



MODE Design Corp Pty Ltd
Level 5, 111-117 Devonshire Street
Surry Hills NSW 2010

Ref: 119056

16 October 2019

Attention: Mr Y Patel

Dear Yatrik,

**Re: 215-235 O’Riordan Street and 1-3 Ewan Street Mascot
Site Flood Assessment for Planning Proposal**

WMAwater have undertaken a site-specific flood assessment for the planned redevelopment of the above site, in the context of a planning proposal being prepared for the site. At this planning stage, a review of floor levels and potential flood impact has been undertaken, to determine whether the proposed building envelope and elevations can meet the relevant flood-related development controls from the Botany Development Control Plan (DCP). Compliance with Section 9.1 Ministerial Directions for assessment of Planning Proposals has also been assessed. This letter is intended to identify whether the key criteria can be met as part of the Planning Proposal.

1. INTRODUCTION

1.1. Background

MODE Design Corp are managing a Planning Proposal for 215-235 O’Riordan Street and 1-3 Ewan Street Mascot (the site, see Figure 1). The site has been identified as flood prone by Bayside Council (Council). As part of the Planning Proposal, it is necessary to demonstrate that the prospective development is compatible with the flood hazard and flood-related development controls under Council’s planning framework. The prospective development would involve demolition of existing structures and construction of a new commercial building and hotel, with associated car parking (including basement carparks).

Flood information at this site is available from the Mascot, Rosebery & Eastlakes Flood Study completed by WMAwater on behalf of Bayside Council (Reference 1). Using the existing flood model developed for the Flood Study, WMAwater have undertaken a review of the existing flood behaviour at the site, in conjunction with Council’s flood planning controls and the current proposal.

1.2. Available Data

The following documents were relied upon for this assessment:

- Mascot, Rosebery & Eastlakes Flood Study, Final Report, prepared by WMAwater on behalf of Bayside Council, March 2019 (Reference 1);
- Botany Bay Development Control Plan 2013, Part 3G: Stormwater Management (Reference 4);
- Botany Bay Development Control Plan 2013, Stormwater Management Technical Guidelines (Reference 4);
- Flood Advice Letter for 215-235 O'Riordan Street and 3 Ewan Street Mascot (Bayside Council, 12 June 2019);
- Section 9.1 Directions, issued by the Minister for Planning (Direction 4.3 issued 1 July 2009); and
- Architectural Plans for the site (MODE's OSMD Project, Preliminary Issue Rev G, 9 October 2019 with Flood Storage amendment 15 October 2019 - attached).

The Mascot, Rosebery & Eastlakes flood model developed for the flood study was reviewed and updated in order to assess the proposed development. Details of the modelling undertaken can be found in Section 2.1.

2. EXISTING FLOOD BEHAVIOUR

2.1. Existing Flood Modelling

The flood model developed for the Mascot, Rosebery & Eastlakes Flood Study (Reference 1) was used for this investigation. The flood model was developed in TUFLOW and covers the subject site, which is within the suburb of Mascot. The model utilises a 2 m x 2 m grid to simulate flood behaviour across the catchment using flows from a DRAINS hydrologic model. The topographic data within the model is derived from LiDAR data captured in 2007 and 2008. Buildings are represented in the model as solid obstructions to flow. The model was verified using the November 1984 and March 2014 flood events. The 50%, 20%, 10%, 5%, 2% and 1% Annual Exceedance Probability (AEP) flood events were simulated along with the Probable Maximum Flood (PMF). The critical duration was assessed to be 1 to 2 hours across the catchment for events up to the 1% AEP (the 2 hour was adopted), and the critical duration for the PMF was between 30 minutes and 1 hour, with the 1 hour being adopted. Provisional hydraulic categorisation and flood hazard categorisation was also undertaken.

2.2. Updated Flood Modelling

The existing flood model was updated to include recent developments in the vicinity of the site. The latest aerial imagery available from NearMap was obtained to identify these developments. Two buildings on the opposite side of O'Riordan Street and a new building adjacent to the site were added into the model. As seen in the Flood Advice Letter from Council, the terrain used in the flood study included a large excavation immediately to the west of the site that acted as a flood storage basin.

Since then, a new building has been constructed on the site. Without having details of this construction, it was assumed that the ground levels across the site would tie into the ground levels at the edges of the site. This terrain modification was included in the flood model to represent the current (base case) conditions. These modifications can be seen in Figure 1. The 2 hour event was adopted for events up to and including the 1% AEP, and a critical duration assessment for the PMF showed that the 30 minute event produced peak flood levels at this location, and hence was adopted for this investigation.

2.3. Existing Flood Results

The site is located adjacent to a sag point on O’Riordan Street. The catchment generally drains to the west. The catchment draining directly to the sag is approximately 2.2 ha and includes the site, O’Riordan Street between King Street and Ewan Street, as well as several lots on the opposite side of O’Riordan Street (on either side of High Street). The sag can also receive runoff from a smaller catchment to the north of King Street if it flows over King Street. Catchments downstream of O’Riordan Street can contribute to flooding along King Street and Ewan Street. These catchments can be seen in Figure 1.

Flooding at the site in current conditions is generally localised to the carpark area fronting O’Riordan Street. Water ponds in the carpark even in the 50% AEP event (the smallest event modelled). When runoff exceeds the capacity of the local stormwater drainage from the sag point in O’Riordan Street, water will accumulate in the street and in the car park of the site. Once the sag point in the road fills with water, it begins to overflow down King Street. Water along King Street is generally contained within the road reserve adjacent to the site as it flows downhill toward Qantas Drive. In the 20% AEP event and greater, water also spills out of the sag point and down Ewan Street, again generally being contained within the street adjacent to the site. The variation in flood level at the sag point is therefore minimal for rarer flood events, as it is primarily controlled by the overtopping levels before water flows down King Street and Ewan Street. The 50% AEP event flood level is 6.72 mAHD, while the 1% AEP event flood level is 6.83 mAHD (a difference of just 0.11 m). In the PMF event the flooding is slightly more extensive, encroaching onto the site resulting in shallow flow between the existing buildings at the northern end. The PMF level is 6.95 m AHD. The existing flood depths and levels for the 1% AEP and PMF events can be seen in Figure 2 and Figure 3, respectively.

The peak velocity for the 1% AEP and PMF events can be seen in Figure 4 and Figure 5, respectively. The peak velocities in the 1% AEP event are very small within the site (< 0.1 m/s), and slow flow is generally present at the sag point. The fastest velocities are approximately 0.5 m/s coming down High Street, and once water spills into King Street and Ewan Street, velocities are in the range of 0.5 to 1 m/s. Velocities in the PMF within the site are less than 0.3 m/s, with velocities just over 1 m/s outside the site.

The peak flood hazard across the site has been determined using the hazard curves presented in the Australian Disaster Resilience Handbook 7: Managing the Floodplain (Reference 3). The curves present flood hazards as a function of the depth and velocity of floodwaters, as shown in Diagram 1.

