure 17.1.2 below:

Area 1: The CBD Precinct — Eastern Side of railway (where this DCP applies)
Area 2: Area around the CBD — Eastern Side of railway
Area 3: Western Side Precinct — West of the railway

Area 1 is the subject of this DCP and Areas 2 and 3 will be further investigated as part of future reviews of Campbelltown Local Environment Plan 2015.

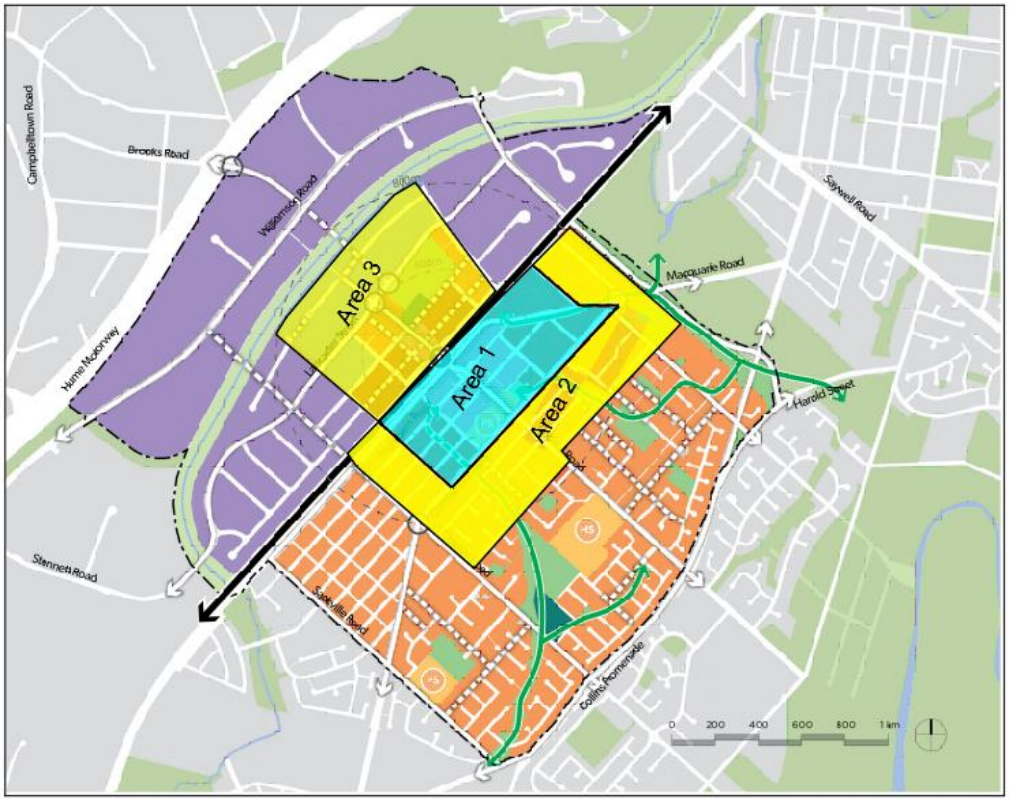
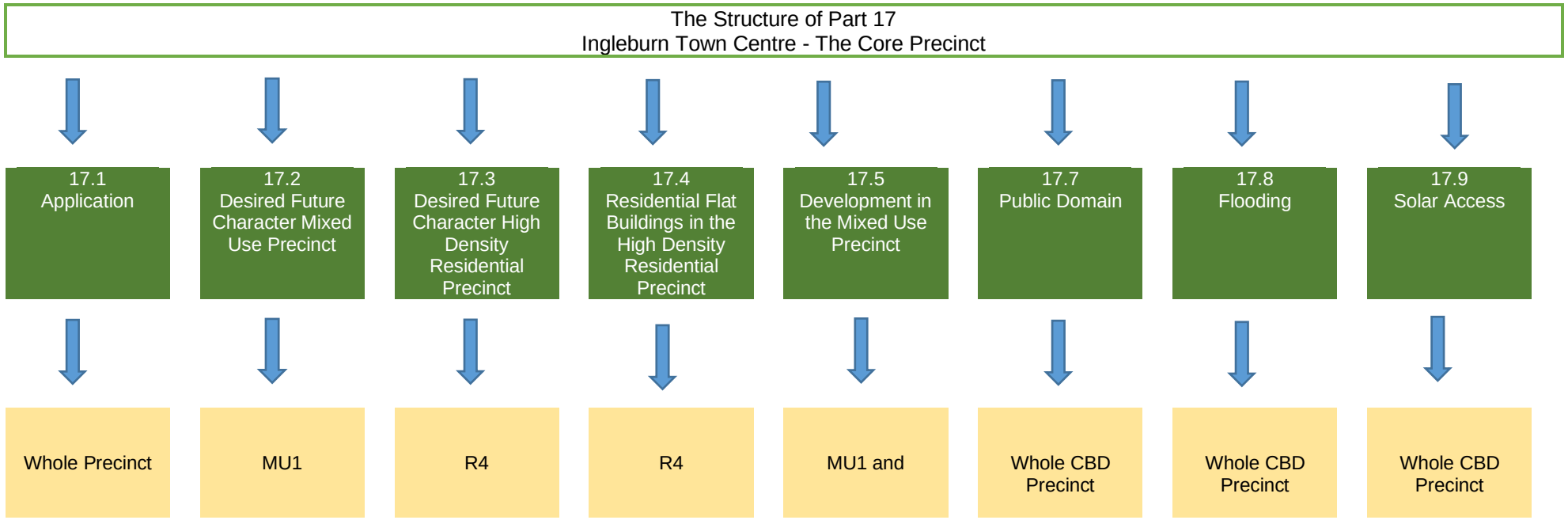


Figure 17.1.2 Ingleburn Precinct Plan


The Structure of Part 17
Ingleburn Town Centre - The Core Precinct
17.1 Application
17.2 Desired Future Character Mixed Use Precinct
17.3 Desired Future Character High Density Residential Precinct
17.4 Residential Flat Buildings in the High Density Residential Precinct
17.5 Development in the Mixed Use Precinct
17.7 Public Domain
17.8 Flooding
17.9 Solar Access
Whole Precinct
MU1
R4
R4
MU1 and
Whole CBD Precinct
Whole CBD Precinct
Whole CBD Precinct

17.2 17.2 Desired Future Character - Mixed Use Precinct

Desired Future Character - Mixed Use Precinct (Zone MU1)

The Ingleburn Vision

"To create a vibrant town centre that strengthens Ingleburn's unique urban village character and desirability as a place to live."

Glenfield to Macarthur Urban Renewal Corridor Ingleburn Precinct – DPIE November 2017

"Ingleburn town centre will retain its village atmosphere and provide a vibrant attractive destination for business, leisure and social engagement."

Ingleburn CBD Urban Design and Public Domain Strategy – July 2021

Mixed Use Retail, Commercial & Residential

This area (shown edged blue in Figure 17.2.1 below) will accommodate a mix of retail, commercial and residential uses. Ingleburn will evolve as a prominent retail and employment centre within the Glenfield to Macarthur Urban Renewal Corridor. New buildings will be carefully designed to achieve excellence in built form, sustainability and user amenity. The first two storeys of high rise buildings will be commercial and their presentation to the public domain will contribute to achieving high amenity, pedestrian friendly outcomes for all public roads and especially for Oxford Road. Additional storeys will be further set back to maintain an appropriate scale and amenity and establish the primacy of retail and commercial development at the street level.

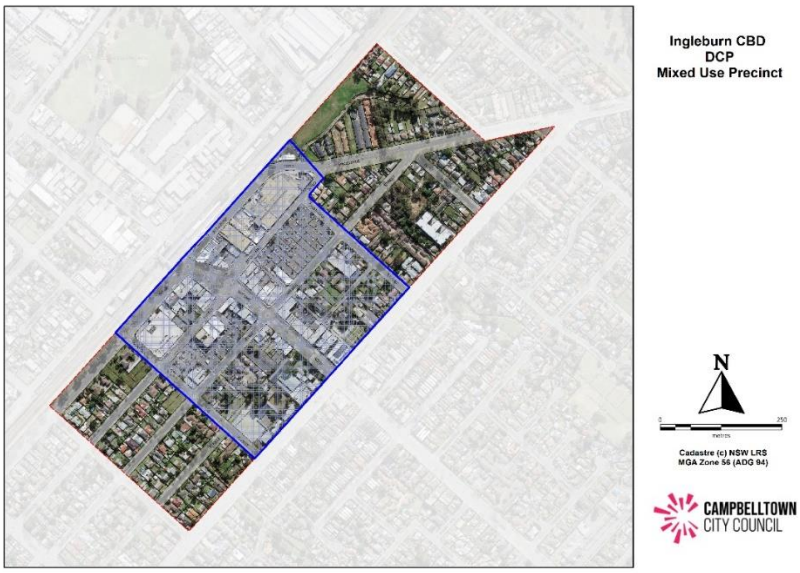


Figure 17.2.1: Mixed Use area Ingleburn Precinct Plan

Figure 17.2.2: Vibrant town centre – Visionary Perspectives

17.3

17.3 Desired Future Character - High Density Residential Precinct

Desired Future Character High Density Residential

(Zones R4)

High Rise Residential

This area will provide apartment housing with a high level of amenity for residents. The precincts will be characterised by typically 8 storey apartment buildings (apart from the area zoned R3 Medium Density Residential shown on Figure 17.3.1 below) with apartment design, communal open spaces and shared facilities delivering a first class standard of apartment living. Apartment buildings will be designed to maximise sustainability outcomes and to capitalise on district views.

Volume 1, Part 3 (Low and Medium Density Residential Development and Ancillary Residential Structures) of the plan will apply to the areas zoned R3 Medium Density Residential within the Ingleburn CBD Precinct in relation to any proposal for future medium density development applications within these sites. In addition, the flooding provisions within this Part will apply too. All flooding requirements under this Part of Volume 2 (Ingleburn CBD) will also apply to any future development within the areas zoned R3 medium density.

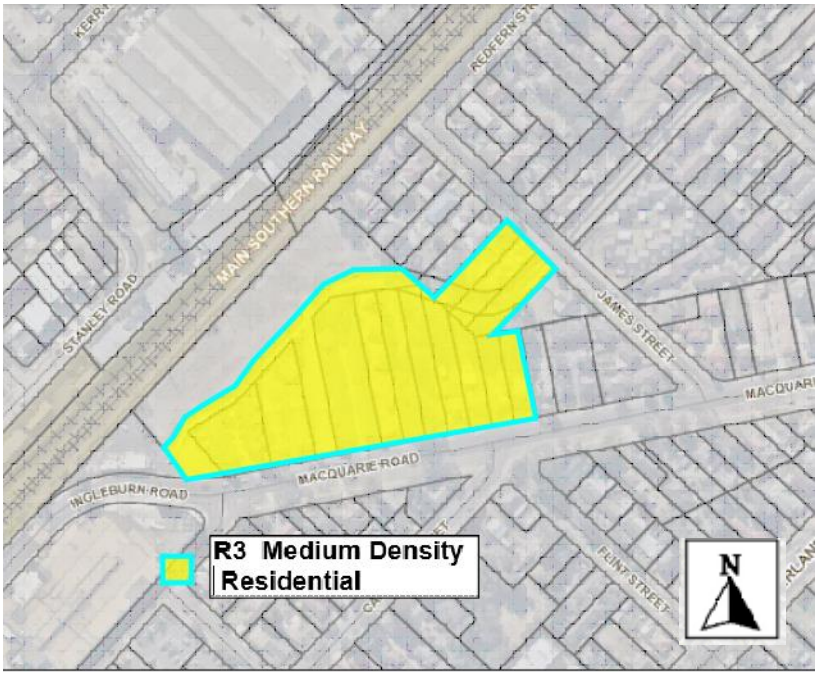


Figure 17.3.1: Medium Density (R3) residential area in Precinct Plan

Figure 17.3.2: Potential style of high density residential development

17.4 Residential Flat Buildings in the High Density Residential Precinct

17.4 Residential Flat Buildings

17.4.1 Allotment Requirements

a) Sites shall be amalgamated where required, to achieve the minimum site area of **1800sqm** and minimum width requirement of 30m.

For the purpose of Part 17.4 of this DCP, an ***isolated allotment*** is an allotment that has a site area of less than 1800 square metres and/or a width at the front property boundary of less than 30 metres that has no immediate potential for amalgamation with any other adjoining allotments to achieve a minimum site area of 1800 square metres and a width at the front property boundary of 30 metres.

17.4.1.1 Site Consolidation and Development of Isolated Allotments

a) Development shall not result in an isolated allotment adjoining the development site.
b) Council will require appropriate documentary evidence to demonstrate that a genuine and reasonable attempt has been made to purchase an isolated site based on a fair market value.
c) At least one recent independent valuation is to be submitted as part of that evidence and is to account for reasonable expenses likely to be incurred by the owner of the isolated site in the sale of the property.
d) Where amalgamation of the isolated site is not feasible, applicants will be required to demonstrate that an orderly and economic use and development of the separate sites can be achieved.
e) For the isolated sites, the Applicant shall prepare the following and submit them to Council as part of the application:
    I. a building envelope for the isolated site, indicating height, setbacks, resultant site coverage (building and basement), deep soil planting with sufficient information to understand the relationship between the application and the isolated site.
    II. The likely impacts the developments will have on each other, such as solar access, visual and acoustic privacy and the impact of development of the isolated site on the streetscape must also be addressed.

f) The development of existing isolated sites is not to detract from the character of the streetscape and is to achieve a satisfactory level of amenity including solar access, visual and acoustic privacy.

g) Development of existing isolated sites may not achieve the maximum potential, particularly height and floor space ratio, and will be assessed on merit.

