

Attachment A17

Water Cycle and Stormwater Management

Broadway 2

Water Cycle and Stormwater Management Report

Prepared for: APT Residential

Project No: SYD3746
Date: 18 September 2025
Revision: B



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: B

Date: 18 September 2025

Rev	Date	Comment	Author	Signature	Technical Review	Signature	Authorisation & QA	Signature
A	05.09.2025		K.C.		S.S.		S.S.	
B	18.09.2025		K.C.		S.S.		S.S.	

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1. Introduction

This Water Cycle and Stormwater Management Report has been prepared by ADP Consulting Engineers to support the Planning Proposal for the lots at 41-49 Mountain Street, Ultimo NSW 2007. 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).

1.2 Existing Stormwater Infrastructure

Existing below ground stormwater infrastructure has been identified around the site based on Before You Dig Australia (BYDA) information, which has been further confirmed by the survey has been conducted by "Geosurv" dated to 10/01/2025.

1.3 Flood Planning

The site is located within the Blackwattle Bay catchment and is covered by the 2020 Blackwattle Bay Catchment Flood Study Model Update – ARR2019 Hydrology by "WMAwater". This report identifies the site as flood impacted. To assess and manage the flood risk, a flood study has been conducted and outlined in a Flood Impact Risk Assessment by ADP.

2. Stormwater Management

This section of the report discusses the strategy to allow for stormwater runoff across the site to be conveyed to the designated legal point of discharge. The guidelines outlined in the 2012 City of Sydney Development Control Plan (DCP), Sydney Streets Technical Specifications, and Sydney Water On-site Detention: Guidelines, have been considered as part of the stormwater design strategy.

2.1 Site Drainage and Legal Point of Discharge

Runoff generated by within the existing site is currently discharged to the kerb along Mountain and Smail St, or into the existing inground stormwater infrastructure system at the northeast corner of the site.

As part of the proposed stormwater drainage strategy for the proposed development, an extension of the existing inground system has been proposed to allow for the development to discharge directly to the inground system only. The discharge of stormwater from the site into the Councils drainage system is to be controlled by gravity and an On-Site Detention (OSD) tank sized for storm events up to the 1% AEP.

The Civil stormwater management drawings shown in Appendix B demonstrate the strategy and overall design intent for the treatment of site runoff.

2.2 Stormwater Quantity

The proposed OSD tank has been designed in accordance with advice received from Sydney Water dated 25/07/2025 (Appendix C), indicating a required volume of 24m³, and a Permissible Site Discharge of 55L/s. The required volume has been provided and shown in Appendix B, further detailed design will follow as part of a future application.

2.3 Water Pollutant Reduction Targets

In accordance with the City of Sydney DCP, Section 3.7.3, the following pollutant loads must be retained on the site:

Table 1 Pollutant Reduction Targets

Pollutant Type	Percentage Retention of Post-Development Loads:
Total Suspended Solids (TSS)	85%
Total Phosphorus (TP)	65%
Total Nitrogen (TN)	45%
Gross Litter	90%

2.4 Water Treatment Train

The proposed site layout consists of 100% roof area, split into trafficable and non-trafficable areas. A 3kL rainwater tank has been proposed to capture and reuse the runoff generated within the non-trafficable areas as part of the water quality treatment train. This volume is subject to BASIX requirements. Overflow from the rainwater tank will then drain towards the proposed stormwater treatment train systems and undergo a series of water quality treatment procedures before being discharged to council's existing below ground drainage system. Trafficable roof areas are to be conveyed directly to the water quality treatment procedures before being discharged to council's existing below ground drainage system. The proposed water quality treatment train consists of a combination of Atlan Stormsacks for primary treatment and Atlan Filter cartridges for tertiary treatment. A catchment plan showing the catchment area and water quality details has been prepared and incorporated into Appendix B.

2.4.1 Atlan Stormsack

Stormsack gross pollutant traps by Atlan or approved equivalent have been proposed for the primary treatment of gross pollutants and suspended solids.

