

07 November 2018

Scott Moylan  
Graypuksand  
1/156 Clarence Street  
SYDNEY NSW 2000



Civil & Structural  
Consulting Engineers  
ABN 55 156 273 755

Our Ref: 18136

**FLOODING IMPACT STATEMENT**  
**PROPOSED CHANGE OF USE**  
**128 MARSDEN STREET, PARRAMATTA**

The purpose of the assessment and reporting is to assess pre and post development conditions to determine the impact of the proposal on flooding, determine the 1% AEP and minimum habitable floor levels and address all flooding related requirements in Parramatta Development Control Plan 2011.

**Reviewed Documents**

A number of documents were assessed and used in the flood impact assessment and preparation of this report, being:

- a) Building Plans: 'Concept Ground Floor Retail Frontage,' Gray Puksand, July 2018
- b) Flood Enquiry Application, City of Parramatta, 02 November 2018
- c) Part 2: Site Planning, Parramatta Development Control Plan 2011

**Flood Levels**

The site slopes from southwest to northeast and is located on the intersection of Marsden Street and Argyle Street. Eight stormwater pits in the intersection allow for good drainage of the street frontage.

Councils' Flood Information:

Upper Parramatta River Flood Study & Parramatta Drainage Study 1990

Council advises the flowing levels at Chainage 182:

1:20 Yr Level:	11.13m AHD,
1:100 Yr Level:	11.23m AHD,
PMF Level:	12.86m AHD,

Councils' Flood Information identifies the site as 'Low Hazard' and shows the site is only inundated in a PMF Event.

**Flood Storage**

The site has not been identified as a flood storage area.  
The development represents no loss of flood storage.

**Floor Levels**

The existing floor level is approximately 11.8m AHD and meets 500mm minimum freeboard above the 1:100 Yr Flood Level. No change to the finished floor level is proposed.

**Flood Risk Management**

Part 2: Parramatta Development Control Plan 2011 is the reference document for assessment of a proposal against a flood risk.

Council has identified the site as outside the 'Hatched Grey Area' representative of properties subjected to flooding from the local catchment and is therefore considered a low flood risk.

The Land Use Category is "Commercial" in Table 2.4.2.1.1 of this document.

Our assessment of the proposal against the Prescriptive Controls Matrix, places this area of the site in the Low Flood Risk Precinct (FRP), the requirements are:

Flood Planning Consideration Matrix: Medium Flood Risk		
Consideration	Requirement	Compliance / Comment
<b>Floor Level</b>	Habitable floor levels to be equal to or greater than the 100 year ARI flood level plus freeboard.  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 more than 1.5m above finished ground level, confirming that the subfloor space is not to be enclosed.	Complies
<b>Building Components &amp; Method</b>	Not Relevant	
<b>Structural Soundness</b>	Not Relevant	
<b>Flood Affection</b>	The impact of the development on flooding elsewhere to be considered having regard to: i) Loss of flood storage ii) Changes in flood levels, flows and velocities caused by alteration to flood flows, and iii) The cumulative impact of multiple potential developments in the vicinity	Flood Storage is not affected.  Negligible impact on flood flows.
<b>Car Parking and Driveway Access</b>	1. The minimum surface level of open spaces or carports shall be no lower than 0.1m below the 100 year ARI flood level. In the case of garages, the minimum surface level shall be as high as practical, but no lower than the 100 year ARI flood level. 3. Garages capable of accommodating more than 3 motor vehicles on land zones for urban purposes, or enclosed car parking, must be protected from inundation by floods equal to or greater than the 100 year ARI flood level. 5. The level of the driveway providing access between the road and parking spaces shall be no lower than 0.2m below the 100 year ARI flood level. 6. Enclosed car parking and car parking areas accommodating more than 3 vehicles, with a floor below the 100 year ARI flood level, shall have adequate warning systems, signage, exits and evacuation routes.	Not Applicable / Complies
<b>Evacuation</b>	Applicant is to demonstrate the development is consistent with any relevant flood evacuation strategy or similar plan.	No evacuation required during 1:100 Yr ARI event.

