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JQZ		Your Ref:	63 and 83 Church Street
PO Box 686 Burwood NS	W 1805	Our Ref:	LTR003-02-23-1102 - 63 & 83 Church Street Flood Assessment Report Site 1 & 2
Attention:	Jeremy Hung	Email:	Jeremy.Hung@jqz.com.au

Dear Jeremy,

16 September 2024

RE: 83 Church Street (Site 1) and 63 Church Street (Site 2), Parramatta Flood Planning Statement for Planning Proposal

This letter has been prepared on behalf of Early Street Development Pty Limited (the applicant) to accompany a Planning Proposal which seeks to amend the planning controls that apply to Site 1 and Site 2, as it relates to the site at 63 (Site 2) and 83 (Site 1) Church Street, Parramatta. Refer to Figure 1 for the location of the Site.



Figure 1 - Site Location (Courtesy of Nearmap)

DA/738/2016 was approved by the Sydney Central City Planning Panel on 24 August 2017 for a mixed-use development across two sites. In the recent months, pre-lodgement meetings were held with the Council to discuss the planning proposal for potential amendment to the LEP to achieve a revised development outcome



across the site. In support of the proposed amendments to the LEP and associated development standards for the two sites, the planning proposal seeks amendment to the approved development under DA/738/2016.

The development consent DA/738/2016 has been modified several times, including most recently by MOD F which is related to the approved development on Site 1.

Proposed amendments in the upcoming planning proposal for Site 1 include:

- The development of a 12-storey hotel containing 288 rooms, two residential towers (30 storey and 40 storey) containing a total of 539 apartments over 2 levels of a retail and commercial podium with associated landscaping and plaza works on Site 1.
- Increase in height of Building E to add additional 10 storeys (+32.1 meters)
- Addition to the number of dwellings to a total of 539 (+60 dwellings)
- Increase in Universal / Adaptable Apartments to a total of 48 (+10 Apartments)
- Modification to allocation of the car parking spaces. Total of car parking spaces 776 (no change)
- Increase in bicycle parking to a total of 285 (+30)

Proposed amendments in the upcoming planning proposal for Site 2 include:

- Construction of a 4 storey non-residential building fronting Church Street, and a mixed-use tower containing 1 level of non-residential floor space and 35 storeys comprising of 383 apartments with associated landscaping and plaza works on Site 2.
- In addition to the Shop top housing and commercial premises, the type of development to include centre-based child care facilities and community facilities (community hall).
- Increase in height of Building K to add additional 6 storeys (+16 meters)
- Reduction in the height of Building L to a total of 4 stories (-6 storeys)
- Addition to the number of dwellings to a total of 383 (+148 dwellings)
- Increase in Universal / Adaptable Apartments to a total of 47 (+23 Apartments)
- Increase in car parking spaces to a total of 507 (+52 spaces)
- Maintain bicycle parking spaces to a total of 200 (no change)

This report relates to the planning proposal modifications to the approved development at 83 Church Street, Parramatta, being the northern site referred to as 'Site 1', that is legally described as Lot 100 in DP 1249271; and 63 Church Street, Parramatta, being the southern site referred to as 'Site 2', that is legally described as Lot 102 in DP 1249271.



1.1. Development Application Background Information

To facilitate the review of information and timeline of event, AT&L have provided a brief assessment history for the site. The timeline marks the following events:

- 2007 Flood investigations for the "Clay Cliff Creek Catchment Master Drainage Plan" were undertaken by Cardno who were engaged by Parramatta City Council. This study indicated that the 1% AEP flood levels in the vicinity of Church Street to be 12.40 mAHD.
- 2014 Original DA submission by Boyded Industries.
- 2015 City of Parramatta Council (Council) provided additional requirements to be addressed relating to Flooding and Stormwater.
- 2015 AECOM utilised the Cardno model to undertake number of flood studies to finalise their investigations for the Gateway South Concept DA. AECOM Consultants revised the concept design for proposed Gateway South Development.
- 2016 Dyldam provided further submissions based on the above.
- 2016 PCC issued an Assessment Report under Section 79C of the EPA Act of 1979.
- 2016 SMEC provided a report in response to the above assessment under S79C and confirmed compliance with PCC requirements. Report prepared by SMEC titled "Gateway South Concept Design Church Street, Parramatta S79C Assessment Report: Flooding" (July 2016) and is included in Appendix C of this report. This report confirmed that the FFLs and RLs adopted for the subject site complied with the PCC requirements.
- 2018 the DA was approved for Gateway Parramatta One Pty Ltd with DA No. DA/738/2016/B.
- 2022-2023 JQZ acquired the site with current DA approvals and has gone through the process of section 4.55 Modifications.
- 2023 AT&L was engaged to prepare a Flood Planning Statement to support the Section 4.55 Modification. AT&L had reviewed the available information from the previously prepared SMEC report from 2016 and the current architectural street level ground floor plans. Based on this review, AT&L had prepared the Flood Planning Statement to identify any deviation or concurrence from the original approved DA drawings that would trigger a new report.
- 2024 AT&L is engaged to prepare a Flood Planning Statement to support the Planning Proposal which seeks to amend the planning controls that apply to Site 1 and Site 2. AT&L has reviewed the available information from the previously prepared SMEC report from 2016, the current architectural street level ground floor plans for Site 1 and Site 2, and "Parramatta River Flood Study" adopted by City of Parramatta Council in June 2024. This report relies on the Flood Information provided in response to the Flood Enquiry Application to the City of Parramatta Council which was issued on 3rd September 2024.
 - 1. A copy of the stamped and approved DA Architectural Plans are included in Appendix A of this report.
 - 2. Refer to Appendix B for the proposed modifications to the ground floor for Site 1 and Site 2 Architectural Plans.
 - 3. Refer to Appendix C for the Flood Information provided by the City of Parramatta Council and;
 - 4. Appendix D for the SMEC report from 2016.