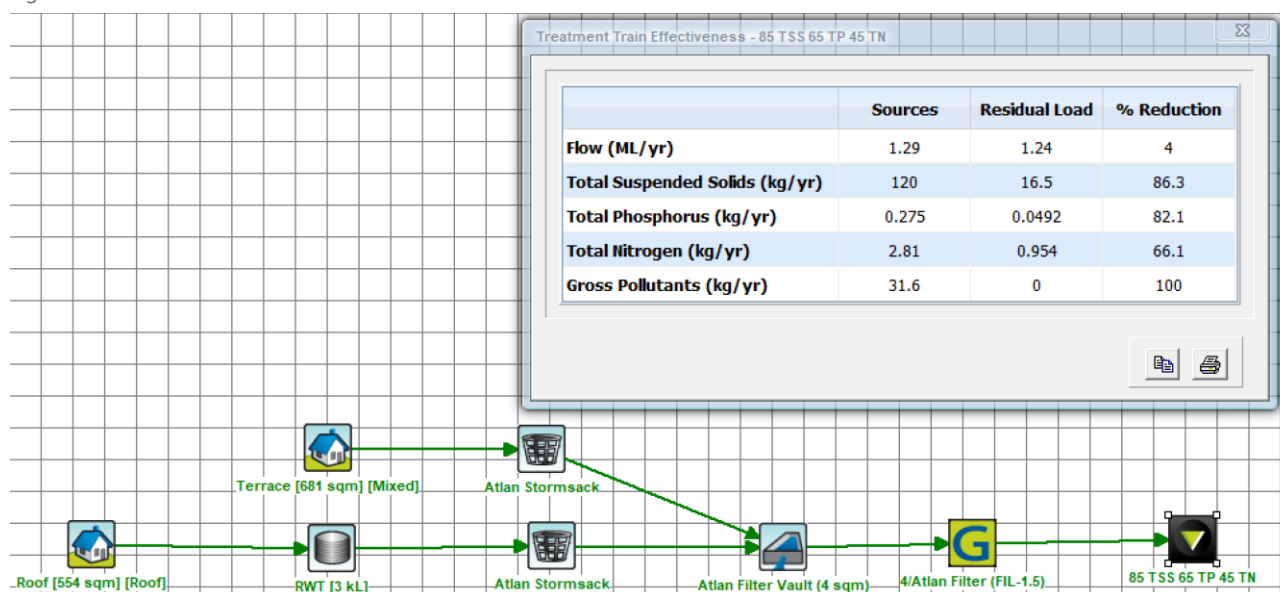
2.4.2 Atlan Filter

Atlan filter cartridges by Atlan or approved equivalent have been proposed for the tertiary treatment of heavy metals, nutrients and soluble pollutants.

2.5 Water Quality Modelling and Results

The stormwater treatment train was modelled in MUSIC, and it has been demonstrated that the stormwater quality targets required by Council has been achieved. Please see Stormwater Management Plan in Appendix B, and MUSIC extracts below.

Figure 1 MUSIC Treatment Train and Results



2.6 Maintenance

2.6.1 Atlan Stormsack

In accordance with the manufacturer's specifications and requirements, the proposed Stormsack would need to be maintained regularly. Please see required maintenance schedule from the manufacturer.

2.6.2 AtlanFilter

Similarly, the AtlanFilter cartridges would need to be inspected and maintained regularly, at a frequency of 4 months. Please see required maintenance schedule from the manufacturer.

