

3 March 2020

SY192734_B01[C]

Catholic Education Diocese of Parramatta and Sacred Heart Parish
c/- WINIM Developments Pty. Ltd.
Jessica Duce
Suite 214, 40 Yeo Street
Neutral Bay, NSW, 2089

Dear Jessica,

Re: 2 Darcy Road, Westmead Catholic Community Stage 1 – Flood Statement

Northrop has been engaged by Catholic Education Diocese of Parramatta and Sacred Heart Parish to provide preliminary flooding advice and summarise the available flood information for the subject site.

Introduction

This report supports a State Significant Development Application for the Westmead Catholic Community (WCC) at 2 Darcy Road, Westmead.

The WCC project seeks to meet the needs of the growing population within the region by providing upgraded school facilities for Mother Teresa and Sacred Heart Primary Schools, as well as a new Parish church. WCC is a collaboration between Catholic Education Diocese of Parramatta (CEDP), the Diocese of Parramatta (DoP), the Sisters of Mercy and the Marist Brothers Province of Australia.

As the proposal is for the purposes of alterations and additions to an existing school and has a capital investment value in excess of \$20 million, it is State Significant Development (SSD) for the purposes of the Environmental Planning and Assessment Act 1979 (the Act). The Parish church is also SSD under clause 8(2)(a) of State Environmental Planning Policy (State and Regional Development) 2011 as it forms part of the proposal which comprises a single, integrated development with significant functional links between the education and church uses.

Description of Proposed Development

The State Significant Development application will seek approval for:

- A primary school with capacity for approximately 1,680 students, to provide expanded facilities for the existing Mother Teresa Primary School on the site and to replace the existing Sacred Heart Primary School at Ralph Street;
- A new Parish church;
- A Catholic early learning centre (fit-out within an existing building);
- New landscaping.

The extent of proposed works and details are presented in **Figure A2** of Attachment 1.

The Site

The subject site is located at 2 Darcy Road, Westmead, approximately 2km to the north-west of the Parramatta CBD and approximately 300m to the west of Westmead Train Station. The site is located within the Parramatta Local Government Area (LGA).

The site has an area of approximately 12ha and a frontage of approximately 430m to Darcy Road. The site consists of two lots, which are legally described as Lot 1 in DP1095407, which is owned by the Trustees of the Roman Catholic Church of Parramatta, and Lot 1 in DP1211982, which is under the ownership of the Trustees of the Marist Brothers.

The site is bound by Darcy Road (to the north), the T1 North Shore & Western / T5 Cumberland train lines (to the south), the Western Sydney University Westmead Campus (to the east) and residential uses (to the west).

To the north of the site, across Darcy Road is the Westmead Health and Education Precinct comprising the Westmead Hospital, Westmead Private Hospital and the Western Sydney University Medical Research Institutes. The locational context of the site is shown at Figure 1 below and Figure A1 of Attachment 1.

The Westmead Health and Education Precinct, the WCC site and the surrounding residential land collectively form part of the recently nominated Westmead Priority Precinct Area.