1.2. Responses to Council Requirements

AT&L were provided the SMEC report and DA plans for review. In their report, SMEC provided responses to Council requirements (Section 79C of EPA). Council requirements are also consistent with the DA conditions 15, 16, 17, 56 and 58. These responses have been summarised in Table 1 and include our findings and recommendations:

Table 1: Council Requirements, Responses to Previous DA and Current Status

Council Requirements per Section 79C:	SMEC Responses to Council Requirements at the time of DA Approval:	AT&L Responses for Current Plans for Modification:
The development site is subject to a high hazard flooding from the Clay Cliff Creek main channel and from overland flow in the surrounding streets. Adequate precautions, satisfactory to Council, must be included in all developments to address the needs of public and occupant safety, emergency escape and refuge, prevention of ingress of flood waters and protection of property.	Flood Emergency Management Strategy was addressed within the Appendix G of the DA documents dated September 2015. (Refer SMEC S79C Report Section 3.1.1)	Flood Emergency Management Strategy will be addressed for the proposed development.
For the purpose of this consent, the Flood Planning Level is defined as the predicted 1% AEP flood level (100 ARI) level plus 500mm arising from Clay Cliff Creek and the surrounding overland flow level, as obtained from the 'Cardno 2D flood model' for Clay Cliff Creek and environs, known as the '2007 model'. The Flood Planning level for each building may vary with the immediate terrain and built context. The Flood Planning Level must be re-determined for each Development Application for each individual building using the '2007 2D Cardno Flood model' (or approved alternative) adjusted for revised designs, building footprints, ground surface levels and so on. Development Applications for individual sites within this concept DA must demonstrate that buildings and ground surfaces do not harm other land by diverting floodwaters and concentrating stormwater at least up to the Flood Planning Level.	Using the 2007 2D Cardno Flood Model, it was shown in Appendix F of the DA documents dated September 2015 that the Flood Planning Level for this locality is 12.9 m. AHD. It was also demonstrated that the buildings and ground surfaces do not impact other land by diverting floodwaters and concentrating stormwater. There have been no significant changes to the overall layout since that submission. (Refer SMEC S79C Report Section 3.1.2)	The Flood Planning Levels previously advised by Council have been superseded by the Record of Pre-Lodgement Application Meeting, refer to Table 2 for the most current advice relating to the modification application. It should be noted that a new Flood Study "2024 Parramatta River Flood Study" has been adopted by the City of Parramatta Council in June 2024. In response to the Flood Enquiry for Site 2, the Council has provided Flood Information relating to the Flood Levels on site. Refer to the Appendix C.