17.4.1.2 Building Setbacks for Residential Flat Buildings – Areas Zoned R4

a) Residential flat buildings shall be setback a minimum of:

   i. 6 metres from any street boundary; and
   ii. 6 metres from any side boundary; and
   iii. 8 metres from the rear boundary

b) The basement shall be setback at least 5 metres from the rear boundary and 2 metres from the front boundary to allow for deep soil planting and to create green interface with the streets.
c) Vegetable gardens within the communal open space are encouraged.

17.4.1.3 Building Design

a) Residential flat buildings, where the dimensions of the site permits, shall have L-shaped, or U-shaped building layout, to maximise solar access, ventilation and residential amenity.
b) A 1 metre articulation zone is permitted forward of the front building setback, in which building elements may occupy a maximum of one third of the area of the facade. Services or lift shafts are not permitted in the articulation zone as shown in Figure 17.4.1.
c) The setbacks under this Part are subject to building separation controls under the ADG.
d) Building design should aim to create a clear delineation between public, communal and private open space

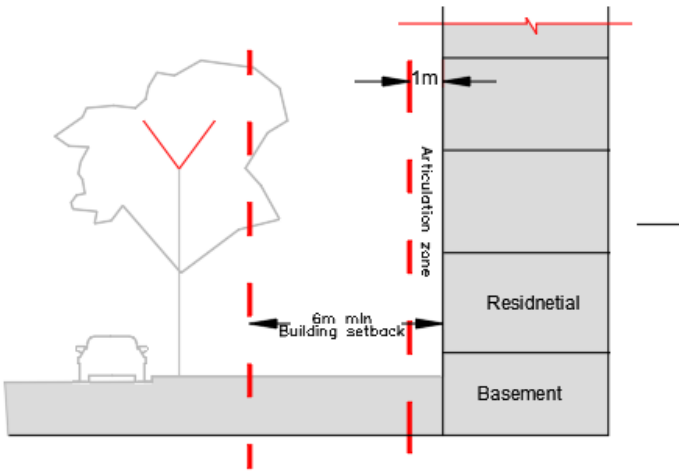


Figure 17.4.1: Street Setback – Residential Flat Buildings

17.5 17.5 Development in the Mixed Use Precinct

Mixed Use Development

17.5.1 Mixed Use Development Setbacks – Areas Zoned MU1

a) Mixed Use development shall be setback a minimum of:
   I. 0 metres from any street boundary for the ground and first floors and 6 metres for second and higher floors.
   II. 0 metres from side setback;
   III. 0 metres from rear setbacks.

b) Despite section 17.5.1 a) above, setbacks for certain sites within the Ingleburn CBD shall be in accordance with Figure 17.5.1 below.

Figure 17.5.1 Setbacks Map

17.5.2 Mix of Uses

a) Mixed use buildings must have at least one story of, and encouraged to have at least two storeys (ground and first floor) of commercial and/or retail uses (including centre based childcare, recreation facilities (indoor), places and public worship). Residential development shall not be undertaken on the first or second storeys (ground and first floor) of a building in this precinct.

17.5.3 Adaptability of car parking floors

a) Where car parking is provided on the ground first floor or above within mixed use buildings, then it must be capable of being redesigned for later conversion to retail, commercial or residential purposes as appropriate for that level.

17.5.4 Awnings

a) All new mixed use buildings within the MU1 Zone shall have awnings on their street frontages, excluding mixed use development along Cumberland Road.

For the purpose of Part 17.5.6 of this DCP, an isolated allotment is an allotment that has a site area of less than 1200 square metres and has no immediate potential for amalgamation with any other adjoining allotments to achieve a minimum site area of 1200 square metres and a width at the front property boundary of 30 metres.

17.5.5 Pedestrian Bridge Access

a) As part of any new major redevelopment of Lot 101, DP613509, known as Ingleburn Fair Shopping Centre, 100 Macquarie Road, Ingleburn, a pedestrian access bridge connecting the site to the proposed multi deck car parking building (at Lots 7-9 and 19-23 Section 4 DP 2913) at level one or above shall be provided. Where the redevelopment of the shopping Centre occurs prior to the redevelopment of the multi deck car park, the design of the new shopping centre shall facilitate a future pedestrian connection. Where the multi deck car park development occurs prior to the redevelopment of the subject Shopping Centre, the design of the multi deck car parking shall facilitate a future pedestrian bridge connection/linkage.

17.5.6 Site Consolidation and Development Isolated Allotments

a) Sites shall be amalgamated where required, to achieve the minimum site area of 1200 sqm and width requirement of 30m.
b) Despite section 17.5.6 a) above, consolidation of lots will be required to provide low flood hazard evacuation access for sites identified with no safe vehicle and pedestrian access. Refer to the Summary Flood Information Report under Index 1 of this DCP for more information on this matter.(The graphics/maps showing amalgamation patterns within the Summary Flood Information Report are hypothetical scenarios only, and by no means should be undertaken as the preferred amalgamation outcomes.)
c) Development shall not result in an isolated allotment adjoining the development site.
d) Council will require appropriate documentary evidence to demonstrate that a genuine and reasonable attempt has been made to purchase an isolated site based on a fair market value.
e) At least one recent independent valuation is to be submitted as part of that evidence and is to account for reasonable expenses likely to be incurred by the owner of the isolated site in the sale of the property.
f) Where amalgamation of the isolated site is not feasible, applicants will be required to demonstrate that an orderly and economic use and development of the separate sites can be achieved.
g) For the isolated sites. The Applicant shall prepare the following and submit them to Council as part of the application:

    I. a building envelope for the isolated site, indicating height, setbacks, resultant site coverage (building and basement), deep soil planting with sufficient information to understand the relationship between the application and the isolated site.
    II. The likely impacts the developments will have on each other, such as solar access, visual and acoustic privacy and the impact of development of the isolated site on the streetscape must also be addressed.

h) The development of existing isolated sites is not to detract from the character of the streetscape and is to achieve a satisfactory level of amenity including solar access, visual and acoustic privacy.

Development of existing isolated sites may not achieve the maximum potential, particularly height and floor space ratio, and will be assessed on merit.

17.5.7 Commercial development - car parking rates

a) Commercial development shall be provided with one car parking space per 50sqm of Gross Floor Area

17.5.8 Building Design

a) Setbacks above the street podium on corner sites apply to both streets
b) The minimum floor to floor height for commercial floor levels shall be 4.5m
c) The minimum floor to floor height for above ground car parking shall be 3.1m
d) All front facades shall be articulated with depth, relief and shadow on the street façade.
e) No blank walls shall be permitted. Where the blank wall is on the side and is intended to be attached to the side wall of future development on the side boundary, the side wall shall be articulated.

17.6 17.6 Public Domain

Public Domain

17.6.1 Ingleburn CBD

Ingleburn CBD is focused on Ingleburn Railway Station and will be characterised by a vibrant and active mixed use core with high density residential adjoining.

The Ingleburn CBD will be characterised by mixed use development with commercial, business and retail on the ground and first floors with up to 6 storeys of residential apartments above.

New and refurbished open space areas will be complimented by an improved permeable pedestrian network that focuses people on the centre, open space and railway station. About 90% of the area currently lies within a 400m walking distance of open space. About 50% is within 200m walking distance of open space and almost all is within a 400m radius of open space. Improved pedestrian infiltration, in combination with new development, can improve these proportions.

Redevelopment will help provide a first floor access between the Ingleburn Shopping Fair and the Multi deck car park. Larger blocks can be broken down and pedestrian access can be provided along active and interesting laneways.

The provision of larger setbacks and improved street furniture, awnings and tree canopy will provide an attractive public domain where people can meet, carry out business and safely enjoy the town centre.

17.6.2 Objectives for the Public Domain Improvements in Ingleburn

Objectives for the public domain of Ingleburn CBD are:

- To provide a safe, attractive and comfortable place to meet, work, socialise, shop and access public transport both during the day and at night;
- To enable ease of movement in, around and through Ingleburn CBD for cars, pedestrians and cyclists;
- To provide quality open space within 400m of all residents;
- To provide an active commercial centre that encourages business activity;
- To provide a variety of communal recreation facilities within residential flat buildings and mixed use development readily accessible to all residents, in addition to and complimenting facilities in the public domain.

17.6.3 Pedestrian Connections and Laneways

a) Existing pedestrian connections and laneways should be enhanced to:

i. Have active ground floor frontages and encourage outdoor dining opportunities;
ii. Be legible and direct throughways for pedestrians, clear of obstructions (including columns, stairs and escalators);
iii. Provide access 24 hours, 7 days per week;

iv. Be open to the air above and at each end, except where a connecting public pedestrian access is provided on level one between buildings (refer to section 17.5.5 above) ;
v. Council may consider an 'arcade style' walkway;
vi. Have signage at the street entries indicating public accessibility and the street and activities to which the through site link connects.

d) New pedestrian only connections are to be provided along the areas marked through site linkages in the figure 17.6.1 below. Pedestrian linkages across the site must have a minimum width of 3 metres. If these linkages are located along the perimeter of a newly proposed development/building, the development shall be designed to accommodate the entire width of the walkway – i.e the site that is developed first, must provide for the full width and length of the pedestrian link.

Figure 17.6.1 Pedestrian linkages

Figure 17.6.2 Figtree Pocket Newmarket Randwick - residential apartment building addressing the open space and street network (Source: newmarketrandwick.com.au)

17.6. Blank Walls on Zero setback of side boundaries

a) To prevent the presence of blank walls along the side boundaries of zero setback buildings, all new buildings must incorporate minor articulation elements on the adjoining wall. The blank wall surface must be broken up by introducing features such as changes in texture and/or colour and/or LED lights. This development standard is included to ensure that blank walls on zero setback boundaries are designed so that they are slightly articulated. These side walls will not be visible once the adjacent site is re-developed and attached to these side boundary walls.

Figure 17.6.3 Example of sidewall articulation

17.7	17.7 Flooding
Flooding Note: "Ingleburn on the other hand has considerable flood risks for both residential and non-residential buildings and, as discussed, urban renewal provides a real opportunity to provide significant flood mitigation benefits." Draft BBBCC Strategic Floodplain Risk Management Study and Plan 2019	**17.7.1 Background** Flooding is a significant issue that affects existing and future development in the Ingleburn CBD. This Section establishes Council's approach to development control for the Ingleburn CBD. Council's approach to flooding has regard to and complies with the New South Wales Government's Floodplain Development Manual (FDM 2005). The criteria for determining applications for proposals potentially affected by flooding are structured to recognise that different controls can be applied to different land uses and different levels of potential flood inundation and hazard. As a first step in the development consent process, proponents are strongly advised to consult with Council officers, particularly for proposals significantly affected by flooding. The Bow Bowing Bunbury Curran Creek Strategic Floodplain Risk Management Study and Plan (BBBCC) was adopted by Council on 12 February, 2019. Significant flooding is identified in parts of the Ingleburn Town Centre, with notable depths during floods as frequent as the 20 percent AEP (5 year average recurrence interval) event. Substantial drainage upgrade work is proposed within the Ingleburn CBD area to alleviate the flooding impact. However, even if this work is undertaken, it would not fully resolve the flooding issue within Ingleburn CBD. As development has already occurred and further development is permissible and desirable, the planning controls, in addition to any drainage upgrades, will be needed to address safety to life and property and respond to likely flooding events. The proposed flooding requirements within this section of the DCP, shall apply to any development within Ingleburn CBD that is impacted by flooding. Completion of the drainage upgrade would facilitate development within Ingleburn CBD by reducing flooding and so facilitating compliance with the controls in this DCP. Proponents should also read relevant parts of Council's *"Campbelltown (Sustainable City) Development Control Plan 2009 Volume 2 Engineering Design for Development June 2009 Engineering Design for Development"* Link: https://www.campbelltown.nsw.gov.au/files/assets/public/document-resources/builddevelop/dcps/dcp2014v3/scdcp2009volume2-1engineeringdesignfordevelopment.pdf

17.7.2 Flood Planning Levels

A range of flood planning levels (FPL) may be applied depending on the type of land use and the part of the development in consideration. In principle, a higher FPL will apply to land uses considered more sensitive to flood hazards or which may be critical to emergency management operations or the recovery of the community after a flood event.

Different FPLs are also considered appropriate for different parts of development. For example, the non-habitable floor levels of a dwelling can be at a lower level relative to the habitable floor level as the potential for significant flood damage costs is reduced.

The following table outlines those FPLs to be applied to the development controls outlined later in this part of the DCP.

Table 17.7.3 – Flood Planning Levels

Reference	Flood Planning Level
FPL1	5% AEP
FPL2	1% AEP
FPL3	1% AEP + • 0.3m Freeboard for flows < 0.3m deep • 0.5m Freeboard for flows > 0.3m deep
FPL4	PMF

Notes:

1. FPL1, FPL2 and FPL 4 have zero freeboard.
2. The design flood levels and FPLs in Table 1 may be obtained from Council if available or otherwise will be required to be determined by the proponent. These levels will normally be 'rounded up' to the nearest 0.1m and be referenced relative to Australian Height Datum (AHD).