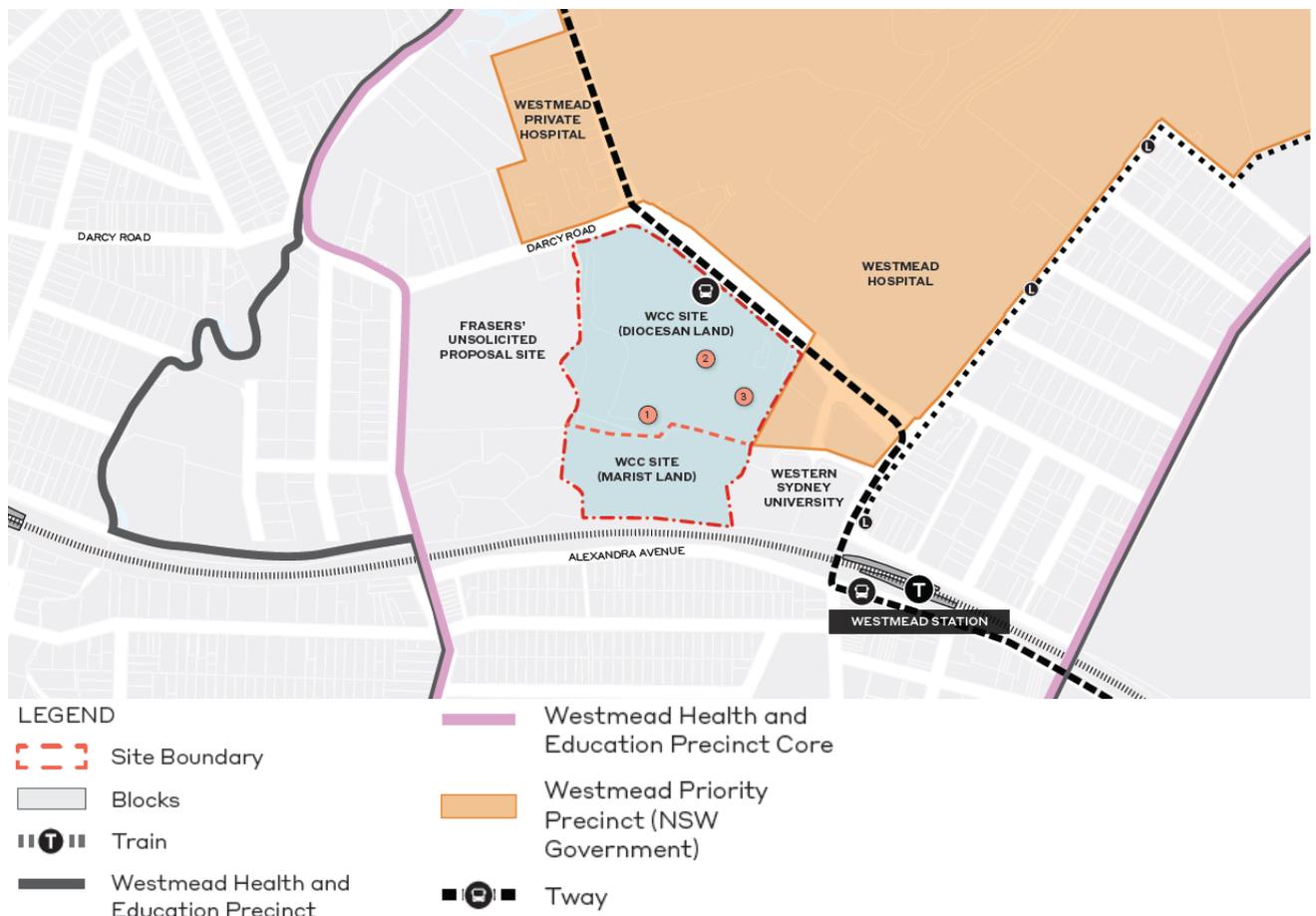


Figure 1 - Location Plan

Existing Development

The site currently contains three separate schools being the Catherine McAuley Westmead (girls' high school) which predominantly occupies the northern part of the site, and the Parramatta Marist High School (boys school) which occupies the eastern part of the site. The Mother Teresa Primary School occupies part of the Catherine McAuley school building in the centre of the site. The southern portion of the site contains open sports fields associated with the Parramatta Marist High School.

The existing Brother's residence is located in the north-eastern corner of the site, and an at grade car park occupies the western part of the site, to the north of the sports fields. Collectively, the three schools currently accommodate approximately 2,637 students and 190 staff. The purpose of this correspondence is to review the proposed development with respect to flood information provided by Council and to review the proposed development with respect to Council's development controls.

The Subject Site

The subject site is contained within Lot 1 DP 1095407 with a frontage of approximately 55 metres to Darcy Road. The proposed works have an area of 1.29 hectares with terrain elevations ranging from approximately 16.0m AHD to 20.5m AHD. The locality of the proposed works is presented in **Figure A1** of Attachment 1.