		Evacuation from the premises possible west on Argyle Street then south on O'Connell St in larger storms up to the PMF with sufficient warning. Alternate on site refuge during PMF on Level 2.
<b>Management and Design</b>	Not Relevant	

The change of use proposal complies with the prescribed requirements of Part 2: Site Planning, Parramatta Development Control Plan 2015, as outlined in the above matrix; noting the following:

#### **Flood Effects**

- Proposed ground levels are at or similar to the existing ground levels, no lot filling is proposed in flood risk areas,
- There is no loss in flood storage,
- The minimum floor levels are set, above,
- The access to and egress from the site is above the PMF level, there are therefore no evacuation concerns

Should you have any queries regarding this matter, please do not hesitate to contact the undersigned.

Yours Sincerely,  
**CPM Engineering**

#### **Written**

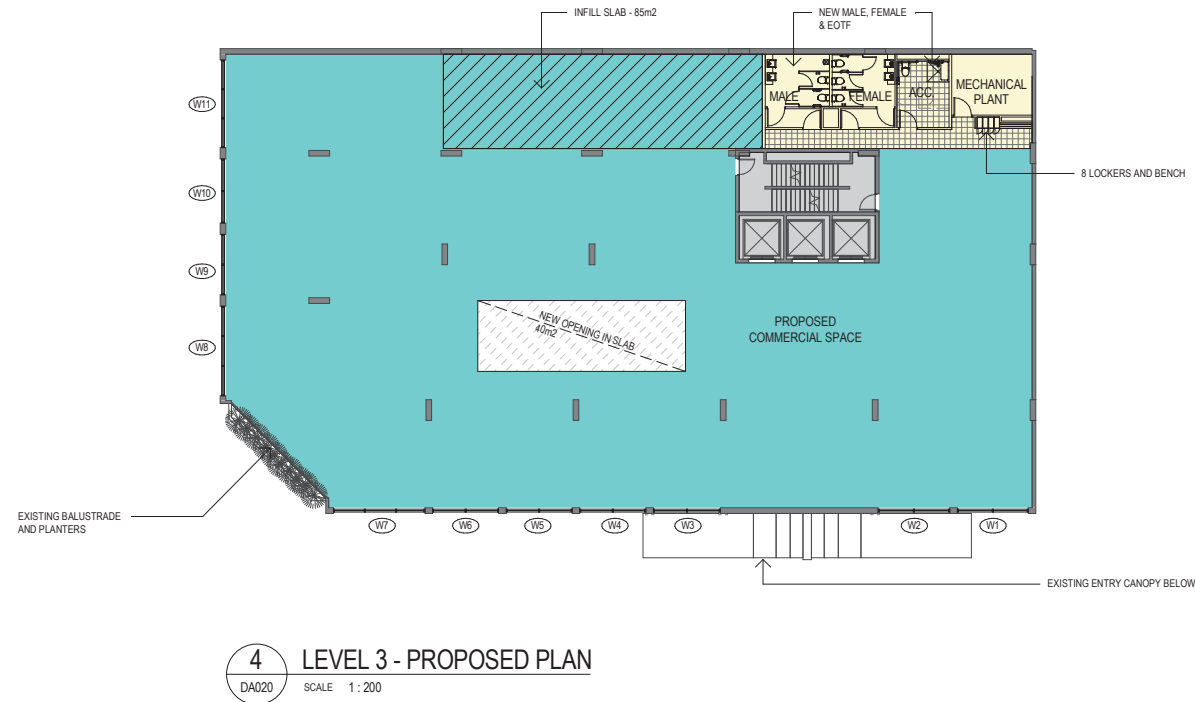
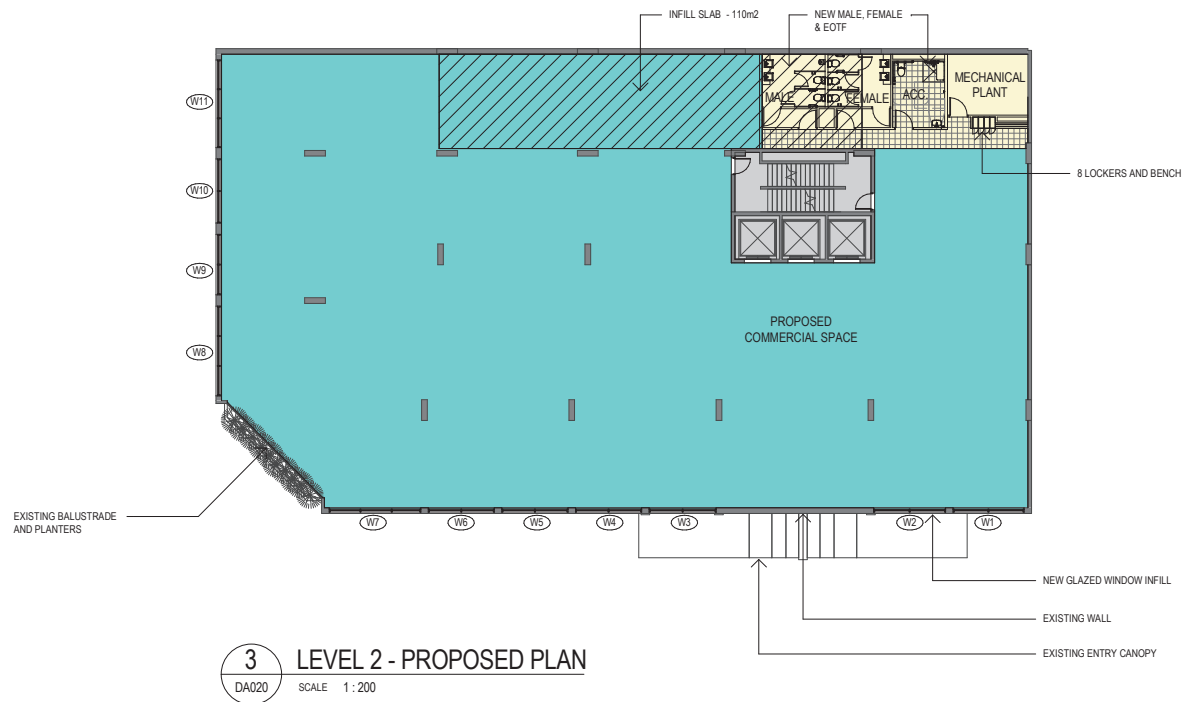