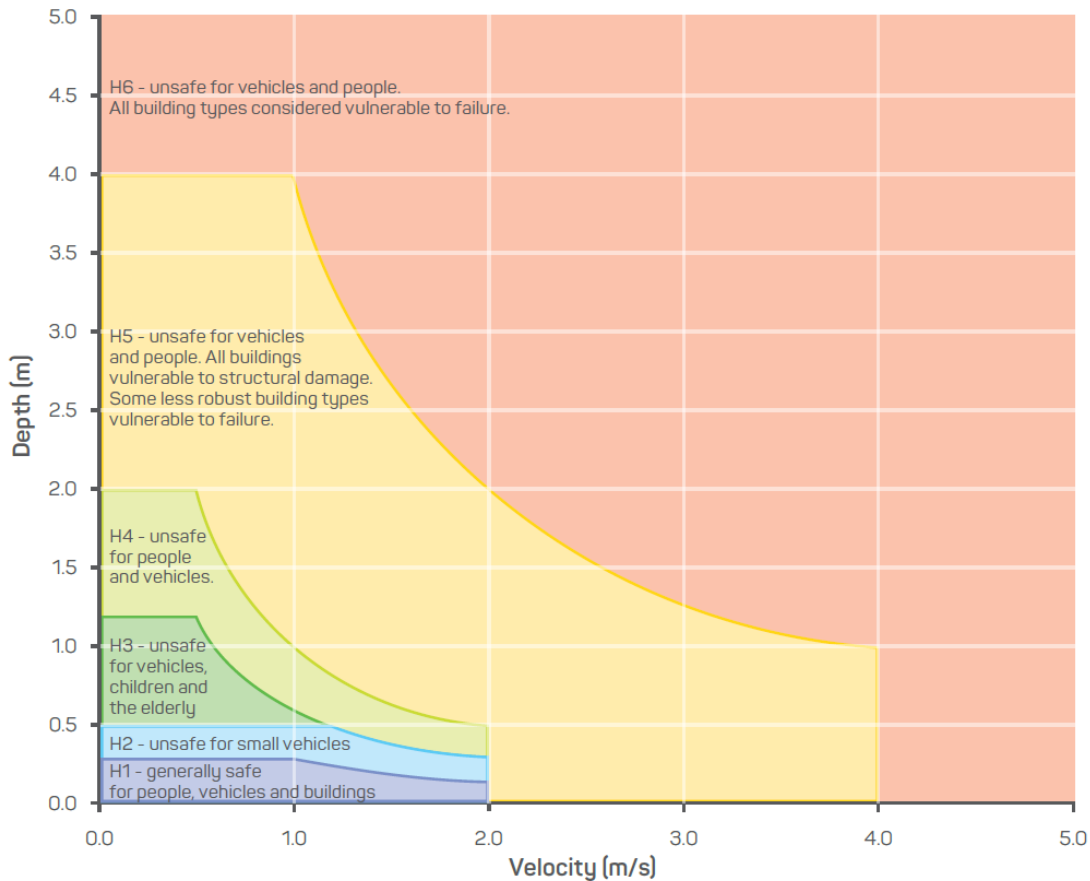


Diagram 1: Flood hazard vulnerability curves. Source: *Australian Disaster Resilience Handbook 7: Managing the Floodplain, Guide 7-3* (Reference 3)

The flood hazard for the 1% AEP and PMF events can be seen in Figure 6 and Figure 7, respectively. The flood hazard on the site is generally H1 in both events, while it can reach H3 within the O’Riordan Street sag point. The hazard remains H1 along King Street and High Street adjacent to the site.

3. FLOOD RELATED PLANNING CONTROLS AND LEGISLATION

3.1. Overview

Although Botany Bay City Council and Rockdale Council have merged to form Bayside Council, the Botany Bay Development Control Plan (DCP) 2013 (Reference 2) still governs the control of development within Mascot. The DCP relies on the Stormwater Management Technical Guidelines (part of the DCP) to prescribe requirements related to flooding. The objective of the DCP, with regards to flooding, is “to manage impacts from flooding”. Since the site has been identified as flood prone by Bayside Council, flood planning controls apply to the site. A summary of these controls is presented in Sections 3.2 to 3.4 of this report. Since this is a Planning Proposal, Section 9.1 Ministerial Directions also require consideration – these are discussed in Section 3.5 of this report.

3.2. Finished Floor Levels

Minimum floor levels apply to sites that are flood prone (Section 8 of the Stormwater Management Technical Guidelines). Habitable floors are to be 500 mm above the 1% AEP flood level and non-habitable floors are to be 300 mm above the 1% AEP flood level. For below ground basements and carparks, the crest levels of ramps and steps at entry points are to be 300 mm above the 1% AEP flood level (where known), or 300 mm above the top of kerb adjacent to the layback.

3.3. Flood Impact

Any development, as a result of raising floor levels or site levels, must not create or exacerbate flooding on any other private or public properties, including public roads and open space (Section 8 of the Stormwater Management Technical Guidelines).

3.4. Flood Study

A flood study / overland flow path assessment shall be carried out by the developer and submitted to Council as part of the Development Application (DA) documentation when the site is located at / adjacent to the sag point of the catchment, which is the case for the site (Section 11 of the Stormwater Management Technical Guidelines). The flood study is required to demonstrate:

- The proposed development does not cause an increase in flood level outside the site
- The proposed development meets floor level requirements
- Flood storage within the site is maintained
- Adequate mitigation measures have been proposed for any impacts
- Flood evacuation in the PMF event has been considered

3.5. Section 9.1 Ministerial Directions

At the planning proposal stage, the development must comply with Directions issued by the Minister for Planning under section 9.1(2) of the *Environmental Planning and Assessment Act 1979*

(previously section 117(2)). The applicable directions for flood prone land are found in Direction 4.3 (Reference 4), which was issued 1 July 2009:

What a relevant planning authority must do if this direction applies

- (4) A planning proposal must include provisions that give effect to and are consistent with the NSW Flood Prone Land Policy and the principles of the *Floodplain Development Manual 2005* (including the *Guideline on Development Controls on Low Flood Risk Areas*).
- (5) A planning proposal must not rezone land within the flood planning areas from Special Use, Special Purpose, Recreation, Rural or Environmental Protection Zones to a Residential, Business, Industrial, Special Use or Special Purpose Zone.
- (6) A planning proposal must not contain provisions that apply to the flood planning areas which:
 - (a) permit development in floodway areas,
 - (b) permit development that will result in significant flood impacts to other properties,
 - (c) permit a significant increase in the development of that land,
 - (d) are likely to result in a substantially increased requirement for government spending on flood mitigation measures, infrastructure or services, or
 - (e) permit development to be carried out without development consent except for the purposes of agriculture (not including dams, drainage canals, levees, buildings or structures in floodways or high hazard areas), roads or exempt development.
- (7) A planning proposal must not impose flood related development controls above the residential flood planning level for residential development on land, unless a relevant planning authority provides adequate justification for those controls to the satisfaction of the Director-General (or an officer of the Department nominated by the Director-General).
- (8) For the purposes of a planning proposal, a relevant planning authority must not determine a flood planning level that is inconsistent with the *Floodplain Development Manual 2005* (including the *Guideline on Development Controls on Low Flood Risk Areas*) unless a relevant planning authority provides adequate justification for the proposed departure from that Manual to the satisfaction of the Director-General (or an officer of the Department nominated by the Director-General).