The subject site is situated within the Milson Creek catchment which has an area of approximately 85 hectares and extends south of the subject site to the Great Western Highway. Overland flow from the upper catchment is expected to be conveyed beneath the Main Western Railway before continuing along the western boundary of Lot 1 DP 1095407 before connecting into the pipe network beneath Darcy Road to the north (refer to **Figure A1** of Attachment 1).

Proposed Development

The proposed development involves modifications to the existing school facility including the demolition of a portion of the existing primary school facility and the construction of a new multi-storey primary school and sporting facility, new church facility, and the associated car park and landscaping. The extent of proposed works and details are presented in **Figure A2** of Attachment 1.

Flood Behaviour

The flood behaviour for the subject site has been provided by the City of Parramatta Council and is also included in Attachment 2. A summary of the flood behaviour is discussed below.

Table 1 – Subject site Flood Levels (Extracted from Flood Enquiry Application – Attachment 2)

Location	Flood Event	Maximum Water Elevation (m AHD)
Intersection of Darcy Road and Mons Road (Subject Site Frontage)	5% AEP	No Flooding
	1% AEP	No Flooding
	PMF	18.88
Milson Creek 34 metres upstream of Darcy Road culvert (Chainage 1494)	5% AEP	16.19
	1% AEP	16.31
	PMF	18.96
Milson Creek 145 metres upstream of Darcy Road culvert (Chainage 1394)	5% AEP	17.46
	1% AEP	17.63
	PMF	18.97
Milson Creek 200 metres upstream of Darcy Road culvert (Chainage 1334)	5% AEP	17.84
	1% AEP	18.01
	PMF	18.98

Source: Parramatta Council Flood Certificate (refer to Attachment 2)

The information provided by Council suggests the subject site is impacted by Mainstream Flooding in particular, flooding derived by the Upper Parramatta River. The above **Table 1** presents the predicted

flood elevations for the 5%, 1% Annual Exceedance Probability (AEP) and Probable Maximum Flood (PMF) events.

Review of the proposed layout with respect to the above flood levels suggests the proposed works are located outside the extent of the 5% and 1% AEP while, the majority of the proposed works (roughly 97%) lies outside the extent of the Probable Maximum Flood (PMF) as shown in **Figure A2** of Attachment 1. It is noted that, where works are located within the PMF extent, they are generally limited to tie in works for the driveway and minor changes to the landscaping along the subject site frontage.

Development Controls

Following review of the Parramatta Local Environmental Plan (LEP) 2011, Parramatta Development Control Plan (DCP) 2011 and Flood Enquiry Application (refer to Attachment 2), we understand that the property is located on land that is:

- Zoned as SP2 (Educational Establishment).
- Affected by mainstream flooding (5%, 1% and PMF Upper Parramatta River flood events), flood hazard – low and high hazards.
- Defined as Sensitive Uses and Facilities (Educational Establishment) land use category.

The performance of the proposed development has been assessed against Council's Development Controls, in particular Table 2.4.2.1.3. The below **Table 2** lists the relevant controls with commentary regarding how the proposed development satisfies (or else) each criteria.

Table 2 – Development controls

Development Controls (Table 2.4.2.13 – DCP)	Development Meets Criteria? (Yes/No)	Comments
Floor Level	Yes	The attached Figure A2 presents the minimum proposed floor levels with respect to the PMF design storm event. The results suggest that all proposed floor levels are above the maximum criteria namely; the PMF flood level plus a freeboard of 500mm.
Building Components and Method	Yes	All buildings are located above the maximum criteria namely; the PMF flood level as shown in Figure A2 of Attachment 2.
Structural Soundness	Yes	No structural building components are proposed below the maximum criteria namely; the PMF flood level as shown in Figure A2 of Attachment 2.
Flood Affectation	Yes	A portion of the proposed landscaping and driveway encroaches into the extent PMF event as shown in Figure A2 of Attachment 1. Civil Drawing DAC03.01 suggests cut is proposed in these areas. As such, a minor increase in the available flood storage is expected during the PMF as a result of the proposed development.
Car Parking and Driveway Access	Yes	Figure A2 of Attachment 1 shows the proposed car park is located above the maximum PMF flood level. Similarly, the majority of the proposed access road is