Council Requirements per Section 79C:	SMEC Responses to Council Requirements at the time of DA Approval:	AT&L Responses for Current Plans for Modification:
All of the buildings, landscape and public domain areas subject to this consent shall be designed and built so as to cause no significant, alterations to the predicted flow patterns of floodwaters, at least up to 'Flood Planning Level' (the 1% Annual Exceedance Probability (AEP) event plus 500mm freeboard).	Using the 2007 2D Cardno Flood Model, it was shown in Appendix F of the DA documents dated September 2015 that there were no alterations to the predicted flow patterns of floodwaters. There have been no significant changes to the overall layout since that submission. (Refer SMEC S79C Report Section 3.1.3)	The current proposal does not alter the surface levels from the approved DA plans. Therefore, the modification is consistent with the approved impacts from the approved DA.
The minimum level of all habitable floors in all of the buildings shall be not less than the respective Flood Planning Levels (1% AEP event plus 500mm freeboard).	Using the 2007 2D Cardno Flood Model, it was shown in Appendix F of the DA documents dated September 2015 that the Flood Planning Level for this locality is 12.9 m. AHD. All habitable floor levels are at or above this level thus fully meeting the PCC requirements. There have been no significant changes to the overall layout since that submission. (Refer SMEC S79C Report Section 3.1.4)	The current proposal demonstrates that all habitable floor levels are at or above the FPLs nominated in the Record of Pre-Lodgement Application Meeting (refer to Table 2) and consistent with the Flood Information provided on 3 rd September based on the new "2024 Parramatta River Flood Study" from June 2024.
All basement car parks must be protected from ingress of floodwaters with a continuous flood proof bund (including crests on driveways, access ways and other openings) to a minimum level of the Flood Planning Level (1% AEP event plus 500mm freeboard). In addition, the basement car park for Site 1 shall be protected from the ingress of flood waters between the FPL (12.9m AHD) and the PMF (14.0m AHD) with additional driveway crest height and/or self- operating flood gates, and other means. In addition, the basement car park for Site 2 shall be protected from the ingress of flood waters between the FPL (12.9m AHD) and the PMF (14.2m AHD) with additional driveway crest height and/or self-operating flood gates, and other means.	The basement car parks on Sites 1 and 2 are protected from ingress of floodwaters to the FPL of 12.9m AHD. In addition, self-operating flood gates will be installed on sites 1 and 2 to prevent ingress of flood waters between the FPL and PMF. (Refer SMEC S79C Report Section 3.1.5)	For Site 1: The current Architectural Drawings show the lowest driveway crest for the basement car park and loading dock ramp is set at RL 12.96 mAHD. This is set 60mm above the DA approved Flood Planning Level of RL 12.9 mAHD. Although we note that an RL of 12.96 mAHD is below the new FPL of 13.5 mAHD for this corner of the site, we propose that self-operating flood gates be installed at the driveway to prevent ingress of flood water between the RL 12.96 mAHD and PMF of RL 14.00 mAHD. Combined basement for Site 1 is located under the residential and hotel buildings and will consist of: A hotel store.
		 Showers and toilets.
		 A Kitchen.



Council Requirements per Section 79C:	SMEC Responses to Council Requirements at the time of DA Approval:	AT&L Responses for Current Plans for Modification:
		 A Business Centre.
		 And a hotel administrative office.
		The stairwell in the Lobby Area (RL14.0 mAHD) and the second entry is from the hotel ground floor elevators (RL 14.0 mAHD). Due to the entry being set at the PMF RL 14.0 mAHD, the use of these areas is appropriate up to and including the PMF.
		Where the penetration (such as lift cores) into the basement is set at RL 12.9 mAHD within the hotel building, the basement car park is protected with flood barriers starting from RL 12.9 mAHD up to RL 14.00 mAHD (PMF)
		For Site 2:
		The current Architectural Drawings show the driveway crest for the basement car park at RL 12.90. This driveway crest levels is consistent with the approved DA consent.
		Although we note that an RL of 12.90 mAHD is below the FPL of 13.3 mAHD at the northwestern corner (Building K) of the property, we propose that self- operating flood gates be installed at the driveway to prevent ingress of flood water between the RL 12.90 mAHD and PMF of RL 14.20 mAHD. No change to the driveway levels have been proposed and the driveway crest levels are consistent with the approved DA consent.
		Combined basement for Site 2 is located under the residential and community building and will



Council Requirements per Section 79C:	SMEC Responses to Council Requirements at the time of DA	AT&L Responses for Current Plans for Modification:
	Approval:	only consist of non-habitable spaces such as Utility and Service Rooms.
		The first stairwell in the Lobby Area in the northwestern corner (Building K) of the site is set at RL12.9 mAHD. Due to the entry being 0.1m above the 1% AEP RL of 12.8 mAHD, the use of these area is appropriate up to and including the 1% AEP. This stairwell entry will also be protected with flood barriers with the starting elevation of RL 12.9 mAHD up to PMF RL of 14.2 mAHD.
		Second stairwell entry is located behind the residential lobby in the southwestern corner (Building K) of the site is set at RL 12.9 mAHD. Due to the entry being set 0.7m above the 1% AEP RL of 12.2 mAHD, the use of these areas is appropriate up to and including the 1% AEP. This stairwell entry will also be protected with flood barriers with the starting elevation of RL 12.9 mAHD up to PMF RL of 14.2 mAHD.
		Third stairwell is located behind the community space in the southeastern corner (Building L) of the site and is set at RL 12.9 mAHD. Due to the entry being set 0.7m above the 1% AEP RL of 12.2 mAHD, the use of these areas is appropriate up to and including the 1% AEP. This stairwell entry will also be protected with flood barriers with the starting elevation of RL 12.9 mAHD up to PMF RL of 14.2 mAHD.
		Fourth stairwell in located at the northeastern corner (Building L)



Council Requirements per Section 79C:	SMEC Responses to Council Requirements at the time of DA Approval:	AT&L Responses for Current Plans for Modification:
		of the site and is set at RL 12.9 mAHD. Due to the entry being set 0.7m above the 1% AEP RL of 12.2 mAHD, the use of these areas is appropriate up to and including the 1% AEP. This stairwell entry will also be protected with flood barriers with the starting elevation of RL 12.9 mAHD up to PMF RL of 14.2 mAHD.
		Where the penetration (such as lift cores) into the basement is set at RL 12.9 mAHD within the hotel building, the basement car park is protected with flood barriers starting from RL 12.9 mAHD up to the RL 14.2 mAHD (PMF).
		Finish Floor Levels (FFLs) and entrances to the basement are set to RL 12.9 mAHD for Building L along Church Street. These levels are 200mm above required Flood Planning Level (FPL) of 12.7 mAHD. Therefore, FFLs set for Building L comply with the new Flood Planning Levels.
		A Flood Emergency Response Plan (FERP) can address the evacuation of these areas in a rare storm event that is greater than the 1% AEP.