**Ethan Robins-Harvey**  
BE/BE (Hons) GradIEAust GAusIMM

#### **Reviewed**



**Chris Morris**  
BE(Hons) MIEAust CPEng NPER  
Accredited Certifier



#### AREA USES LEGEND

- COMMERCIAL / OFFICE SPACE
- RETAIL
- CAFE
- AMENITIES AND PLANTROOM
- ENTRY FOYER
- VERTICAL CIRCULATION & EGRESS
- PARKING SPACES
- NEW CAR STACKER
- SECURED BIKE CAGE
- BICYCLE PATH ZONE

#### DA ISSUE

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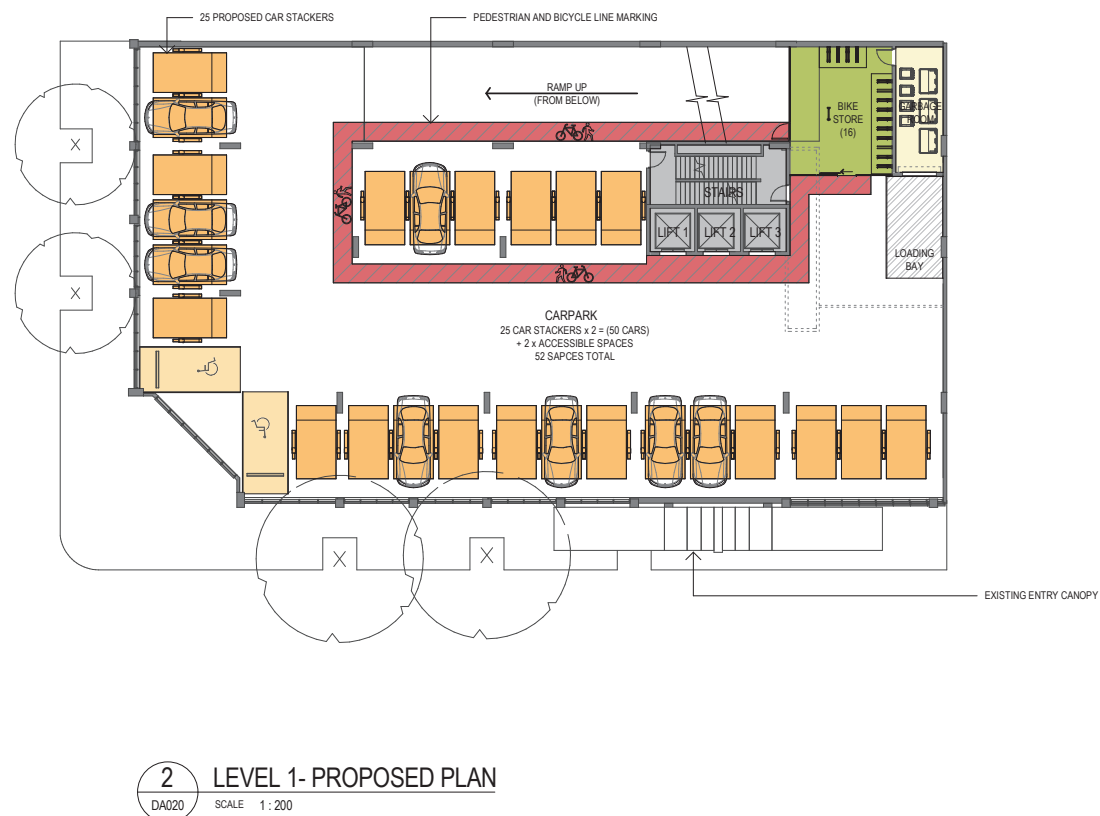