Development Controls (Table 2.4.2.13 – DCP)	Development Meets Criteria? (Yes/No)	Comments
		above the maximum PMF flood level with elevations increasing in the direction of egress. An exception occurs with a small section of the proposed driveway below the PMF flood level where it ties into the existing driveway. Any modifications in this area are expected to be minor due to its proximity to the existing driveway.
Evacuation	No	<p>The flood information provided by Council and presented in Figure A2 suggests evacuation from the site is not practical during a PMF flood event.</p> <p>A Site Emergency Response Flood Plan can be prepared for the subject site to recommend the appropriate procedures to follow during a predicted flood event.</p> <p>Appropriate measures can be implemented to manage risk to life and property, including but not limited to; closure of the facility if an extreme event is predicted; seeking refuge on-site; and nominating an on-site refuge area above the PMF flood level for anyone who may become trapped onsite.</p> <p>This is an existing site constraint that can be improved through the development of a Site Emergency Response Flood Plan and through the approval process.</p>
Management and Design	Yes	The proposed works are located above the 1% AEP flood level.

From the above assessment the following conclusions have been made:

- Through the creation of a Site Emergency Response Flood Plan the proposed development is considered to satisfy the flooding related requirements as specified by Councils DCP and the requirements of the NSW Floodplain Development Manual; and
- The provision of peak flow mitigation methods documented, on the civil and stormwater plans, are proposed to manage any adverse impacts and potential nuisance flooding derived from the local catchment.

We commend our findings to Council for review. Should you have any queries regarding this correspondence, please feel free to contact the undersigned on (02) 4943 1777.

Prepared by:



Ruslan Batirov
Water Resources Engineer
BEng (Hydrology)

Reviewed by:



Angus Brien
Associate | Flood Engineer
BEng (Civil) MIEAust

Limitation Statement

Northrop Consulting Engineers Pty Ltd (Northrop) has been retained to prepare this report based on specific instructions, scope of work and purpose pursuant to a contract with its client. It has been prepared in accordance with the usual care and thoroughness of the consulting profession for the use by WINIM Developments Pty. Ltd.

The report is based on generally accepted practices and standards applicable to the scope of work at the time it was prepared. No other warranty, express or implied, is made as to the professional advice included in this report except where expressly permitted in writing or required by law, no third party may use or rely on this report unless otherwise agreed in writing by Northrop.

Where this report indicates that information has been provided to Northrop by third parties, Northrop has made no independent verification of this information except as expressly stated in the report. Northrop is not liable for any inaccuracies in or omissions to that information.

The report was prepared on the dates shown and is based on the conditions and information received at the time of preparation.

This report should be read in full, with reference made to all sources. No responsibility is accepted for use of any part of this report in any other context or for any other purpose. Northrop does not purport to give legal advice or financial advice. Appropriate specialist advice should be obtained where required. To the extent permitted by law, Northrop expressly excludes any liability for any loss, damage, cost or expenses suffered by any third party relating to or resulting from the use of, or reliance on, any information contained in this report.