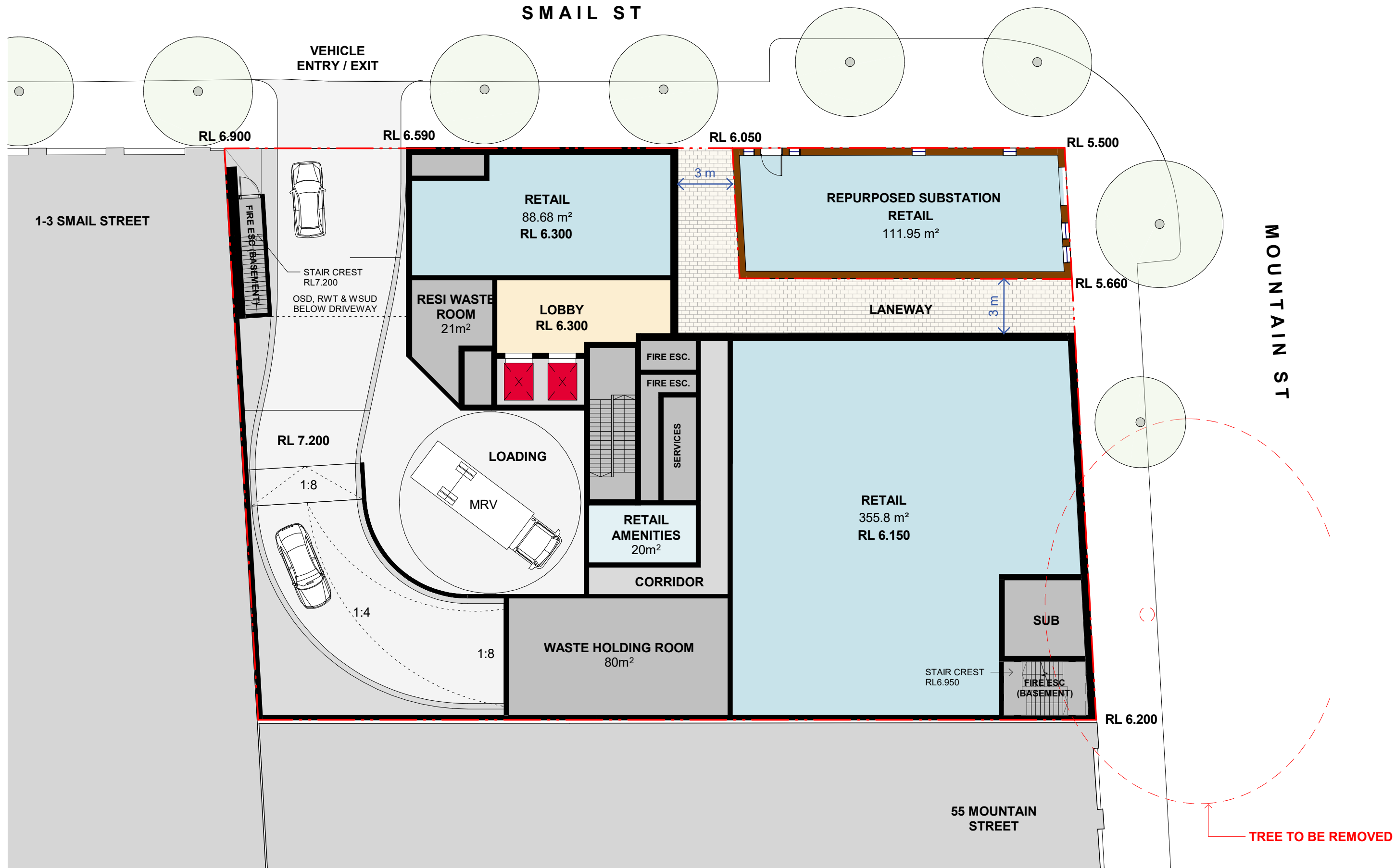
2.6.3 Riparian Zones

The proposed site is not located near a riparian corridor and is therefore unimpacted by associated riparian zones.