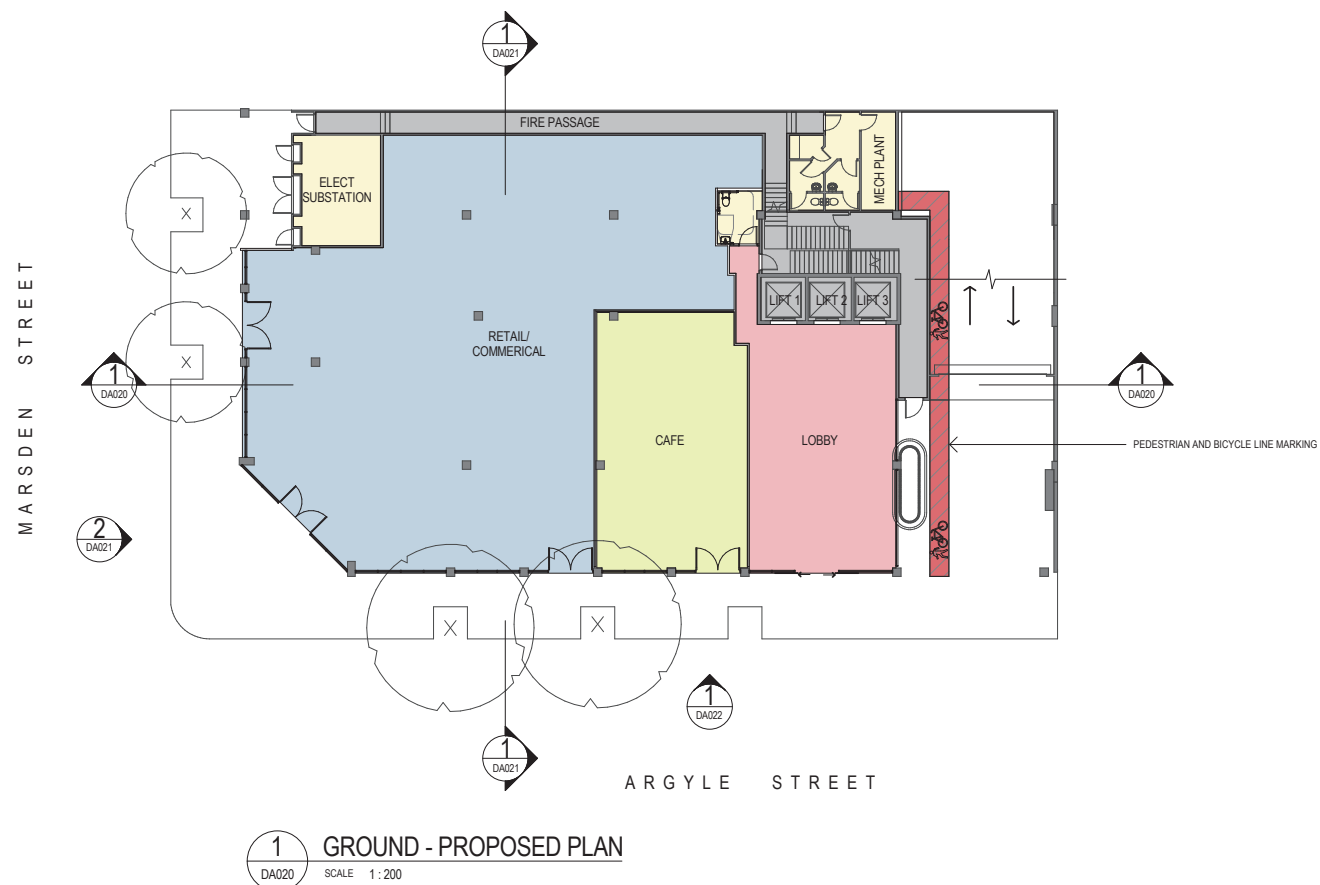
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Contractors to use Architectural drawings for set out.  
Contractors to check and verify all dimensions on site prior to construction/fabrication. Figured dimensions take precedence over scaled dimensions.  
Any discrepancies should be immediately referred to the architect.  
All work to comply with N.C.C. Statutory Authorities and relevant Australian Standards.