FPL= Flood Planning Level.
AEP = Annual Exceedance Probability.
PMF = Probable Maximum Flood

17.7.4 Flood Hazard Categories

Flood hazard categorisation is based on the depth and velocity of floodwaters, and it is a way to define what risks are presented to life and property in a major flood event.

For the purpose of this DCP, flood modelling for Ingleburn CBD has been undertaken and the following categories have been used, where H1 represents the lowest flood hazard and H6 represents the most severe flood hazard.
These categories are defined as:

- H1 – generally safe for people, vehicles and buildings
- H2 – unsafe for small vehicles
- H3 – unsafe for vehicles, children and the elderly
- H4 – unsafe for vehicles and people
- H5 – Unsafe for vehicles and people. All building types vulnerable to structural damage.
- H6: Unsafe for vehicles and people. All building types considered vulnerable to failure.

	As a result of the flood modelling that has been undertaken for Ingleburn CBD, certain sites have also been identified with unsafe access for pedestrian and vehicles. **17.7.5 Objectives** • To ensure the safety of existing and future occupants and property of Ingleburn CBD by ensuring that flood risk associated with development is minimised and/or not increased beyond the level that is acceptable to the community. • To ensure the proponents of development and the community in general are fully aware of the potential flood hazard and consequent risk associated with the use and development of land within Ingleburn CBD. • Maximise development potential for Ingleburn. • To reduce the impact of flooding on Ingleburn. • To design development, in full knowledge of the flooding risk, to alleviate flooding and risk. • To minimise the risk to life by ensuring the provision of appropriate evacuation measures are available. • To enable safe pedestrian movement between buildings during flooding. • To maximise the potential for buildings to be returned to use as quickly and efficiently as possible after being affected by flooding. • To ensure that developments with high sensitivity to flood risk (eg. critical public utilities) are sited and designed to provide reliable access and minimise risk from flooding. • To allow development with a lower sensitivity to the flood hazard to be located within flood affected areas, subject to appropriate design and siting controls and provided that the potential consequences that could still arise from flooding remain acceptable.

	17.7.6 Development Controls **17.7.6.1 General Development Controls** The following development controls apply to all land use categories: a) The flood impact of the development is to be considered to ensure that the development will not increase flood effects elsewhere, having regard to: – loss of flood storage; – changes in flood hazards, flood levels and flood velocities caused by alterations to the flood conveyance, including the effect of fencing styles; and – the cumulative impact of multiple potential developments in the Ingleburn CBD.

A report prepared by a suitably qualified flooding engineer may be required to demonstrate these requirements can be satisfied.

b) The design materials and construction of the proposed development shall comply with the principles set out in the publication "Reducing Vulnerability of Buildings to Flood Damage – Guidance on Building in Flood Prone Areas", published by the NSW Government.

Link:
https://www.ses.nsw.gov.au/media/2247/building_guidelines.pdf

17.7.6.2 Access and Egress

a) Ensuring constant access to and from a building is essential to minimise the risk to people's safety during a flood. Effective building design takes into consideration the surrounding terrain and site knowledge to facilitate easier access for emergency services and building users. Measures to achieve this include:

i) Position building entrances and vehicle access points above the nominated FPL.
ii) Establish safe pathways to designated places of refuge during flood events, either within the site or external to it.
iii) Incorporate landscaping that contribute to the overall design and seamlessly blend of these features into the surroundings.

By implementing these strategies, buildings can enhance their resilience against floods while prioritising the safety and convenience of occupants and emergency responders.

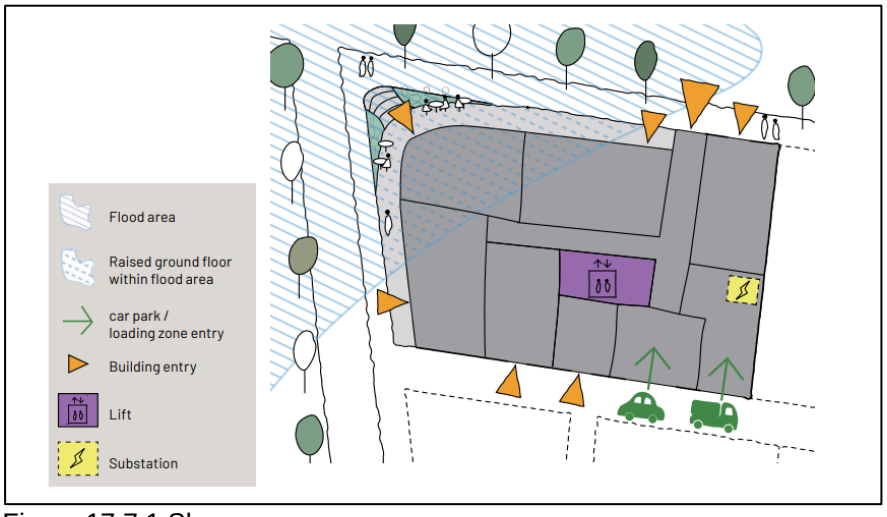


Figure 17.7.1 Shows:

- The building entrances are strategically positioned outside of the predicted flood prone area, both on the natural ground and through an elevated colonnade with a raised terrace.
- The car parking and loading zone are situated outside the flood-prone area at the rear of the property.

- The lift and substation are intentionally placed outside and above the flood-affected zone. *Source: Good Design Guide for Buildings in Flood Affected Areas in Fishermans Bend, Arden and Macaulay*

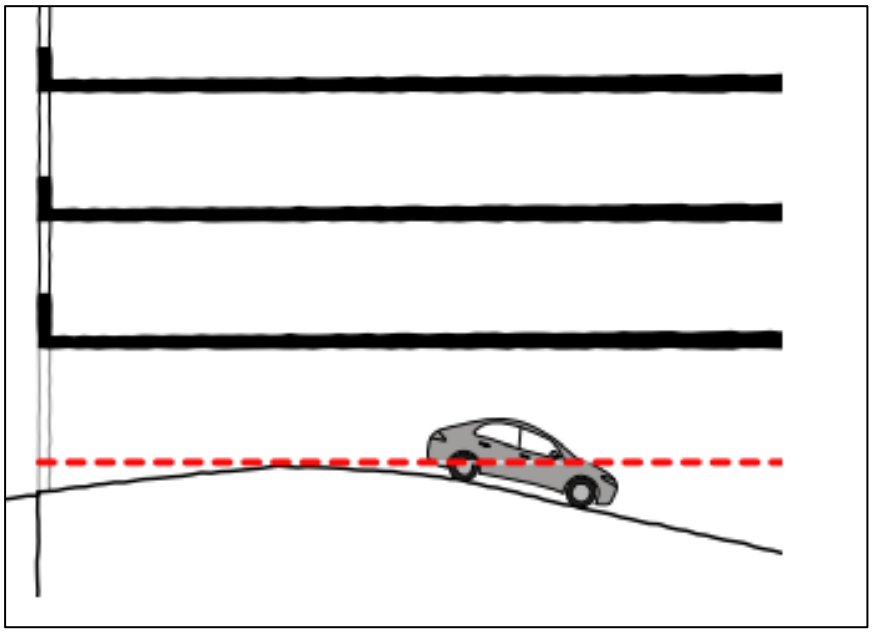


Figure 17.7.2 An apex above the flood level prevents water from entering a basement car park (Red dashed line in this figure represents the minimum required Finished Floor Level).

b) Ramps are the preferred option to access higher levels over platform lifts. Platform lifts shall only be utilised in situations where a ramp is not feasible, such as in small spaces or when there is a considerable vertical level difference.

Note: Reasons why ramps are generally preferred over platform lifts:

- Ramps are more aligned with accessibility inclusion standards compared to platform lifts. Platform lifts are not the preferred choice as they can hinder accessibility in the event of a breakdown, rendering an entire building or area inaccessible to certain segments of the community.

- Platform lifts are not recommended for external locations due to their vulnerability to flood damage and vandalism.

- In high-traffic public areas like shopping centres, platform lifts are not suitable due to their limitations. Ramps are a more practical and efficient solution in such scenarios.

- Overall, ramps are favoured for their broader accessibility, reliability, and resilience, making them the preferred choice over platform lifts in most situations.

c) Where basement parking is proposed, all potential entrances and/or potential water ingress locations must be protected to FPL3 or FPL4, whichever is higher.

	d) **A**reas with basement car parking will need to provide evacuation routes at or above FPL3 or FPL4 (whichever is higher) to a safe area or, where it is provided, to connect to the first level pedestrian access. e) For newly proposed commercial buildings and mixed use buildings a suitable storage area shall be provided to store goods at or above FPL3 or FPL4 (whichever is higher). **17.7.6.3 Flood Emergency Response Planning** a) Low hazard, horizontal evacuation from the building must be demonstrated for residents, workers and visitors for all floods up to and including FPL2. Low hazard is defined as no greater than H2 hazard as defined in Section 7.2.7 of Book 6 of 'Australian Rainfall & Runoff' (Ball et al, 2019) b) For floods larger than FPL2 (up to and including FPL4), horizontal evacuation measures are still preferred for all building occupants (residents, workers and visitors) where the following can be satisfied: i) Pedestrians can evacuate safely from a building via a 'rising road' to an area of refuge located above the PMF. The evacuation pathway must not require passage through H2 hazard areas or areas of deepening water. ii) An exit from a building is provided above the PMF that is accessible internally to all occupants. iii) Requirements for accessibility are available for all occupants (where possible) iv) Do not rely on lifts, elevators etc. v) Appropriate consideration has been given to access into the property during floods by Emergency Services such as SES, Ambulance, Fire and Rescue. c) Where horizontal evacuation is not feasible during FPL4, Shelter In Place or vertical evacuation must be provided for all building occupants (residents, workers and visitors) that offers access to a safe indoor area of refuge above the PMF where they can remain until the flood event has passed and any subsequent disruption after the flood has been rendered safe and serviceable. d) Shelter In Place or vertical evacuation measures must satisfy the following requirements: i) Refuge shelters must be adequate and fit for purpose (size, design, equipment, supplies) and maintained as such in perpetuity. ii) Unless otherwise advised by Council, facilities must be designed for a refuge stay of at least 48 hours. iii) It is recommended that large residential buildings be provided with emergency back-up power, water supply and sewerage for all residential units and common facilities including lifts. iv) Where the building design and back-up systems enable some residents to safely remain in their own apartments for extended periods during floods, all such residents

	must still have access to a communal refuge area of adequate size where support from other residents and emergency supplies are available. v) The communal safe area of refuge must be permanently provided with, as a minimum: i) emergency electricity supply, and lighting, ii) clean water for drinking, washing and toilet flushing, iii) working bathroom and toilets, iv) suitable food, v) personal washing and drying facilities, vi) medical equipment including a first aid kit, vii) a battery-powered radio and relevant communications equipment. e) All development involving the construction of a new building or significant alterations to an existing building, and or intensification of a use must be supported by a flood emergency response plan (FERP) detailing the preferred emergency response strategy. FERPs submitted with Development Applications must include: i) measures to prevent evacuation from the site by private vehicle if external floodwater are not safe; ii) the most appropriate emergency response for flood and fire events that occur together; iii) a building flood emergency response plan, similar to a building fire evacuation drill, and measures to ensure this is tested at least annually; and iv) evidence of consultation undertaken with relevant state and local agencies in the preparation of the FERP. The flood plan should be consistent with the relevant NSW SES "FloodSafe" Guide. **17.7.6.4 Building Design and Refuge** a) Integrate access elements such as stairs, ramps, and sloping walkways seamlessly into the overall design, ensuring a human-scale approach and creating a welcoming atmosphere. When incorporating ramps, ensure they are logically placed and easily accessible without obstructing circulation or sightlines. b) Enhance the architectural features by incorporating elements like terraces, colonnades, seating, or landscaping to bridge the gap between elevated ground and street level. These elements not only contribute to the aesthetics but also activate the streetscape, making it more vibrant and encourage the development of external transitions as part of the overall streetscape design. c) Whenever possible, connect terraces and colonnades with adjacent buildings to create areas of refuge and secondary circulation in case of a flood event.

	d) Streamline access to multiple sites or tenancies by providing a shared, accessible transition space located at FPL4 or higher. e) Utilise terraces and colonnades for less sensitive uses like cafes and retail establishments, and provide seating opportunities on ledges and stairs wherever possible. This adds to the functionality and appeal of the space. f) All new mixed-use buildings, shall be provided with a designated gathering refuge area for the public, located at a floor level that is at least 500mm above the Probable Maximum Flood (PMF) level. This room or gathering space shall be clearly identifiable and easily accessible to the public. Signage must be provided at street level, guiding the public to access this area during any flood event. Sufficient resources should be available within the refuge area including running water, drinking water and toilets to support temporary refuge without reliance on emergency services. **17.7.6.5 Critical Uses and Facilities** a) For the purpose of this Part, Critical land uses and facilities include - emergency services facilities; public administration buildings that may provide an important contribution to the notification, management or evacuation of the community during and following flood events (e.g. SES headquarters, police stations, hospitals) and any other development that in the opinion of Council is considered to be a critical land use facility. b) Critical land uses and facilities are unsuitable land uses on any land affected by flooding up to FPL4. **17.7.6.6 Sensitive Uses and Facilities** a) For the purpose of this Part, Sensitive uses and facilities include - community facilities; educational establishments; public utility undertakings (including electricity generating works; sewerage systems; telecommunications facilities and water treatment facilities); child care centres, residential care facilities; schools, seniors housing, group homes and any other development that in the opinion of Council is considered to be a sensitive land use facility (i.e., facilities whose occupants may be more vulnerable to the impacts of flooding, facilities which are essential to evacuation during periods of flood or if affected would unreasonably affect the ability of the community to return to normal activities after flood events). b) No development is to occur in or over a floodway area, a flow path or within a H5/H6 hazard area (as defined in Section 7.2.7 of Book 6 of 'Australian Rainfall & Runoff' (Ball et al, 2019)) c) Habitable floor levels to be no lower than FPL4.

