

Attachment A11

Flood Impact Risk Assessment



Broadway 2

Flood Impact Risk Assessment

Prepared for: APT Residential

Project No: SYD3746
Date: 31 October 2025
Revision: C



Project: Broadway 2

Location: 41-49 Mountain Street
Ultimo NSW 2007

Prepared by: ADP Consulting Pty Ltd
Level 6, 33 Erskine Street
Sydney NSW 2000

Project No: SYD3746

Revision: C

Date: 31 October 2025

Rev	Date	Comment	Author	Signature	Technical Review	Signature	Authorisation & QA	Signature
A	05.09.25		K.C		S.S.		S.S.	
B	16.09.25		K.C		S.S.		S.S.	
C	31.10.25		K.C		S.S.		S.S.	

Project Team

Client / Principal APT Residential
ABN 45 657 586 868

Architect Bates Smart



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1. Introduction

This Flood Impact Risk Assessment has been prepared by ADP Consulting Engineers to support the Planning Proposal for the lots at 41-49 Mountain Street, Ultimo NSW 2007. This report outlines the local Council and TUFLOW model inputs used to simulate existing/proposed overland flows. The site is currently zoned Mixed Use (MU1) and APT Broadway aims to obtain appropriate rezoning of the Site to enable residential development with mixed use ground floor.

1.1 Site Context

The site is located on 41 - 49 Mountain Street, Ultimo NSW 2007 and is approximately 1,450 sqm in size. The site is located at the corner of Smail St and Mountain St and is current used as a depot area. The majority of the site open hardstand, with the exception of an existing substation in the northeast corner of the site which is to be retained and repurposed as part of this development (refer to Appendix A).

There is an existing sag point approximately 130m upstream of the site at Broadway (Parramatta Road), opposite Buckland Street and between Wattle Street and Mountain Street. When overland flow exceeds the capacity of the existing stormwater network, water will collect within this sag point. There are several relief points for this sag, Mountain St, Wattle St, an existing Arcade and a Laneway between two buildings, see figures below.

Figure 1 Site Context



Figure 2 Arcade from Broadway sag point through buildings and Plaza towards Blackwattle Lane



Figure 3 Laneway between buildings, with gap under hoarding to allow overland flow from Broadway sag point to Blackwattle Ln



Figure 4 Gap under hoarding viewed from downstream at Blackwattle Lane



1.1.1 Existing Flood Studies

The proposed site lies within the Blackwattle Bay Catchment and is covered by the following studies:

- 2020 Blackwattle Bay Catchment Flood Study Model Update – ARR2019 Hydrology
- 2015 Blackwattle Bay Catchment Flood Study

Hydraulic and hydrological model inputs have been adopted from both flood studies and outlined in Section 2 below.

1.1.2 Sydney Local Environment Plan (LEP) 2012

The Sydney LEP 2012 contains one clause related to the development of land within the flood planning area. As the proposed site lies within the FPA (1% AEP flood level + 500mm), clause 5.21: *Flood Planning* applies to the development. The objectives of this clause with respect to flood risk, impacts of the development on flood behaviour and evacuation are addressed in the sections that follow.

1.2 Planning Proposal Relevant Controls

This report has been prepared in response to the controls contained within the documents outlined below:

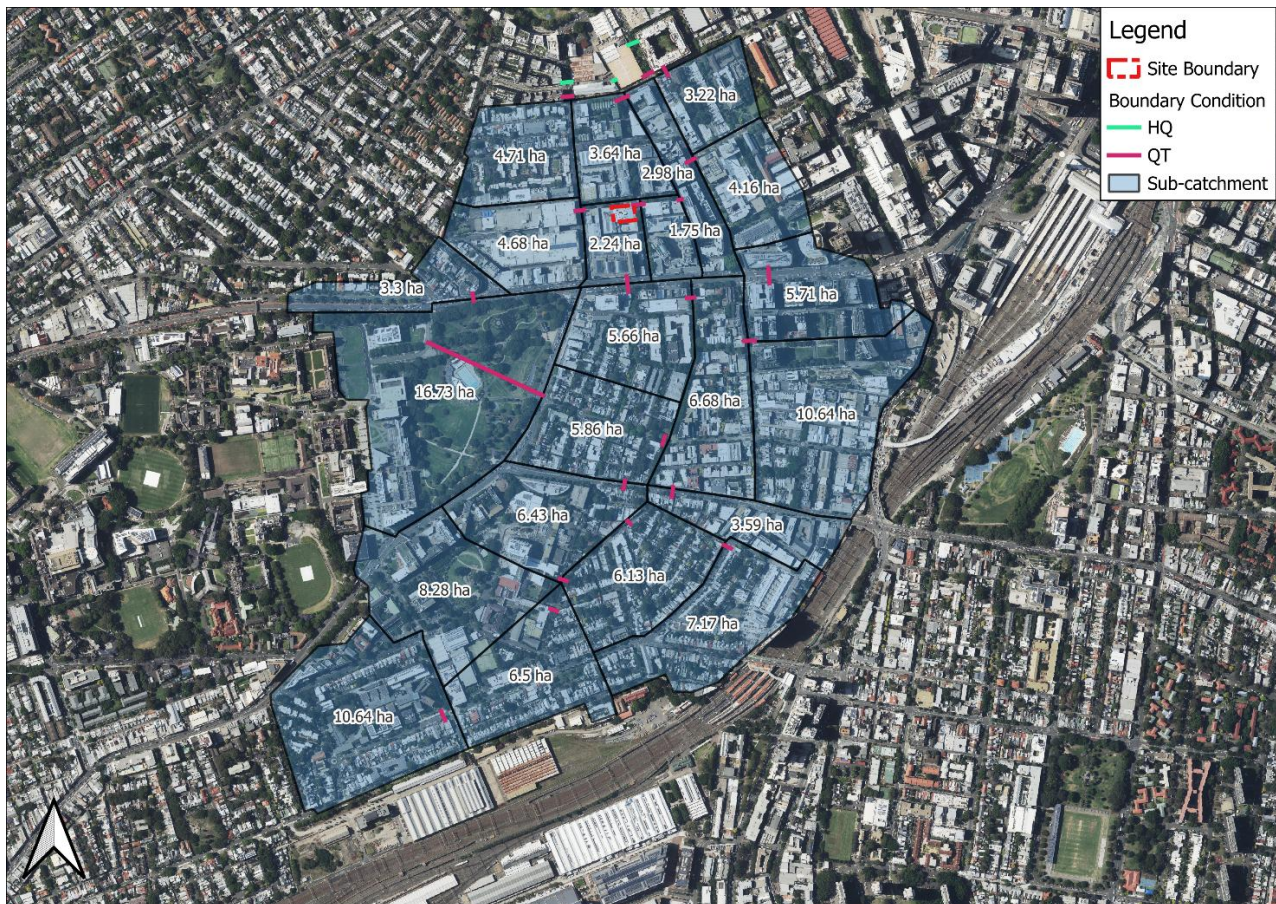
- | | |
|--|---|
| > NSW Flood Risk Management Manual 2023 | > City of Sydney Interim Floodplain Management Policy |
| > Local Planning Direction (s9.1) on Flooding | |
| > Planning Circular PS21-006 | > Relevant City of Sydney Catchment Study (2020 Blackwattle Bay Catchment Flood Study Model Update – ARR2019 Hydrology) |
| > Considering Flooding in Land Use Planning Guideline | > Clause 7.15 of Sydney Local Environmental Plan 2012 |
| > PS24-001 – Update on Addressing Flood Risk in Planning Decisions | > Clause 3.7 of the of the Sydney Development Control Plan 2012 |
| > Shelter-in-place Guideline for Flash Flooding | |

2. Flood Modelling

2.1 Catchment Area

LiDAR data with 1m resolution has been obtained from NSW Spatial Services in order to determine the topography of the area surrounding the site and delineate catchments affecting the development. For the purposes of this report, the catchment outlet was chosen approximately 260m north of the site.

Figure 5 Catchment Map



2.2 Hydrological Modelling

The total contributing upstream catchment area was determined to be approximately ~130.72ha and mainly consists of highly urbanised residential developments. The total catchment has been sub-divided into 22 sub-catchments, using the existing Council information as reference. A DRAINS model was developed for the 22 sub-catchments and an ILCL analysis was run using the below inputs to generate 22 hydrographs which were then input into the TUFLOW model.

2.2.1 Rainfall Intensity

Site specific Infiltration-Frequency-Duration (IFD) data and 10 ensemble temporal patterns have been obtained from the Bureau of Meteorology and AR&R Datahub in accordance with ARR 2019. The storm duration of 30 minutes was determined to produce critical flood depths surrounding the proposed site.

2.2.2 Probable Maximum Precipitation Estimation

The Probable Maximum Precipitation (PMP) was estimated using the Generalised Short-Duration Method as outlined by the Bureau of Meteorology. See table below for inputs.

Table 1 PMP Factors

Factor	
Catchment Area	1.31km ²
Portion of area considered smooth	0%
Portion of area considered rough	100%
Mean elevation	21.5
Moisture Adjustment Factor	70%

2.2.3 Climate Change

Recent updates to the Australian Rainfall and Runoff (ARR): A Guide to Flood Estimation guidelines have seen a change in climate change impact estimation methods which have been based on latest Intergovernmental Panel on Climate Change (IPCC) projections.

Current modelling of climate change impacts has been conducted using the year 2090 SSP2-4.5 projection as a "middle of the road" estimation.

Climate change induced sea level rise was also determined to be inconsequential for the flood behaviour surrounding the subject site.

2.2.4 Rainfall Losses

Rainfall losses and other DRAINS hydrologic model parameters have been adopted from the 2020 Blackwattle Bay Catchment Flood Study.

Table 2 Adopted DRAINS hydrologic model parameters

Rainfall Losses	
Grassed Area Initial Loss	6.4mm
Grassed Area Continuing Loss	0.72mm/hr
Soil Type	3
Antecedent Moisture Conditions	3

2.3 Hydraulic Modelling

2.3.1 Digital Elevation Model

A 1 metre LiDAR DEM obtained from NSW Spatial Services was used to represent the existing ground surface for the hydraulic model. This resolution is fine enough to represent roads and overland flow paths and did not result in excessive run time.

2.3.2 Land Use

Land use throughout the site has been determined through satellite imagery. The following land use roughness coefficients have been adopted in accordance with the 2020 Blackwattle Bay Catchment Flood Study.

Table 3 Manning's Roughness Coefficient 'n'

Land Use Type	
Roads	0.015
Parks	0.03

2.3.3 Buildings

Building footprints have been determined using satellite imagery and modelled as inactive areas within the TUFLOW model.

2.3.4 Existing Stormwater Drainage

Stormwater drainage has not been modelled as part of this assessment. Flood levels and outputs will therefore be conservative as a result.

2.3.5 Upstream Boundary Condition

The stormwater hydrographs extracted from the Hydrologic Model were used as inputs for the TUFLOW model. The hydrographs were applied using 2d QT (Flow vs. Time) boundaries at the sub-catchment outlets to represent the overland flow paths affecting the site.

2.3.6 Downstream Boundary Condition

2d HQ (Stage vs. Discharge) boundaries were digitised parallel to Macarthur Street, approximately 260m northwest of the site as shown in Figure 5. This boundary location was determined to be sufficiently distant from the site to prevent any tailwater impacts on surrounding flood behaviour. The HQ boundary utilizes a stage-discharge curve that TUFLOW automatically creates based on the underlying topography.

3. Results

TUFLOW output maps for the full range of flood events (10% AEP, 5% AEP, 1% AEP, 0.5% AEP, 0.2% AEP and PMF) can be found in Appendix C.

The results discussed below are surrounding the 1% AEP event.

3.1 Existing Flood Behaviour

Flood modelling of the existing scenario show runoff running north within roads, collecting in Buckland St before entering the Broadway sag. Floodwaters continue to collect within the sag point before overflowing into the relief points identified in Section 1.1. The majority of flows are conveyed through the Arcade and Laneway, entering the Plaza and Blackwattle Ln.

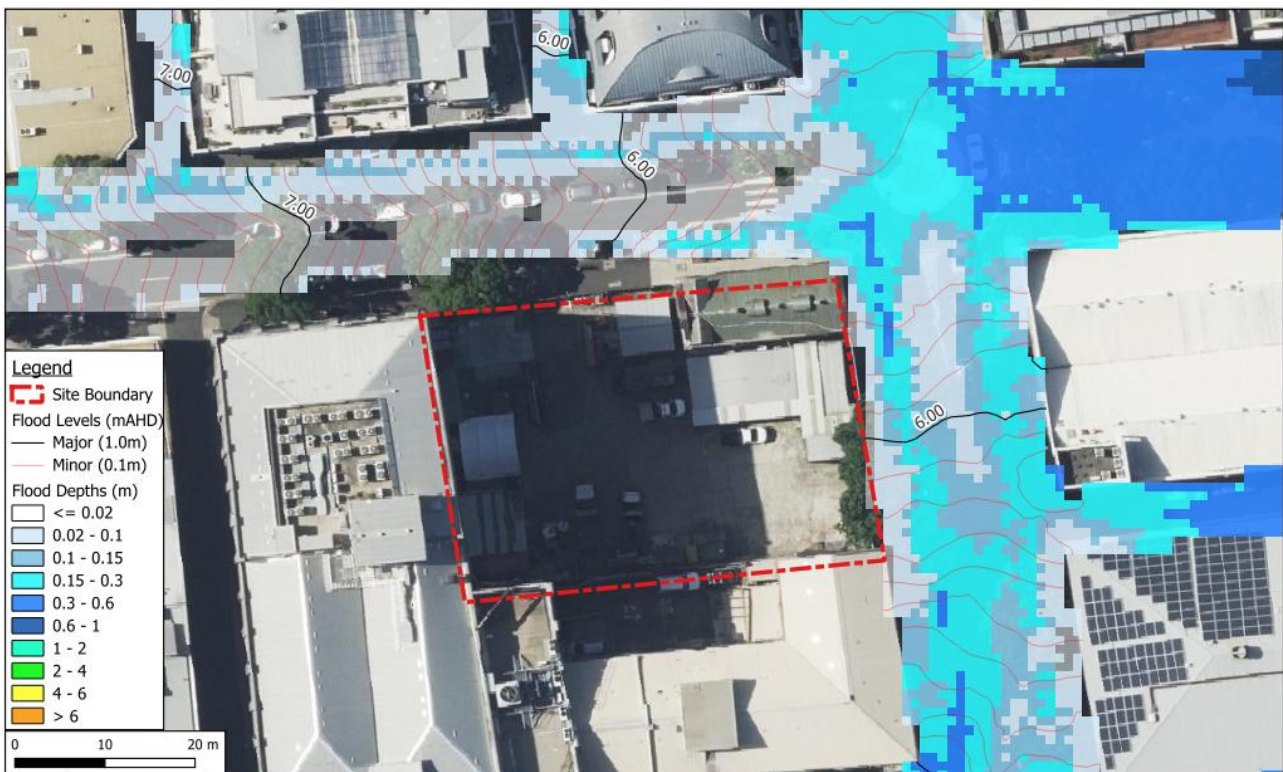
Flooding immediately surrounding the proposed site is comprised of two components, the overland flooding running along the eastern boundary within Mountain St, and flooding caused by the build-up of floodwaters surrounding Blackwattle Ln.

Flows within Mountain St are generally shallow and fast moving, however at the intersection of Mountain and Smail St, depths increase, and velocities slow as the overland flows join the ponded waters within Smail St.

Flows along the northern boundary, within Smail St are minor and contained within the kerb.

Flood hazard is high along Mountain Street due to the high flood velocities but is generally low hazard otherwise.

Figure 6 1% AEP Existing Flood Event



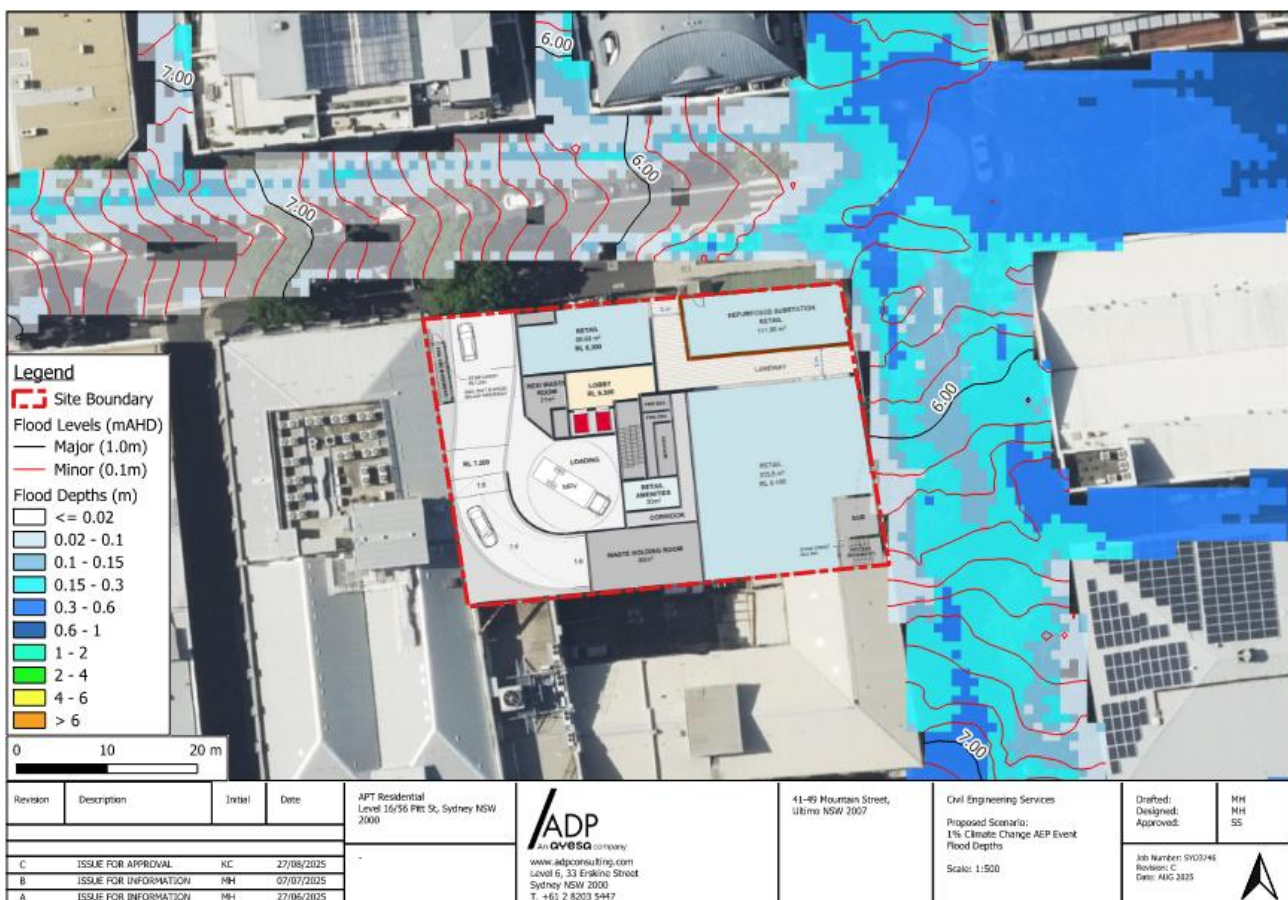
3.2 Flood Strategy

As flows are contained within the streets, the proposed development aims to mimic this behaviour while protecting the development from floodwaters. To protect the proposed development, ADP proposes all access points along Mountain St to be above 1% AEP top water levels to maintain this behaviour.