NSW Nominated Architects: Craig Saltmarsh 6569 / Scott Moylen 7147

REV	DESCRIPTION	DATE
DA1	PRELIMINARY DA ISSUE	04/05/2018
DA2	PRELIMINARY DA ISSUE	14/05/2018
DA3	PRELIMINARY DA ISSUE	19/07/2018
DA4	PRELIMINARY DA ISSUE	23/07/2018
DA5	PRELIMINARY DA ISSUE	05/09/2018
DA6	PRELIMINARY DA ISSUE	10/09/2018
DA7	PRELIMINARY DA ISSUE	28/09/2018
DA8	PRELIMINARY ISSUE	06/10/2018
DA9	PRELIMINARY ISSUE	08/10/2018



Change of Use Ground Floor,  
Level 2 - 3  
128 Marsden Street, Parramatta

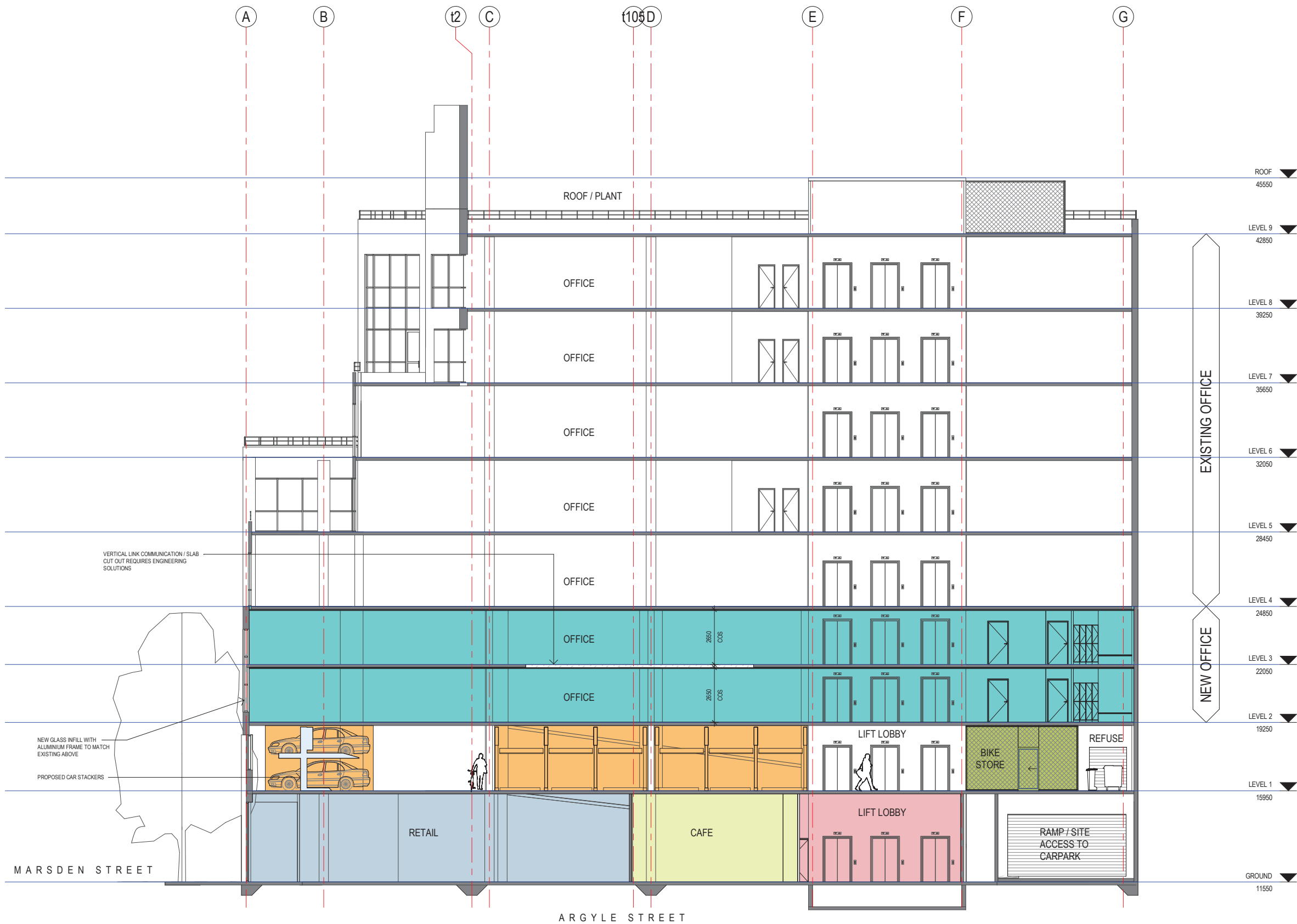
PROPOSED PLANS - GROUND FLOOR  
TO LEVEL 3

DRAWING NO DA011

REVISION	DA9
PROJECT NO	217116
SCALE @ A1	As indicated
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

Brisbane 2172 Robertson Street Fortitude Valley Brisbane QLD 4006  
Melbourne 3577 Little Bourke Street Melbourne VIC 3000  
Sydney 1156 Clarence Street Sydney NSW 2000  
graypuksand.com.au

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#### AREA USES LEGEND

- COMMERCIAL / OFFICE SPACE
- RETAIL
- CAFE
- AMENITIES AND PLANTROOM
- ENTRY FOYER
- VERTICAL CIRCULATION & EGRESS
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DA5	PRELIMINARY DA ISSUE	24/07/2018
DA6	PRELIMINARY DA ISSUE	05/09/2018
DA7	PRELIMINARY ISSUE	05/10/2018
DA8	PRELIMINARY ISSUE	08/10/2018

Change of Use Ground Floor,  