	d) Non-habitable floor levels to be no lower than FPL3 unless justified by a site specific assessment. e) All structures to have flood compatible building components below FPL4. f) Applicant to demonstrate that any structure can withstand the forces of floodwater, debris and buoyancy up to and including FPL4. An engineer's report may be required. g) The minimum surface level of open car parking spaces or carports shall be as high as practical, and not below FPL1. h) Garages or enclosed car parking must be protected from inundation by flood waters up to FPL2. Where 20 or more vehicles are potentially at risk, protection shall be provided to FPL3. i) Where the level of the driveway providing access between the road and parking space is lower than 0.3m below FPL2, the following condition must be satisfied - when the flood levels reach FPL2, the depth of inundation on the driveway shall not exceed: - the depth at the road; or - the depth at the car parking space. j) Reliable access for pedestrians and vehicles is required from the building, commencing at a minimum level equal to the lowest habitable floor level to a refuge area above FPL4. In the case of alterations or additions to an existing development, this may require retro-fitting the existing structures if required to support a refuge area above FPL4. k) Applicant to demonstrate that an area is available to store goods above FPL4. l) Materials which may cause pollution or are potentially hazardous during any flood must not be stored externally below FPL4. **17.7.6.7 Residential development** For the purpose of this part, residential development includes - Additions or alterations to existing dwellings greater than 10% to the habitable floor area which existed at the date of commencement of this Plan; affordable housing; attached dwellings; backpackers accommodation; bed and breakfast accommodation; boarding houses; child care centres; dual occupancies; dwelling houses; exhibition homes; garages or

	outbuildings with a floor area exceeding 40sqm, group homes; home based child care centres; home businesses; home industries; home occupancies; home occupations (sex services); hostels; hotel or motel accommodation; moveable dwellings; neighbourhood shops; residential flat buildings; secondary dwellings; semi-detached dwellings and serviced apartments. a) No development is to occur in a floodway area, a flow path or a high hazard area or within a H5/H6 hazard area (as defined in Section 7.2.7 of Book 6 of 'Australian Rainfall & Runoff' (Ball et al, 2019) unless justified by a site-specific assessment, to Council's satisfaction. b) Habitable floor levels to be no lower than FPL3. c) Non-habitable floor levels to be no lower than FPL3 unless justified by a site specific assessment. d) A restriction is to be placed on the title of the land, pursuant to S.88B of the Conveyancing Act, where the lowest habitable floor area is elevated above finished ground level, confirming that the under croft area is not to be enclosed, where Council considers this may potentially occur. e) All structures to have flood compatible building components below FPL3. f) Applicant to demonstrate that the structure can withstand the forces of floodwater, debris and buoyancy up to and including FPL4. An engineer's report prepared by a suitably qualified flood engineer may be required. g) The minimum surface level of open car parking spaces or carports shall be as high as practical, and not below FPL1. h) Garages or enclosed car parking must be protected from inundation by flood waters up to FPL2. Where 20 or more vehicles are potentially at risk, protection shall be provided to FPL3. i) Where underground carparks are proposed, consideration must be given to escape routes, pumpout drainage systems (which must include backup pumpout systems), location of service utilities (including power, phone, lifts) for FPL4. Refer to Volume 2 Engineering Design for Development for additional requirements. j) Where the level of the driveway providing access between the road and parking space is lower than 0.3m below FPL2, the following condition must be satisfied - when the flood levels reach FPL2, the depth of inundation on the driveway shall not exceed: i. the depth at the road; or ii. the depth at the car parking space.

	k) All service conduits located below FPL3 are to be made fully flood compatible and suitable for continuous underwater immersion. Conduits are to be self-draining if subject to flooding. **17.7.6.8 Commercial Development** Commercial development includes - amusement centres; brothels; business premises; car parks; community facilities (other than sensitive uses and facilities); entertainment facilities; food and drink premises; function centres; hardware and building supplies, health care professionals; health consulting rooms; medical centres; mixed use development; mortuaries; office premises; passenger transport facilities; places of public worship; pubs; public administration buildings (other than critical uses and facilities); recreation facilities (major); registered clubs; restaurants; restricted premises; service stations; sex services premises; shops; shop top housing; take away food or drink premises; veterinary hospitals. a) No development is to occur in or over a floodway area, a flow path or within a H5/H6 hazard area (as defined in Section 7.2.7 of Book 6 of 'Australian Rainfall & Runoff' (Ball et al, 2019) generated by flooding up to FPL2, unless justified by a site specific assessment to Council's satisfaction. b) Habitable floor levels are to be at FPL3 or higher. c) Non-habitable floor levels to be equal to or greater than FPL3 where possible, or otherwise no lower than FPL2 unless justified by a site specific assessment. d) All structures to have flood compatible building components below FPL3. e) Applicant to demonstrate that the structure can withstand the forces of floodwater, debris and buoyancy up to and including FPL4. An engineer's report will be required for sites impacted by H5/H6 hazard area (as defined in Section 7.2.7 of Book 6 of 'Australian Rainfall & Runoff' (Ball et al, 2019) f) The minimum surface level of open car parking spaces or carports shall be as high as practical, and not below FPL1. g) Where underground carparks are proposed, consideration must be given to escape routes, pumpout drainage systems (which must include backup pumpout systems), location of service utilities (including power, phone, lifts) for FPL4, as well as the PMF. Refer to Volume 2 Engineering Design for Development for additional requirements. h) Garages or enclosed car parking must be protected from inundation by flood waters up to FPL2. Where 20 or more vehicles are potentially at risk, protection shall be provided to FPL3.

	i) Where the level of the driveway providing access between the road and parking space is lower than 0.3m below FPL2, the following condition must be satisfied - when the flood levels reach FPL2, the depth of inundation on the driveway shall not exceed: i) the depth at the road; or ii) the depth at the car parking space. j) All service conduits located below FPL3 are to be made fully flood compatible and suitable for continuous underwater immersion. Conduits are to be self-draining if subject to flooding. k) No external storage of materials below FPL3 which may cause pollution or be potentially hazardous during any flood. **17.7.6.9 Concessional Development** a) For the purpose of this part, Concessional Development is – - Additions or alterations to an existing dwelling up to 10% to the ground floor area which existed at the date of commencement of this Plan; - Garages or outbuildings with a maximum floor area of 40m²; or - Redevelopment for the purposes of substantially reducing the extent of flood affectation to the existing building. b) No development is to occur in a floodway area, a flowpath or a H5/H6 hazard area (as defined in Section 7.2.7 of Book 6 of 'Australian Rainfall & Runoff' (Ball et al, 2019) generated by flooding up to FPL2, unless justified by a site specific assessment to Council's satisfaction. c) New habitable floor levels to be no lower than FPL3. Where this is not practical due to compatibility with the height of adjacent buildings, or compatibility with the floor level of existing buildings, or the need for access for persons with disabilities, a lower floor level may be considered. In these circumstances, the floor level is to be as high as practical, and, when undertaking alterations or additions shall be no lower than the existing floor level. d) A restriction is to be placed on the title of the land, pursuant to S.88B of the Conveyancing Act, where the lowest habitable floor area is elevated above finished ground level, confirming that the under croft area is not to be enclosed, where Council considers this may potentially occur. e) All new structures to have flood compatible building components below FPL3. f) Applicant to demonstrate that the structure can withstand the forces of floodwater, debris and buoyancy up to and including FPL4. An engineer's report prepared by a suitably qualified flood engineer may be required.

g) Driveway and parking space levels to be no lower than the design floor level or ground level. Where this is not practical, a lower level may be considered. In these circumstances, the level is to be as high as practical, and, when undertaking alterations or additions shall be no lower than the existing level.

h) All service conduits located below FPL3 are to be made fully flood compatible and suitable for continuous underwater immersion. Conduits are to be self-draining if subject to flooding.

i) Applicant to demonstrate that area is available to store goods above FPL3.

j) No external storage of materials below FPL3 which may cause pollution or be potentially hazardous during any flood.

17.7.6.10 Other Development

Fencing

a) Fencing within a floodway or a flow path must be of an open style that that will not impede the flow of floodwaters.

Filling

a) Filling on flood affected land is not permitted unless a report from a suitably qualified civil engineer is submitted to Council that certifies that the development will not increase flood affectation elsewhere, or Council otherwise determines that a report is not required.

b) Filling of floodway areas or land that conveys an existing overland flow path is not permitted.

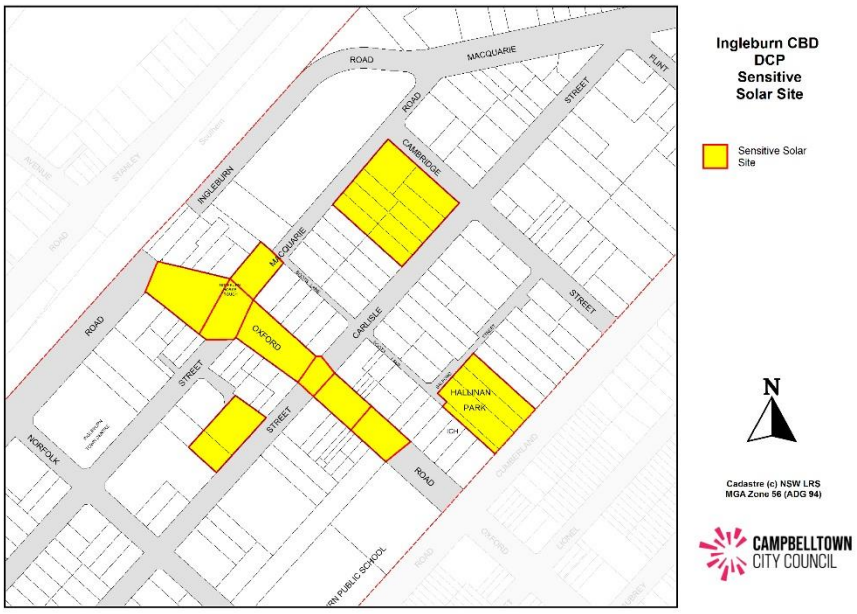
c) Filling of individual sites in isolation, without consideration of the cumulative effects is not permitted. A case by case decision making approach cannot take into account the cumulative impact of flooding behaviour, and associated risks, caused by individual developments. Any proposal to fill a site must be accompanied by an analysis of the effect on flood levels of similar filling of developable sites in the area.

17.7.6.11 Further Information
Bow Bowing Bunbury Curran Creek Strategic Floodplain Risk Management Study and Plan. View at:

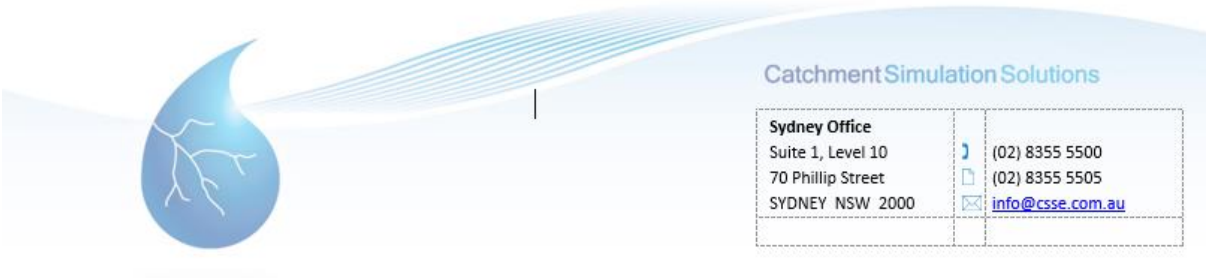
https://www.campbelltown.nsw.gov.au/files/assets/public/document-resources/cityimprovements/draftbbbcfrmspvol1.pdf

https://www.campbelltown.nsw.gov.au/files/assets/public/document-resources/cityimprovements/draftbbbcfrmspvol2.pdf

NSW Government's Floodplain Development Manual 2005 – https://www.environment.nsw.gov.au/-/media/OEH/Corporate-

	Site/Documents/Water/Floodplains/floodplain-development-manual.pdf
17.8	**17.8 Sun Access Planes**
Sun Access Planes	**17.8.1 Sensitive locations** The sites identified in Figure 17.8.2 as sensitive solar access sites are to be provided with 2 hours of solar access on 21 June each year to at least 50% of their areas.  **17.8.2 Sun access diagrams** Any development application in the vicinity of a sensitive solar site must provide sufficient information to satisfy the consent authority that the development will not result in a contravention of the control above.

Appendix 1: Summary of Flood Information Report



25 August, 2023

Ingleburn CBD Planning Proposal

Summary of Flood Information Provided to Support Planning Proposal and DCP Updates

Introduction

Catchment Simulation Solutions (CSS) has been working with Campbelltown City Council to support a Planning Proposal (PP) for the Ingleburn CBD and the development of a site-specific Development Control Plan (DCP). CSS has been involved to assist in addressing a range of flood-related issues that have been raised by NSW State Emergency Services and the Department of Planning and environment, Environment and Heritage Group (EHG).

The following report summarises the flood information that has been provided to Council to support the PP and DCP updates.