3.3 Proposed Flood Behaviour

As the floodwaters are fully contained within the street during existing and proposed flood scenarios and no works are proposed outside the site boundary, there are no changes between existing and proposed flood behaviour.

Figure 7 1% AEP Proposed Flood Event



3.3.1 Flood Planning Area and Levels

The Flood Planning Area (FPA) identifies the land that is subject to flood related controls, and the Flood Planning Level (FPL) is the minimum floor level applied to developments within the FPA.

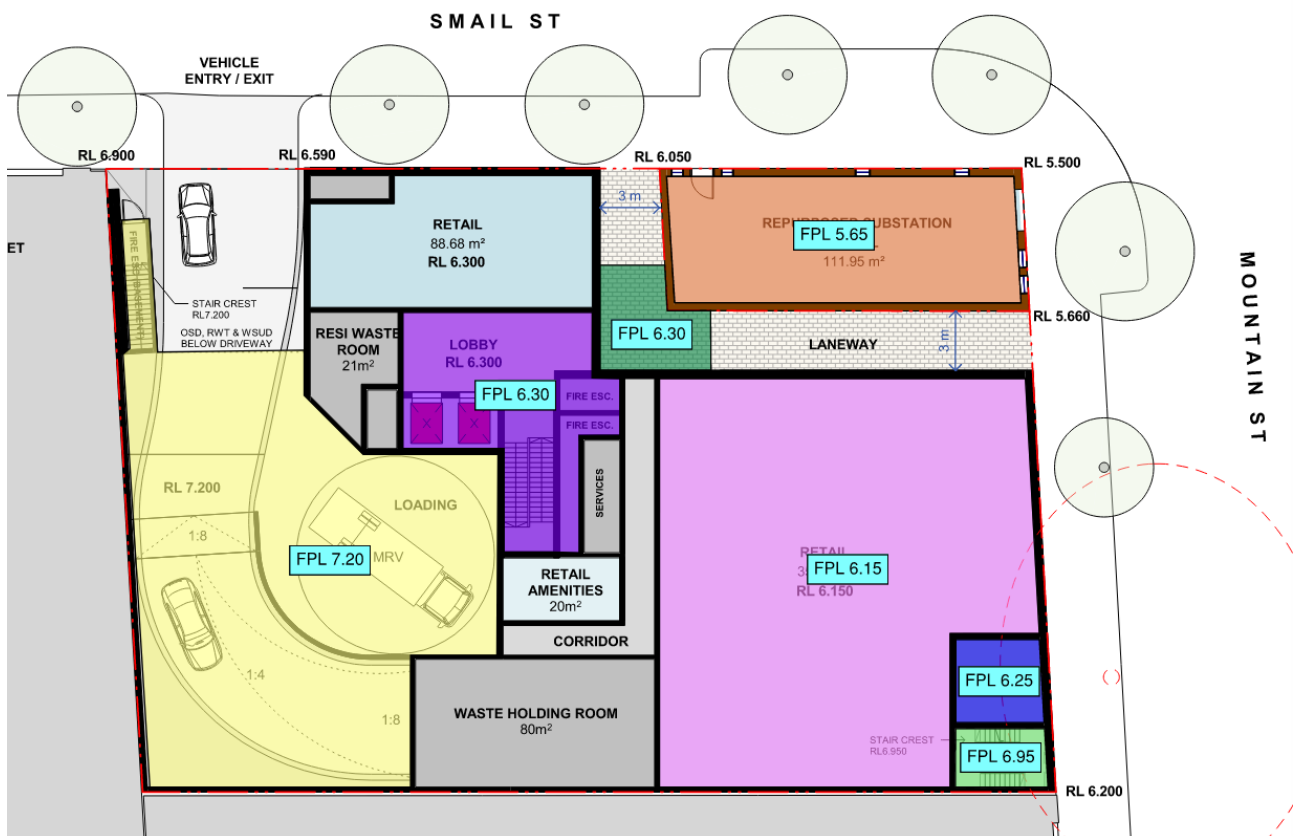
The Floodplain Development Manual Appendix K and City of Sydney DCP generally recommend that the FPL to be the 1% AEP + 0.5m freeboard. The below controls apply to the proposed site, and the proposed architectural plans have been deemed acceptable, see figure below for required FPLs across the development.

- > Retail FFL = 1% AEP
- > Habitable FFL = 1% AEP + 500mm freeboard
- > Basement Entry = 1% AEP + 500mm freeboard or PMF (within floodplain)
or 300mm above surrounding ground levels (outside floodplain)

The proposed laneway/through site link shall be ramped up to be flush with proposed finished floor levels and will therefore be flood free.

The existing substation building is to be retained, with proposed works to be internal repurposing only. The repurposed building is to be waterproofed to the 1% AEP flood level and flood barriers provided, should the existing FFL be below the FPL.

Figure 8 Required FPLs



4. Shelter-in-place

The flooding experienced by the proposed site occurs within 6 hours and is therefore defined as flash flooding. The lack of lead time to the flood event does not allow for the safe notice and evacuation of the site before floodwaters impact the development. Therefore, establishing safe shelter locations that can be accessed during peak flood levels is essential.

As the surrounding area consists of highly urbanised developments, floodwaters are largely conveyed through the streets. This concentration of flows leads to higher flood hazards within any potential egress routes from the proposed site. These high hazard floodwaters inundate the site for approximately 40 minutes.

Occupants should therefore shelter-in-place within the residential floors above the ground floor unless otherwise advised by emergency services. To facilitate this shelter-in-place strategy, the proposed development is to be designed to withstand the flood and debris forces of the PMF flood and residential floors are to be located above PMF levels. These measures are in line with the shelter-in-place considerations from the Department of Planning, Housing and Infrastructure.

4.1 Flooding Emergency Response Strategy (FERS)

The FERS sets out the potential consequences of flooding, the time at which action should be taken to evacuate and the procedures to be followed in a possible flood event. The FERS should be provided as part of the contract for all development lots and should be conditioned to be mounted in prominent locations throughout the future development where it can be seen by the occupants/patrons (for example; in hallways, the garage, where medical provisions are kept, electrical switchboard box, etc...). The FERS outlines that the occupants to move outdoor equipment, garbage, chemicals and poisons to higher locations and also plan which indoor items they will raise or empty if water threatens the home (e.g. freezers and refrigerators), check their emergency kit and safeguard their pets. They need to communicate with friends, family and neighbours about their plans etc. The FERS also describes what should be done after a flood event. A copy of the FERS for the development should be used as a guideline for the occupants/patrons as they may wish to adjust some of the items included in the document.

Flood indicators are to be located around the site to act as an early warning sign to potential rising floodwaters.

4.1.1 Procedure In Case of Flooding

1. Flood information including 'Flood Watches' and 'Flood Warnings' issued by the Bureau of Meteorology (BOM), road closures and advice on evacuations and property protection will be updated on the BOM website (<http://www.bom.gov.au/nsw/warnings/>), broadcast over ABC, other national, state and local radio stations. The ABC is the Emergency Services Broadcaster.
2. The NSW SES issue Flood Bulletins to radio stations which inform people about what is expected to happen during flooding. SES Flood Bulletins provide information on likely flood consequences and what actions are required to protect yourself and your property. Radio stations are asked to read the Flood Bulletin 'word for word' over a period of time.
3. Other ways you may be informed of possible flooding is through doorknocking by emergency services, through word of mouth or the SES may issue an Emergency Alert. An Emergency Alert is a message that is sent to your landline or mobile phone as a voice or text message. The SES advises people to always follow instructions given by the emergency services and make sure neighbours, family friends are aware of possible flooding.

IN THE EVENT THAT THE STATE EMERGENCY SERVICES HAS NOT PROVIDED AN EMERGENCY ALERT MESSAGE OR ARE UNABLE TO BE CONTACTED, THE FOLLOWING INSTRUCTIONS SHOULD BE FOLLOWED. HOWEVER, ANY MESSAGE AND INSTRUCTIONS RECEIVED BY STATE EMERGENCY SERVICES SHOULD GOVERN THE TRIGGER LEVELS OUTLINED BELOW.

4.1.2 Basic Preparedness

Issuing of Severe Weather Alert for Sydney metropolitan area by BOM. If it is anticipated that evacuation will be necessary, place any items of value (e.g. electrical goods, personal belongings, medical supplies) in an elevated area such as on top of desks/tables/benches.

4.1.3 Additional Risk Factors

4. During floods many local and major streets and roads may be cut off by floodwaters that may make the escape by vehicle extremely difficult. Travelling through floodwaters on foot or in a vehicle can be very dangerous as obstructions can be hidden under the floodwaters, or you could be swept away, even if in a car, or the water may be polluted. It is recommended to stay within the evacuation centres as much as practical as this is the safest option.
5. In the unlikely event that flood waters have risen up to the building, do not evacuate the building at this time unless instructed to do so by the SES or the Police. Floodwaters are much deeper, run much faster and are more dangerous outside. Any disabled person/s should be assisted and moved to the nominated level in the building as outlined above.
6. In the case of a medical or life threatening emergency ring '000' as normal, but explain about the flooding.
7. Stay tuned on a battery powered radio for official advice and warnings
8. Don't return home until authorities have said it is safe to do so
9. Stay away from drains, culverts and water over knee-deep
10. Do not turn on gas and electricity until it has been checked by a professional/licensed repairer.
11. Avoid using gas or electrical appliances which have been in flood water until checked by for safety by a suitably qualified person.
12. Take photos for insurance purposes.

4.1.4 After The Flood

Stay tuned to your local ABC Radio station on a battery powered radio for official advice and warnings

- Don't return home until authorities have said it is safe to do so
- Don't allow children to play in or near flood waters
- Avoid entering flood waters, it is dangerous. If you must, wear solid shoes and check depth and current with a stick
- Stay away from drains, culverts and water over knee-deep
- Don't turn on your gas and electricity until it has been checked by a professional/licensed repairer
- Avoid using gas or electrical appliances which have been in flood water until checked for safety
- Boil tap water until supplies have been declared safe
- Watch for trapped animals
- Beware of fallen power lines
- Take many photos for all damage for insurance purposes
- Notify family and friends of your whereabouts

Table 4 Important Phone Numbers

Contact	Important Phone Numbers
State Emergency Service	Emergency 132 500 General Enquires: 4251 6111
Police, Fire, Ambulance	Emergency 000
Bureau of Meteorology (Website)	http://www.bom.gov.au/weather
Land, Weather and Flood Warnings	1300 659 215
Inner West Council	02 9265 9333
Manager	
Strata Manager	
Other	

5. Conclusion

This Flood Impact Risk Assessment (FIRA) has been prepared to support the Planning Proposal of the lots at **41-49 Mountain Street**, Ultimo NSW 2007 from Mixed Use (MU1) to an appropriate zone to enable residential development with mixed use ground floor.

The proposed site lies within the Blackwattle Bay catchment and is covered by several existing Council Flood Studies. The inputs and results of these studies have informed a flood study covering the total proposed site. Using DRAINS for hydrological modelling and TUFLOW for hydraulic modelling, allowing for the assessment of the full range of flood events (10%, 5%, 1%, 0.5% and 0.2% AEP events as well as the PMF). Climate change has also been assessed as part of the design considerations under the 2090, SSP2-4.5 scenario.

The development was analysed against the City of Sydney DCP Flood Controls and relevant provisions applied to the proposed development. The development has been deemed acceptable under these controls and no impacts on adjoining properties have been identified.

A flood evacuation response strategy has been developed for the development. Occupants are unlikely to be able to evacuate before floodwaters impact the site. Therefore, a shelter-in-place strategy has been proposed, with the proposed development to provide habitable floors above the PMF level.

Appendix A

Survey



MGA NORTH

N

CONSULTANT

geosurv

with you from beginning to end

Level 1/11 Montgomery St, Kogarah NSW 2217
1300 554 675 | info@geosurv.com.au

CLIENT

APT RESIDENTIAL

PROJECT

SUBSURFACE UTILITY
INVESTIGATION, BOUNDARY AND
DETAIL SURVEY

1-3 Small Street,
Ultimo NSW 2007

NOTES

1. (P) SUBSTATION PREMISES - No. 35658 - Name: "ST. BARNABAS KETTLE"
(GROUND FLOOR)
(R) RIGHT OF WAY 1.16 WIDE, 1.175 WIDE, 2.115 WIDE AND 2.125 WIDE
(E) EASEMENT FOR ELECTRICITY PURPOSES 2.16 WIDE

TYPICAL SUI LEGEND

GAS

COMMUNICATION

DRAINAGE

ELECTRICAL

WATER

SEWER

ELECTRICAL EDGE OF BANK

CONTOUR MINOR

CONTOUR MAJOR

BOUNDARY

EASEMENT

DIRECT BURIED

ELECTRICAL EDGE OF BANK

END OF TRACE (EOT)

SERVICE CODE

"IL" INVERT LEVEL "TC" TOP CENTRE RL

"UNK" SERVICE DEPTH & QUALITY UNKNOWN

DIAMETER

G

C

D

E

W

S

DB

EUBK

TD

IL2.00

[3.00]A

Ø0.1

DRAWING TITLE

SUI, BOUNDARY &
DETAIL SURVEY
PLAN

REV.	DESCRIPTION	DATE
A	SUI, boundary & Detail Survey for Issue	08.08.24
B	Detail Survey added for Issue	18.09.24
C	New SUI Survey added for Issue	10.01.25

QUALITY ASSURANCE

Surveyor	Douglas Hepburn	Date of Survey	29.11.24
Checked by	Daniel Hudson	Date	10.01.25
Approved by	Marnus Streak	Date	10.01.25
Drafter	Amanda Santos	Date of Plan	10.01.25

The successful completion of quality assurance confirms that the survey work and drawings comply with the requirements outlined in the quality plan, with quality assurance fully completed. All information contained in these drawings should be considered preliminary and unverified.

Datum Origin	AHD71 (PM42343)	Coordinates	MGA2020 Z56
Sheet Size A1 @ Scale	1:200		

0

4

8

12

16

20

GRAPHIC SCALE:
1:200

Type of Survey	SUI, BOUNDARY & DETAIL SURVEY	Sheet	Page 1 of 11
Job Number	ASP240496-SUI-DS-BDY-03[C]	Current Revision	C

57-61 St
Mountain
Street - E
Elevation

1
21

55
Mountain
Street - E
Elevation

1
19

55
Mountain
Street - N
Elevation

2
18

1-3 Small
Street - E
Elevation

1
13

85-90 Bay
St - N
Elevation

2
22

35
Mountain
Street - E
Elevation

2
17

44
Mountain
Street - W
Elevation

2
18

60-64 Bay
Street - W
Elevation

1
22

60-64 Bay
Street - E
Elevation

2
22

2-12 Small
Street - W
Elevation

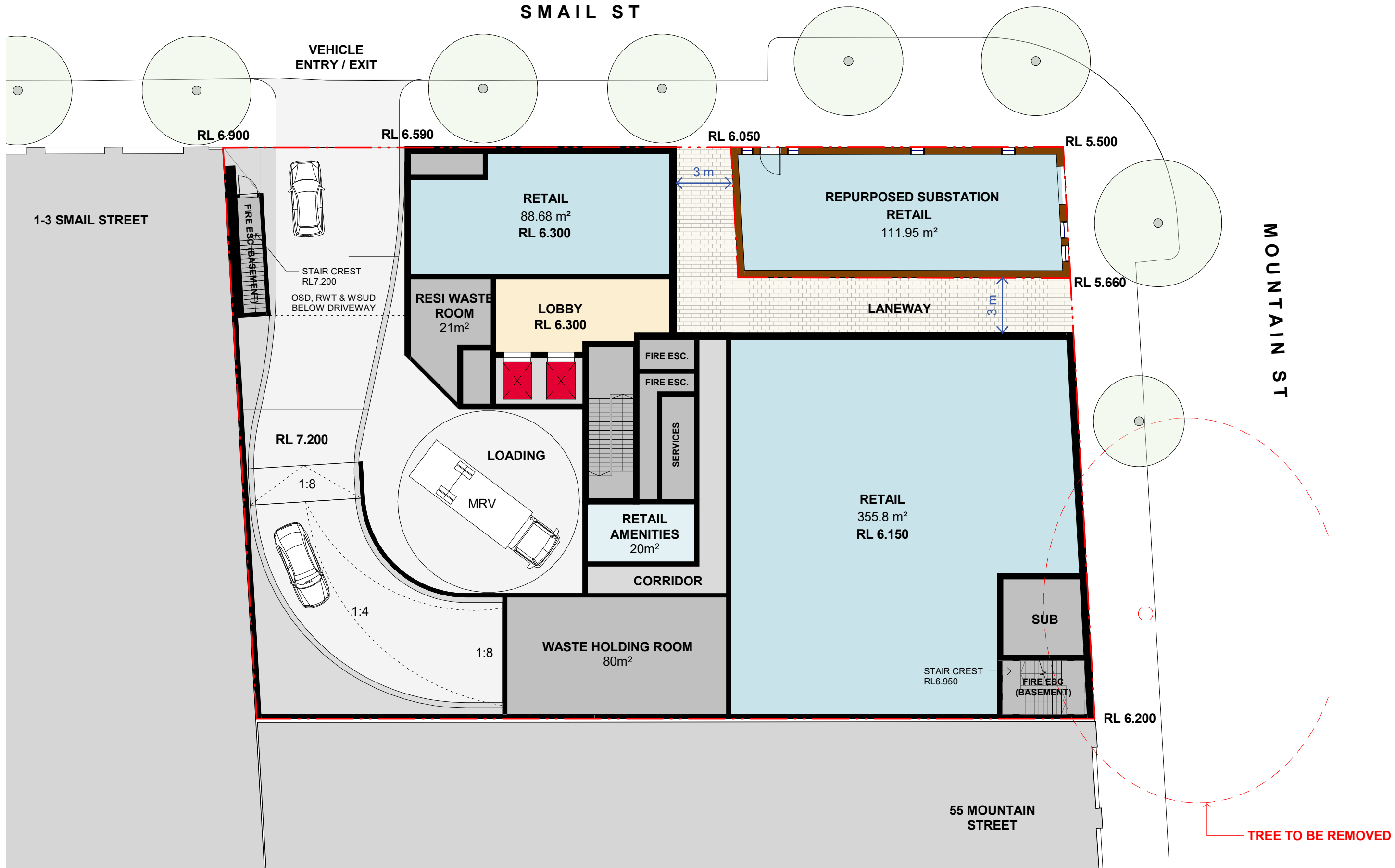
1
15

2-12 Small
Street - E
Elevation

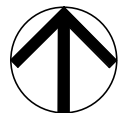
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Appendix B