3. Appendices

3.1 Appendix A – Architectural Plan

1127



PRELIMINARY

BATESSMART™

NSW Nominated Responsible Architects:
Kellie Payne Reg. 6454 / Philip Vivian Reg.
6696 / Guy Lake Reg. 7119 / Matthew Allen
Reg. 8498
Bates Smart Architects Pty Ltd ABN 68 094 740 986



41-49 Mountain St, Ultimo

GROUND FLOOR
S12603
1 : 200 @ A3

Drawing no.
PP03.00 Rev.
A

SMAIL ST

MOUNTAIN ST

1-3 SMAIL STREET

1128

PLANT ENCLOSURE
RL 55.950

LIFT O.R

REPURPOSED SUBSTATION

FLAT ROOF
RL 55.950

TERRACES BELOW @ LEVEL 1
RL 12.150

COMMUNAL GARDEN
BELOW @ LEVEL 7
RL 30.350

55 MOUNTAIN
STREET

3 m

5 - 6 m

3 m

8 - 10 m

10 m

3 m

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NSW Nominated Responsible Architects:
Kellie Payne Reg. 6454 / Philip Vivian Reg.
6696 / Guy Lake Reg. 7119 / Matthew Allen
Reg. 8496
Bates Smart Architects Pty Ltd ABN 68 094 740 986