Subsequent to a Pre-Lodgement Application Meeting held on Thursday 9th November 2023 (PL/90/2023), Council provided a Record of Pre-Lodgement Application Meeting, which includes advice relating to flood planning. This advice and AT&L's response is summarised below in Table 2.

Table 2: Response to advice received from Council

Council Advice	AT&L response
It is noted that there are proposed changes to a number of the levels within the site (including the central plaza and the driveway).	Council's advice in the Record of Pre-lodgement Application Meeting indicates varying FPLs across the proposed development. Comment regarding the adopted FFLs at each of these locations is outlined



You are advised that Council has new flooding information available which will need to be closely considered in your modification application.

There are indications that some parts of the site would not now comply with acceptable flood levels generated by overland flow and would be required to be raised. Other parts may be satisfactory.

However as no overland flow study has been carried out by the applicant this cannot be confirmed.

Offices and storage of valuable items including retail storage are unlikely to be acceptable below ground and below the FPL. Other proposed 'non-habitable' uses will be assessed on merit.

All habitable floors must be at or above the flood planning level which is the 1% AEP flood level plus 500mm freeboard.

Pending adoption of Council's Flood Study, the following levels identified as Flood Planning Levels (FPL) may be used for this purposes of this application. Minimum finished floor levels of habitable rooms should be considered in the design. below (refer to markup of the figure provided by Council for location references):

(1) Hotel Lobby

The adopted hotel lobby FFL is 12.90 mAHD (400mm above the FPL as per Council's recent advice).

(2) Residential Lobby

The adopted FFL of the residential lobby is 14.00 mAHD (500mm above the FPL as per Council's recent advice).

(3) Retail fronting Colonnade

The FFL of the retail spaces fronting the colonnade are proposed to vary between 13.40 mAHD and 14.00 mAHD (compared to a FPL as per Council's recent advice of 13.50 mAHD). The FFL of the two westernmost retail spaces would be nominally 100mm below the FPL. As this part of the development is nonhabitable the DCP requirements relating to floor level are not applicable.

(4) Café / Restaurant

The adopted FFL of the Café / Restaurant is 12.90 mAHD, which is 600mm below the FPL as per Council's recent advice. As this part of the development is non-habitable the DCP requirements relating to floor level are not applicable.

(5) Retail fronting Colonnade near Great Western Highway

The FFL of the retail space fronting the colonnade near GWH is 14.35 mAHD (compared to a FPL as per Council's recent advice of 14.50 mAHD). As this part of the development is non-habitable the DCP requirements relating to floor level are not applicable.

A detailed assessment will be undertaken to confirm the need or otherwise for flood barriers at the Residential E Lobby to address the risk of flood flows into the basement via the four residential lifts.

(6) Retail fronting Great Western Highway

The FFL of the retail spaces fronting the colonnade near GWH are 14.82 mAHD and 15.25 mAHD (compared to a FPL as per Council's recent advice of 15.50 mAHD). As this part of the development is non-habitable the DCP requirements relating to floor level are not applicable.





Table 1 and Table 2 demonstrate that Site 1, the proposed floor plan is generally consistent with the approved DA drawings. We note that the driveway leading up to the basement can be suitably addressed by an automated flood gate and will not adversely affect the surrounding properties or require onerous changes to the approved strategy.

For Site 2, Parramatta City Council required that:

The building fronting Church Street, an underfloor flood passageway across the south east corner of this building between Lansdowne Street and Church Street must be provided. This must be generally in accordance with this Concept DA, but will be subject to Council's detailed approval with the individual building Development Application. The underside of this structure must be not less than 200mm below the Flood Planning Level for this building and higher if possible. The Plaza area in Site 2 fronting Lansdowne Street must be set at a level that allows the passage of floodwaters into this underfloor passageway. Detailed design of the plaza area and the Lansdowne and Church Street frontages must address this together with public safety and other aspects including flow from this structure across the footway. This design must be based on hydrodynamic overland flow flood modelling. In such design public safety must take precedence over minor flood affectation.

The building fronting Church Street, an underfloor flood passageway across the south east corner of this building between Landsdown Street and Church Street is provided. Proposed ground floor plan is generally in accordance with the DA approval. The FFL of the building in this corner of the site is set at RL 12.9 mAHD. The



underside of this structure will not be less than 200mm below the Flood Planning Level (RL 12.2 mAHD + 500mm Freeboard = FPL RL 12.7 mAHD) for this building and higher if possible.