Proposed Works

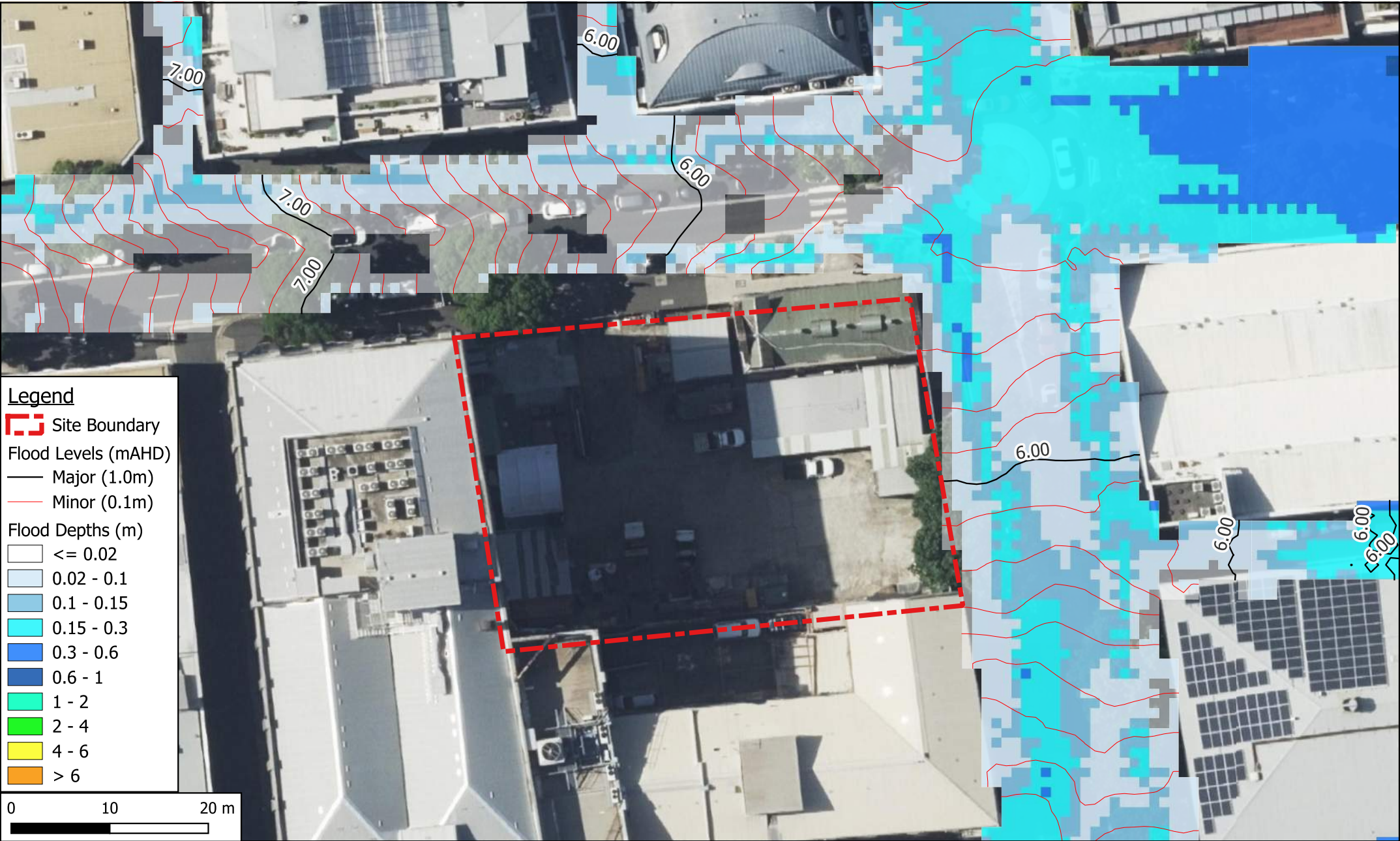


PRELIMINARY



Appendix C

Flood Maps



Legend

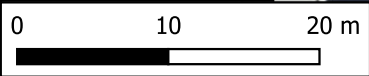
Site Boundary

Flood Levels (mAHD)

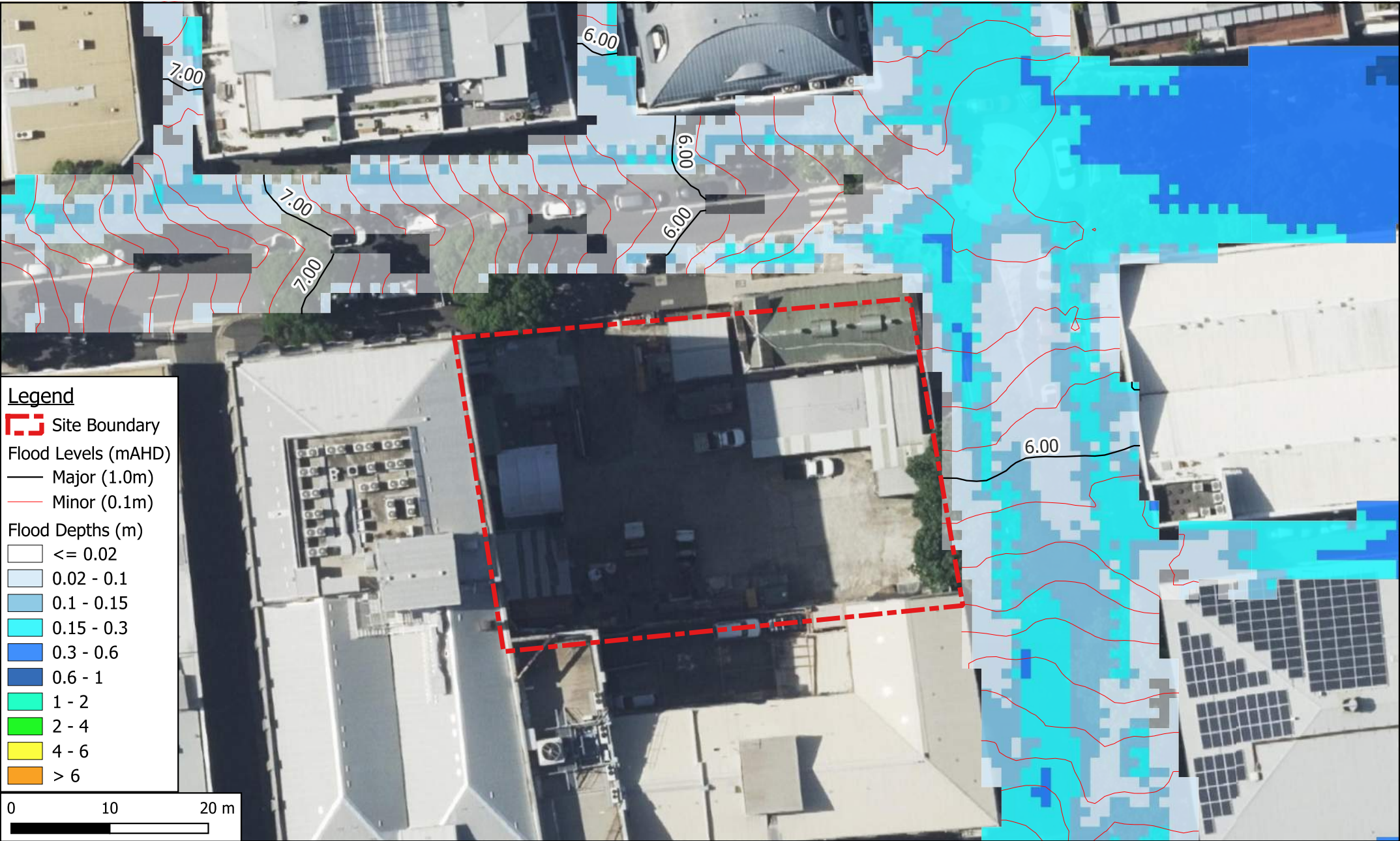
- Major (1.0m)
- Minor (0.1m)

Flood Depths (m)

- <= 0.02
- 0.02 - 0.1
- 0.1 - 0.15
- 0.15 - 0.3
- 0.3 - 0.6
- 0.6 - 1
- 1 - 2
- 2 - 4
- 4 - 6
- > 6



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An ayesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Existing Scenario: 10% AEP Event Flood Depths Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
				-					
A	ISSUE FOR APPROVAL	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	



Legend

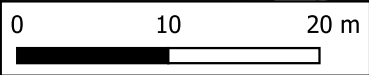
Site Boundary

Flood Levels (mAHD)

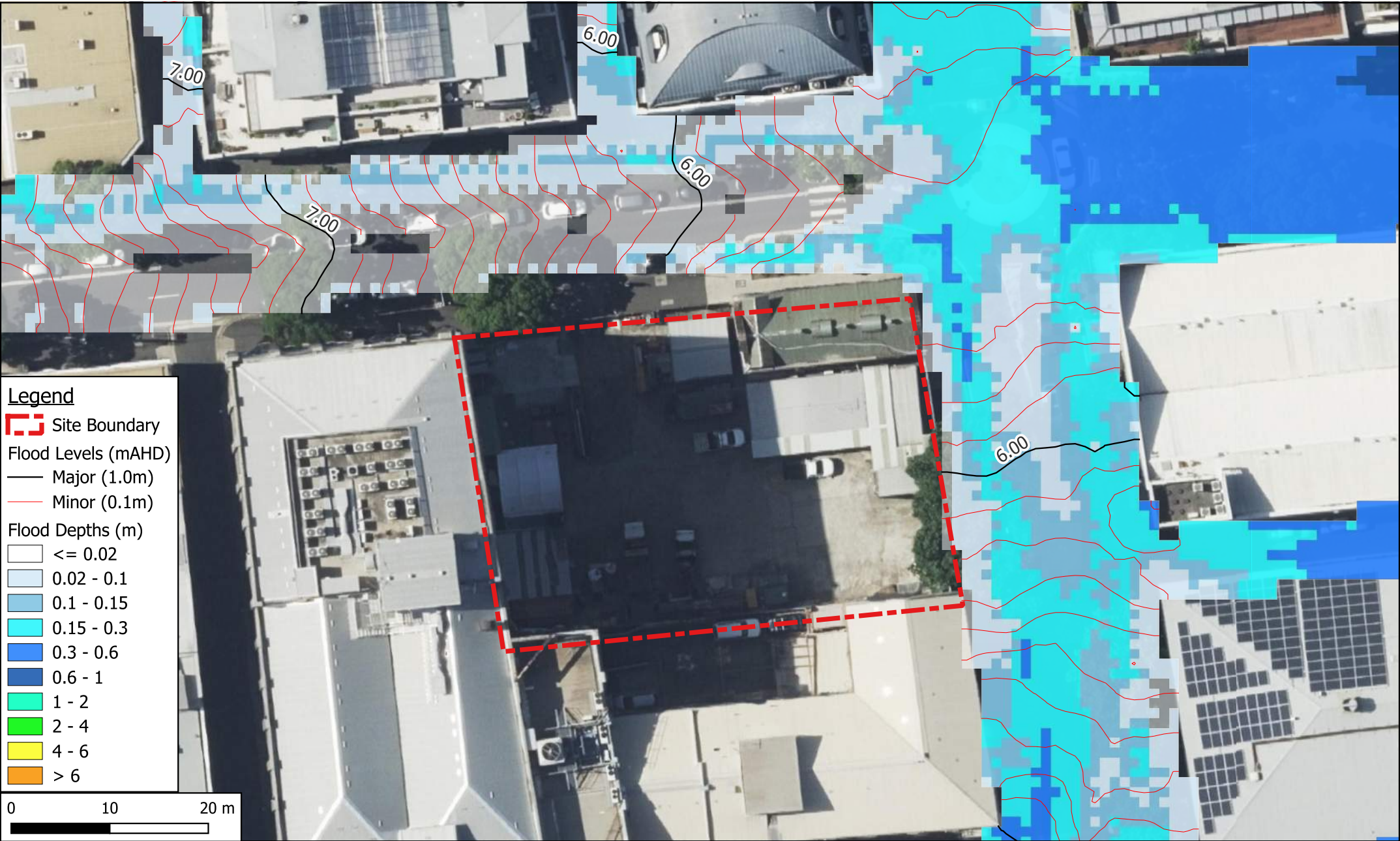
- Major (1.0m)
- Minor (0.1m)

Flood Depths (m)

- ≤ 0.02
- 0.02 - 0.1
- 0.1 - 0.15
- 0.15 - 0.3
- 0.3 - 0.6
- 0.6 - 1
- 1 - 2
- 2 - 4
- 4 - 6
- > 6



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				-					
A	ISSUE FOR APPROVAL	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	



Legend

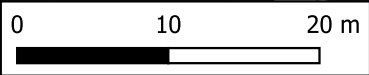
Site Boundary

Flood Levels (mAHD)

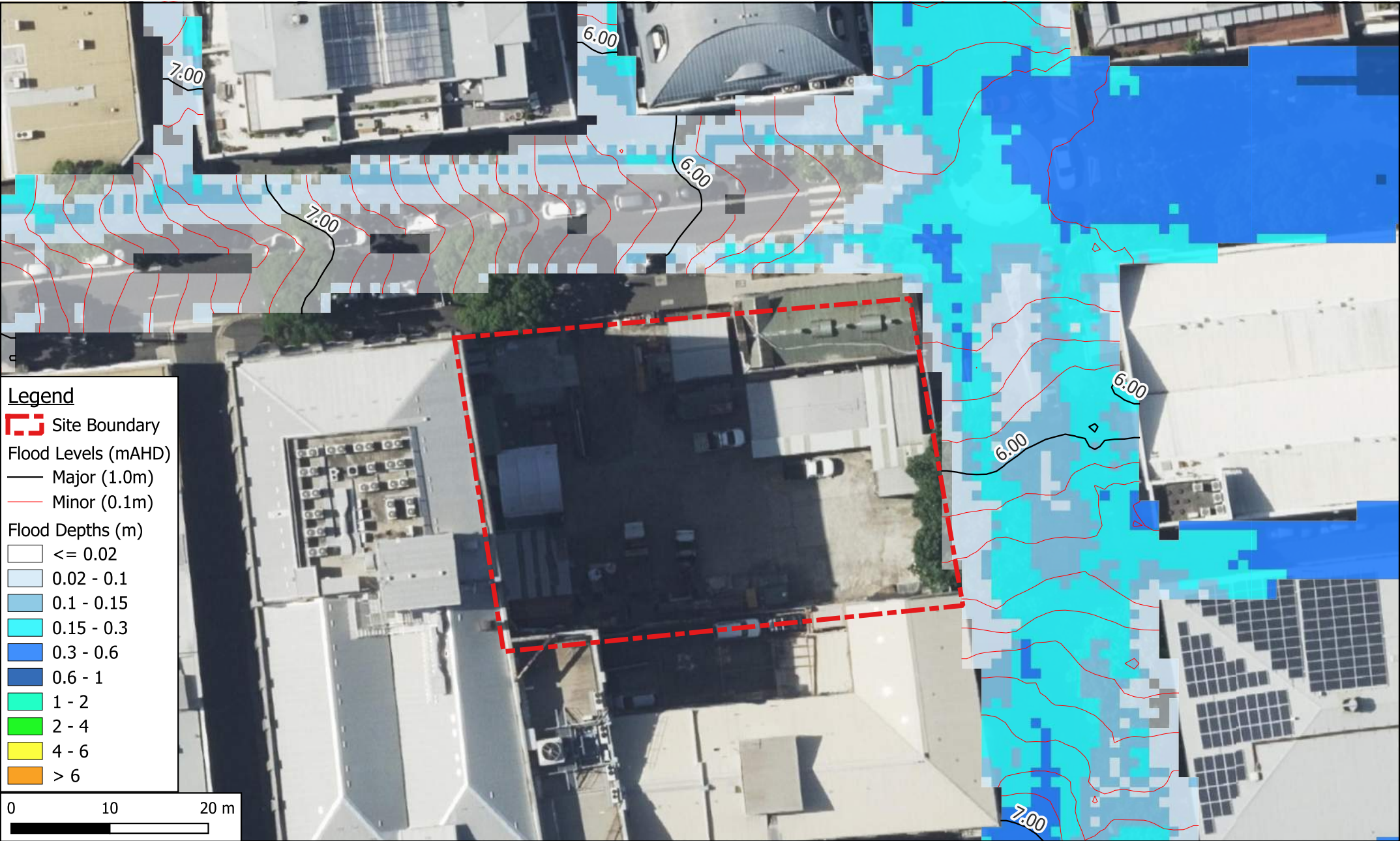
- Major (1.0m)
- Minor (0.1m)