Consistency

- (9) A planning proposal may be inconsistent with this direction only if the relevant planning authority can satisfy the Director-General (or an officer of the Department nominated by the Director-General) that:
 - (a) the planning proposal is in accordance with a floodplain risk management plan prepared in accordance with the principles and guidelines of the *Floodplain Development Manual 2005*, or
 - (b) the provisions of the planning proposal that are inconsistent are of minor significance.

4. FLOOD ASSESSMENT

4.1. Minimum Floor Levels

The relevant flood level for setting floor levels is from the O’Riordan Street sag point, where the 1% AEP flood level is 6.83 mAHD.

The ground levels of the proposed development consist of retail spaces and commercial lobbies. The Building Code of Australia (Reference 5, Part A1, pg. 26) defines a ‘habitable room’ in a residential context as follows:

Habitable room means a room used for normal domestic activities, and—

- (a) includes a bedroom, living room, lounge room, music room, television room, kitchen, dining room, sewing room, study, playroom, family room, home theatre and sunroom; but
- (b) excludes a bathroom, laundry, water closet, pantry, walk-in wardrobe, corridor, hallway, lobby, photographic darkroom, clothes-drying room, and other spaces of a specialised nature occupied neither frequently nor for extended periods.

The NSW Floodplain Development Manual 2005 (Reference 6), however, extends this definition to an industrial or commercial situation, defining a ‘habitable room’ as (pg. 22):

in an industrial or commercial situation: an area used for offices or to store valuable possessions susceptible to flood damage in the event of a flood.

At the Planning Proposal stage it is unclear whether the ground floor of the proposed development would be considered as ‘habitable’ or ‘non-habitable’. Conservatively, the development has assumed that there will be ‘habitable’ spaces on the ground floor. This means that minimum ground floor levels are to be 500 mm above the 1% AEP flood level according to the Botany DCP (Reference 2). The proposed ground floor levels are at 7.33 mAHD, which is the required 500 mm above the 1% AEP flood level at O’Riordan Street.

Basement carpark entrances are located on Ewan Street and King Street in the proposed design. The flood level along the streets follows the grade of the road, with the 1% AEP flood level being lower than the O’Riordan Street sag point and generally being contained within the kerb and gutter system. The requirement for these entrances is 300 mm above the 1% AEP flood level. The basement carpark entries in the proposed design are at 7.33 mAHD, 500 mm above the O’Riordan Street flood level. This exceeds the requirement and is conservative considering the flood levels along Ewan Street and King Street at the car park entry points are lower than this.

4.2. Flood Impact

A flood impact, or increase in flood level due to a development, generally results from an obstruction to a flow path, or filling of flood storage areas. The proposed development does not impede any flow

paths which would cause a flood impact. In the 1% AEP event, the site is subject to ponding within the existing carpark at the O’Riordan Street sag point, and hence any filling of the land within this area will result in a reduction in available flood storage at the sag point, which may increase flood levels. The existing flood storage volume in the 1% AEP event within the cadastral boundary is estimated to be approximately 235 m³ (to a level of 6.83 mAHD). The current proposal includes an allowance for approximately 324 m³ of flood storage (to a level of 6.83 mAHD) within the landscaped area fronting O’Riordan Street, which is more than the existing case. Since this volume is greater than the current flood storage on site, there should be no adverse impacts due to the proposed development (and even some minor improvement).

4.3. Section 9.1 Ministerial Directions

The Section 9.1 Ministerial Directions (see Section 3.5 of this report) apply to the Planning Proposal, requiring the development to be consistent with the NSW Flood Prone Land Policy and the principles of the Floodplain Development Manual 2005 (Reference 6), as per clause 4. The primary objective of NSW Flood Risk Management, as expressed within the NSW Flood Prone Lands Policy (Reference 6, page 1) is as follows:

“To reduce the impact of flooding and flood liability on individual owners and occupiers of flood prone property, and to reduce private and public losses resulting from floods, utilising ecologically positive methods wherever possible.”

The NSW Flood Prone Land Policy, as produced within Section 1.1 of the Floodplain Development Manual (2005), is consistent with that first introduced in 1984, which places the primary responsibility for implementation on local councils. The implementation of flood risk management in the Bayside Council area of Mascot is through the Botany Bay Development Control Plan 2013 (Reference 2) and Botany Bay Local Environmental Plan 2013 (Reference 7). The flood planning controls contained in the DCP are designed to ensure that there is adverse flood impact on adjacent properties and that a development is compatible with the flood hazard of the land. Hence, compliance with the DCP means the development should be consistent with the NSW Flood Prone Land Policy and the principles of the Floodplain Development Manual 2005.

The site is currently zoned as B5 ‘Business Development’ according to the Botany LEP, and hence it is not proposed to rezone the area from Special Use, Special Purpose, Recreation, Rural or Environmental Protection Zone, as per clause 5.

With regard to the items in clause 6, the following comments are provided:

- a) The planning proposal does not propose development within a floodway.
- b) It has been demonstrated that the proposed development can mitigate any flood impacts through the provision of flood storage so as to not to adversely impact other properties or land outside the site.
- c) It is unclear in this context what “significant increase in the development of the land” means. From the perspective of flood risk, the land is already fully covered by hardstand and buildings. The proposed development will not increase the development with regards to how much runoff will occur from the site. The proposed development will increase the

development of the land in terms of intensity of floor space on the site. However with regards to flood risk, this will be offset by the following considerations:

- i. The increase in floor space will be related to additional building storeys that are not at risk of damage from flooding;
- ii. The new building would comply with minimum floor level controls, unlike the existing buildings on-site. Redevelopment of the land will therefore reduce the likely flood damages for the ground floor and basement levels, as well as reducing the risk to life to people within the building.
- iii. The proposed floor levels are above the PMF level at the site, substantially reducing the risk to life compared to the existing development.

Re-development of urbanised areas is an inevitable result of increases to population in the Sydney metropolitan area. The NSW Flood Prone Land Policy recognises that:

“Flood prone land is a valuable resource that should not be sterilised by unnecessarily precluding its development”

The Floodplain Development Manual indicates that development within the floodplain should be undertaken on a merit-based approach, ensuring that the development is compatible with the flood hazard of the land. In the case of the Planning Proposal, the development is considered to be compatible with the flood hazard. Moreover, the actual flood risk to occupants of the land is reduced through redevelopment, by developing floor levels to a higher standard than the existing buildings. The proposed development of the land will reduce the flood risk to people and property compared to the current situation.

- d) The development is unlikely to result in substantially increased requirement for government spending on flood mitigation measures, infrastructure or services. The area is part of the Mascot, Rosebery and Eastlakes Floodplain Risk Management Study & Plan (FRMS&P, Reference 8). The FRMS&P has been prepared in accordance with the Floodplain Development Manual (Reference 6), and did not consider the site to be a flooding ‘hot spot’. Hence, there were no flood mitigation measures proposed for this area of Mascot. The development, given its low flood risk, will not substantially increase government spending on flood mitigation. The primary flood risk mitigation measure to reduce existing flood risk at the site would be to increase the building floor levels up to the relevant standard, which is achieved through re-development of the site in accordance with the Planning Proposal.
- e) The developments indicated in the Planning Proposal will require development consent, and the proposal does not include agriculture, road or exempt development components.