For both Site 1 and Site 2, the DA approval required flood mitigation measures including the Flood Gates to be installed at the driveway crests to protect the basement from the RL 12.9 mAHD up to the PMF RL of 14.00 mAHD for Site 1, and PMF RL of 14.20 mAHD for Site 2. The Planning Proposal and the new Flood Planning Levels as per the "Parramatta River Flood Study" from 2024 does not change this required mitigation measures from the approved development.

Although the proposed development is located within a Medium Flood Risk Precinct, the proposed Planning Proposal Modification does not change the flood mechanisms affecting the site from the previously approved DA.

As such, the current set of drawings will comply with Council's FPL requirements as per the Record of Prelodgement Application Meeting and Flood Information provided based on the new flood study. Sufficient measures will be undertaken to accommodate flood waters as necessary, while retaining suitable street frontage and public safety. Special provisions will be in place for flood proofing the basement car parks and evacuation / emergency response systems.

Should you have any questions, please don't hesitate to contact the undersigned.

Yours sincerely,

Samip Shah

Samip Shah Senior Project Manager | Civil Engineer 02 9068 8517

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Louis Nguyen Associate | Civil Engineer 02 9068 8517



Appendix A

Stamped & Approved DA Plan







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ateway South Parramatta
3 Church Street

Issue	for DA		DA-1	10-010	E	
Status			Dwg No.		Rev	
1:200	@A1, 50%	6@A3		13079	MZ / PY	/
Scale			Project No.		Drawn by	North
Rev.	Date	Approved by	Revision Notes			
A	28.06.16	SC	Issue for DA			
В	29.07.16	SC	Additional information	n		
С	25.11.16	SC	Additional information			
D	16.12.16	SC	Additional information			
E	17.04.11	SC	Eastern Boundary C	orner Splays Ac	lded	



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Appendix B

Current Architectural Ground Floor Plans for Site 1 and Site 2







AJC ARCHITECTS GADIGAL COUNTRY 79 MYRTLE STREET CHIPPENDALE NSW, 2008 AUSTRALIA +61 2 9311 8222 ARCHITECTSAJC.COM ABN 53 003 782 250

NOMINATED ARCHITECTS MICHAEL HEENAN 5264, BRIAN MARIOTTI 9451, JOHN WHITTINGHAM 7030 CLIENT



PROJECT GATEWAY PARRAMATTA 83 Church Street and 44 ONE PROJECT NO 23039

LOCATION Early Street, Parramatta, NSW





DN AP DC DC

SHEET TITLE LEVEL 01 FLOOR PLAN



SHEET NUMBER

DA2101

REVISION

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LIENT	LEGEN	D		
IQZ Pty Ltd Retail 24 & 25, 1 Nipper Street (18 Parramatta Rd) Homebush NSW 2140 AUSTRALIA	AC AHU AMB B B1,2 BKP BKR	Air Conditioning Air Handling unit Ambulant Bathroom Bedroom 1, Bedroom 2, etc. Bicycle Parking Bicycle Rack	BGS BY CLNR COM COMS CPE CWB	Boom Gate System Balcony Cleaner Store Commercial Communications Service Car Park Exhaust Car Wash Bay
	DICC	Disusla Charana		Condensor Water Pinew

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Scale Project No. Drawn by 24035 1:200 @A1, 50%@A3 Dwg No. **DA-110-006** Rev Status 04 For Information



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Appendix C

Flood Information For Site 2 – Provided By City of Parramatta Council, Dated 3rd September 2024



Our Reference: FL/241/2024 Contact: Telephone: Fax:

Peter Sirianni 02 9806 5309 02 9806 5906

AT&L Level 7, 153 Walker Street North Sydney NSW 2060

3 September 2024

FLOOD ENQUIRY APPLICATION

Property Details

Address	63 Church St Parramatta
	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.

Delivery Preference

tim.m@atl.net.au

Reason for Enquiry

Property Type

** GST not applicable from 1 July 2013**

\$628.95

Flooding Application – Commercial

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 Paramatta 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 - 3 September 2024

Flooding

	perty affected by flooding? rch Street, PARRAMATTA	Yes No		
Flood Levels	Closest Cross Sections: (Please refer to Flood Study):			
5% AEP	RL 11.7m AHD at Church Street frontage.			
1% AEP	Varies – RL 12.2m AHD at Church Street frontage and southern boundary to RL 12.8m AHD at northwest corner property boundary.			
PMF	RL 14.2m AHD			
🛛 Refer	to flood maps provided for detailed flood levels.			
Flood infor	mation is obtained from the following flood study report:			
Parram	atta River Flood Study, 2024 (Stantec)			

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? Properties located within a Hatched Grey Area are subjected to flooding from the local catchment	nt.	☐ Yes ⊠ No
Is the property located within a Grey Area? Properties located within a Grey Area are subjected to additional site drainage controls to manag flooding in the local catchment.	ie [☐ Yes ⊠ No
Is the property likely to be affected by overland stormwater run-off from the local catchment?	Detailed Investigation Required	
Note: 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

\boxtimes	The Applicant needs to discuss the proposal to re-develop this site with Council's Town Planner and Development Services Engineer.
\boxtimes	The Applicant needs to contact Council's Town Planner and organise a pre-lodgement meeting to discuss any proposal to redevelop this property.
	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)

- 1. **AHD** a common national surface level datum approximately corresponding to mean sea level.
- 2. **ARI** the long term average number of years between the occurrences of a flood as big as or larger than, the selected event.
- 3. **PMF** is the largest flood that could conceivably occur at a particular location, usually estimated from probable maximum precipitation.
- 4. **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.