PMF Flood Hazard

The NSW SES expressed concerns that the PP may bring additional people into a high hazard area and may also introduce additional evacuation difficulties/extended periods of isolation for that population. Therefore, CSS extracted flood hazard information for the 20% AEP, 1% AEP and PMF design floods to help understand the potential flood risk.

The flood hazard maps are provided in Figure 1, Figure 2 and Figure 3 for the 20% AEP, 1% AEP and PMF design floods respectively.

The duration of greater than H1 hazard was also extracted from the full time series of simulation results and is provided in Figure 4, Figure 5 and Figure 6. This provides an

understanding of the amount of time that evacuation would not be possible (i.e., duration of isolation).

Finally, hazard versus time charts were extracted at four locations across the Ingleburn CBD. The locations where the hydrographs were extracted is shown in Figure 1, Figure 2 and Figure 3, while the hazard charts for each location are provided in Figure 7, Figure 8, Figure 9 and Figure 10. The total duration of >H1 hazard (i.e., potential duration of isolation) was also extracted for each design flood and is provided in Table 1.

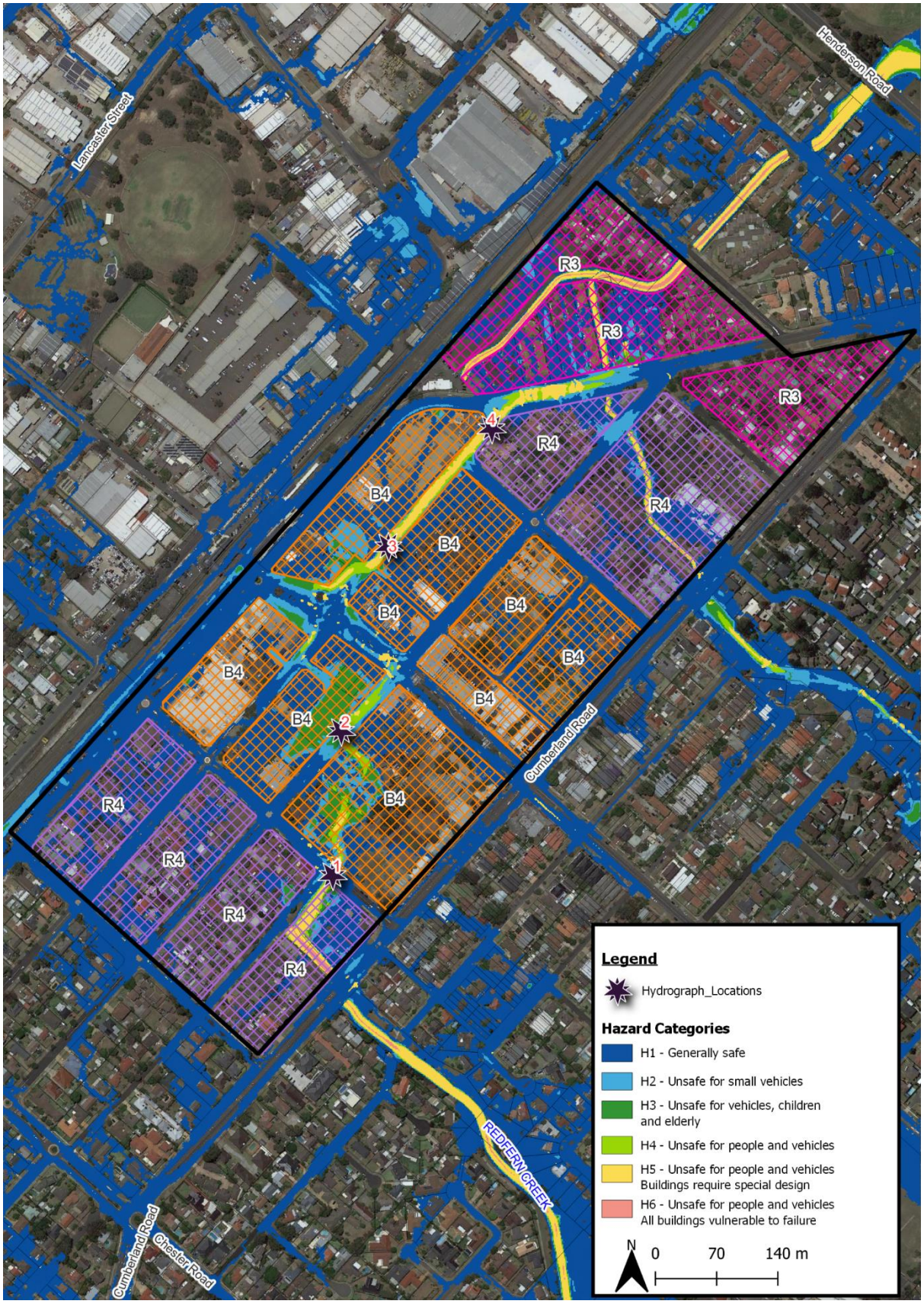


Figure 1 Peak Flood Hazard for 20% AEP Design Flood

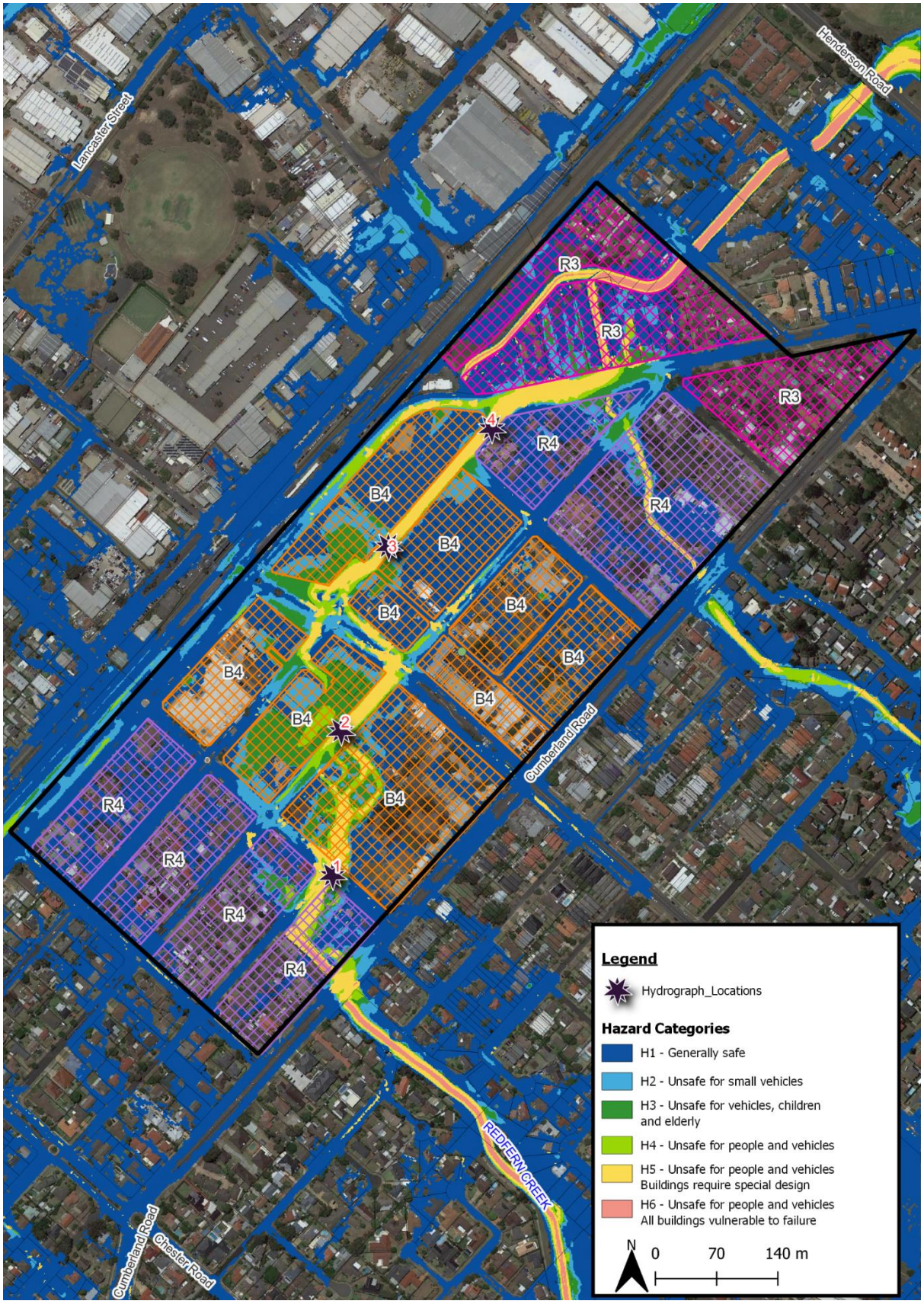


Figure 2 Peak Flood Hazard for 1% AEP Design Flood

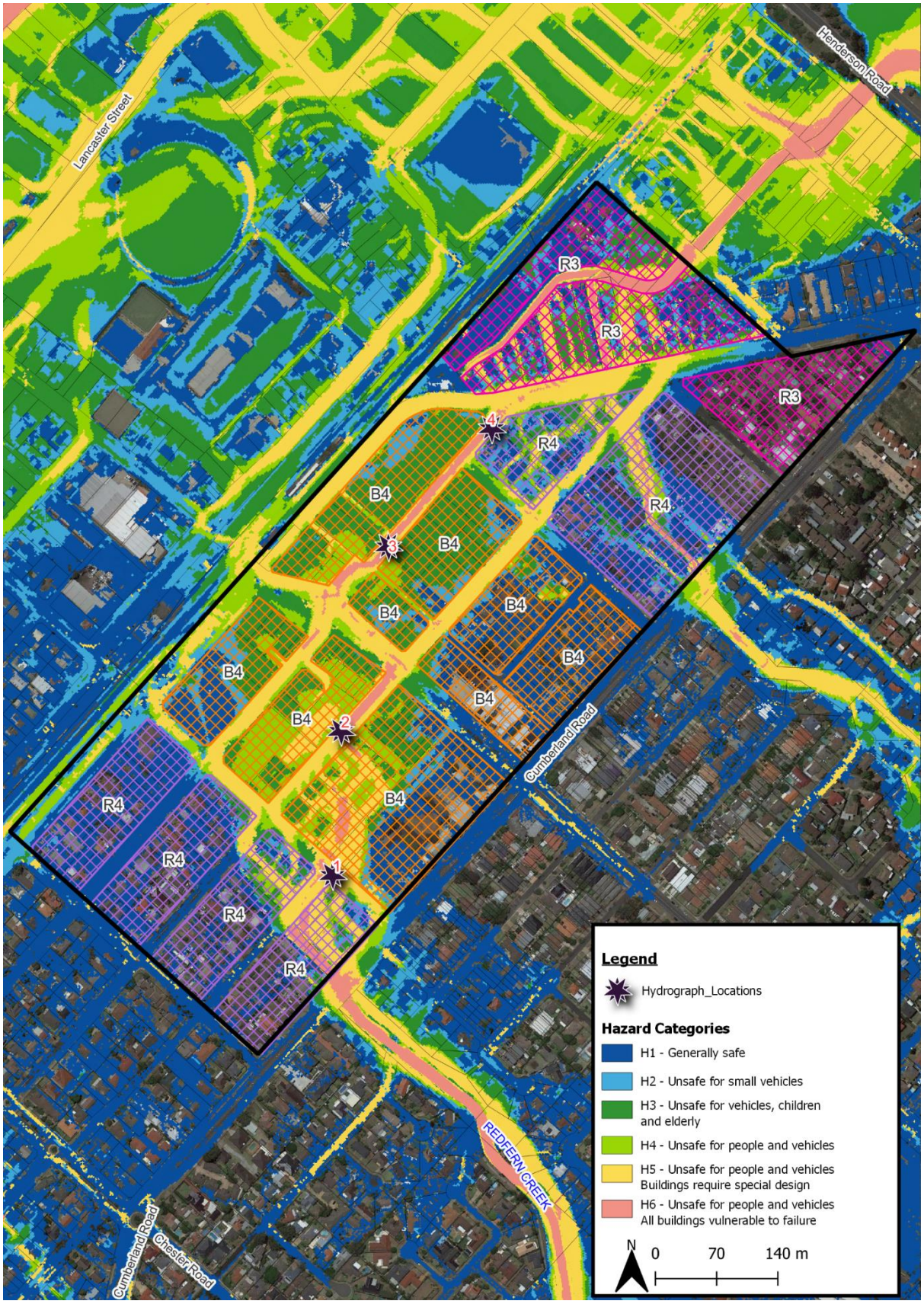


Figure 3 Peak Flood Hazard for PMF

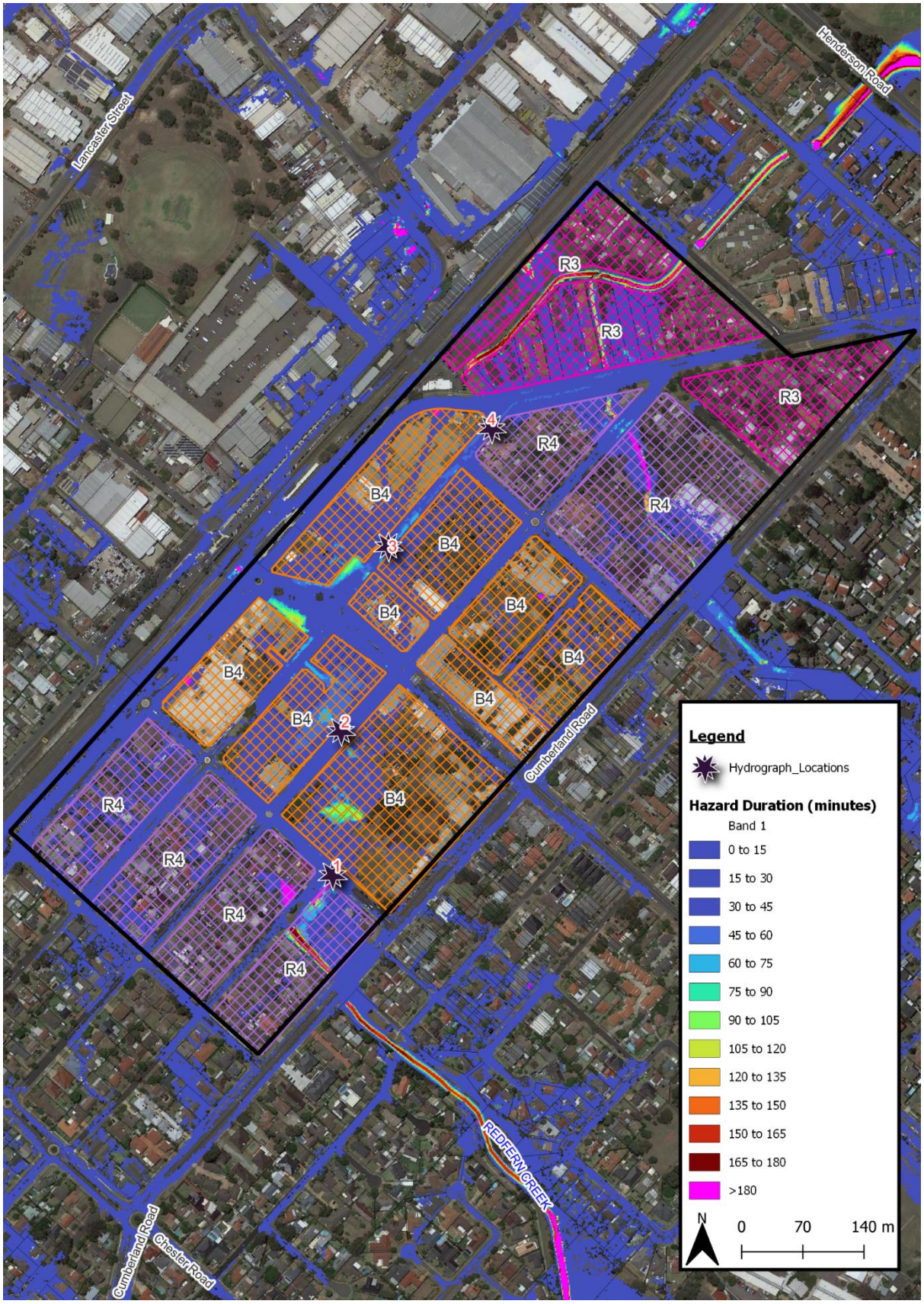


Figure 4 Duration of >H1 hazard for 20% AEP Design Flood

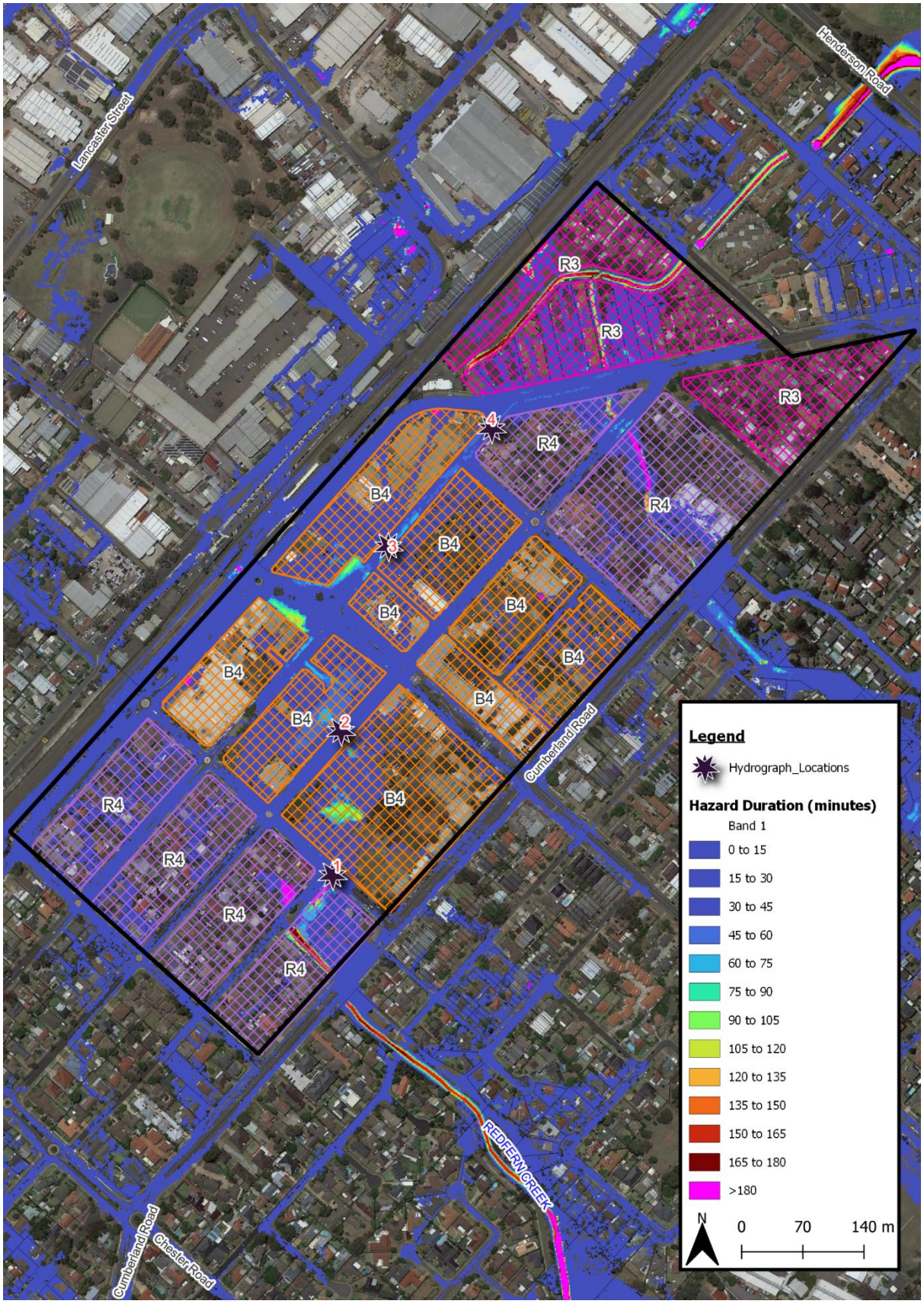


Figure 5 Duration of >H1 hazard for 1% AEP Design Flood

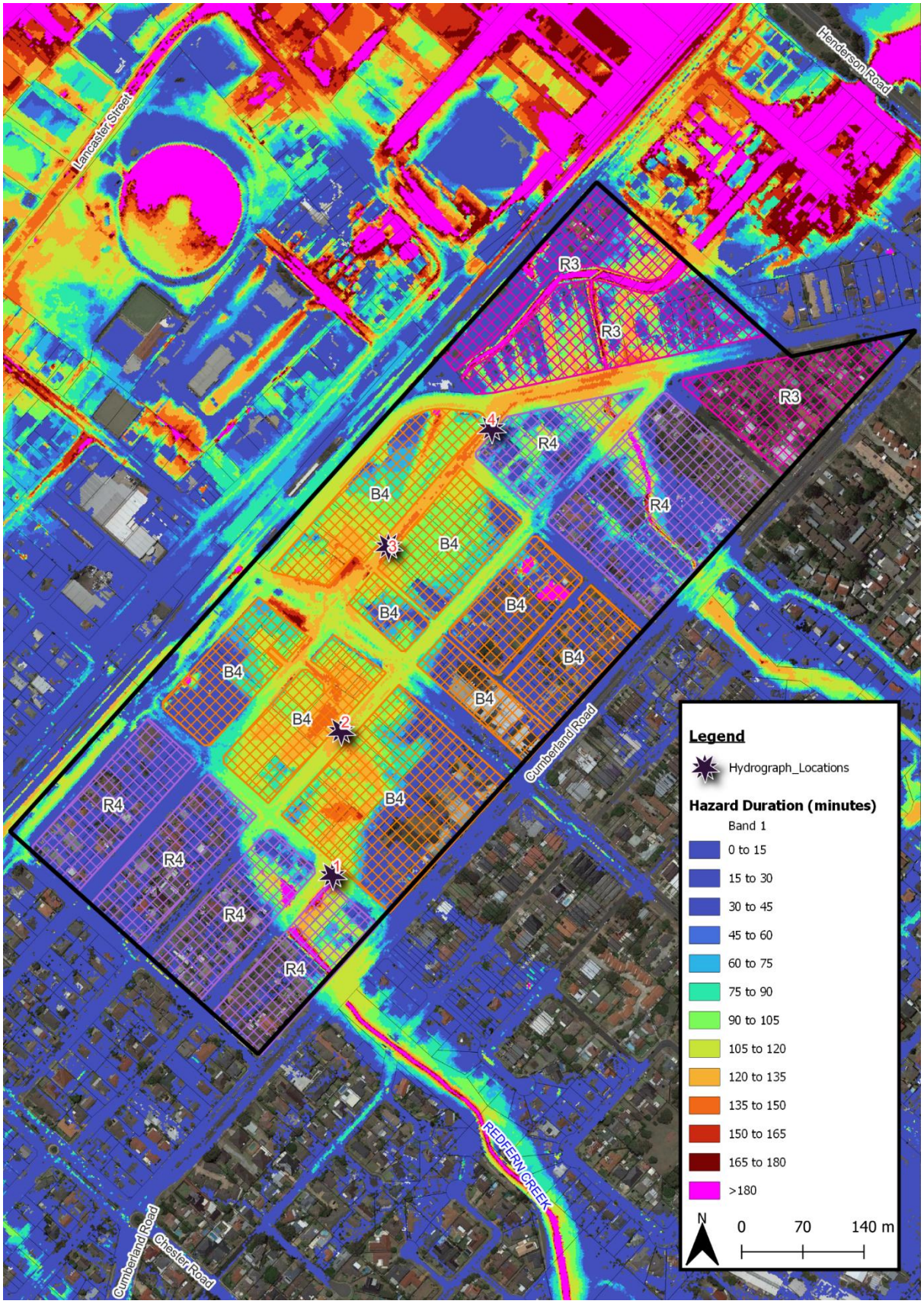


Figure 6 Duration of >H1 hazard for PMF

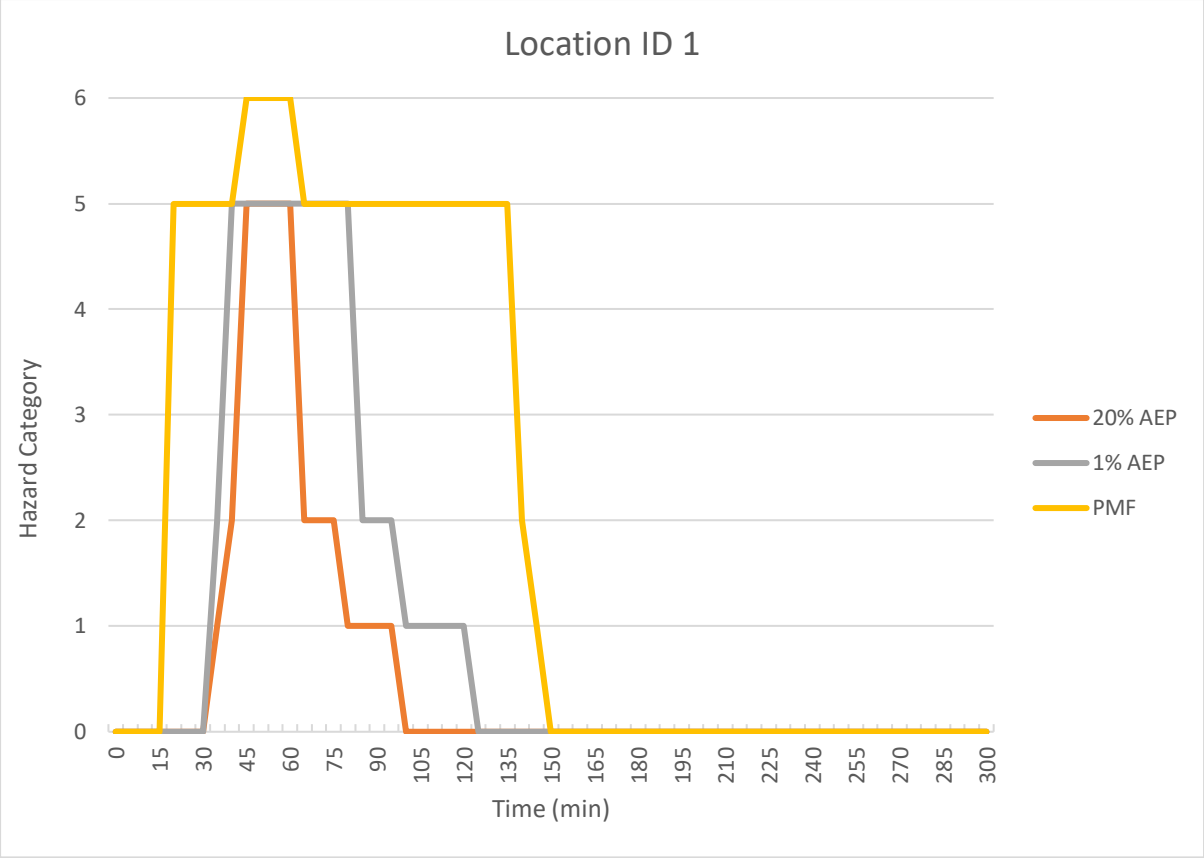


Figure 7 Flood hazard versus time chart for Location 1

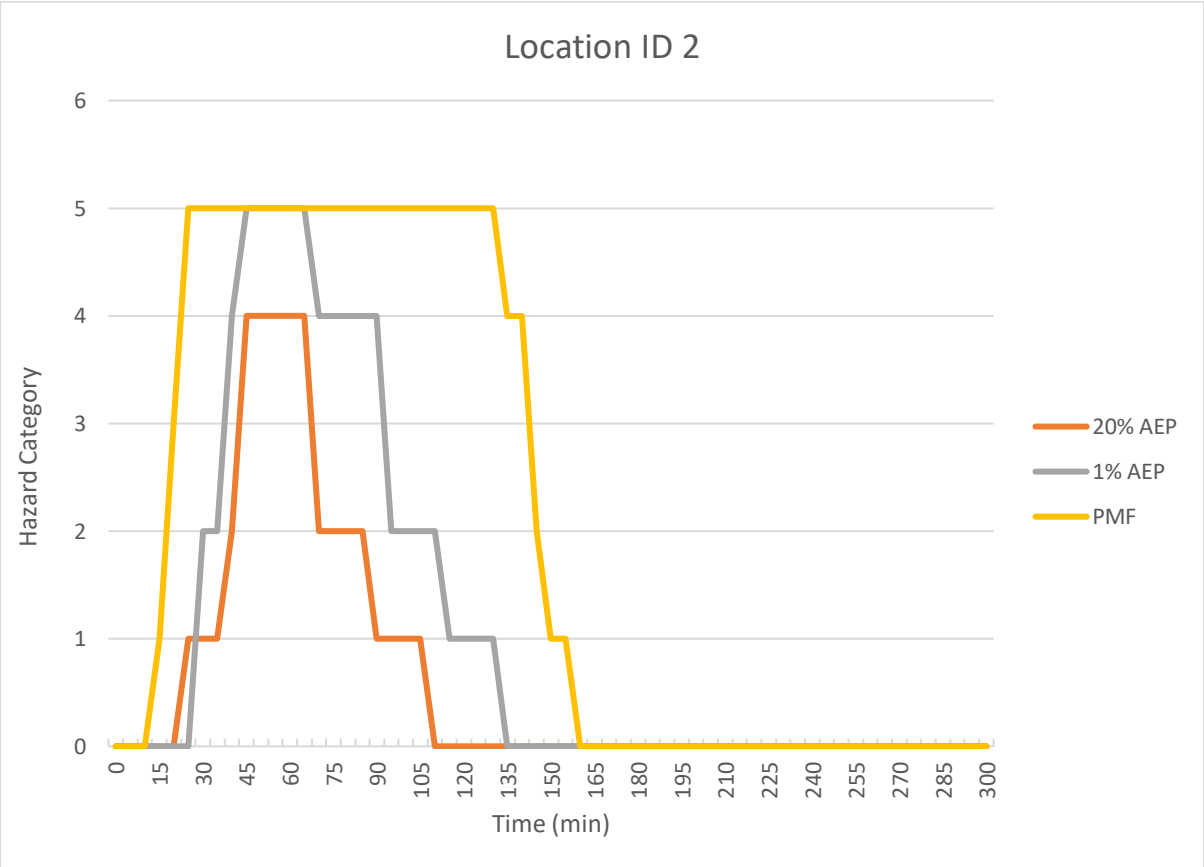