With regard to clause (7), the Planning Proposal does not impose flood related development controls above the residential flood planning level. In response to clause (8), the flood planning level has already been determined by Bayside Council to be 0.5 m above the 1% AEP flood level for habitable floors, as per the Botany DCP (Reference 2). This is consistent with the Floodplain Development Manual (Reference 6).

The Planning Proposal is largely consistent with the Section 9.1 Ministerial Directions, although Council has indicated that it does consider the proposal to “permit a significant increase in the development of the land,” and therefore not comply with clause 6(c). In order to address this non-compliance, the Section 9.1 Directions require the clause 9 “consistency” conditions to be met.

WMAwater considers that the proposal is in accordance with the Floodplain Risk Management Plan (Reference 8) prepared for this catchment. That document included a review of flood-related planning and development controls, and the Planning Proposal is consistent with the recommendations relating to planning and development. The Floodplain Risk Management Plan did not contain any other recommendations or exclusions relating to this site, nor did it identify the site as being within a particularly high risk area for flooding in the context of the entire catchment. The Planning Proposal is therefore in accordance with the principles and guidelines of the Floodplain Development Manual, as required by clause (9).

4.4. Compliance

The current development proposal, as outlined in the attached architectural plans (9 October 2019) demonstrates compliance with the required flood controls can be achieved. The floor level of the buildings is set 500 mm above the 1% AEP flood level at the O’Riordan Street sag location, which is acceptable for habitable spaces and basement carpark entrances under the Botany DCP. Allowance has been made within the landscaped area fronting O’Riordan Street for flood storage which maintains the current flood storage volume within the site. The details of this flood storage area would be developed at the detailed design stage and would need to be assessed at the Development Application (DA) stage to ensure compliance. The proposed concept, however, provides sufficient flexibility to allow the requirements to be met.

Since the requirements of the DCP are met, the proposal is considered to be consistent with the NSW Flood Prone Land Policy, the principles of the Floodplain Development Manual and the Mascot, Rosebery and Eastlakes Floodplain Risk Management Study and Plan. The development will not significantly change the flood behaviour in the area and will not have an adverse impact on neighbouring properties. The Planning Proposal reduces the current risk to property and persons by ensuring flood levels are above the flood planning level. The Planning Proposal does not increase flood risk elsewhere and is consistent with the flood risk mitigation strategies of Bayside Council (enacted through the Botany LEP, Botany DCP and the Mascot, Rosebery and Eastlakes Floodplain Risk Management Study & Plan). Hence it is considered that the Planning Proposal is consistent with the Section 9.1 Ministerial Directions.

5. CONCLUSIONS

The proposed development site at 215-235 O’Riordan Street and 1-3 Ewan Street has been identified as flood prone by Bayside Council. The Mascot, Rosebery & Eastlakes flood model has been used to simulate the existing flood conditions at the site. Water ponds at the O’Riordan Street sag point in front of the site. The variation in flood level between events is small, due to overflow paths down King Street and Ewan Street.

According to the Botany Bay DCP, habitable floor levels need to be a minimum of 500 mm above the 1% AEP flood level, which has been satisfied in the proposal. Without mitigation, filling of the site to reach this level would reduce the available flood storage. The current flood storage volume within the site can be accommodated by providing space within the proposed landscaped area fronting O’Riordan Street. Hence it has been demonstrated the proposal can adequately mitigate the effects

of filling to reach minimum floor level requirements, and there is not expected to be any adverse flood impact outside the site due to the proposed development.

The proposed development at 215-235 O'Riordan Street and 1-3 Ewan Street demonstrates compliance with Council's DCP flood controls and Section 9.1 Directions. This letter is intended to support a Planning Proposal based on the available architecture plans for the site. Some details, such as the flood storage area, would need to be assessed at the DA stage and documented in a site-specific flood study, as indicated in Section 3.4.

Yours Sincerely,

WMAwater

A handwritten signature in black ink, appearing to read "Rhys H-Jones".

Rhys Hardwick Jones

Senior Associate

References:

1. WMAwater
Mascot, Rosebery & Eastlakes Flood Study
Prepared for Bayside Council, March 2019.
2. Bayside Council
Botany Bay Development Control Plan 2013
Part 3G: Stormwater Management
Stormwater Management Technical Guidelines
3. Australian Institute for Disaster Resilience
Guideline 7-3 Flood Hazard
Supporting document for Handbook 7 Managing the Floodplain: A Guide to Best Practice in Flood Risk Management in Australia
Australian Government, 2017
4. NSW Government
Section 9.1 Directions
Consolidated list of Directions issued by the Minister for Planning to relevant planning authorities under section 9.1(2) of the *Environmental Planning and Assessment Act 1979*.
<<https://www.planning.nsw.gov.au/-/media/Files/DPE/Directions/ministerial-direction-s9-1-consolidated-list-environment-planning-and-assessment-2019-06-21.pdf?la=en>>
5. Australian Building Codes Board
National Construction Code 2016

Volume 1, Amendment 1: Building Code of Australia Class 2 to Class 9 Buildings
March 2018

6. NSW Government
Floodplain Development Manual
NSW Government, April 2005
7. Bayside Council
Local Environmental Plan 2013
8. Royal HaskoningDHV
Mascot, Rosebery and Eastlakes Floodplain Risk Management Study & Plan
Prepared for Bayside Council, December 2018.

Figures:

Figure 1 Site Location and Model Updates

Figure 2 Existing Conditions Peak Flood Depths and Levels – 1% AEP Event

Figure 3 Existing Conditions Peak Flood Depths and Levels – PMF Event

Figure 4 Existing Conditions Peak Flood Velocities – 1% AEP Event

Figure 5 Existing Conditions Peak Flood Velocities – PMF Event

Figure 6 Existing Conditions Peak Flood Hazard – 1% AEP Event

Figure 7 Existing Conditions Peak Flood Hazard – PMF Event

Attachments:

MODE's OSMD Project Preliminary Issue Architectural Plans 9/10/19, with flood storage revision
15/10/19