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3/09/2024



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3/09/2024

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Appendix D

Gateway South Concept Design S79C Assessment Report: Flooding by SMEC; Dated July 2016



Parramatta Parl

Location

Source: Allen Jack + Cottier Architects

Gateway South Concept Design Church Street, Parramatta S79C Assessment Report: Flooding

July 2016

IMPORTANT NOTICE

This report is confidential and is provided solely for the purposes of flood assessment of Gateway South development for Gateway Parramatta One Pty Ltd (ABN 57607 553 565). This report is provided pursuant to a Consultancy Agreement between SMEC Australia Pty Limited ("SMEC") and Gateway Parramatta One under which SMEC undertook to perform a specific and limited task for Gateway Parramatta One. This report is strictly limited to the matters stated in it and subject to the various assumptions, qualifications and limitations in it and does not apply by implication to other matters. SMEC makes no representation that the scope, assumptions, qualifications and exclusions set out in this report will be suitable or sufficient for other purposes nor that the content of the report covers all matters which you may regard as material for your purposes.

This report must be read as a whole. The executive summary is not a substitute for this. Any subsequent report must be read in conjunction with this report.

The report supersedes all previous draft or interim reports, whether written or presented orally, before the date of this report. This report has not and will not be updated for events or transactions occurring after the date of the report or any other matters which might have a material effect on its contents or which come to light after the date of the report. SMEC is not obliged to inform you of any such event, transaction or matter nor to update the report for anything that occurs, or of which SMEC becomes aware, after the date of this report.

Unless expressly agreed otherwise in writing, SMEC does not accept a duty of care or any other legal responsibility whatsoever in relation to this report, or any related enquiries, advice or other work, nor does SMEC make any representation in connection with this report, to any person other than Gateway Parramatta One. Any other person who receives a draft or a copy of this report (or any part of it) or discusses it (or any part of it) or any related matter with SMEC, does so on the basis that he or she acknowledges and accepts that he or she may not rely on this report nor on any related information or advice given by SMEC for any purpose whatsoever.

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1. INTRODUCTION

1.1. Scope

SMEC has been engaged by Gateway Parramatta One P/L ABN 57607 553 565 (also referred to in this report as "Dyldam") to review the flooding and stormwater requirements for the proposed Gateway South Development at Church Street, Parramatta. After the original DA submission by Boyded Industries in 2014, Parramatta City Council (PCC) provided additional requirements to be addressed in further submissions. Following those comments, AECOM Consultants on behalf of Boyded Industries revised the concept design for the proposed Gateway South Development and submitted it to PCC on 4th September 2015. Following further submissions by Dyldam; PCC on 29 June 2016 issued an Assessment Report under Section 79C of the Environmental Planning an Assessment Act of 1979.

This report provides a response to the requirements specified for flood related issues in the above Assessment Report.

1.2. Site Location

The proposed Gateway South development consists of three sites where Sites 1 and 2 propose to develop the land with the construction of a mixed commercial and residential development and providing the third site (Site 3) as a public park. The proposed site is situated along the Clay Cliff Creek with flows travelling from a west to east direction crossing Lansdowne Street, Early Street, and Church Street and ultimately discharging to the Parramatta River. The three sites are shown in Figure 1 below. The catchment is within both the Cumberland City Council and Parramatta City Council Local Government Areas while the site is within the PCC LGA.



Figure 1: Proposed Site Locality (Source: AECOM, 2015)

2. FLOODING ISSUES

2.1. Pattern of Flooding

Flooding issues associated with this development have been the subject of two previous reports¹ which in turn were based upon flood investigations undertaken on behalf of Parramatta City Council².

The general pattern of flooding within the areas affected by the development is from west to east and arises in the Clay Cliff Creek that has a catchment area of approximately 3.2 square kilometres. The main flow path is a concrete channel that delivers flood flows from the Ollie Webb detention basin to Parramatta River in the east. Uncontrolled flooding arises when the capacity of this channel and its associated culverts are exceeded during major events.

The initial flood studies undertaken by SKM utilised a 1 dimensional model (MIKE 11) and estimated a 1% AEP flood level in Church Street in the vicinity of the development of around 12.9 m AHD. Subsequently PCC engaged Cardno to undertake drainage investigations in Clay Cliff Creek and they developed a more modern 2D model of flooding within this catchment using XP- SWMM software. These studies indicated that the 1% AEP flood levels in the vicinity of Church Street to be lower than those estimated by SKM and around 12.4 m AHD.