Flood Depths (m)

- ≤ 0.02
- 0.02 - 0.1
- 0.1 - 0.15
- 0.15 - 0.3
- 0.3 - 0.6
- 0.6 - 1
- 1 - 2
- 2 - 4
- 4 - 6
- > 6



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				-					
A	ISSUE FOR APPROVAL	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	



Legend

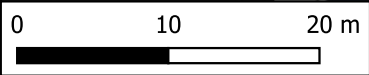
Site Boundary

Flood Levels (mAHD)

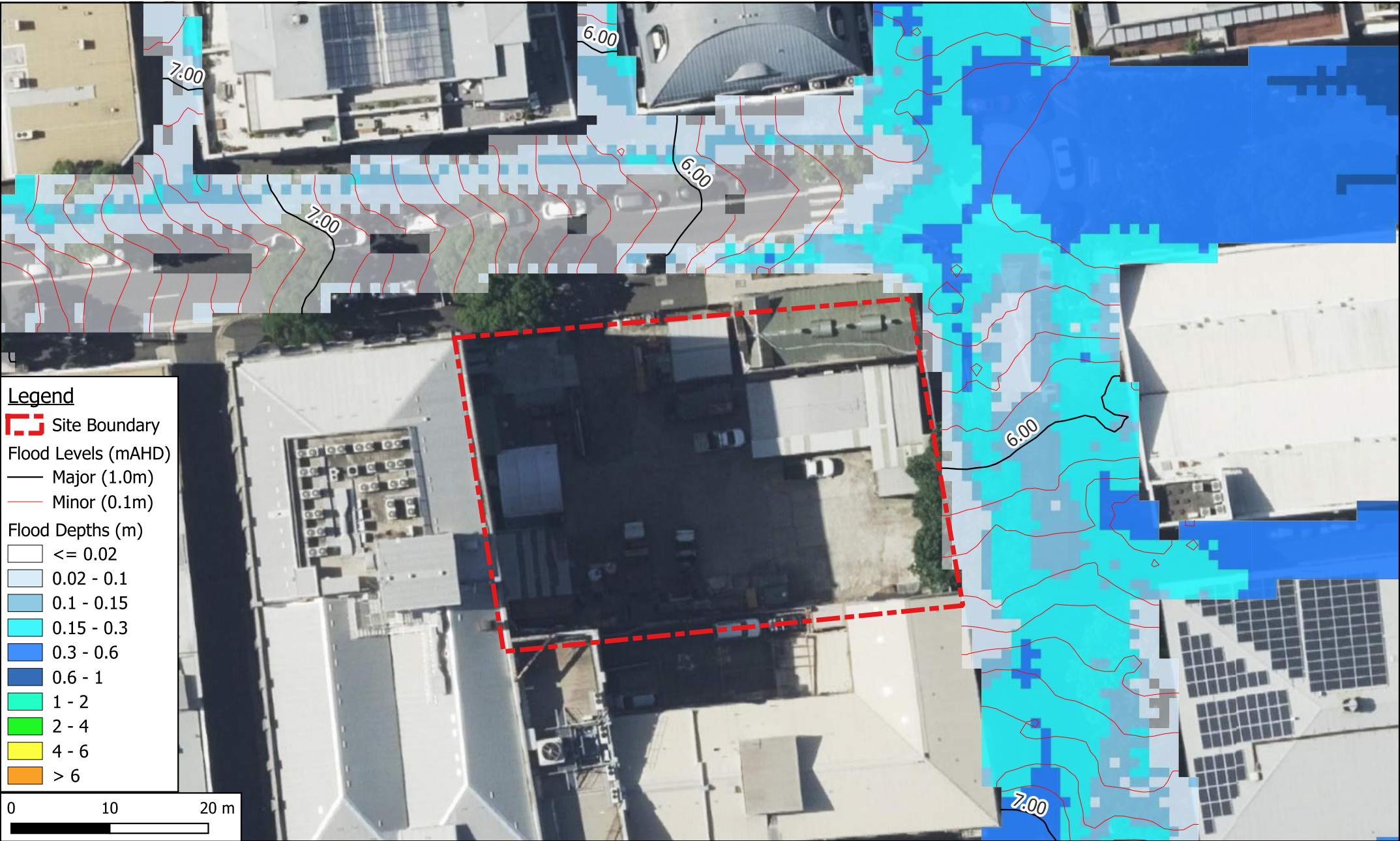
- Major (1.0m)
- Minor (0.1m)

Flood Depths (m)

- ≤ 0.02
- 0.02 - 0.1
- 0.1 - 0.15
- 0.15 - 0.3
- 0.3 - 0.6
- 0.6 - 1
- 1 - 2
- 2 - 4
- 4 - 6
- > 6



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An avesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Existing Scenario: 0.5% AEP Event Flood Depths Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
				-					
A	ISSUE FOR APPROVAL	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	



Legend

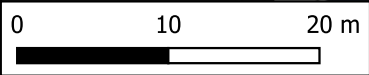
Site Boundary

Flood Levels (mAHD)

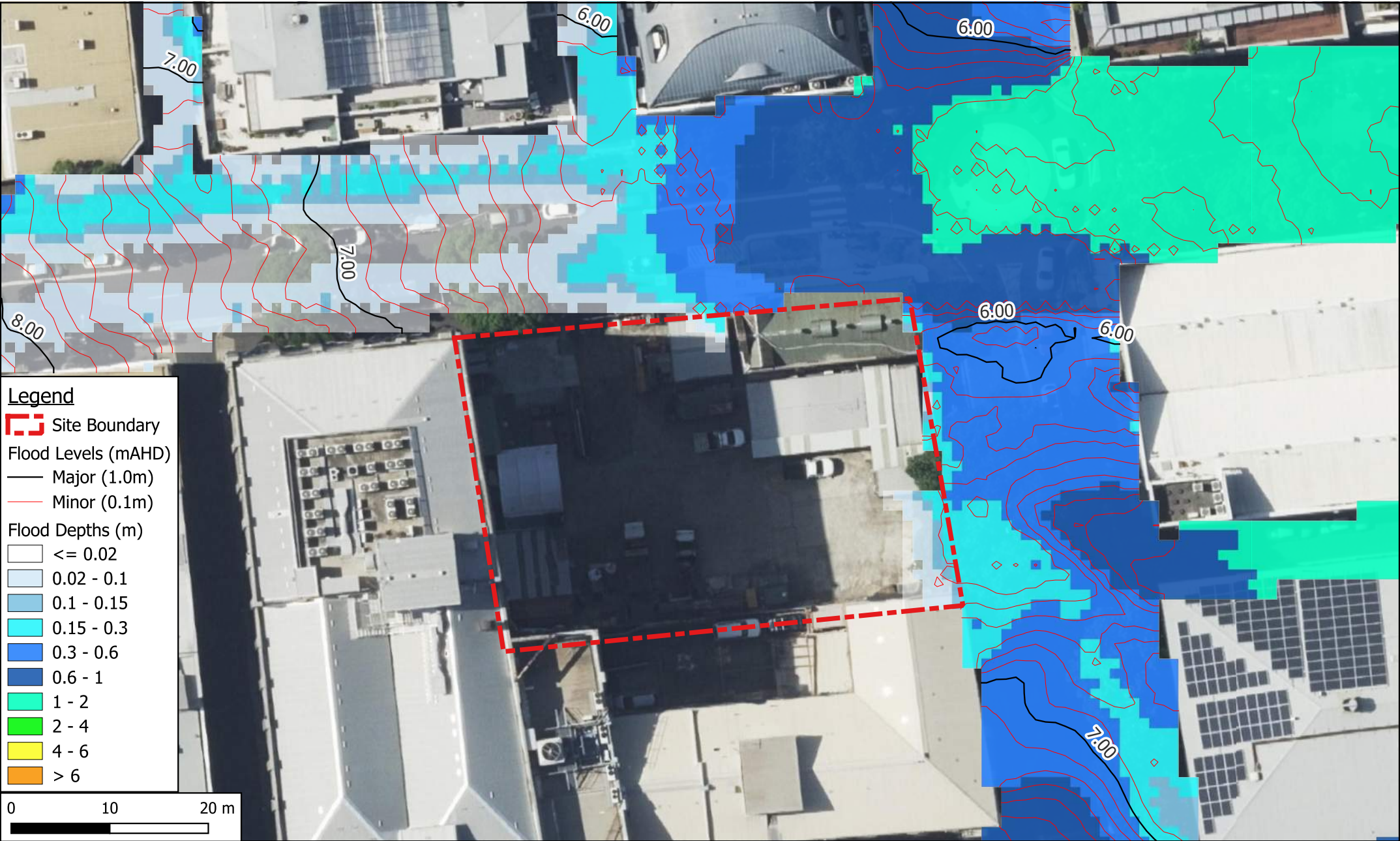
- Major (1.0m)
- Minor (0.1m)

Flood Depths (m)

- ≤ 0.02
- 0.02 - 0.1
- 0.1 - 0.15
- 0.15 - 0.3
- 0.3 - 0.6
- 0.6 - 1
- 1 - 2
- 2 - 4
- 4 - 6
- > 6



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An avesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Existing Scenario: 0.2% AEP Event Flood Depths Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
				-					
A	ISSUE FOR APPROVAL	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	



Legend

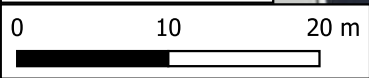
Site Boundary

Flood Levels (mAHD)

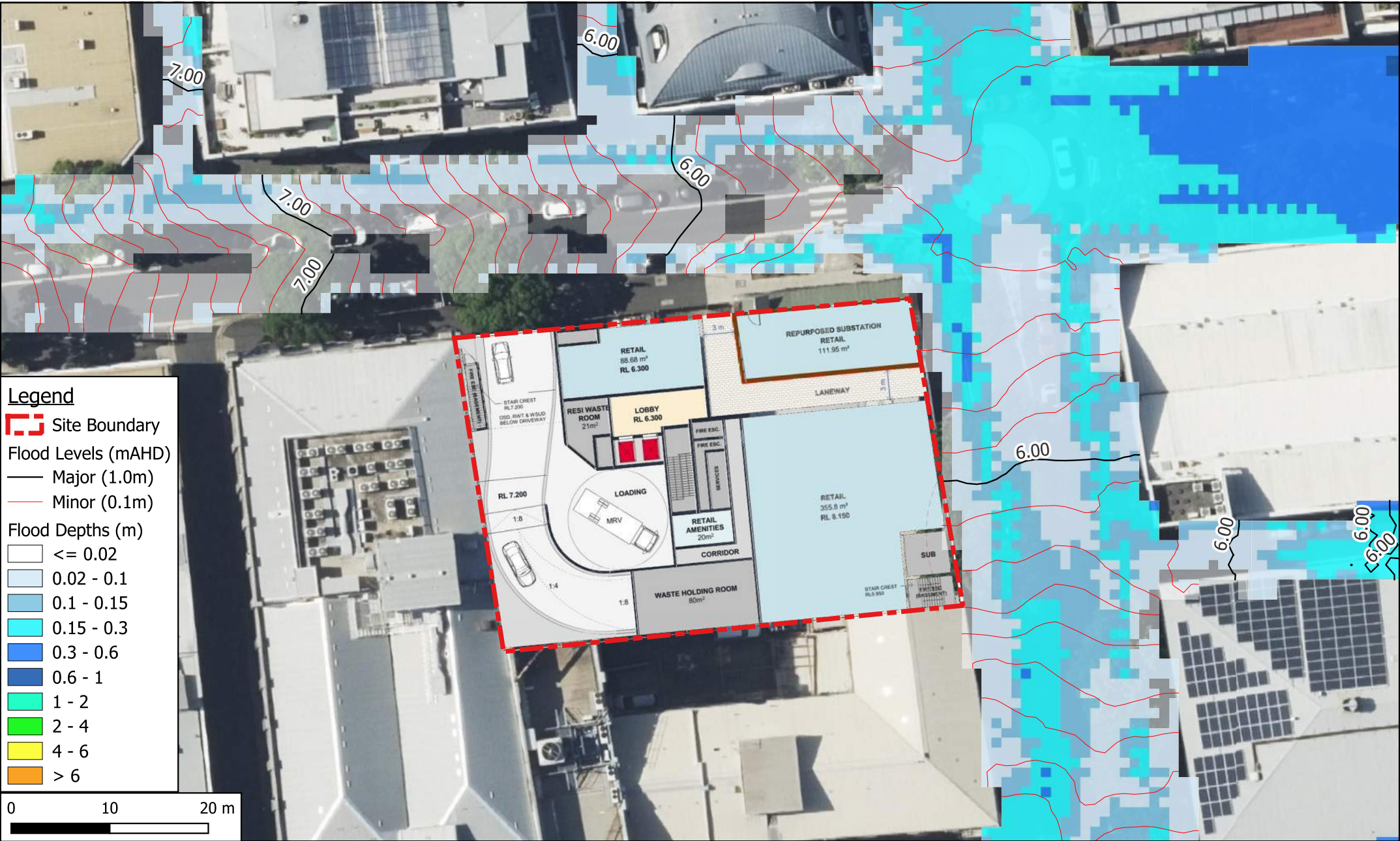
- Major (1.0m)
- - - Minor (0.1m)

Flood Depths (m)

- <= 0.02
- 0.02 - 0.1
- 0.1 - 0.15
- 0.15 - 0.3
- 0.3 - 0.6
- 0.6 - 1
- 1 - 2
- 2 - 4
- 4 - 6
- > 6



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An ayesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Existing Scenario: PMF Depths Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
				-					
A	ISSUE FOR APPROVAL	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	



Legend

Site Boundary

Flood Levels (mAHD)

— Major (1.0m)

— Minor (0.1m)

Flood Depths (m)

≤ 0.02

0.02 - 0.1

0.1 - 0.15

0.15 - 0.3

0.3 - 0.6

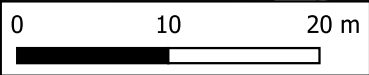
0.6 - 1

1 - 2

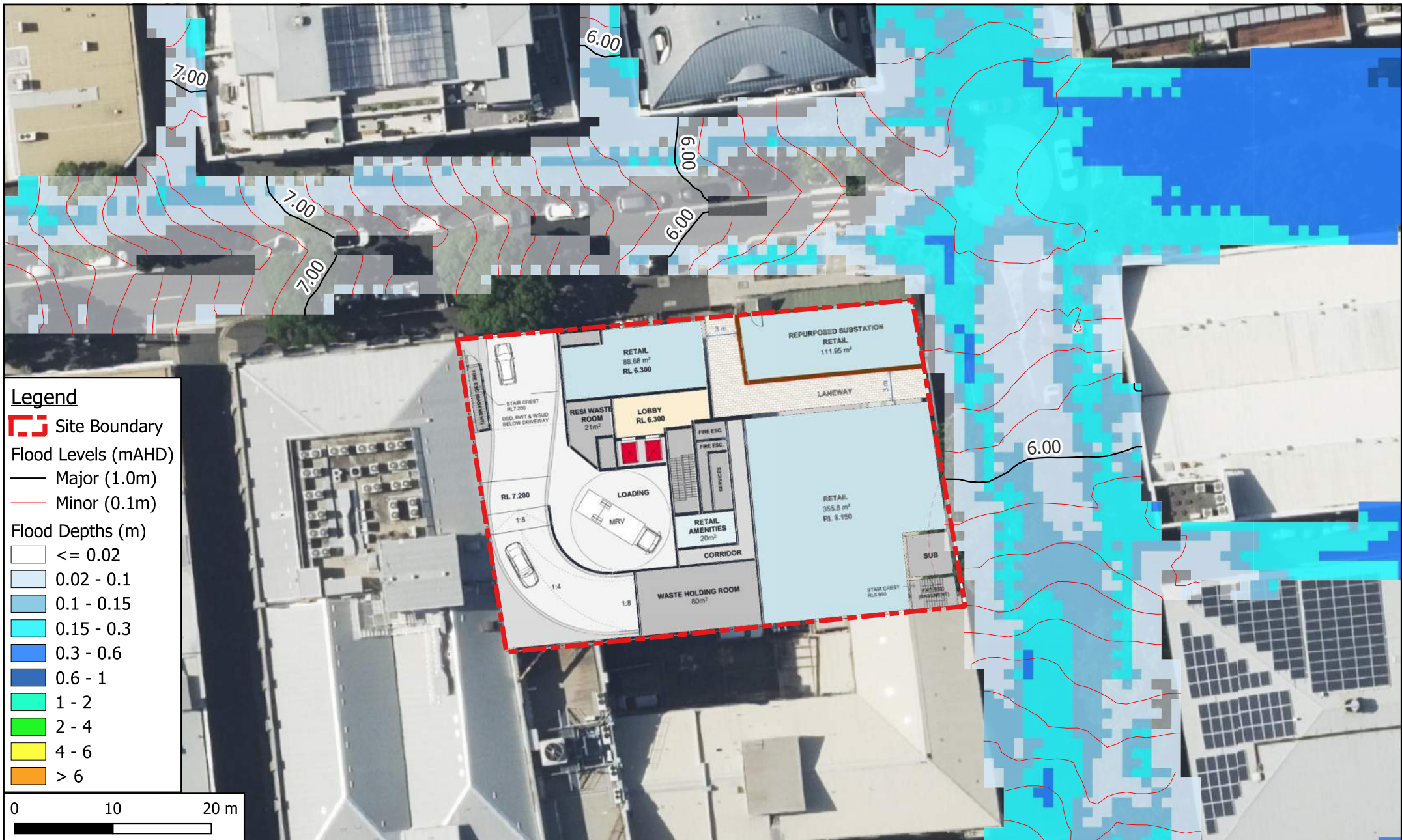
2 - 4

4 - 6

> 6



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An ayesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Proposed Scenario: 10% AEP Event Flood Depths Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
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A	ISSUE FOR APPROVAL	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	