FIGURE 1
SITE LOCATION AND
MODEL UPDATES

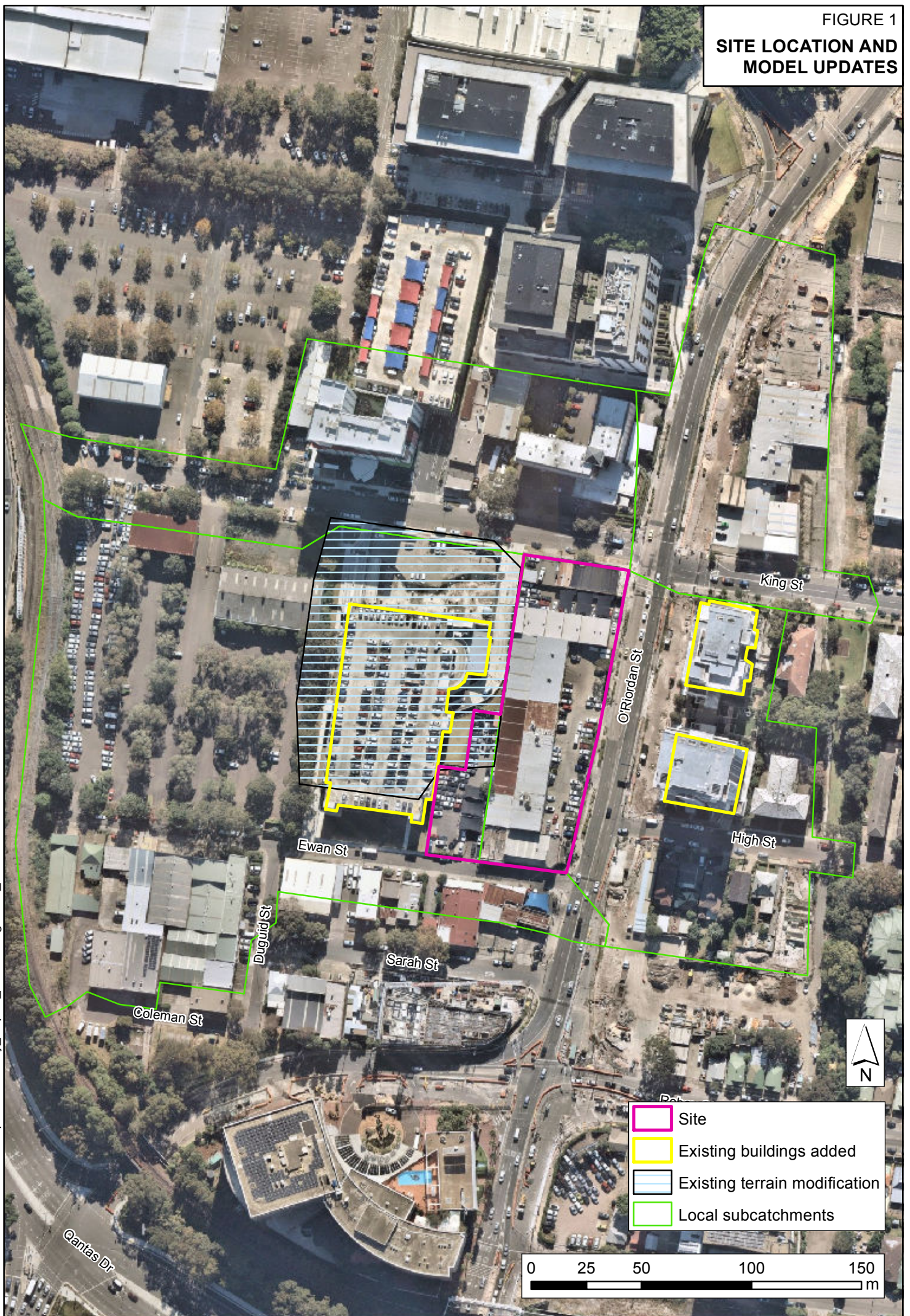


FIGURE 2

PEAK FLOOD DEPTH AND LEVELS
1% AEP EVENT



FIGURE 3

PEAK FLOOD DEPTH AND LEVELS