Level 2 - 3  
128 Marsden Street, Parramatta

#### SECTION

#### DRAWING NO DA020

REVISION	DA8
PROJECT NO	217116
SCALE @ A1	1 : 100
DRAWN	Author
CHECKED	Checker
APPROVED	Approver

Brisbane  
Melbourne  
Sydney

2172 Robertson Street Fortitude Valley Brisbane QLD 4006  
3577 Little Bourke Street Melbourne VIC 3000  
1156 Clarence Street Sydney NSW 2000

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## Flood Enquiry Information Issued - 2 November 2018

### Mainstream Flooding

Is this property affected by mainstream flooding? <b>128 Marsden Street, Parramatta</b>		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<b>Flood Levels</b>	Closest Cross Sections: (Please refer to Flood Study): <b>Refer to Flood Map</b>	
<input type="checkbox"/> 5% AEP	m AHD	<b>Comments:</b>  <b>See Note of Flood/Hazard Map</b>
<input type="checkbox"/> 1% AEP	m AHD	
<input checked="" type="checkbox"/> PMF	RL12.86 m AHD	
<input checked="" type="checkbox"/> Refer to flood maps provided for detailed flood levels.		
Flood information is obtained from the following flood study report: <b>1. Upper Parramatta River Flood Study- Draft 8 by UPRCT</b> <b>2. Parramatta Drainage Study, 1990 by SKM</b>		

Note: Flood inundation can be verified by detail survey to AHD undertaken by a Registered Surveyor.