41-49 Mountain St, Ultimo

ROOF
S12603
1 : 200

@ A3

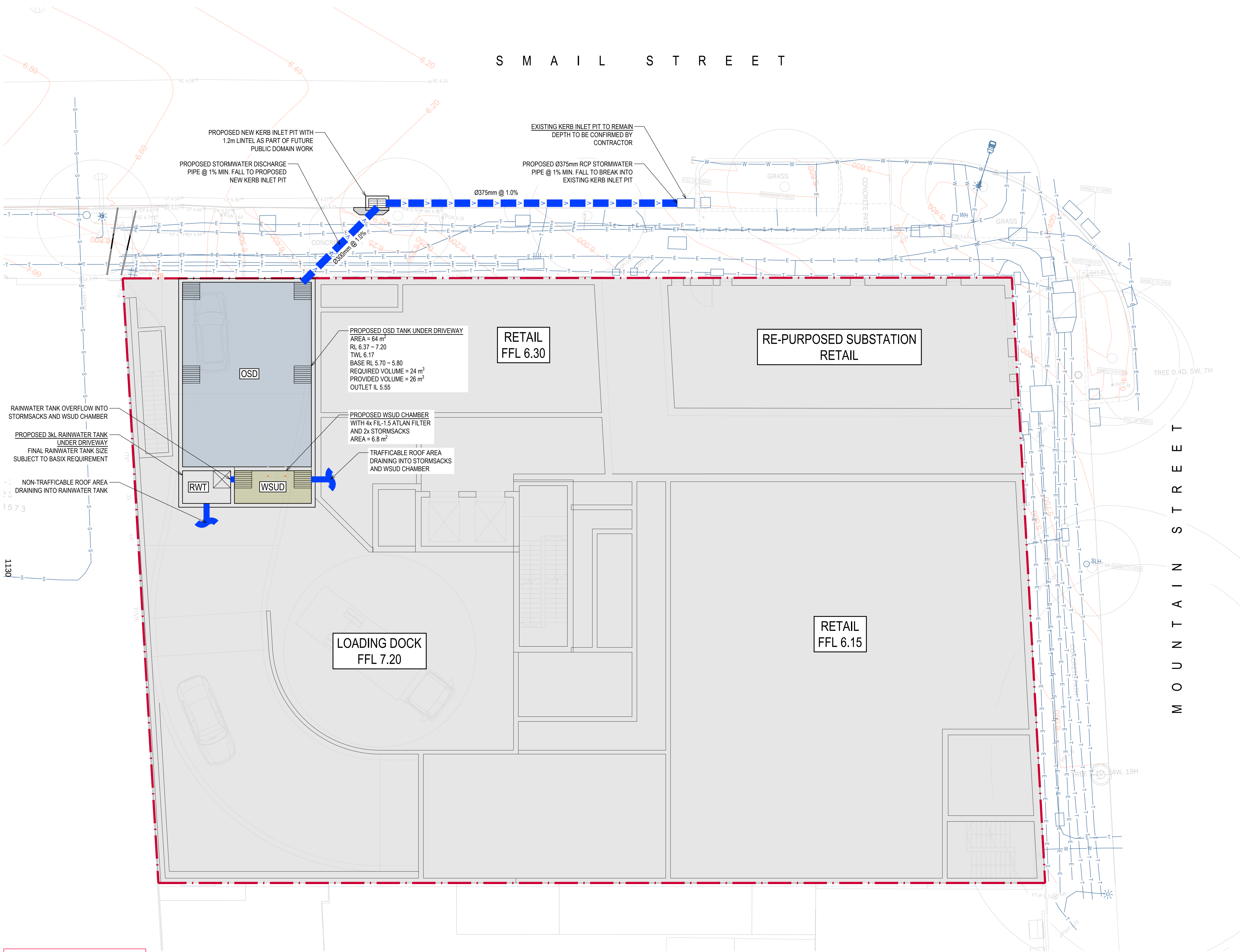
PRELIMINARY

Drawing no.

PP03.15 A

Rev.

3.4 Appendix B – Stormwater Management Plan



LEGEND

	SITE BOUNDARY
	EXISTING CONTOUR (0.Xm)
	PROPOSED STORMWATER PIPE
	EXISTING STORMWATER PIPE
	SUBSOIL PIPE
	STORMWATER RISING MAIN
	OUTLINE OF LEVEL BELOW
	GRADED SURFACE INLET PIT
	SEALED JUNCTION PIT
	GRADED DRAIN
	STORMWATER PIT NAME
	FINISHED RL
	OVERLAND FLOW DIRECTION
	EXISTING ELECTRICAL LINE
	EXISTING GAS LINE
	EXISTING TELECOMMUNICATION LINE
	EXISTING SEWER LINE
	EXISTING WATER LINE
	EXISTING FIBRE OPTIC LINE
	EXISTING OVERHEAD POWER LINE

- NOTES:
- ALL DIMENSIONS ARE IN mm UNLESS NOTED OTHERWISE.
 - ALL REDUCED LEVELS ARE IN mAHD.
 - SURVEY INFORMATION OBTAINED FROM GEOSURV'S DRAWING TITLED 'SUBSURFACE UTILITY INVESTIGATION, BOUNDARY AND DETAIL SURVEY', DATED 10/01/2025.
 - PROPOSED STORMWATER PIPES TO HAVE MINIMUM PIPE FALLS AS PER BELOW:
 - DIAMETER $\leq$ 150mm: 1.0% FALL.
 - DIAMETER $\geq$ 225mm: 0.5% FALL.
 - SLAB/PAVEMENT TO HAVE MINIMUM 1% FALL TOWARDS STORMWATER INLETS AS PER AS2890 REQUIREMENTS.
 - REFER TO CIVIL PUBLIC DOMAIN WORKS PACKAGE 2XXXXX-CXXX SERIES FOR ALL WORKS OUTSIDE SITE BOUNDARY.

PRINTING NOTE:
THIS DRAWING TO BE
PRINTED IN COLOUR.

STORMWATER MANAGEMENT PLAN - GROUND FLOOR
SCALE 1:100

FOR INFORMATION

A1 0 1 2 3 4 5 6 7 8 9 10 1:100

Revision	Description	Initial	Date	Client
				APT RESIDENTIAL LEVEL 16, 56 PITT ST, SYDNEY, 2000
				Architect BATESSMART 43 BRISBANE ST, SURRY HILLS, 2010
P2	ISSUE FOR INFORMATION	AD	18.09.2025	
P1	ISSUE FOR INFORMATION	AD	05.09.2025	