Legend

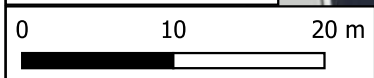
Site Boundary

Flood Levels (mAHD)

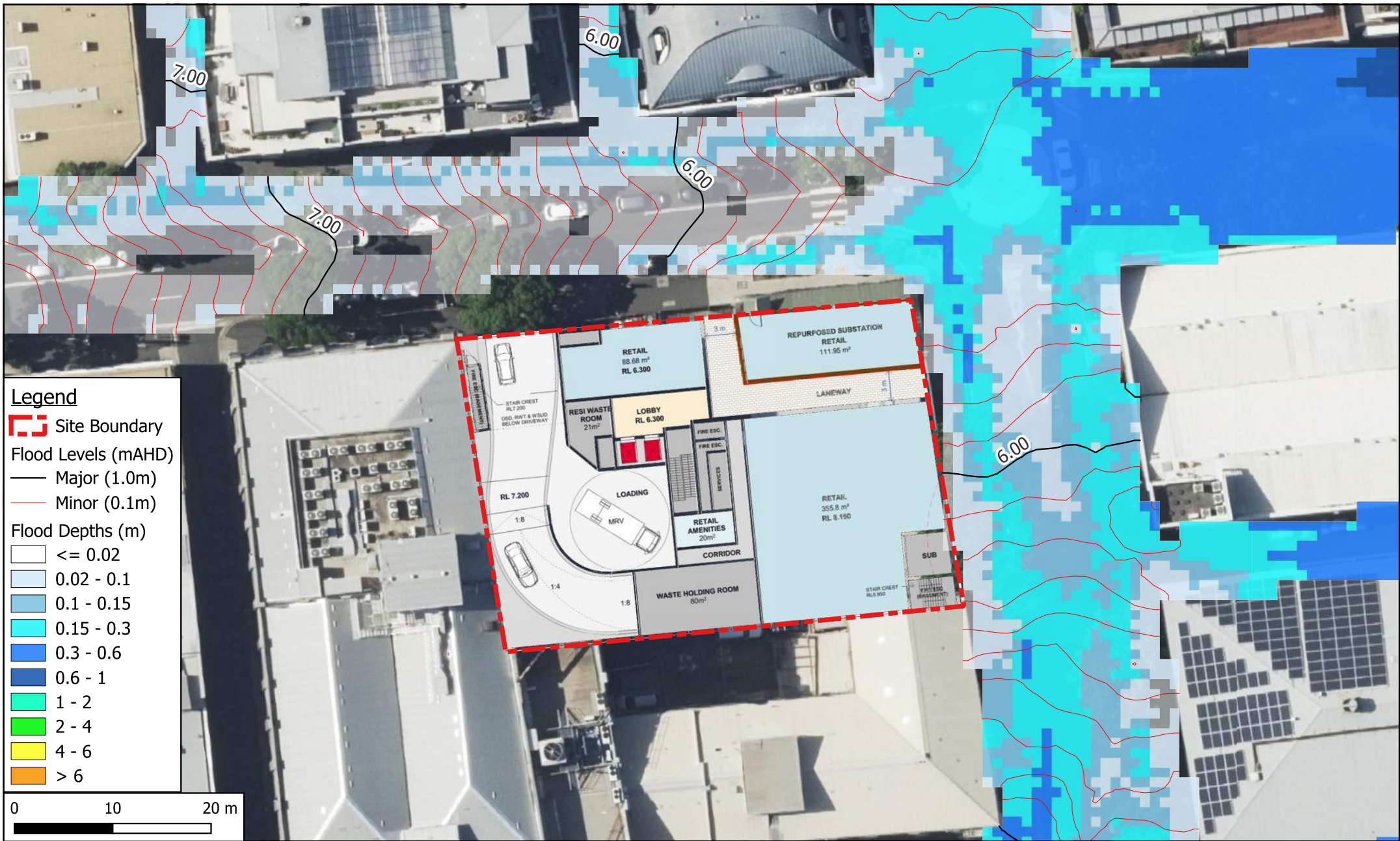
- Major (1.0m)
- Minor (0.1m)

Flood Depths (m)

- ≤ 0.02
- 0.02 - 0.1
- 0.1 - 0.15
- 0.15 - 0.3
- 0.3 - 0.6
- 0.6 - 1
- 1 - 2
- 2 - 4
- 4 - 6
- > 6



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An ayesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Proposed Scenario: 5% AEP Event Flood Depths Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
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A	ISSUE FOR APPROVAL	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	



Legend

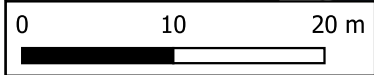
Site Boundary

Flood Levels (mAHD)

- Major (1.0m)
- Minor (0.1m)

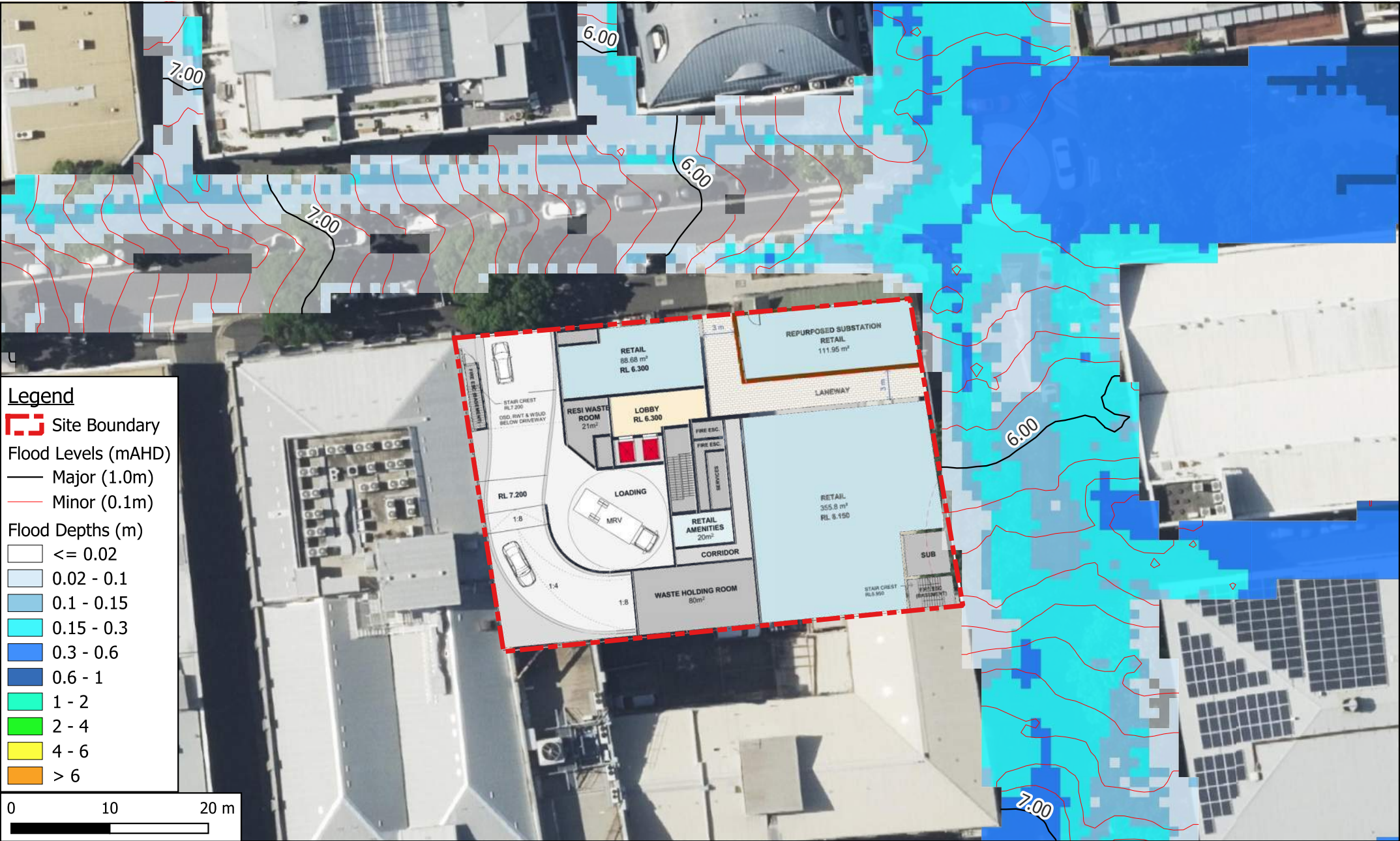
Flood Depths (m)

- <= 0.02
- 0.02 - 0.1
- 0.1 - 0.15
- 0.15 - 0.3
- 0.3 - 0.6
- 0.6 - 1
- 1 - 2
- 2 - 4
- 4 - 6
- > 6



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An ayesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Proposed Scenario: 1% AEP Event Flood Depths Scale: 1:500	Drafted: Designed: Approved:	MH MH SS	
				-						
C	ISSUE FOR APPROVAL	KC	27/08/2025							
B	ISSUE FOR INFORMATION	MH	07/07/2025							
A	ISSUE FOR INFORMATION	MH	27/06/2025					Job Number: SYD3746 Revision: C Date: AUG 2025		





Legend

Site Boundary

Flood Levels (mAHD)

— Major (1.0m)

— Minor (0.1m)

Flood Depths (m)

≤ 0.02

0.02 - 0.1

0.1 - 0.15

0.15 - 0.3

0.3 - 0.6

0.6 - 1

1 - 2

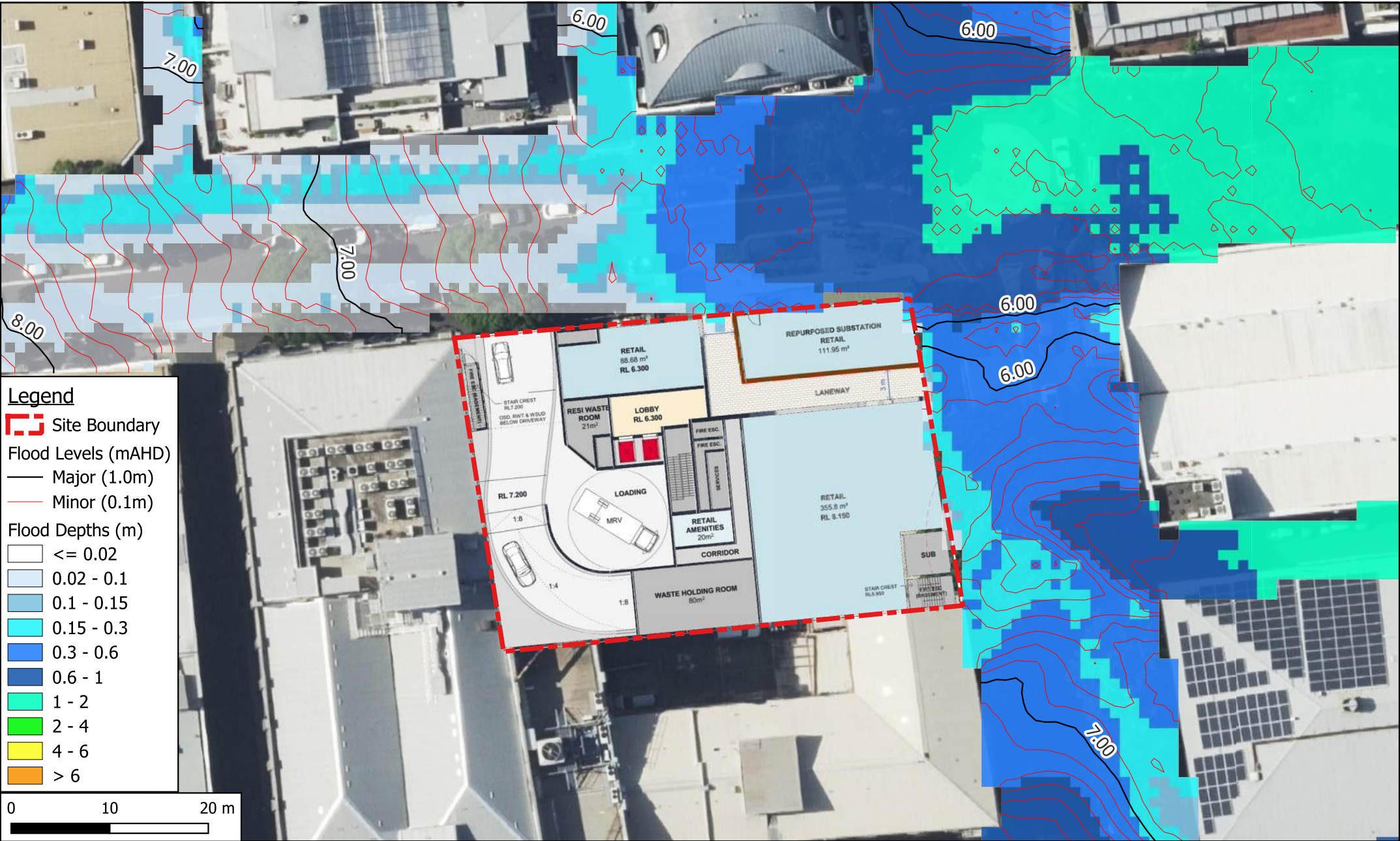
2 - 4

4 - 6

> 6



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An ayesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Proposed Scenario: 0.2% AEP Event Flood Depths Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
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A	ISSUE FOR APPROVAL	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	



Legend

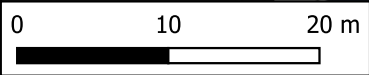
Site Boundary

Flood Levels (mAHD)

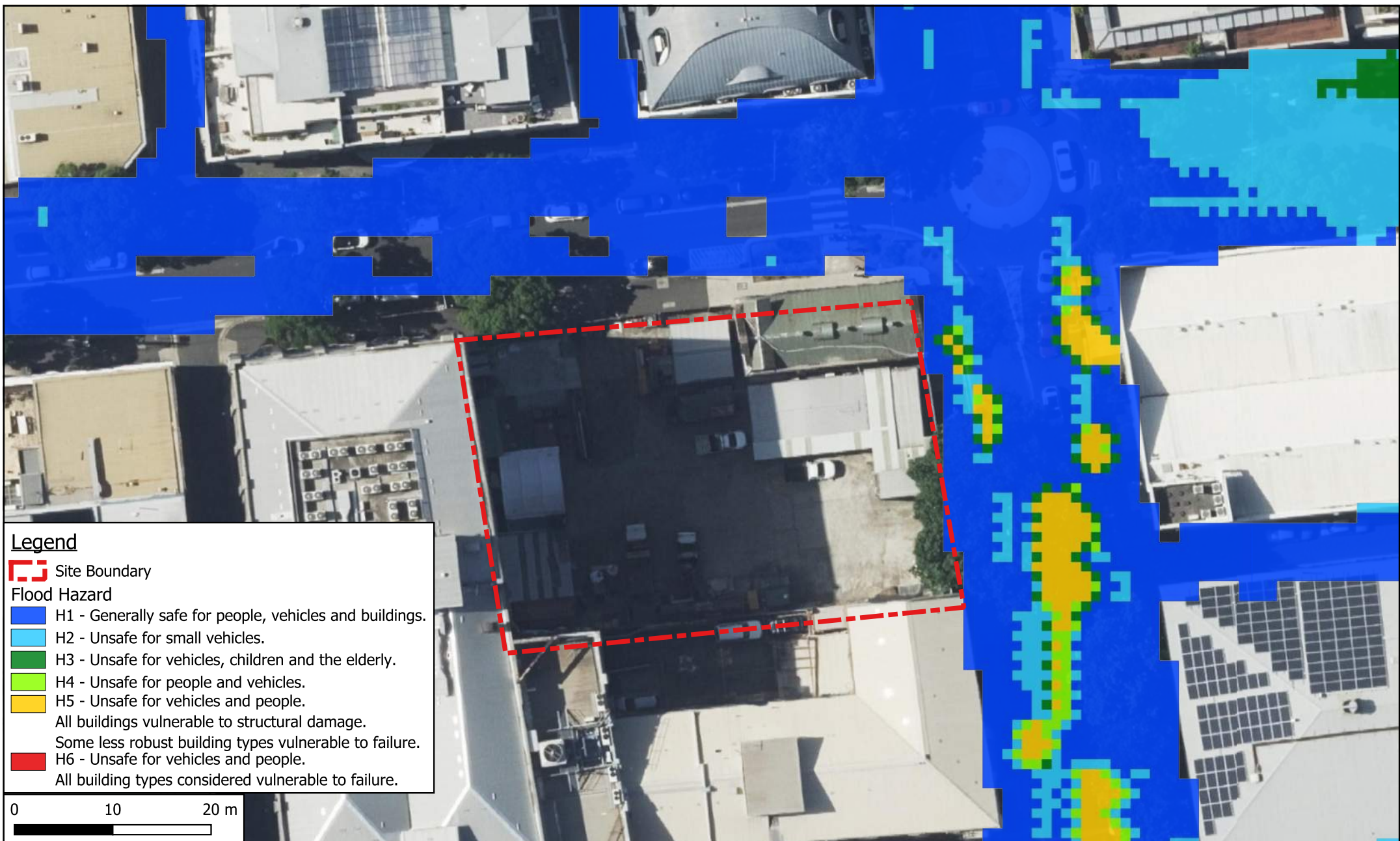
- Major (1.0m)
- Minor (0.1m)

Flood Depths (m)

- <= 0.02
- 0.02 - 0.1
- 0.1 - 0.15
- 0.15 - 0.3
- 0.3 - 0.6
- 0.6 - 1
- 1 - 2
- 2 - 4
- 4 - 6
- > 6



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An ayesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Proposed Scenario: PMF Depths Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
				-					
A	ISSUE FOR APPROVAL	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	



Legend



Site Boundary

Flood Hazard

H1 - Generally safe for people, vehicles and buildings.