PMF EVENT

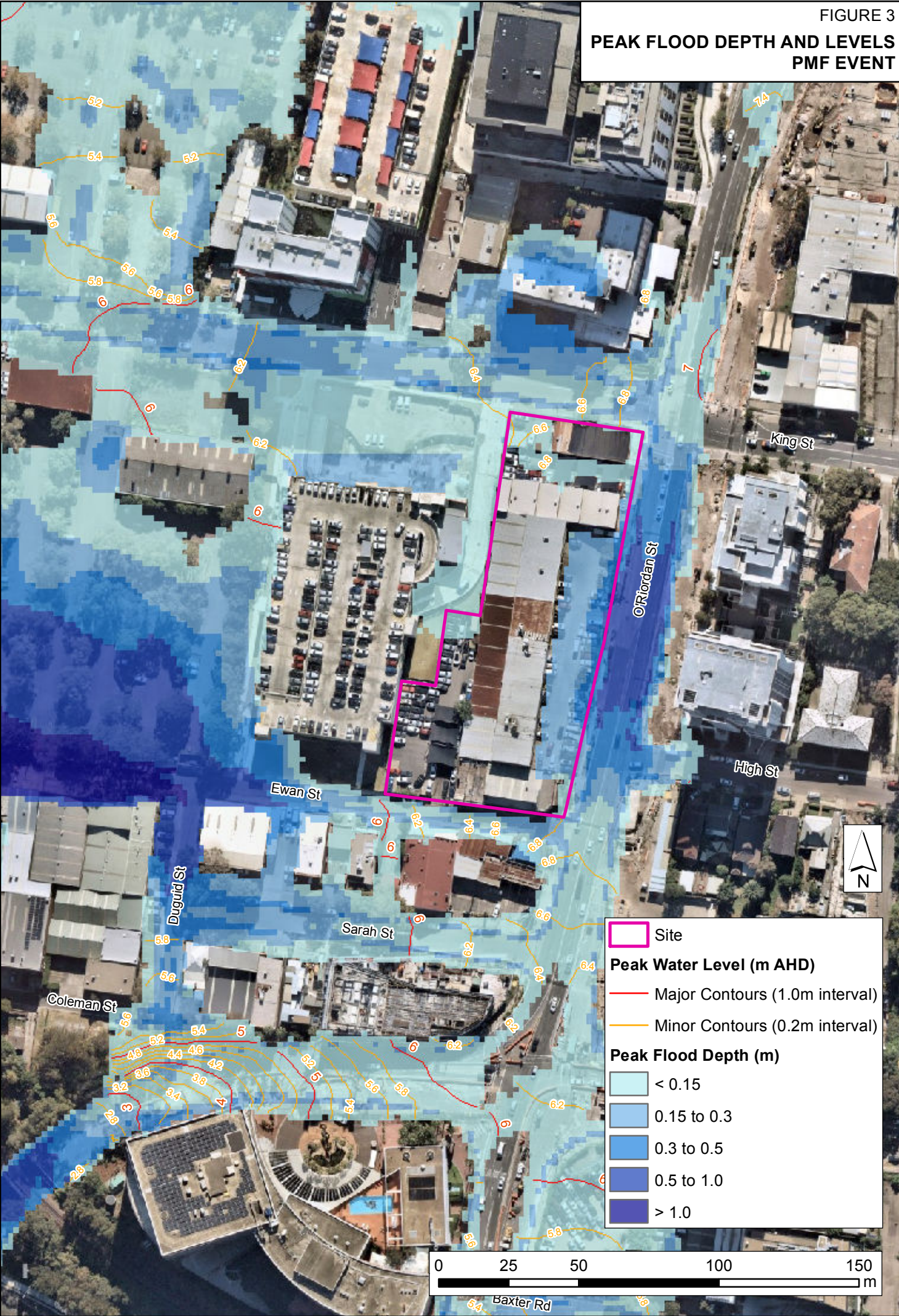


FIGURE 4

PEAK FLOOD VELOCITY
1% AEP EVENT

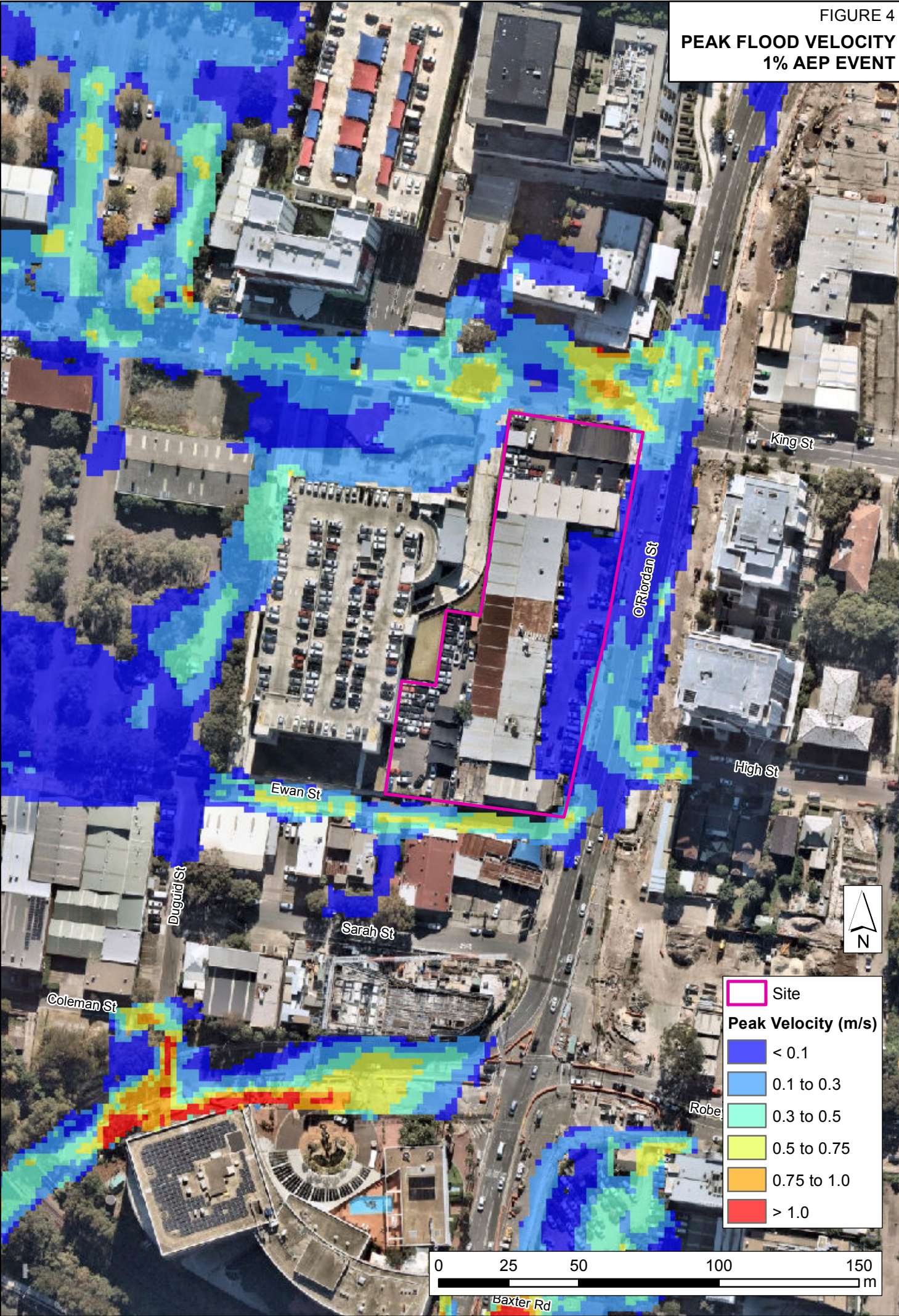


FIGURE 5
PEAK FLOOD VELOCITY