Attachment 1 – Figures

Figure A1 – Locality Plan

Figure A2 – Proposed Development

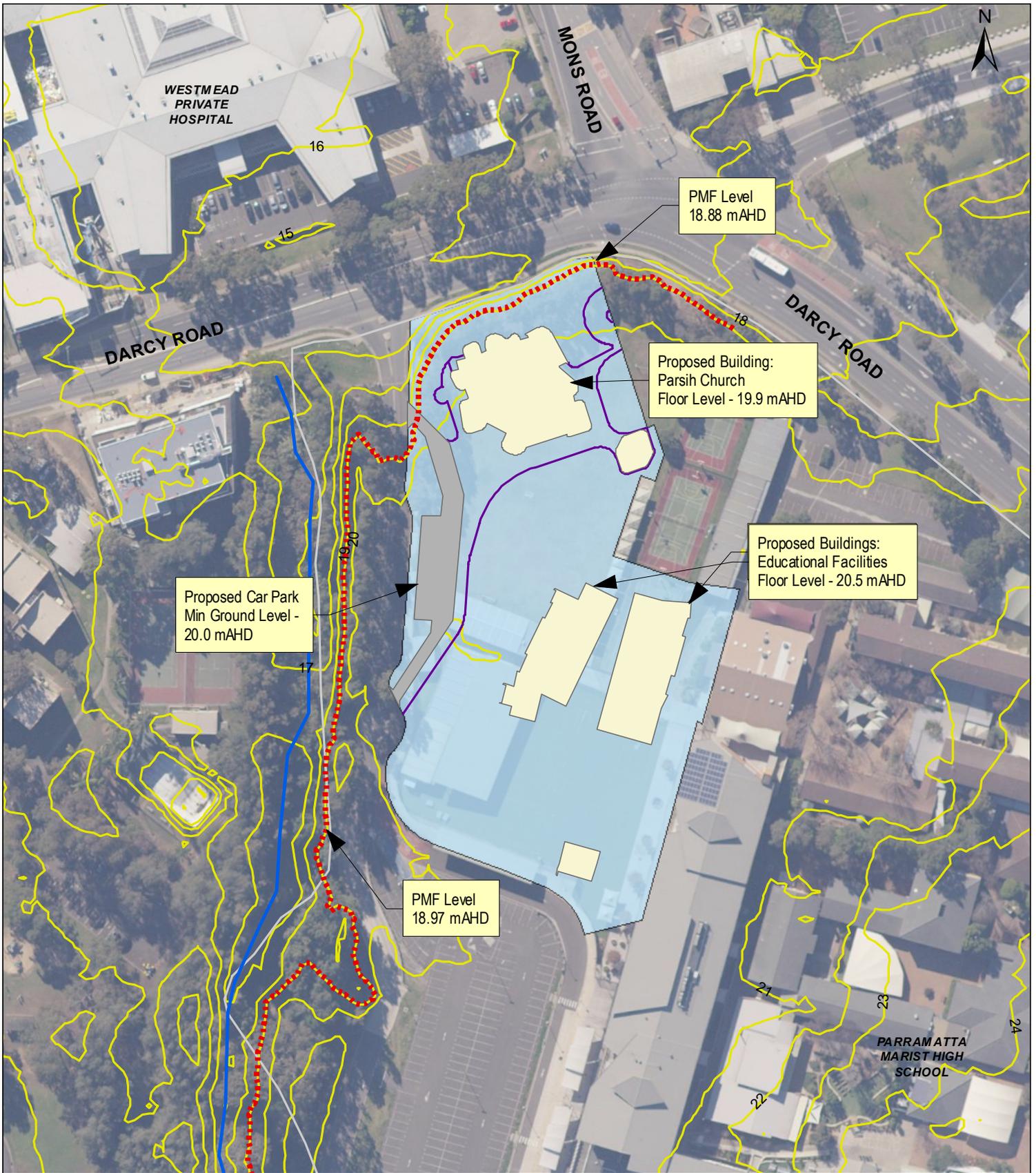


Legend

-  Watercourses
-  Milson Creek Catchment
-  Cadastre
-  Proposed Development



Figure A1
Locality Plan



Legend

- PMF Water Level
- Proposed Buildings
- Proposed Access Road and Car Park
- Proposed Footpath Area
- Milson Creek
- Cadastre
- Existing Contours (1m interval)
- Proposed Development Boundary



Figure A2
Proposed Development

Attachment 2 – Flood Information

Flood Enquiry Application



Our Reference: FL/10/2020
Contact: Peter Sirianni
Telephone: 02 9806 8250
Fax: 02 9806 5906