H2 - Unsafe for small vehicles.

H3 - Unsafe for vehicles, children and the elderly.

H4 - Unsafe for people and vehicles.

H5 - Unsafe for vehicles and people.

All buildings vulnerable to structural damage.

Some less robust building types vulnerable to failure.

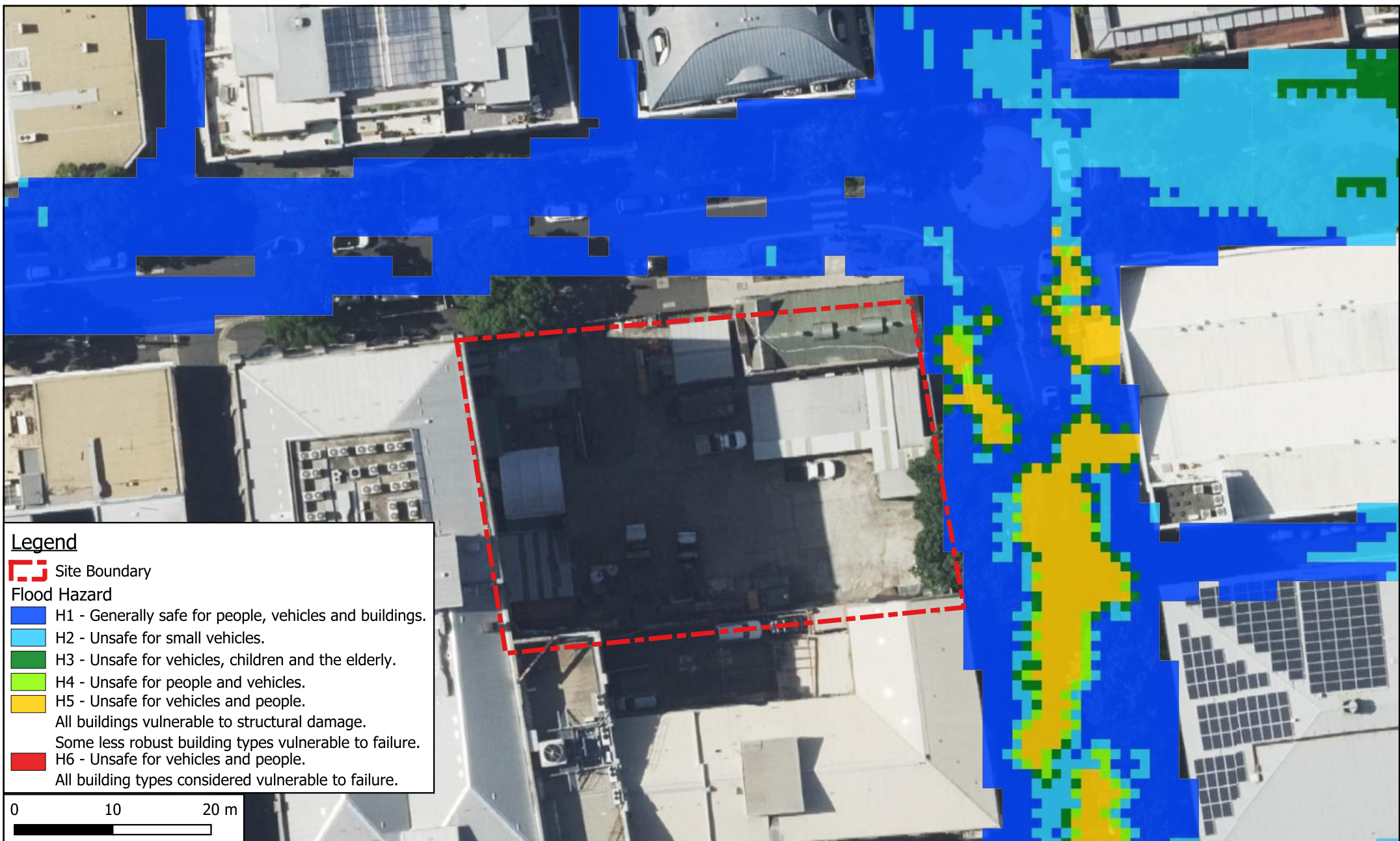
H6 - Unsafe for vehicles and people.

All building types considered vulnerable to failure.

0 10 20 m



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An avesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Existing Scenario: 10% AEP Event Flood Hazard Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
				-					
A	ISSUE FOR APPROVAL	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	

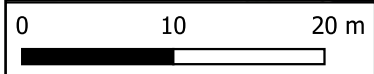


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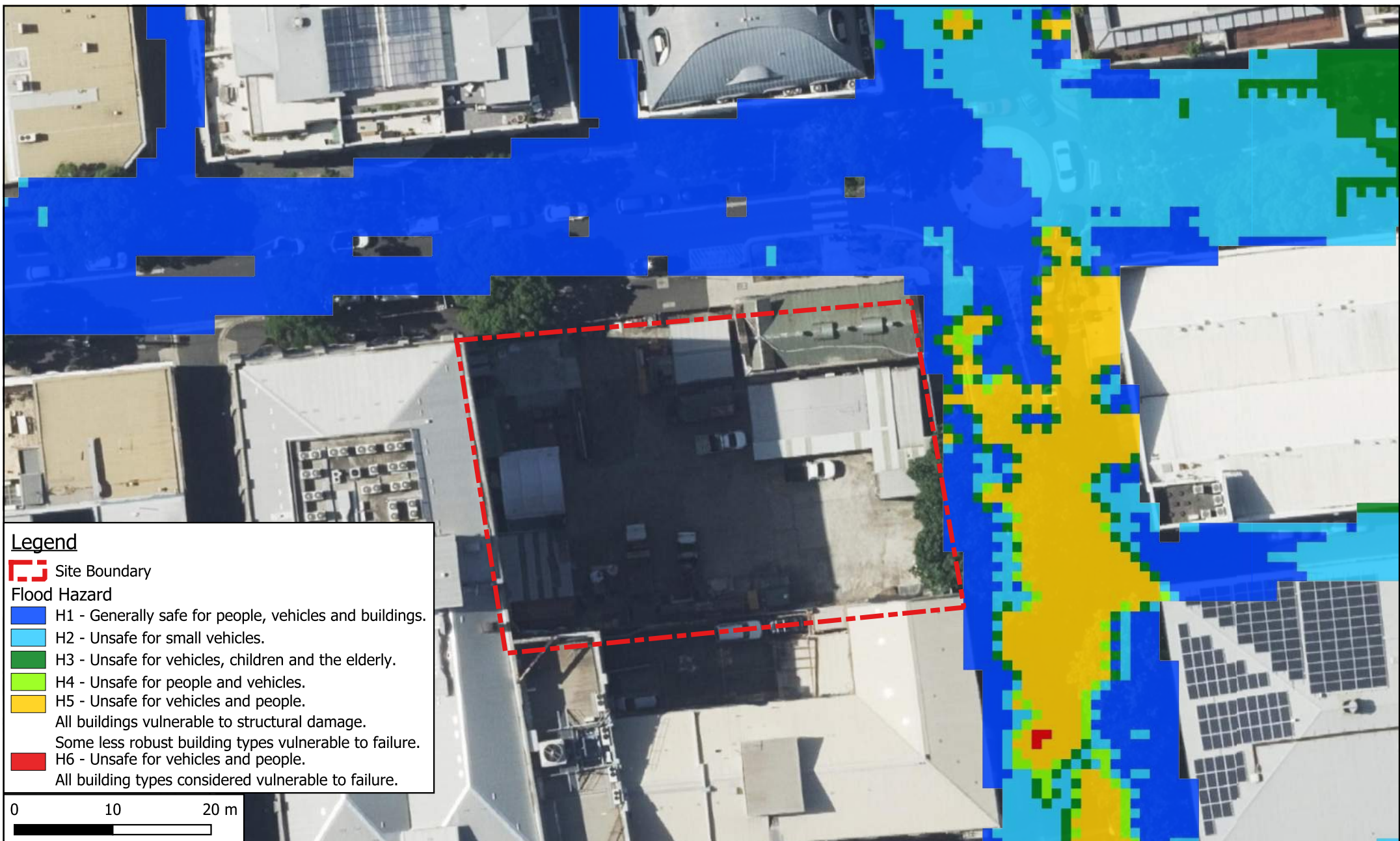
 Site Boundary

Flood Hazard

-  H1 - Generally safe for people, vehicles and buildings.
-  H2 - Unsafe for small vehicles.
-  H3 - Unsafe for vehicles, children and the elderly.
-  H4 - Unsafe for people and vehicles.
-  H5 - Unsafe for vehicles and people.
All buildings vulnerable to structural damage.
Some less robust building types vulnerable to failure.
-  H6 - Unsafe for vehicles and people.
All building types considered vulnerable to failure.



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An avesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Existing Scenario: 5% AEP Event Flood Hazard Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
				-					
A	ISSUE FOR APPROVAL	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	



Legend



Site Boundary

Flood Hazard

H1 - Generally safe for people, vehicles and buildings.

H2 - Unsafe for small vehicles.

H3 - Unsafe for vehicles, children and the elderly.

H4 - Unsafe for people and vehicles.

H5 - Unsafe for vehicles and people.

All buildings vulnerable to structural damage.

Some less robust building types vulnerable to failure.

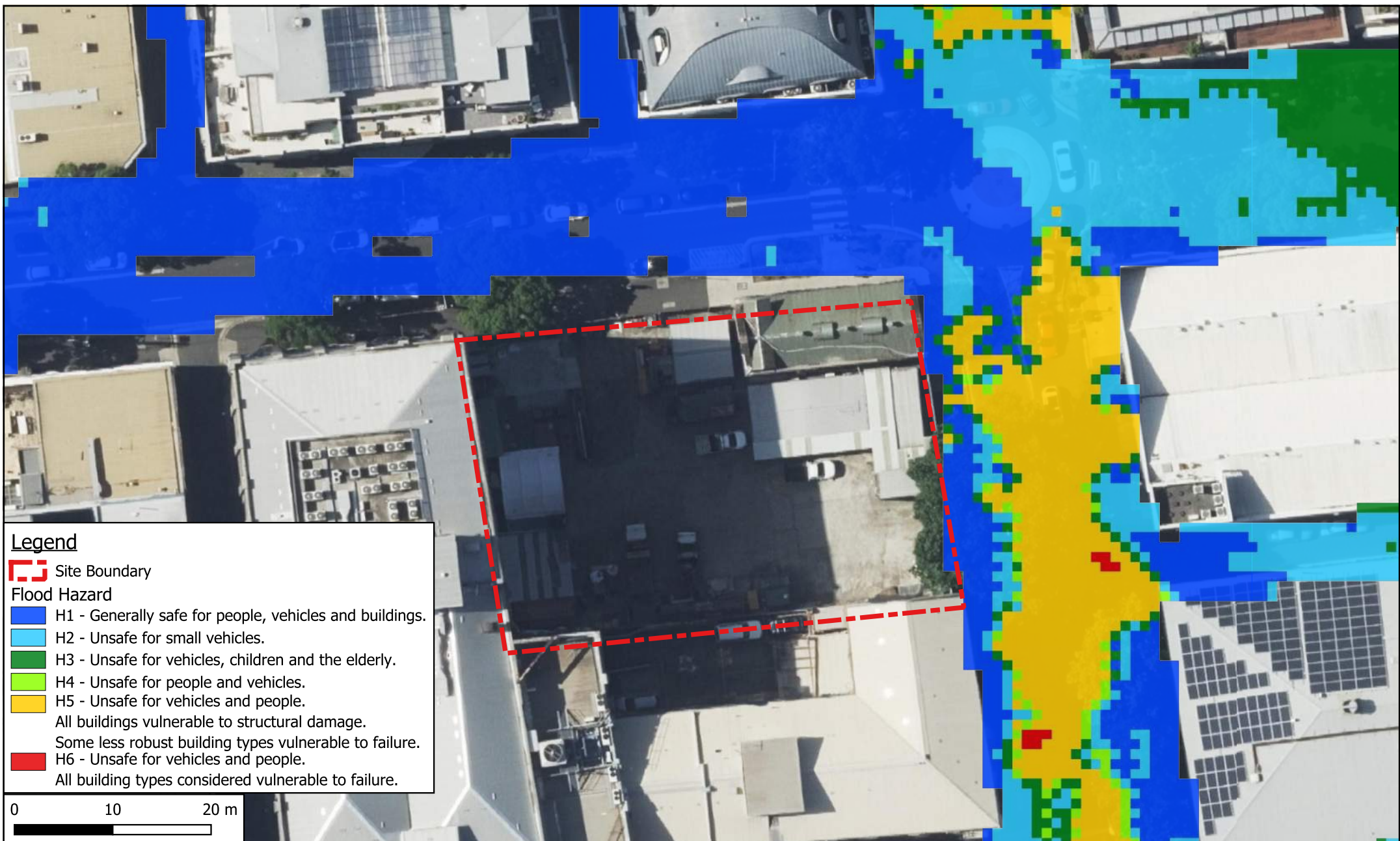
H6 - Unsafe for vehicles and people.

All building types considered vulnerable to failure.

0 10 20 m



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An avesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Existing Scenario: 1% AEP Event Flood Hazard Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
				-					
A	ISSUE FOR APPROVAL	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	

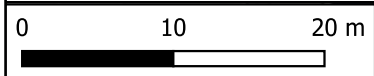


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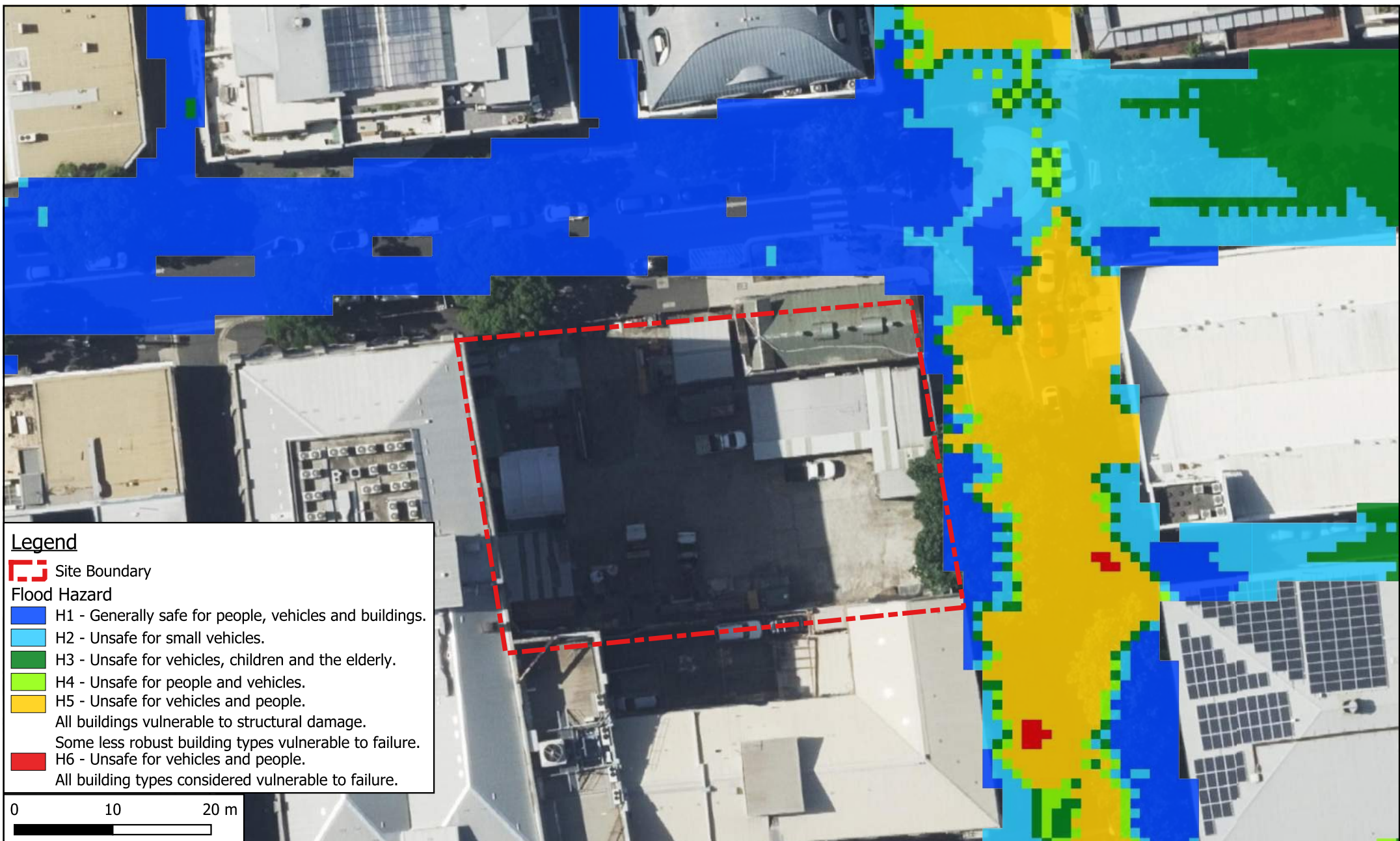
 Site Boundary

Flood Hazard

-  H1 - Generally safe for people, vehicles and buildings.
-  H2 - Unsafe for small vehicles.
-  H3 - Unsafe for vehicles, children and the elderly.
-  H4 - Unsafe for people and vehicles.
-  H5 - Unsafe for vehicles and people.
All buildings vulnerable to structural damage.
Some less robust building types vulnerable to failure.
-  H6 - Unsafe for vehicles and people.
All building types considered vulnerable to failure.



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An avesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Existing Scenario: 0.5% AEP Event Flood Hazard Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
				-					
A	ISSUE FOR APPROVAL	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	



Legend



Site Boundary

Flood Hazard

H1 - Generally safe for people, vehicles and buildings.

H2 - Unsafe for small vehicles.

H3 - Unsafe for vehicles, children and the elderly.