PMF EVENT

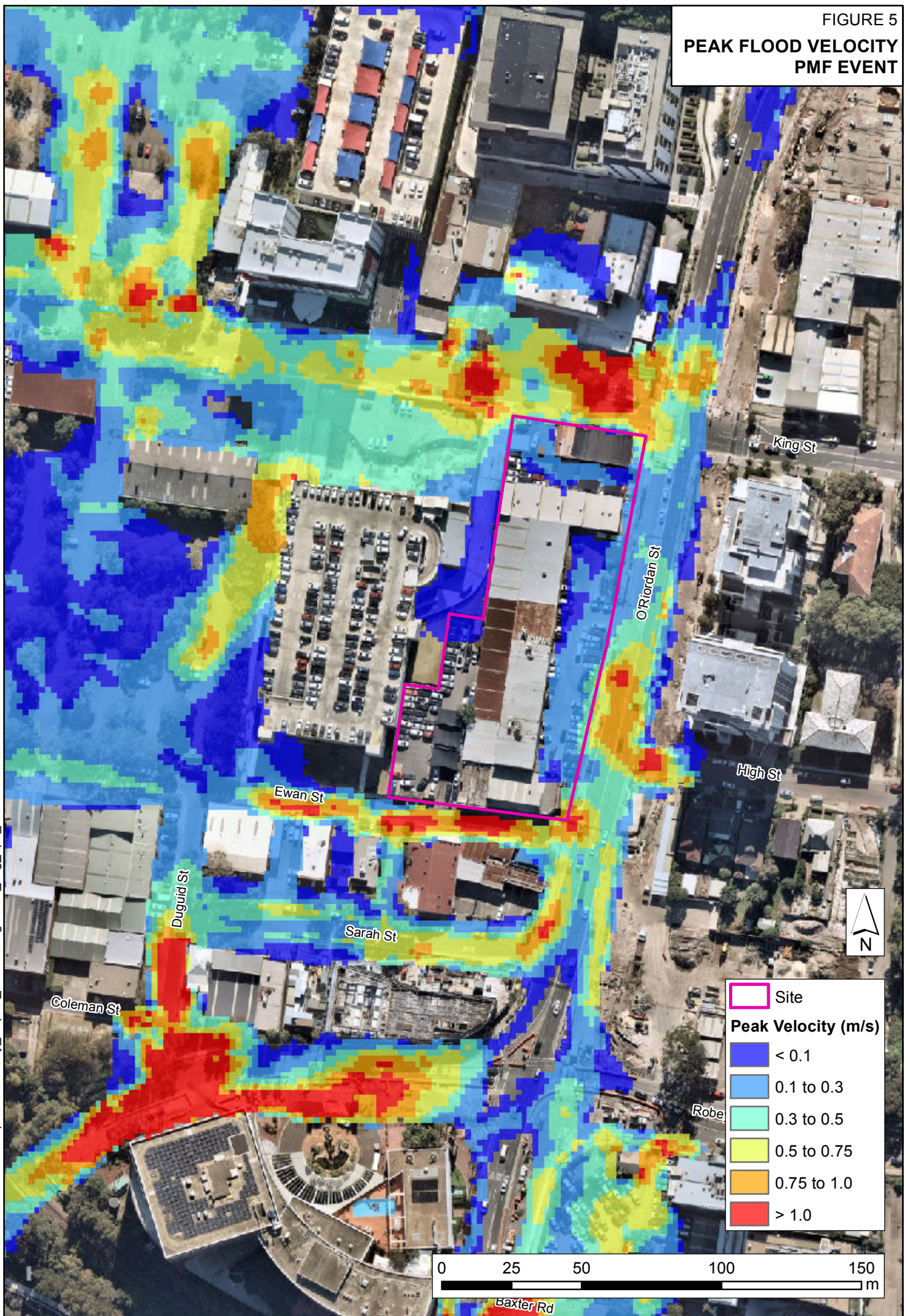


FIGURE 6
PEAK FLOOD HAZARD
1% AEP EVENT

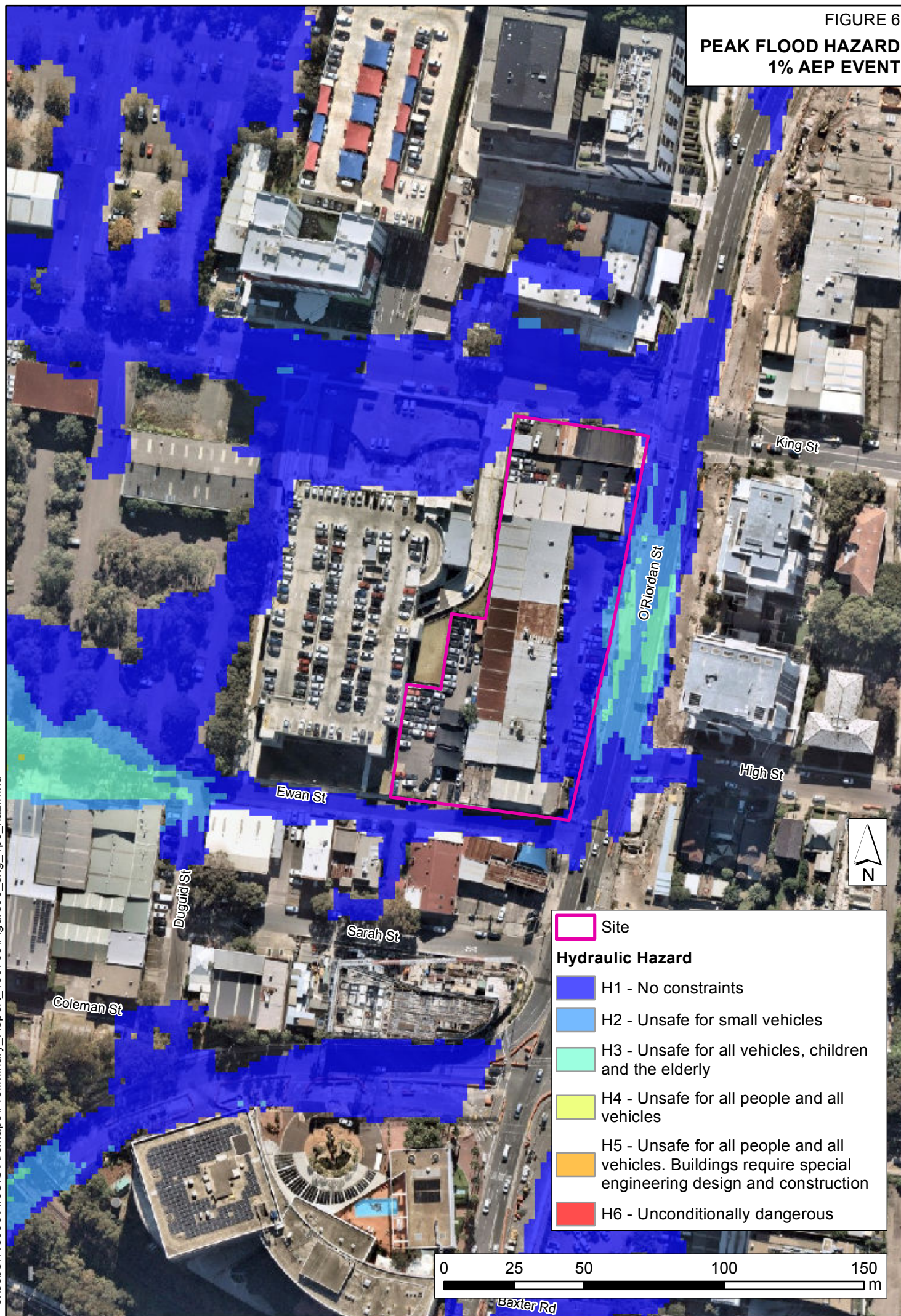
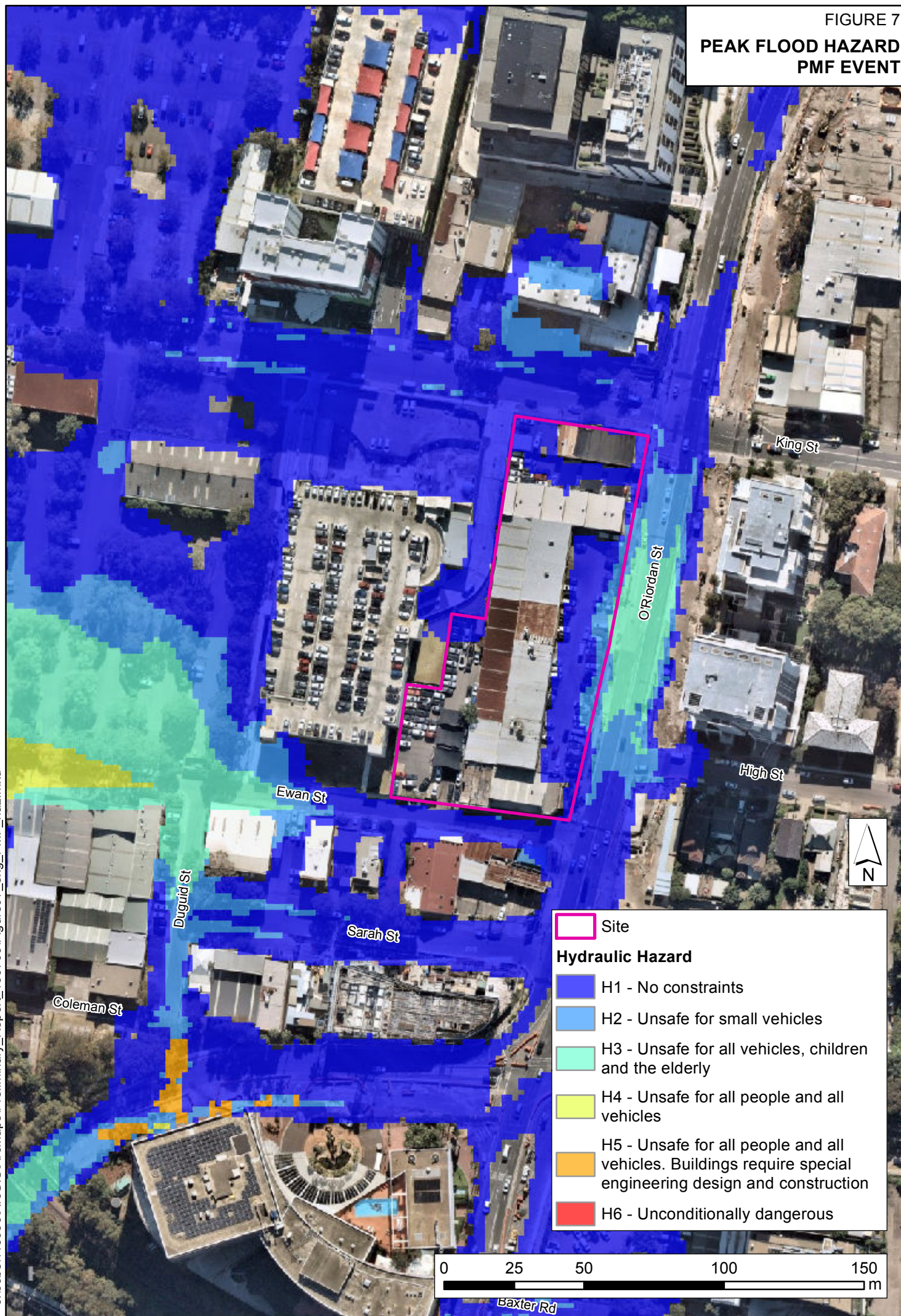