Angus Brien
Northrop Consulting Engineers
Level 1, 215-217 Pacific Highway
CHARESTOWN NSW 2290

6 February 2020

FLOOD ENQUIRY APPLICATION

Property Details

Address	2 Darcy Road, WESTMEAD NSW 2145
<i>This form applies for up to three adjoining sites relating to the same development. A separate Flood Enquiry form and fee will be required for more than 3 or separate lots.</i>	

Delivery Preference

abrien@northrop.com.au

Reason for Enquiry

Flood drainage Investigation

Property Type

**** GST not applicable from 1 July 2013****

Flooding Application - Commercial	\$511.35
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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 shown on the back of this form are only an approximate guide and have been derived using the current computer simulated model.

The information provided in this document is presented in good faith to assist the public in understanding Council's drainage requirements that apply within the Parramatta Local Government Area. It is the responsibility of each individual using this information to undertake their own checks and confirm this information prior to its use.

City of Parramatta Council, its agents and employees are not liable (whether by reason of negligence, lack of care or otherwise) to any person for any damage or loss whatsoever which has occurred or may occur in relation to that person taking or not taking (as the case may be) action in respect of any representation, statement, or advice referred to above.

Refer to back of this form for level information issued



Flood Enquiry Information Issued - 7 February 2020

Mainstream Flooding

Is this property affected by mainstream flooding? 2 Darcy Road, Westmead		<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Flood Levels	Closest Cross Sections: <i>(Please refer to Flood Study):</i> Refer to Flood Map	
<input checked="" type="checkbox"/> 5% AEP	Refer to Flood Map	Comments: See Note on Flood/Hazard Map
<input checked="" type="checkbox"/> 1% AEP		
<input checked="" type="checkbox"/> PMF		
<input checked="" type="checkbox"/> Refer to flood maps provided for detailed flood levels.		
Flood information is obtained from the following flood study report: Upper Parramatta River Flood Study – Draft 8 (UPRCT)		

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 Hatched Grey Area 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 Grey Area 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? Note: <i>No site inspection conducted for this assessment. Based solely on the information supplied for this flood enquiry application.</i>	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> Subject to Detailed Investigation
Note: <i>You are required to contact Council's Development Service Engineer for any details and requirements relating to development that is affected by local flooding.</i>	

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.