H4 - Unsafe for people and vehicles.

H5 - Unsafe for vehicles and people.

All buildings vulnerable to structural damage.

Some less robust building types vulnerable to failure.

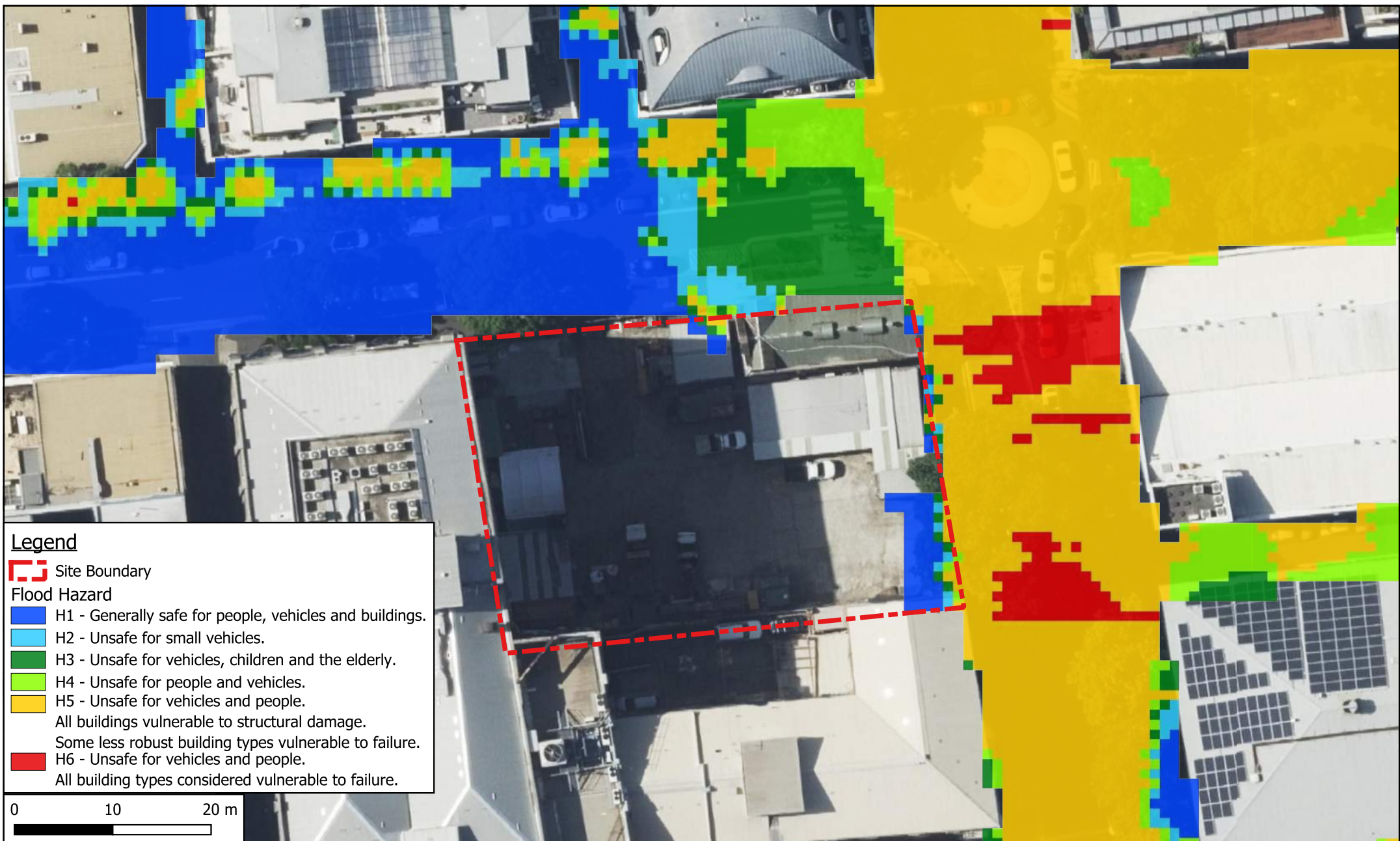
H6 - Unsafe for vehicles and people.

All building types considered vulnerable to failure.

0 10 20 m



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An avesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Existing Scenario: 0.2% AEP Event Flood Hazard Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
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A	ISSUE FOR APPROVAL	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	

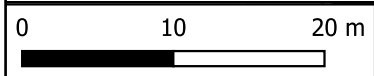


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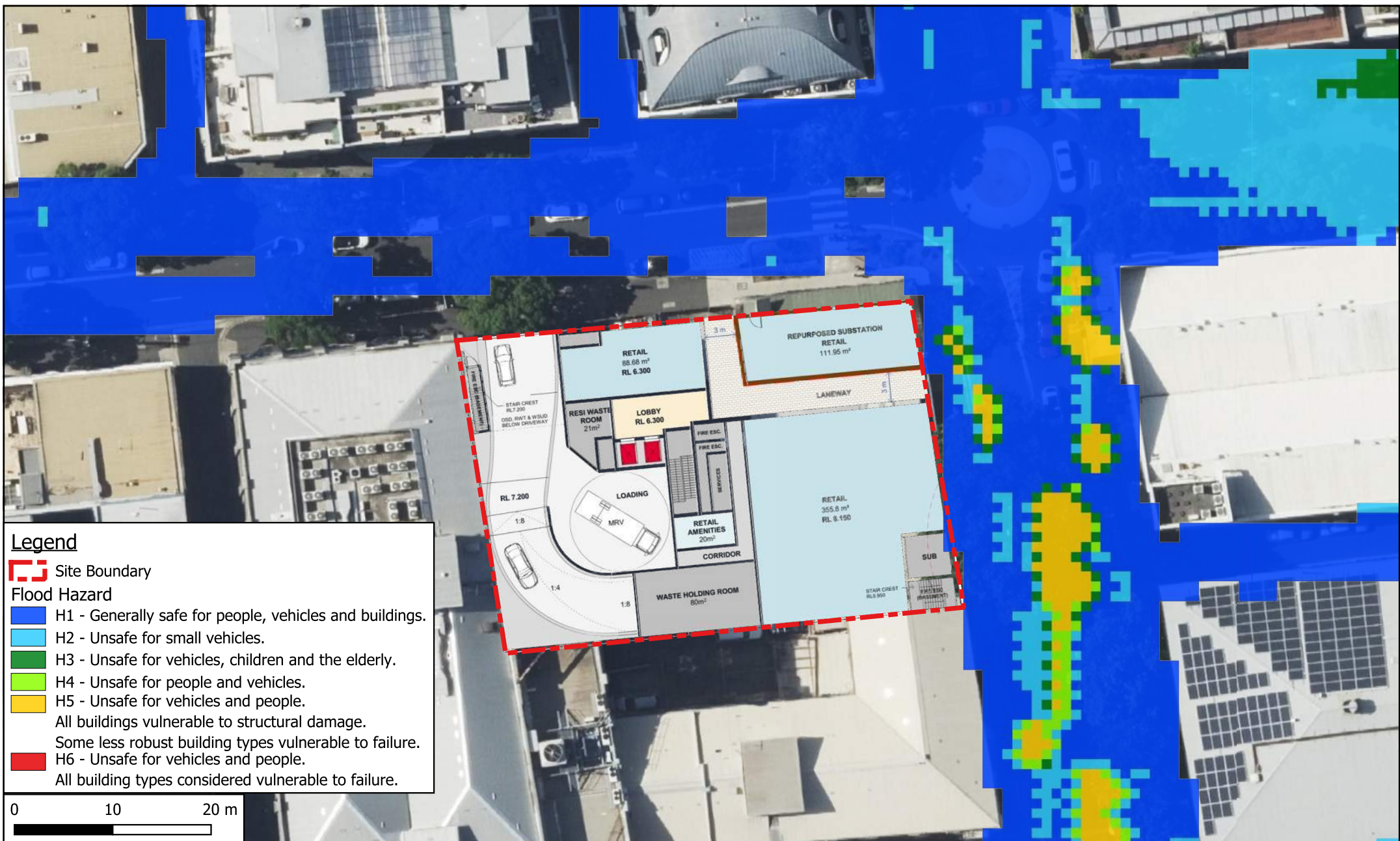
 Site Boundary

Flood Hazard

-  H1 - Generally safe for people, vehicles and buildings.
-  H2 - Unsafe for small vehicles.
-  H3 - Unsafe for vehicles, children and the elderly.
-  H4 - Unsafe for people and vehicles.
-  H5 - Unsafe for vehicles and people.
All buildings vulnerable to structural damage.
Some less robust building types vulnerable to failure.
-  H6 - Unsafe for vehicles and people.
All building types considered vulnerable to failure.



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An avesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Existing Scenario: PMF Hazard Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
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A	ISSUE FOR APPROVAL	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	



Legend

 Site Boundary

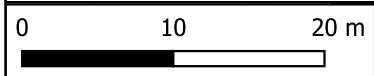
Flood Hazard

-  H1 - Generally safe for people, vehicles and buildings.
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-  H3 - Unsafe for vehicles, children and the elderly.
-  H4 - Unsafe for people and vehicles.
-  H5 - Unsafe for vehicles and people.

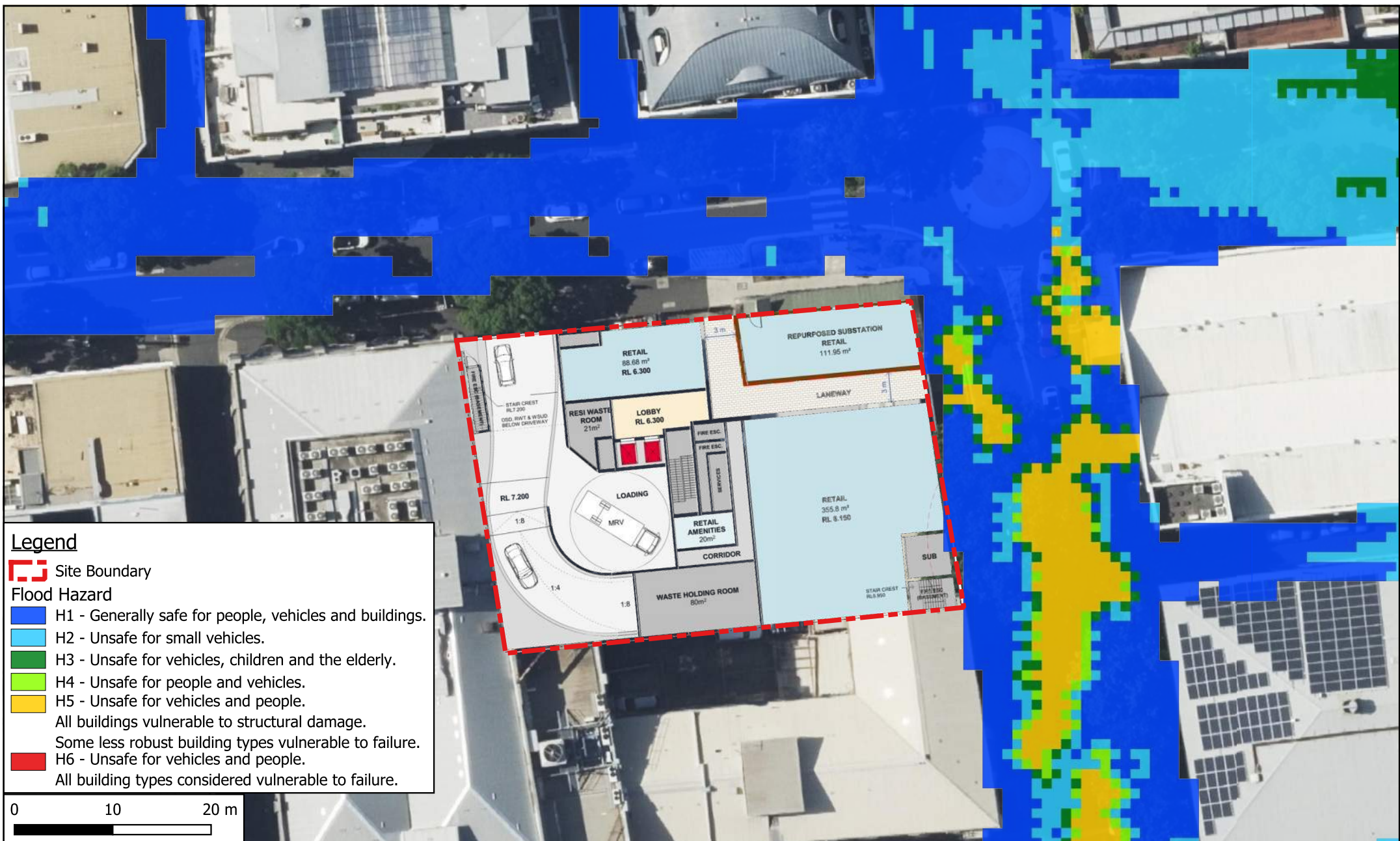
All buildings vulnerable to structural damage.
Some less robust building types vulnerable to failure.

-  H6 - Unsafe for vehicles and people.

All building types considered vulnerable to failure.



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An avesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Proposed Scenario: 10% AEP Event Flood Hazard Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
				-					
A	ISSUE FOR INFORMATION	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	



Legend

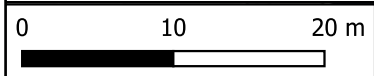
Site Boundary

Flood Hazard

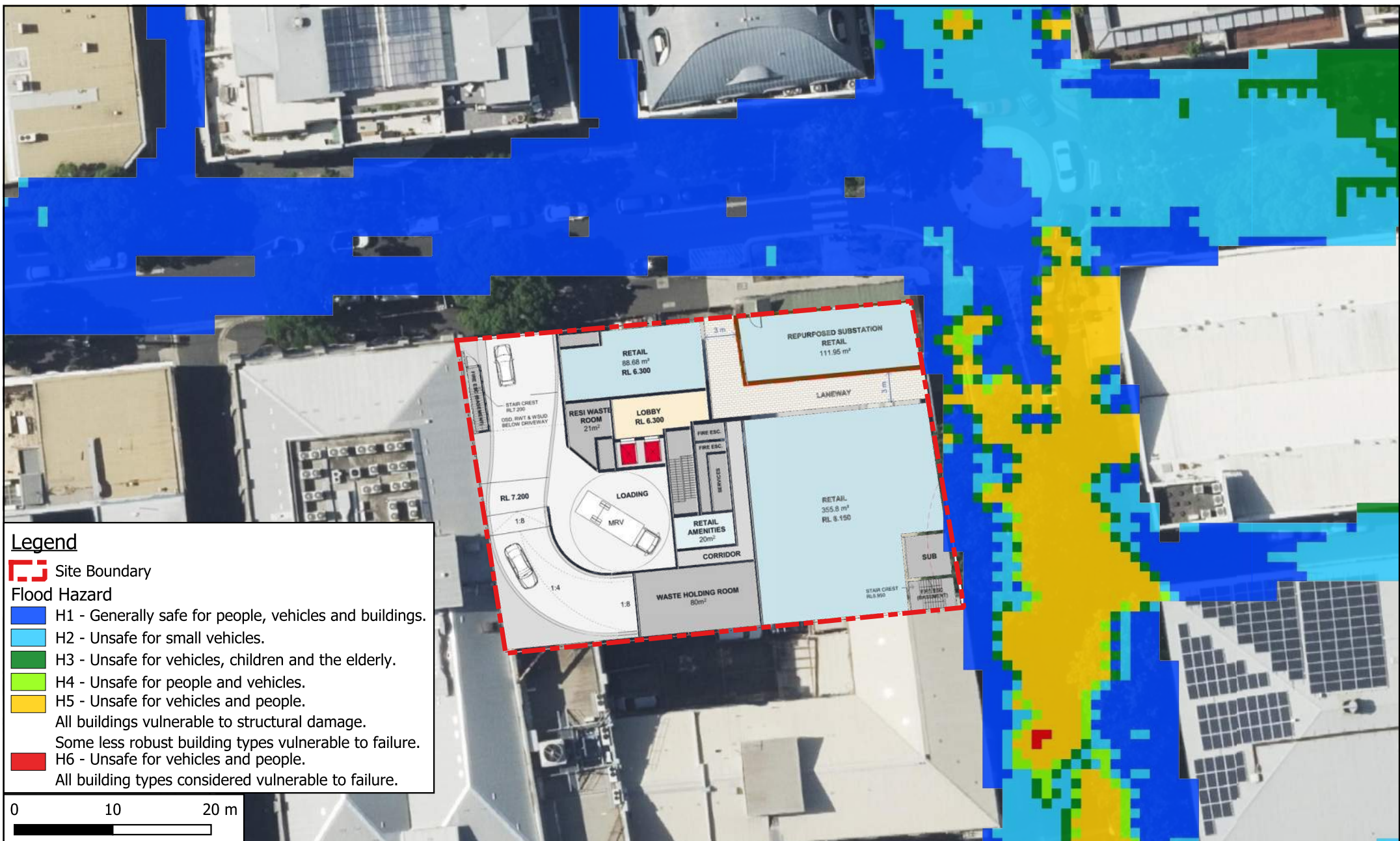
- H1 - Generally safe for people, vehicles and buildings.
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- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for people and vehicles.
- H5 - Unsafe for vehicles and people.
- H6 - Unsafe for vehicles and people.

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Some less robust building types vulnerable to failure.

All building types considered vulnerable to failure.