AECOM using a revised Cardno model undertook a number of flood studies to finalise their investigations for the Gateway South Concept DA. They were able to achieve the PCC requirements by provision of a flow path under the structures in Site 2.

SMEC has reviewed the modelling undertaken during the previous studies and noted their compliance with PCC requirements.

¹ AECOM (2015) "Gateway South, Church Street, Parramatta Supplementary Flood Impact Report", Boyded Industries AECOM (2014) "Gateway South, Church Street, Parramatta Supplementary Flood Impact Report", Boyded Industries

² SKM (2005) "Lower Parramatta River Floodplain Risk Management and Study", PCC Cardno (2007) "Clay Cliff Creek Catchment Master Drainage Plan", PCC

3. REVIEW OF FLOODING COMMENTS

The flood issues in the Assessment Report are covered by the Development Engineer who comments that (pg. 23);

"The Applicant has responded positively and constructively to Council's engineering concerns.

A 2D/1D flood study by Cardno ('the Cardno 2007 Study') clarified the relevant flood levels, depths and velocities around the site and revised flood planning levels and strategy were agreed with Council. Amended architectural drawings showed an appropriate treatment concept, especially at ground level, to accommodate flood waters as necessary, while retaining a suitable street frontage and public safety. Special attention has been given to flood proofing the basement car parks and evacuation/emergency response systems......

CONCLUSION

The Concept DA proposal satisfies the requirements of Council's controls and can be supported, subject to special conditions of consent, and noting that there will be further detailed assessments and requirements for each of the individual sites and their respective DA's."

Further comments are provided under the section "Development of Flood Prone Land" (pg. 64)

"All three development sites are subject to high hazard flooding from the Clay Cliff Creek main channel and from overland flow in the surrounding streets. The applicant has satisfactorily addressed the flooding in terms of habitable levels above flooding and protection of the basements from flooding. Council's Development Engineer has assessed the application and advises that adequate precautions, satisfactory to Council, must be included in all developments in these sites to address the needs of public and occupant safety, emergency escape and refuge, prevention of ingress of flood waters and protection of property within the future development applications."

3.1. Detailed Comments

3.1.1 Flood Emergency Management (11 (1) (a)):

PCC Requirement: The three development sites (being Site 1, 2 and 3) are subject to high hazard flooding from the Clay Cliff Creek main channel and from overland flow in the surrounding streets. Adequate precautions, satisfactory to Council, must be included in all developments in these sites to address the needs of public and occupant safety, emergency escape and refuge, prevention of ingress of flood waters and protection of property.

Response: Flood Emergency Management Strategy has been addressed in Appendix G of the DA documents dated September 2015. This document will be updated to include the recent changes and will be submitted on completion.

3.1.2 Flood Planning Level (11(1) (b))

PCC Requirement: For the purpose of this consent, the Flood Planning Level is defined as the predicted 1% AEP flood level (100 ARI) level plus 500mm arising from Clay Cliff Creek and the surrounding overland flow level, as obtained from the 'Cardno 2D flood model' for Clay Cliff Creek and environs, known as the '2007 model'. The Flood Planning level for each building may vary with the immediate terrain and built context. The Flood Planning Level must be re-determined for each Development Application for each individual building using the '2007 2D Cardno Flood model' (or approved alternative) adjusted for revised designs, building footprints, ground surface levels and so on. Development Applications for individual sites within this concept DA must demonstrate that buildings and ground surfaces do not harm other land by diverting floodwaters and concentrating stormwater at least up to the Flood Planning Level.

Response: Using the 2007 2D Cardno Flood Model, it was shown in Appendix F of the DA documents dated September 2015 that the Flood Planning Level for this locality is 12.9 m. AHD. It was also demonstrated that the buildings and

ground surfaces do not harm other land by diverting floodwaters and concentrating stormwater. There have been no significant changes to the overall layout since that submission.

3.1.3 Alterations to predicted flow patterns (11(1)(c))

PCC Requirement: All of the buildings, landscape and public domain areas subject to this consent shall be designed and built so as to cause no significant, alterations to the predicted flow patterns of floodwaters, at least up to 'Flood Planning Level' (the 1% Annual Exceedance Probability (AEP) event plus 500mm freeboard).

Response: Using the 2007 2D Cardno Flood Model, it was shown in Appendix F of the DA documents dated September 2015 that there were no alterations to the predicted flow patterns of floodwaters. There have been no significant changes to the overall layout since that submission.

3.1.4 Minimum level of all habitable floors (11(1)(d))

PCC Requirement: The minimum level of all habitable floors in all of the buildings shall be not less than the respective Flood Planning Levels (1% AEP event plus 500mm freeboard).

Response: Using the 2007 2D Cardno Flood Model, it was shown in Appendix F of the DA documents dated September 2015 that the Flood Planning Level for this locality is 12.9 m. AHD. All habitable floor levels are at or above this level thus fully meeting the PCC requirements. There have been no significant changes to the overall layout since that submission.