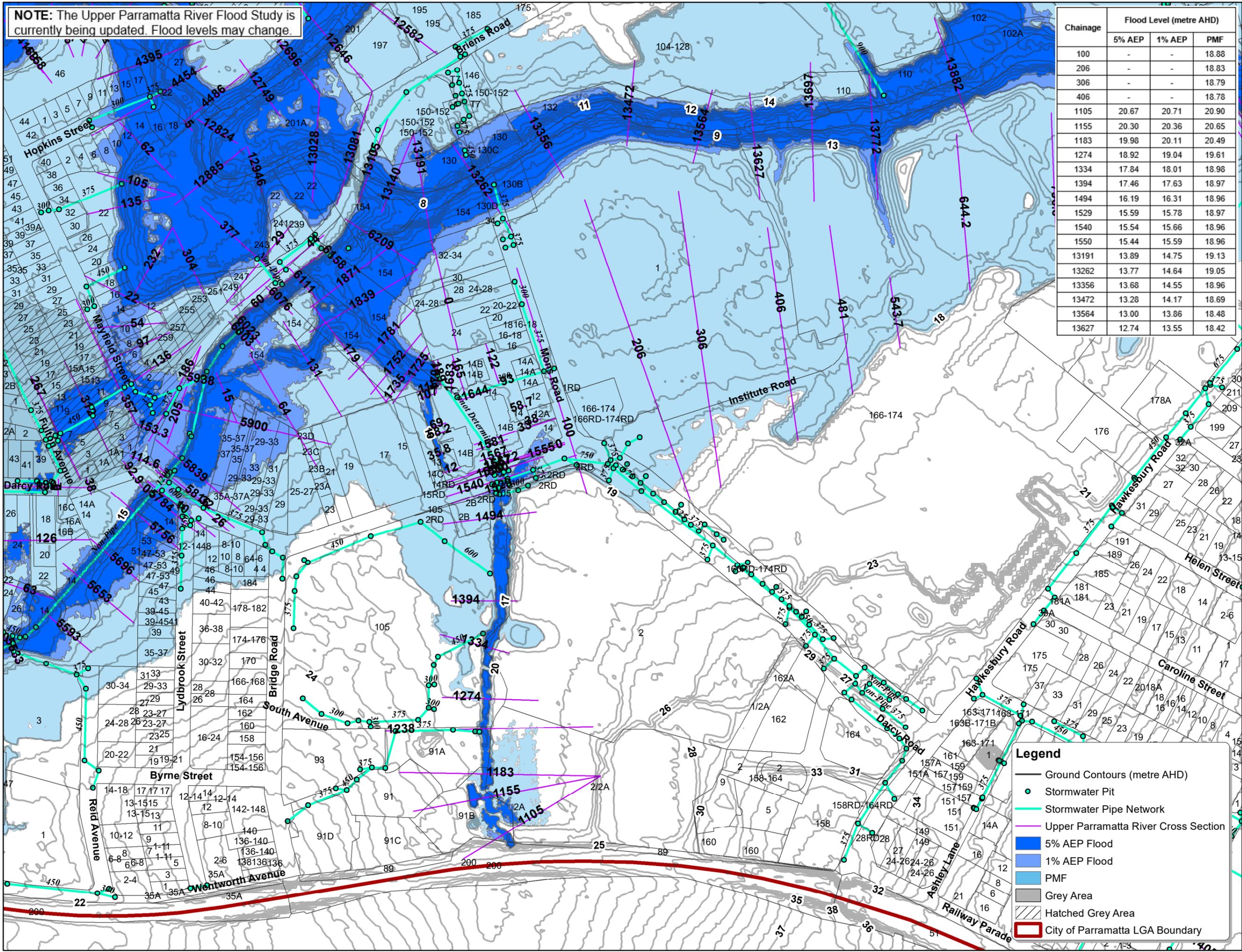
Definitions: (As per NSW Floodplain Development Manual dated April 2005)

- 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 Parramatta River Flood Study is currently being updated. Flood levels may change.

Chainage	Flood Level (metre AHD)		
	5% AEP	1% AEP	PMF
100	-	-	18.88
206	-	-	18.83
306	-	-	18.79
406	-	-	18.78
1105	20.67	20.71	20.90
1155	20.30	20.36	20.65
1183	19.98	20.11	20.49
1274	18.92	19.04	19.61
1334	17.84	18.01	18.98
1394	17.46	17.63	18.97
1494	16.19	16.31	18.96
1529	15.59	15.78	18.97
1540	15.54	15.66	18.96
1550	15.44	15.59	18.96
13191	13.89	14.75	19.13
13262	13.77	14.64	19.05
13356	13.68	14.55	18.96
13472	13.28	14.17	18.69
13564	13.00	13.86	18.48
13627	12.74	13.55	18.42

North Arrow
1:4,000



Legend

- Ground Contours (metre AHD)
- Stormwater Pit
- Stormwater Pipe Network
- Upper Parramatta River Cross Section
- 5% AEP Flood
- 1% AEP Flood
- PMF
- Grey Area
- ▨ Hatched Grey Area
- ▭ City of Parramatta LGA Boundary