Figure 8 Flood hazard versus time chart for Location 2

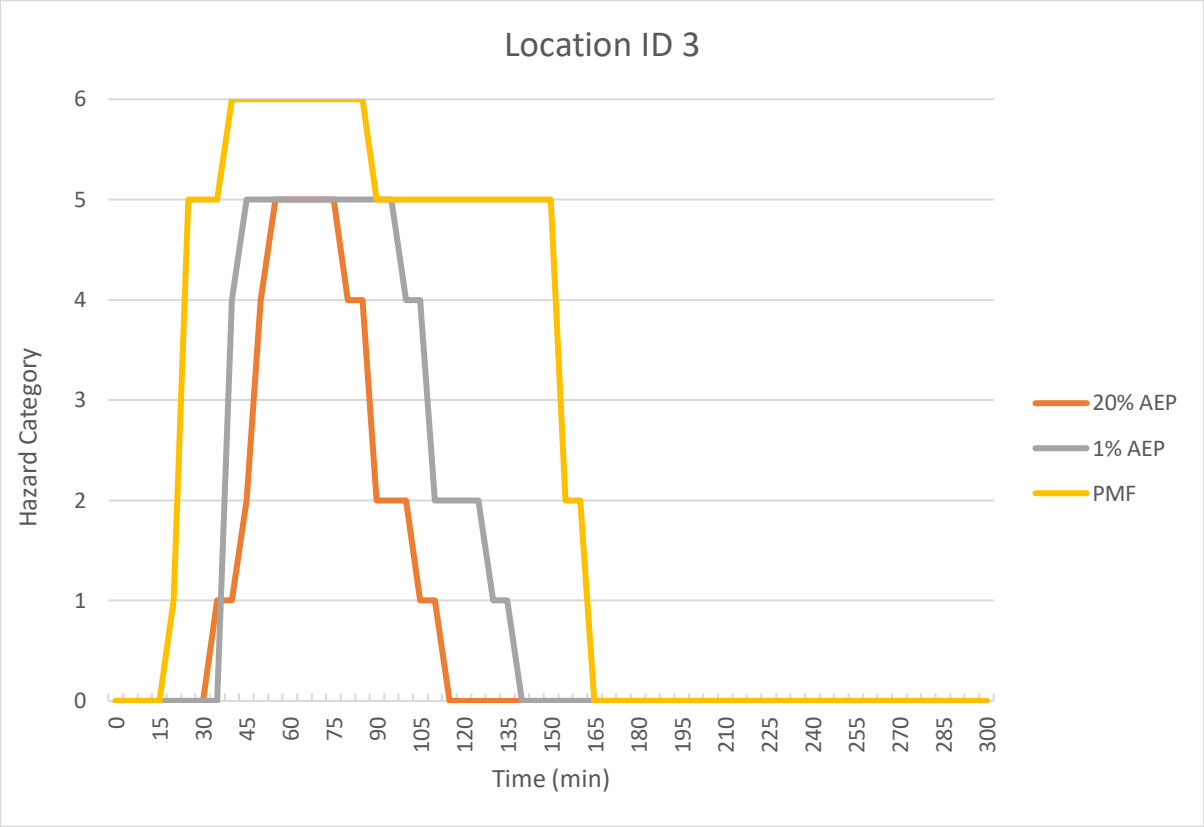


Figure 9 Flood hazard versus time chart for Location 3

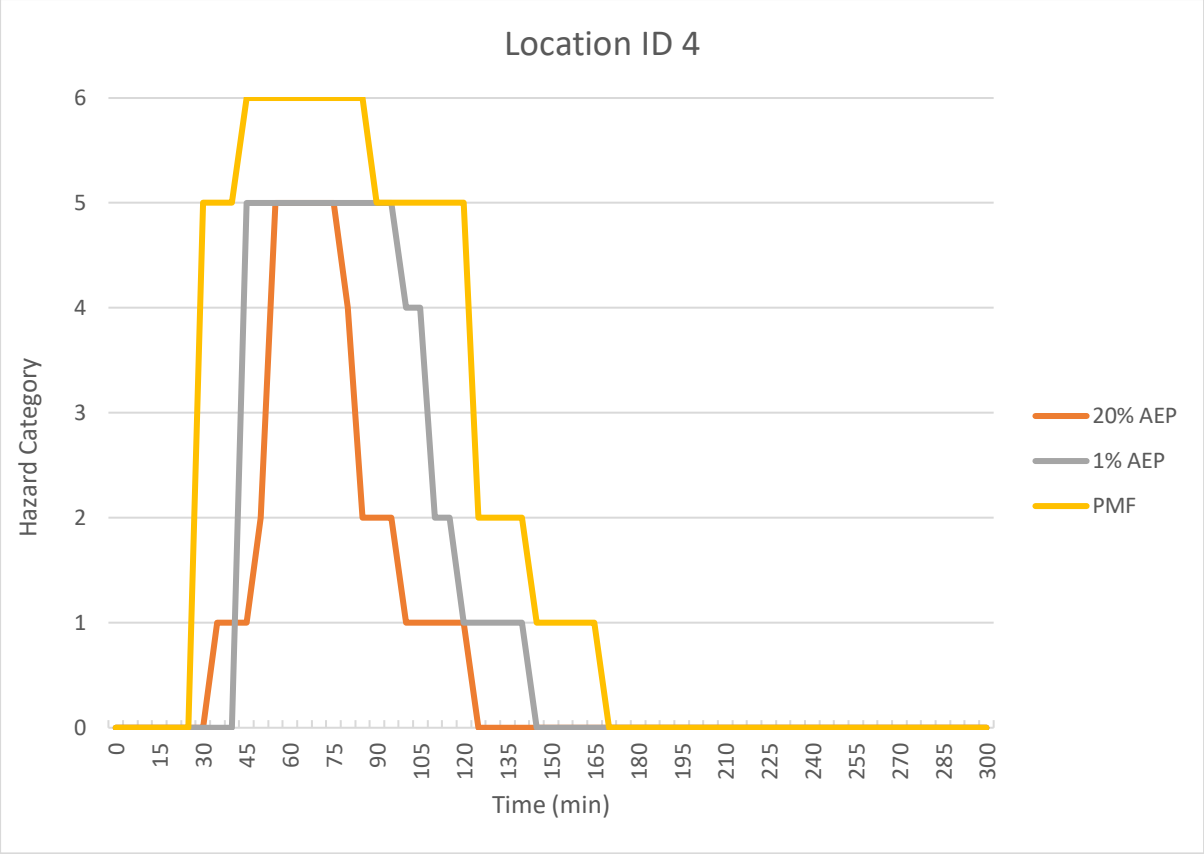


Figure 10 Flood hazard versus time chart for Location 4

Table 1 >H1 Hazard Duration

Location ID	Event	Duration >H1 (mins)
1	20%AEP	40
	1%AEP	65
	PMF	125
2	20%AEP	50
	1%AEP	85
	PMF	130
3	20%AEP	60
	1%AEP	90
	PMF	140
4	20%AEP	50
	1%AEP	75
	PMF	115

Identification of High Hazard Lots

The SES also expressed concerns regarding inclusion of lots exposed to H5 and H6 hazard in the PP as there is potential for structural damage to buildings. Therefore, CSS analysed the flood hazard at the peak of the PMF to identify lots exposed to high (H5 or H6) hazard conditions that should be excluded from the PP. These lots are identified in green in Figure 11.

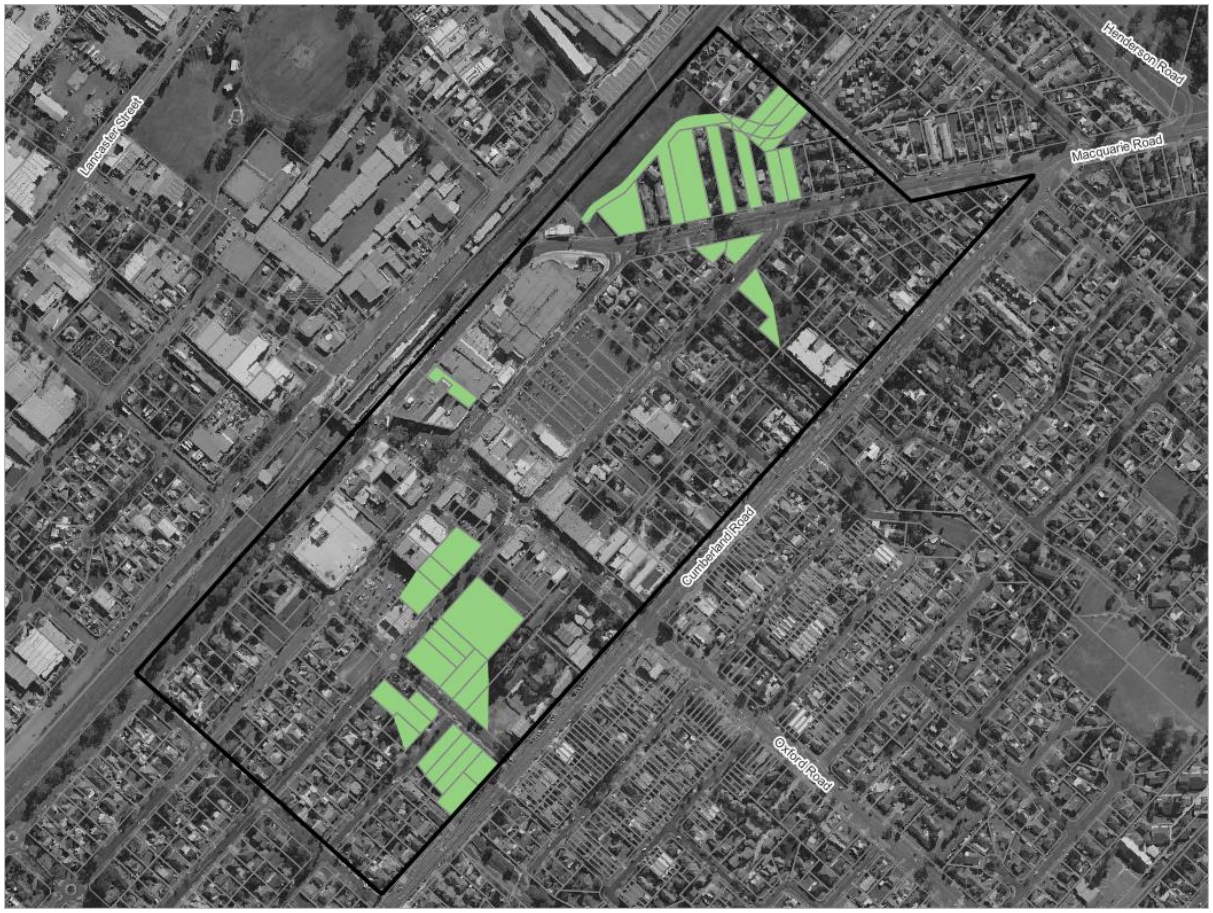


Figure 11 Lots exposed to H5 or H6 hazard at the peak of the PMF (Green)