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An ayesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Proposed Scenario: 5% AEP Event Flood Hazard Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
				-					
A	ISSUE FOR INFORMATION	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	

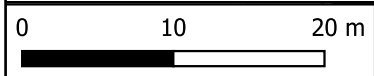


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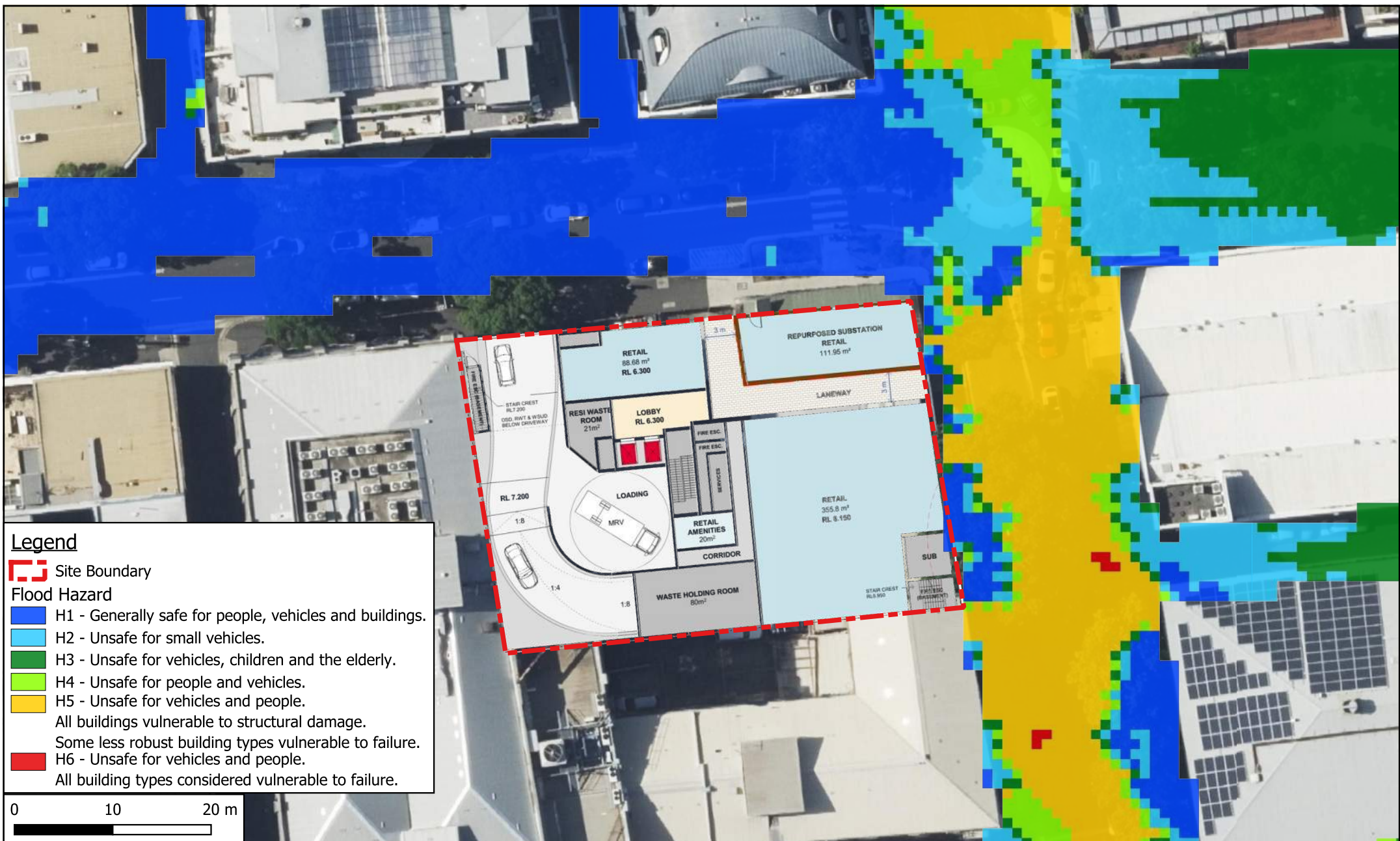
Site Boundary

Flood Hazard

- H1 - Generally safe for people, vehicles and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for people and vehicles.
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Some less robust building types vulnerable to failure.
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Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An ayesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Proposed Scenario: 1% AEP Event Flood Hazard Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
				-					
A	ISSUE FOR INFORMATION	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	

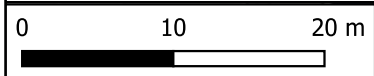


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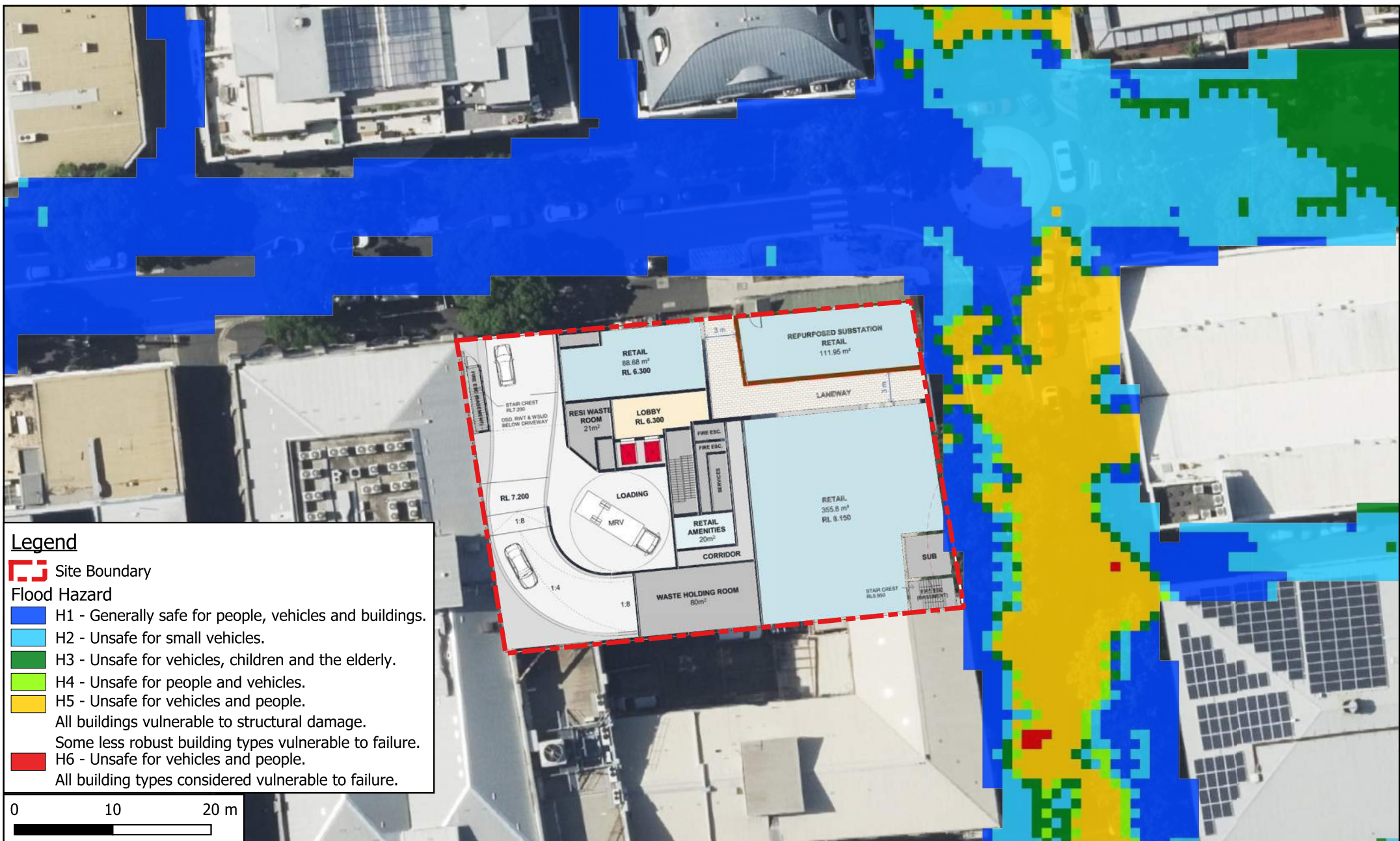
 Site Boundary

Flood Hazard

-  H1 - Generally safe for people, vehicles and buildings.
-  H2 - Unsafe for small vehicles.
-  H3 - Unsafe for vehicles, children and the elderly.
-  H4 - Unsafe for people and vehicles.
-  H5 - Unsafe for vehicles and people.
All buildings vulnerable to structural damage.
-  H6 - Unsafe for vehicles and people.
Some less robust building types vulnerable to failure.
-  H6 - Unsafe for vehicles and people.
All building types considered vulnerable to failure.



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An avesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Proposed Scenario: 1% Climate Change AEP Event Flood Hazard Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
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A	ISSUE FOR INFORMATION	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	

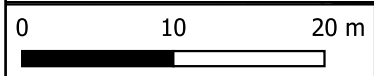


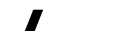
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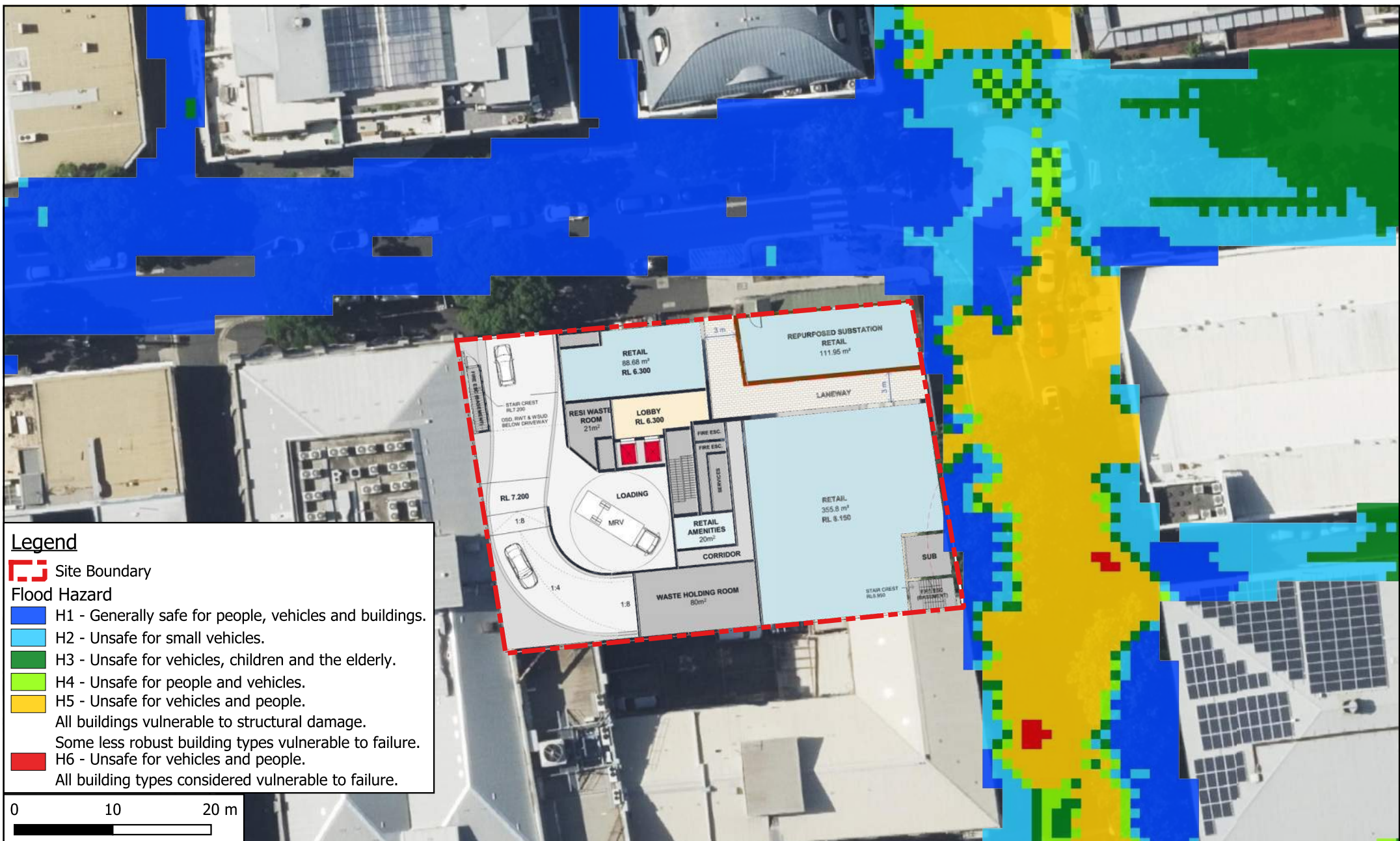
Site Boundary

Flood Hazard

- H1 - Generally safe for people, vehicles and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for people and vehicles.
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Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An ayesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Proposed Scenario: 0.5% AEP Event Flood Hazard Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
				-					Job Number: SYD3746 Revision: A Date: AUG 2025 
A	ISSUE FOR INFORMATION	KC	27/08/2025						

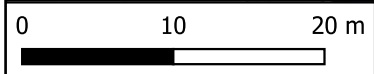


Legend

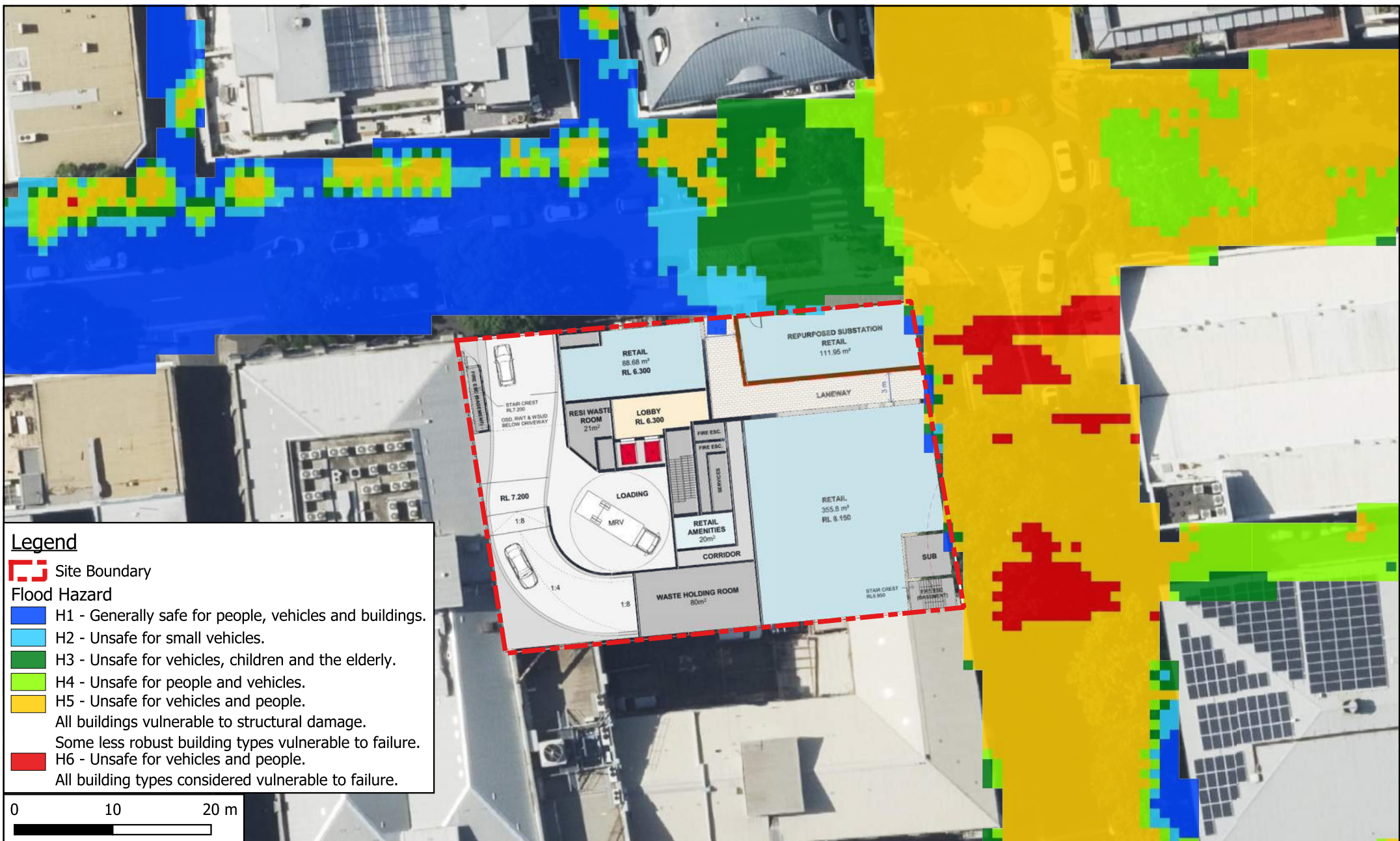
Site Boundary

Flood Hazard

- H1 - Generally safe for people, vehicles and buildings.
- H2 - Unsafe for small vehicles.
- H3 - Unsafe for vehicles, children and the elderly.
- H4 - Unsafe for people and vehicles.
- H5 - Unsafe for vehicles and people.
All buildings vulnerable to structural damage.
Some less robust building types vulnerable to failure.
- H6 - Unsafe for vehicles and people.
All building types considered vulnerable to failure.



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An ayesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Proposed Scenario: 0.2% AEP Event Flood Hazard Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
				-					
A	ISSUE FOR INFORMATION	KC	27/08/2025					Job Number: SYD3746 Revision: A Date: AUG 2025	



Legend

 Site Boundary

Flood Hazard

 H1 - Generally safe for people, vehicles and buildings.

 H2 - Unsafe for small vehicles.

 H3 - Unsafe for vehicles, children and the elderly.

 H4 - Unsafe for people and vehicles.

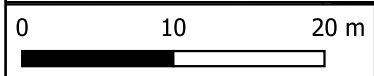
 H5 - Unsafe for vehicles and people.

All buildings vulnerable to structural damage.

Some less robust building types vulnerable to failure.

 H6 - Unsafe for vehicles and people.

All building types considered vulnerable to failure.



Revision	Description	Initial	Date	APT Residential Level 16/56 Pitt St, Sydney NSW 2000	 An avesa company www.adpconsulting.com Level 6, 33 Erskine Street Sydney NSW 2000 T. +61 2 8203 5447	41-49 Mountain Street, Ultimo NSW 2007	Civil Engineering Services Proposed Scenario: PMF Hazard Scale: 1:500	Drafted: Designed: Approved:	MH MH SS
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