3.1.5 Basement Car Parks (11 (1) (e))

PCC Requirement: All basement car parks must be protected from ingress of floodwaters with a continuous flood proof bund (including crests on driveways, access ways and other openings) to a minimum level of the Flood Planning Level (1% AEP event plus 500mm freeboard). In addition, the basement car park for Site 1 shall be protected from the ingress of flood waters between the FPL (12.9m AHD) and the PMF (14.0m AHD) with additional driveway crest height and/or self-operating flood gates, and other means. In addition, the basement car park for Site 2 shall be protected from the ingress of flood waters between the FPL (12.9m AHD) and the PMF (14.2m AHD) with additional driveway crest height and/or self-operating flood gates, and other means.

Response: The basement car parks on Sites 1 and 2 are protected from ingress of floodwaters to the FPL of 12.9m AHD. In addition self-operating flood gates will be installed on sites 1 and 2 to prevent ingress of flood waters between the FPL and PMF.

3.1.6 Underfloor Flood Passageway 11(1)(g)

PCC Requirement: For the Site 2 building fronting Church Street, an underfloor flood passageway across the south east corner of this building between Lansdowne Street and Church Street must be provided. This must be generally in accordance with this Concept DA, but will be subject to Council's detailed approval with the individual building Development Application. The underside of this structure must be not less than 200mm below the Flood Planning Level for this building and higher if possible. The Plaza area in Site 2 fronting Lansdowne Street must be set at a level that allows the passage of floodwaters into this underfloor passageway. Detailed design of the plaza area and the Lansdowne and Church Street frontages must address this together with public safety and other aspects including flow from this structure across the footway. This design must be based on hydrodynamic overland flow flood modelling. In such design public safety must take precedence over minor flood affectation.

Response: The hydrodynamic flood flow modelling is currently in progress.

3.1.7 Safety and emergency management (11 (1) (i))

PCC Requirement: Individual DAs must include comprehensive safety and emergency access and egress plans for both occupants and the general public.

Response: Flood Emergency Management Strategy has been addressed in Appendix G of the DA documents dated September 2015. This document will be updated to include the recent changes and will be submitted on completion

3.1.8 Site 3 Park (11 (1) (j))

PCC Requirement: For the Site 3 Park the proposed landscape design is not acceptable to Council, nor approved by this Consent, and a Development Application for this site will need to be substantially modified to incorporate the following responses to flood risk management and water sensitive urban design. The design must address the following to Council's satisfaction:

i. The existing Clay Cliff Creek culvert should not be altered and any fencing around it should be constructed or reconstructed to Sydney Water requirements and specifications. Details of this, including the written approval of Sydney Water, are required to be submitted for Council approval with the Development Application for the park.

ii. In order not to divert floodwaters or reduce storage the finished surface levels of the park should not be significantly different from current surface levels (pre development) unless changes are justified to Council's satisfaction and such changes are shown not to increase flood hazards or displace floodwaters onto adjoining lands. This should be demonstrated to Council's satisfaction in any DA for the park site.

iii. The proposed kiosk amenities facility, half basketball court and play area are not approved by this Consent. Such may be the subject of a DA for the park but would be assessed on their merits at that time, particularly in terms of flood risk safety management and encouragement of use of the high hazard flood area in the park. Council currently considers such an application would not be supported because of the significantly increased risk to public safety but acknowledges that such facilities would be of value to the local communities and will review the risk and liability issues associated with this on receipt of a DA proposal.

iv. Additional car parking must not be provided in or immediately adjacent to the park.

Response: Site 3 will be designed in conjunction with Parramatta City Council and design consultants to advise a desired urban outcome without affecting or altering the flood waters flowing through Site 3. Further modelling of the entire proposal will be undertaken to inform this process.

4. REFERENCES

(Parramatta City Council, July 2016), Assessment Report –Mixed Use Development S79C – Environmental Planning and Assessment Act, 1979 – Kate Lafferty

(AECOM, 2015), Gateway South Church Street Parramatta, - Appendix D Supplementary Flood Impact Report – Revised DA Document, Client: Boyded Industries Pty/Ltd.

(AJ+C, 2015), Gateway South Parramatta Stage 1 DA Report. Allen Jack + Cottier Architects.

(SKM, 2005), Lower Parramatta River Floodplain Risk Management Study and Plan Volume 1 Main Report, Client: Parramatta City Council.

(SKM, 2005), Lower Parramatta River Floodplain Risk Management Study and Plan Volume 2 Planning, Client: Parramatta City Council.

(AECOM, 2014), Gateway South Church Street Parramatta, - Appendix L Concept Stormwater Management Plan – Original DA Document, Client: Boyded Industries Pty/Ltd.

(AECOM, 2015), Gateway South Concept Development Application – Supplementary Information to Support Stormwater Management Plan, Client: Boyded Industries Pty/Ltd.

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