Identification of Lots with Flood Evacuation Constraints

DPE:EHG noted that the PP would introduce a greater density of people into the Ingleburn DCP. This will potentially increase the population at risk if they are unable to evacuate through low hazard (i.e., no greater than H1 hazard) floodwater. Therefore, an additional review of the 1% AEP flood hazard mapping was completed to identify:

- Lots where evacuation by vehicle may not be possible (i.e., >H1 hazard)
- Lots where evacuation on foot may not be possible (i.e., >H2 hazard)

These lots are included on Figure 12. The high hazard lots previously identified on Figure 11 are also retained.

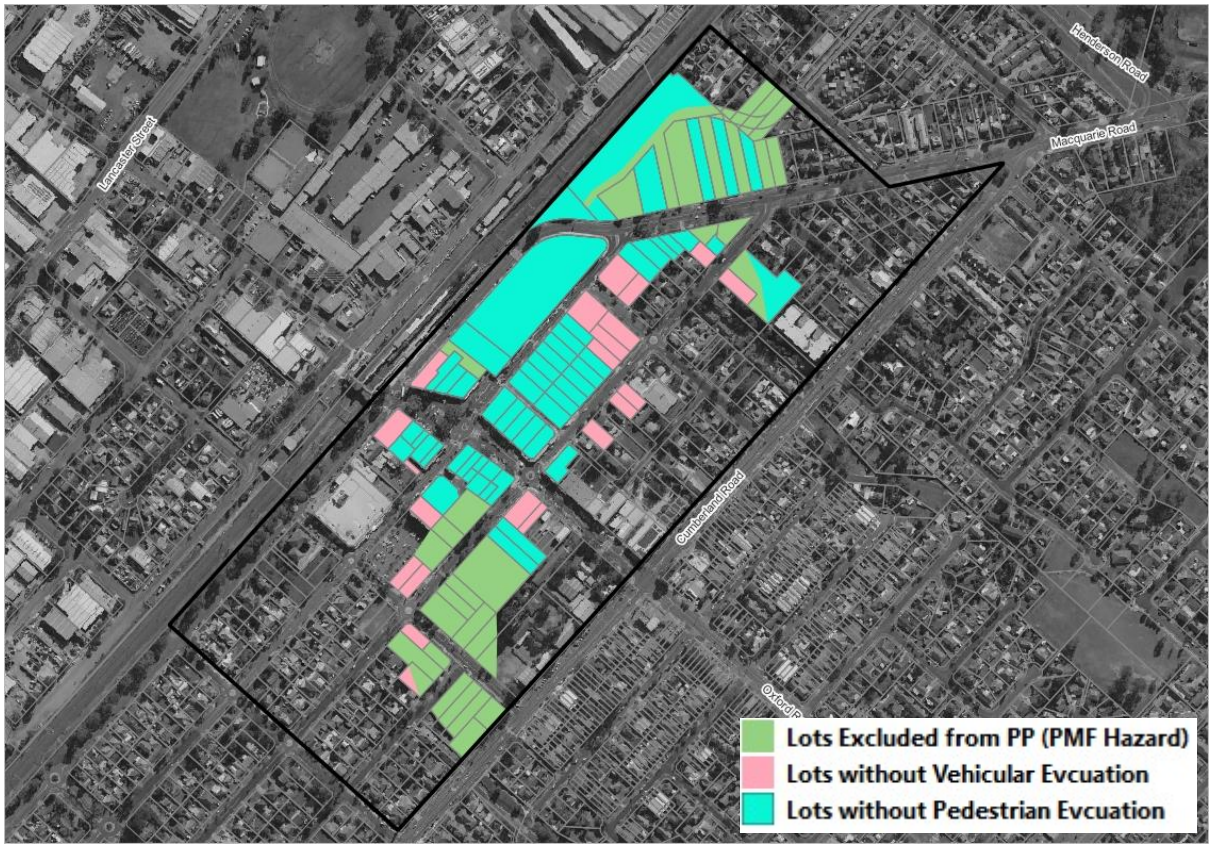


Figure 12 Lots exposed to H5 or H6 hazard at the peak of the PMF or with evacuation difficulties in the 1% AEP Flood

Impact of Potential Drainage Upgrades

The Bow Bowing Bunbury Curran Creek Strategic Floodplain Risk Management Study and Plan (2019) noted the existing flood risk across the Ingleburn CBD and recommended drainage upgrades as one option to assist in reducing the existing flood risk. Further concept design work on the potential drainage upgrades has been completed.

DPE:EHG noted that, if these drainage upgrades were to proceed, it would reduce the existing hazard and evacuation constraints considerably. Therefore, based on revised hazard mapping supplied by DPE:EHG with the concept drainage upgrades in place, the lots exposed to evacuation difficulties were re-evaluated assuming that the current drainage upgrade plans were to proceed. The updated map is shown in Figure 13.

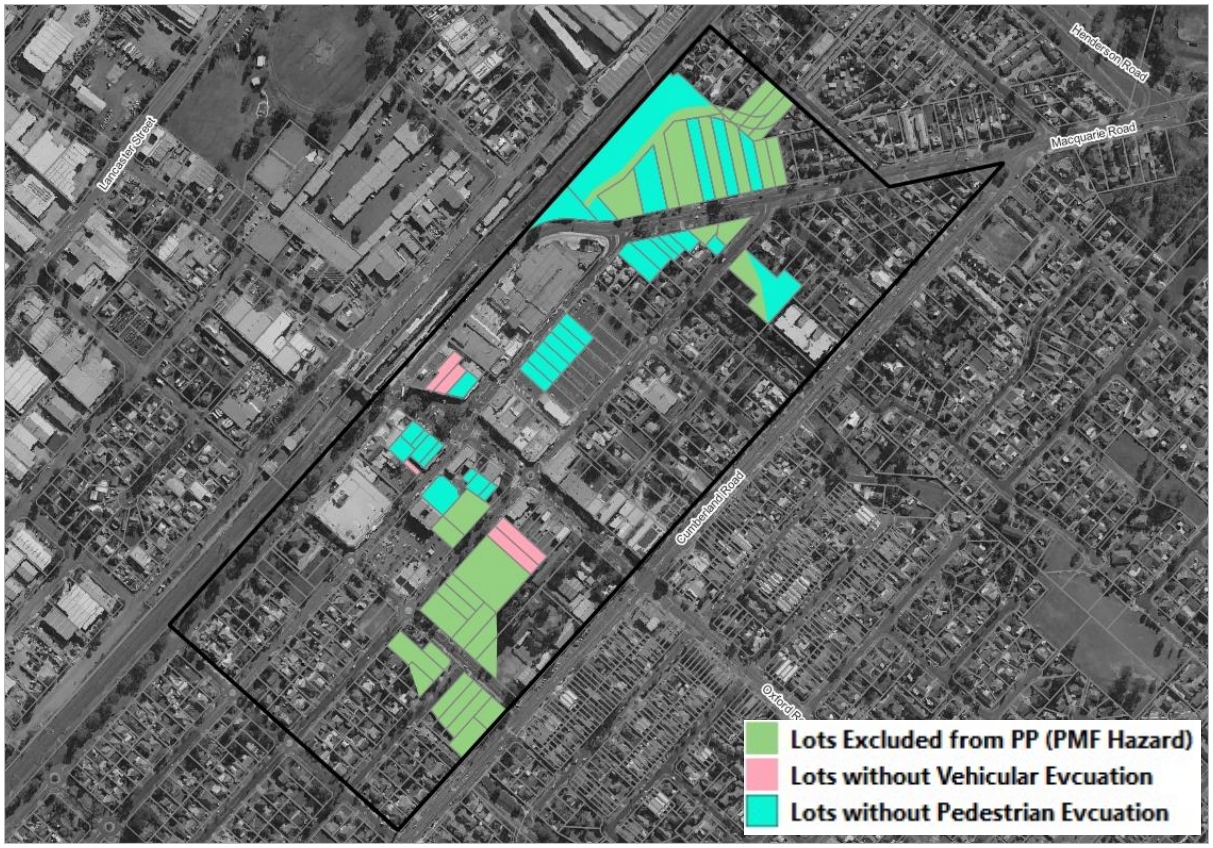


Figure 13 Lots exposed to H5 or H6 hazard at the peak of the PMF or with evacuation difficulties in the 1% AEP Flood, assuming drainage upgrades proceed.

Potential Lot Consolidation

Council and DPE:EHG noted that there were opportunities for evacuation difficulties to be overcome if some lots were consolidated with adjacent lots that had access to low hazard evacuation routes. Therefore, a review of the lots with evacuation difficulties identified in Figure 12 and Figure 13 was completed to identify lot consolidation opportunities.

The outcomes of this assessment are presented in Figure 14 (no drainage upgrades) and Figure 15 (including drainage upgrades).

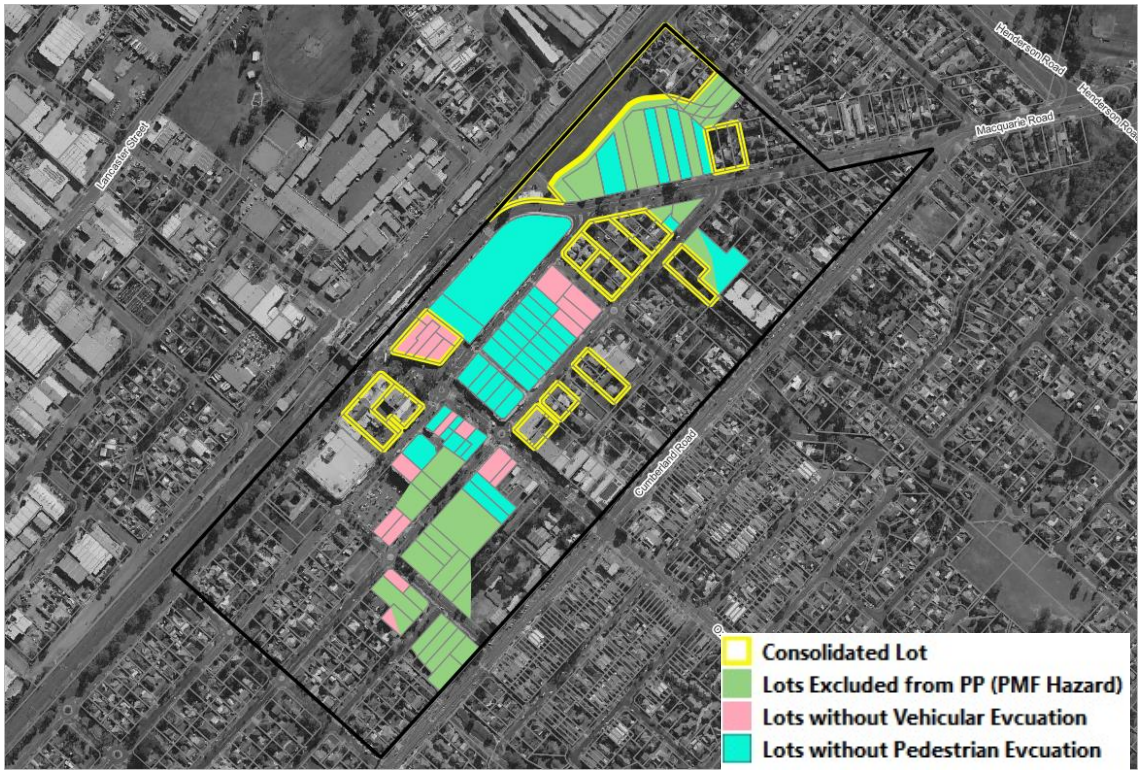


Figure 14 Lots that could be potentially consolidated to overcome evacuation limitations (no drainage upgrades)

Figure 15 Lots that could be potentially consolidated to overcome evacuation limitations (with drainage upgrades)

End of Summary report

Catchment Simulation Solution

CAMPBELLTOWN

Campbelltown City Council, PO Box 57, Campbelltown, NSW 2560