### Local Flooding

Is the property located within a Hatched Grey Area? <i>Properties located within a <b>Hatched Grey Area</b> are subjected to flooding from the local catchment.</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is the property located within a Grey Area? <i>Properties located within a <b>Grey Area</b> are subjected to additional site drainage controls to manage flooding in the local catchment.</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Is the property likely to be affected by overland stormwater run-off from the local catchment? <b>Note:</b> No site inspection conducted for this assessment. Based solely on the information supplied for this flood enquiry application.	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Subject to Detailed Investigation
<b>Note:</b> You are required to contact Council's Development Service Engineer for any details and requirements relating to development that is affected by local flooding.	

### Additional Recommended Actions

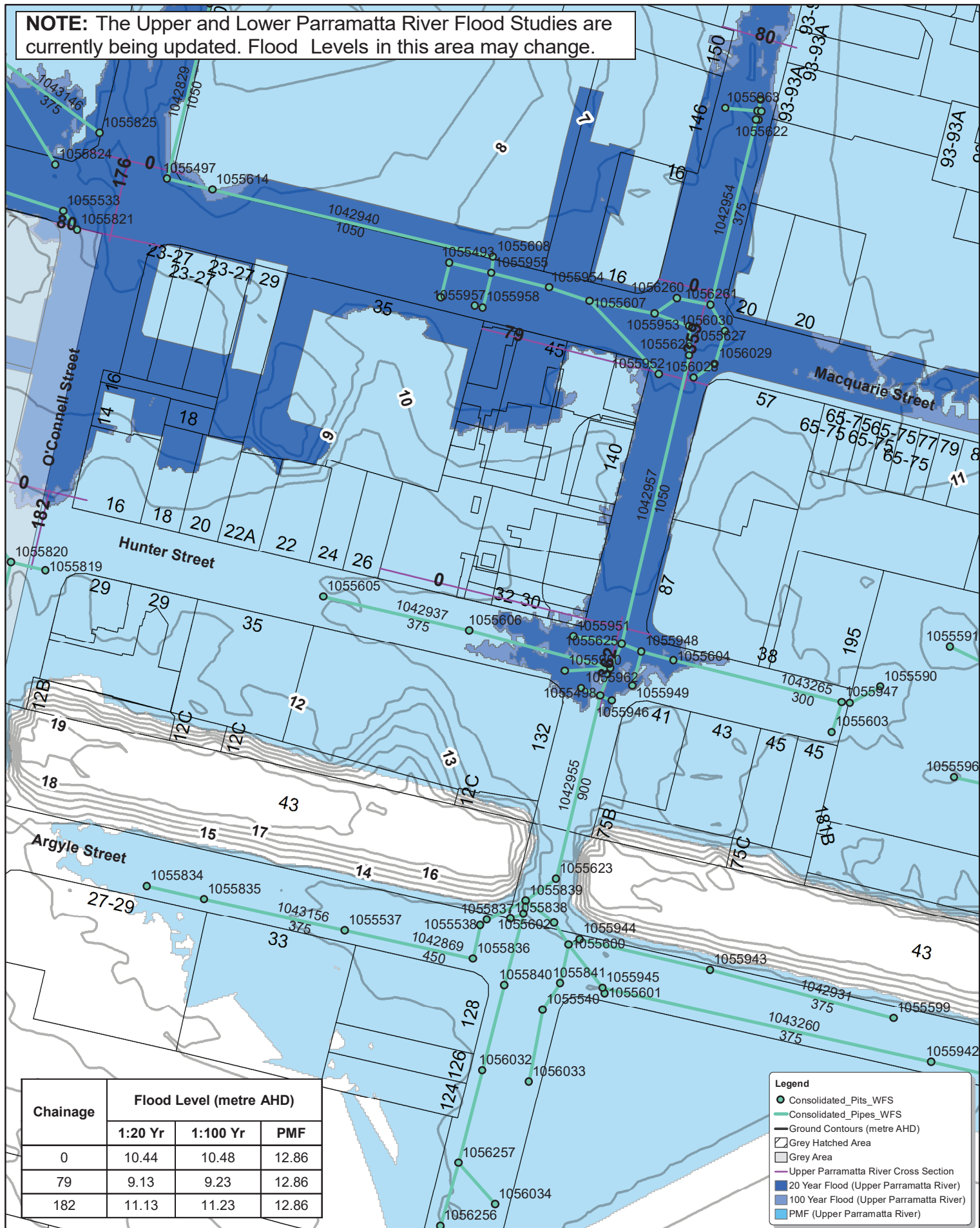
<input checked="" type="checkbox"/>	The Applicant needs to discuss the proposal to re-develop this site with Council's Town Planner and Development Services Engineer.
<input checked="" type="checkbox"/>	The Applicant needs to contact Council's Town Planner and organise a pre-lodgement meeting to discuss any proposal to redevelop this property.
<input checked="" type="checkbox"/>	The Applicant needs to refer to Council's Local Floodplain Risk Management policy for details relating to developing a land affected by flooding.