FIGURE 7
PEAK FLOOD HAZARD
PMF EVENT





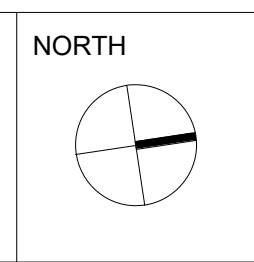
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CLIENT
CORE ASSET GROUP



SYDNEY
Level 5, 111-117 Devonshire St
Surry Hills NSW 2010
T +61 2 6396 9500
syd@modedesign.com.au
ABN: 65 112 807 931

PROJECT
OSMD
215-235 O'Riordan Street & 1-3 Ewan Street, Mascot

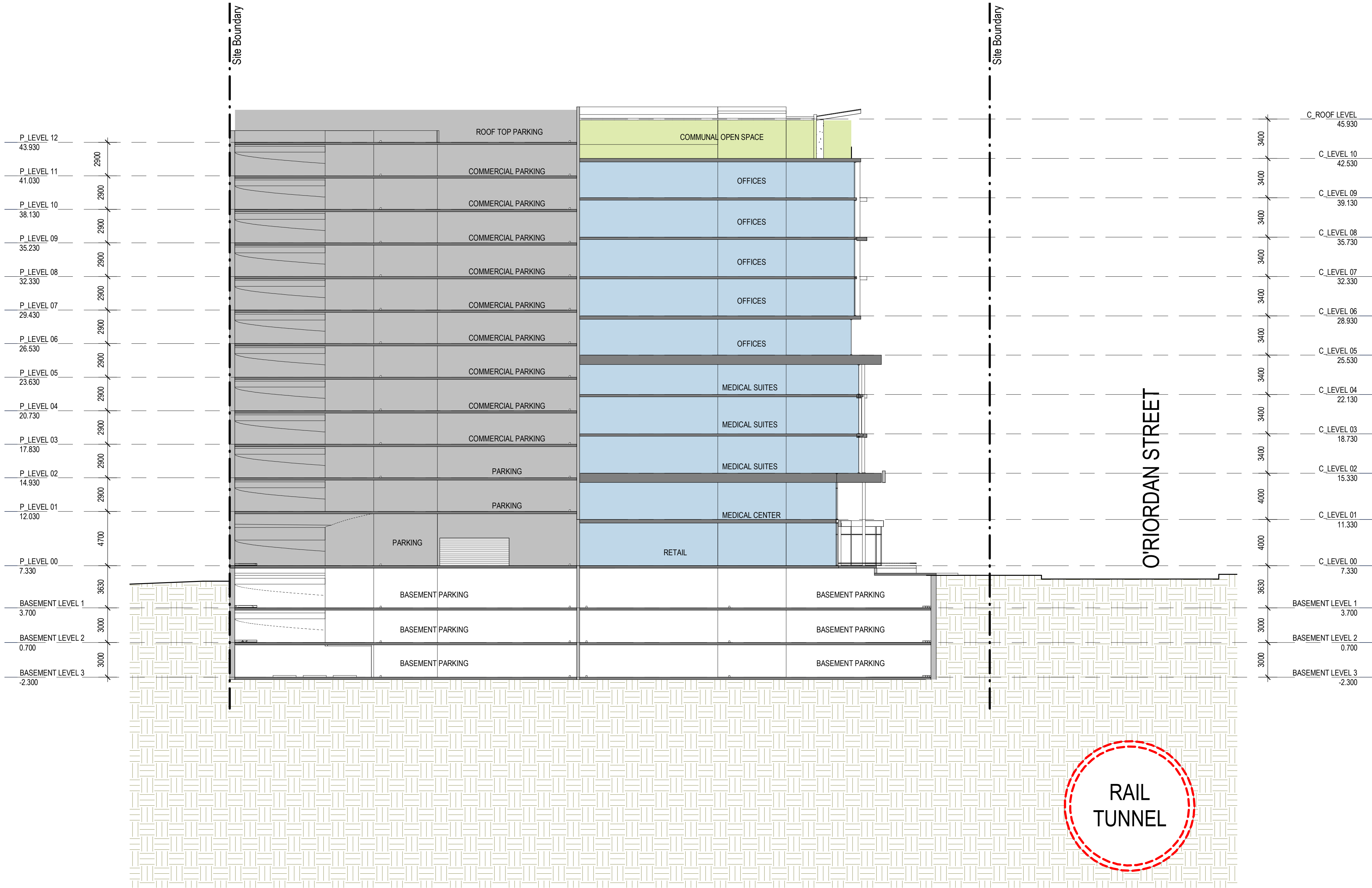
DRAWING TITLE
**GENERAL ARRANGEMENT
PLAN_GROUND LEVEL
FLOOD RESERVOIR AREA**

FIRST ISSUE
10/15/19
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Author
PROJECT No
17689

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| E | ISSUED FOR PP APPLICATION | YP | CK | 18.12.18 |
| F | AMENDED TO COMPLY WITH LANDSCAPE | YP | CK | 12.06.19 |
| G | AMENDED TO COMPLY WITH FLOOD LEVELS | YP | CK | 09.10.19 |

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NORTH

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CORE ASSET GROUP



SYDNEY
Level 5, 111-117 Devonshire St
Surry Hills NSW 2010
T +61 2 6396 9500
syd@modedesign.com.au
ABN: 65 112 807 931

PROJECT
OSMD
215-235 O'Riordan Street & 1-3 Ewan Street, Mascot

DRAWING TITLE
SECTION B-B

| | |
|------------------------------|-----------------------|
| FIRST ISSUE 12/03/18 | SCALE @ A1 1 : 200 |
| DRAWN RF | CHECKED YP |
| PROJECT No 17689 | STAGE CD |
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| E | ISSUED FOR PP APPLICATION | YP | CK | 18.12.18 |
| F | AMENDED TO COMPLY WITH LANDSCAPE | YP | CK | 12.06.19 |
| G | AMENDED TO COMPLY WITH FLOOD LEVELS | YP | CK | 09.10.19 |

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- DO NOT scale off these drawings.
- Report any discrepancies to the architect before carrying out any work.

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NORTH

CLIENT
CORE ASSET GROUP



SYDNEY
Level 5, 111-117 Devonshire St
Surry Hills NSW 2010
T +61 2 6396 9500
syd@modedesign.com.au
ABN: 65 112 807 931

PROJECT
OSMD
215-235 O'Riordan Street & 1-3 Ewan Street, Mascot

DRAWING TITLE
SECTION C-C

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|----------------------------|--------------------|------------------------------|----------------------|
| FIRST ISSUE 12/03/18 | | SCALE @ A1 1 : 200 | |
| DRAWN RF | | CHECKED YP | |
| PROJECT No 17689 | STAGE CD | DRAWING No AR-1203 | REVISION G |

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