City of Parramatta Council Flood Map

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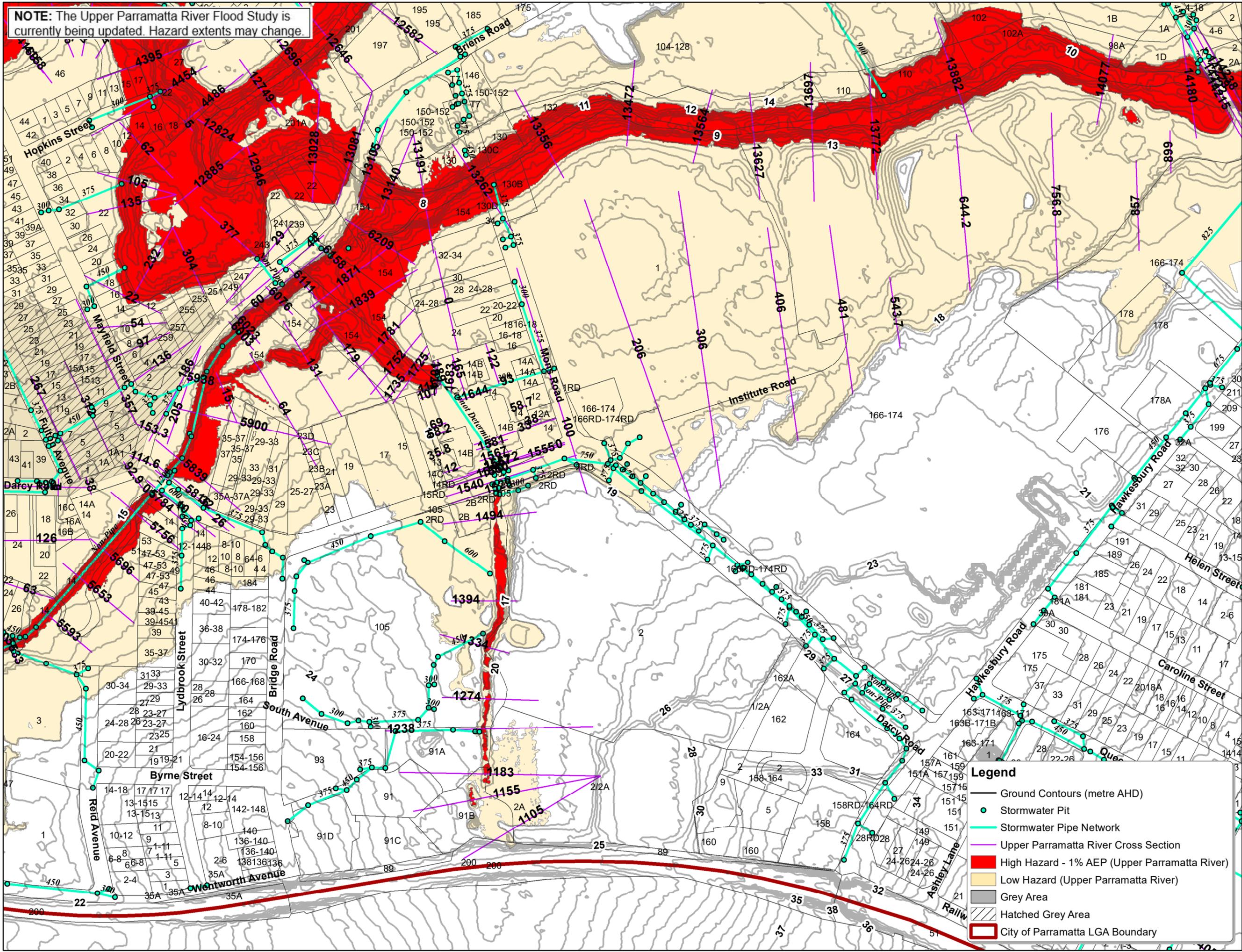


Printed
7/02/2020

NOTE: The Upper Parramatta River Flood Study is currently being updated. Hazard extents may change.



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City of Parramatta Council Flood Hazard Map

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Legend

- Ground Contours (metre AHD)
- Stormwater Pit
- Stormwater Pipe Network
- Upper Parramatta River Cross Section
- High Hazard - 1% AEP (Upper Parramatta River)
- Low Hazard (Upper Parramatta River)
- Grey Area
- Hatched Grey Area
- City of Parramatta LGA Boundary



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7/02/2020