### Definitions: (As per NSW Floodplain Development Manual dated April 2005)

- AHD** – a common national surface level datum approximately corresponding to mean sea level.
- ARI** – the long term average number of years between the occurrences of a flood as big as or larger than, the selected event.
- PMF** – is the largest flood that could conceivably occur at a particular location, usually estimated from probable maximum precipitation.
- AEP** – Annual Exceedance Probability is the chance of a flood of a given or larger size occurring in any one year, usually expressed as a percentage.



**NOTE:** The Upper and Lower Parramatta River Flood Studies are currently being updated. Flood Levels in this area may change.



Chainage	Flood Level (metre AHD)		
	1:20 Yr	1:100 Yr	PMF
0	10.44	10.48	12.86
79	9.13	9.23	12.86
182	11.13	11.23	12.86

- Legend**
- Consolidated\_Pits\_WFS
  - Consolidated\_Pipes\_WFS
  - Ground Contours (metre AHD)
  - Grey Hatched Area
  - Grey Area
  - Upper Parramatta River Cross Section
  - 20 Year Flood (Upper Parramatta River)
  - 100 Year Flood (Upper Parramatta River)
  - PMF (Upper Parramatta River)



## City of Parramatta Council Flood Map

N  
1:1,500

**DISCLAIMER:** Flood levels and flood extent lines are based on current information held by Council. Council does not accept responsibility for the accuracy of this Information. Any pipe sizes and location of pits and pipe lines should be confirmed by site investigation.

The flood levels provided are only an approximate guide and have been derived using the current computer simulated model.

The information provided on this document is presented in good faith. It is the responsibility of each individual using this information to undertake their own checks and confirm this information prior to its use.

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**NOTE:** The Upper and Lower Parramatta River Flood Studies are currently being updated. Flood Hazard in this area may change.

The map displays a section of the Parramatta River area, showing streets including O'Connell Street, Hunter Street, Macquarie Street, Argyle Street, and Aird Street. The map is overlaid with various flood hazard zones and infrastructure markers. The legend indicates the following:

- Consolidated\_Pits\_WFS (Blue dots)
- Consolidated\_Pipes\_WFS (Green lines)
- Upper Parramatta River Cross Section (Purple line)
- High Hazard (Lower Parramatta River) (Red area)
- High Hazard (Upper Parramatta River) (Dark Orange area)
- Medium Hazard (Upper Parramatta River) (Light Orange area)
- Low Hazard (Upper Parramatta River) (Yellow area)



- Consolidated\_Pits\_WFS
- Consolidated\_Pipes\_WFS
- Upper Parramatta River Cross Section
- High Hazard (Lower Parramatta River)
- High Hazard (Upper Parramatta River)
- Medium Hazard (Upper Parramatta River)
- Low Hazard (Upper Parramatta River)



N  
1:1,50

1:1,500

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