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An **ayesa** company

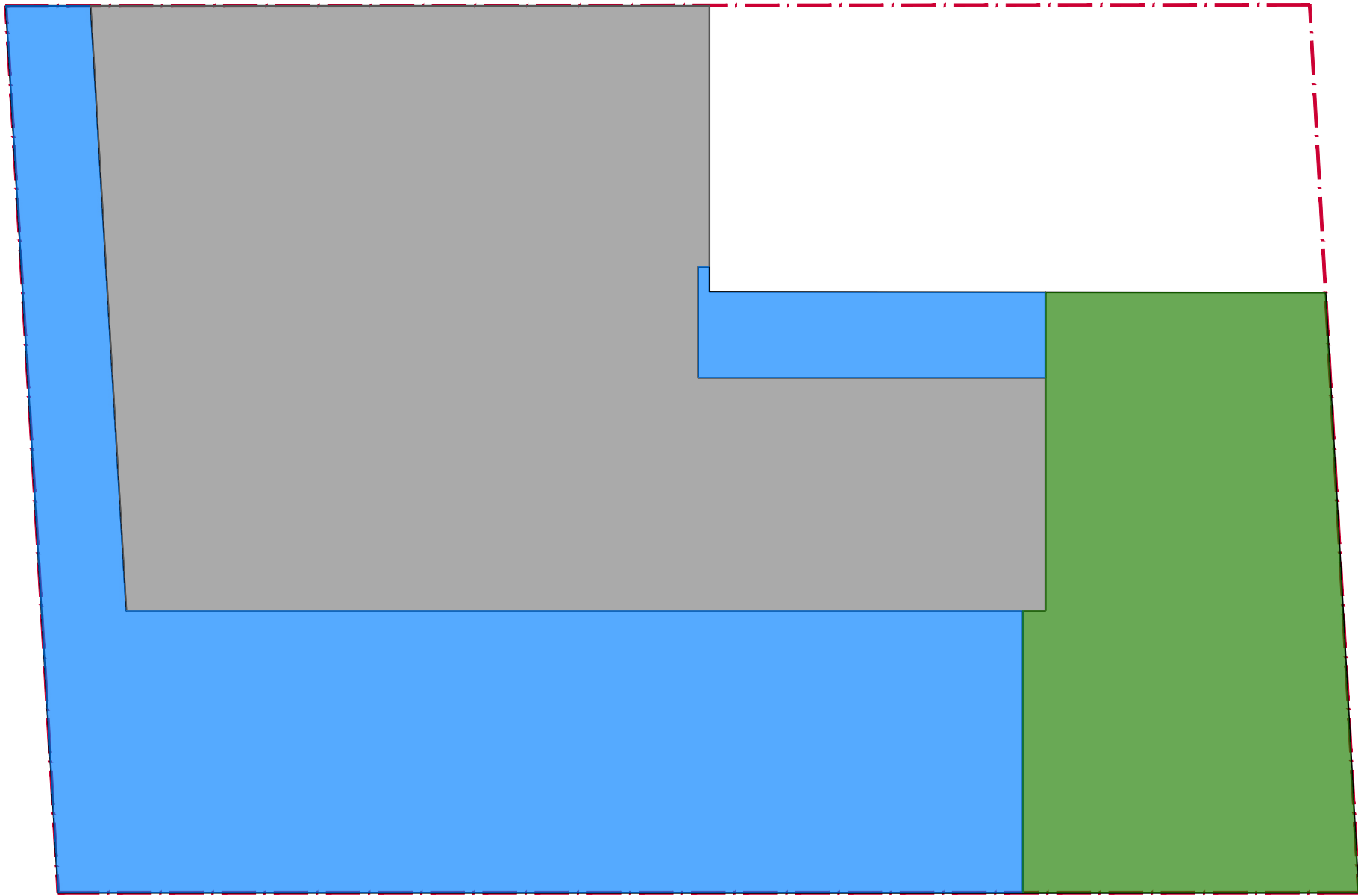
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Project
43-49 MOUNTAIN ST, ULTIMO
NEW SOUTH WALES, 2007

Drawing Title
CIVIL ENGINEERING SERVICES
STORMWATER PLAN - GROUND FLOOR

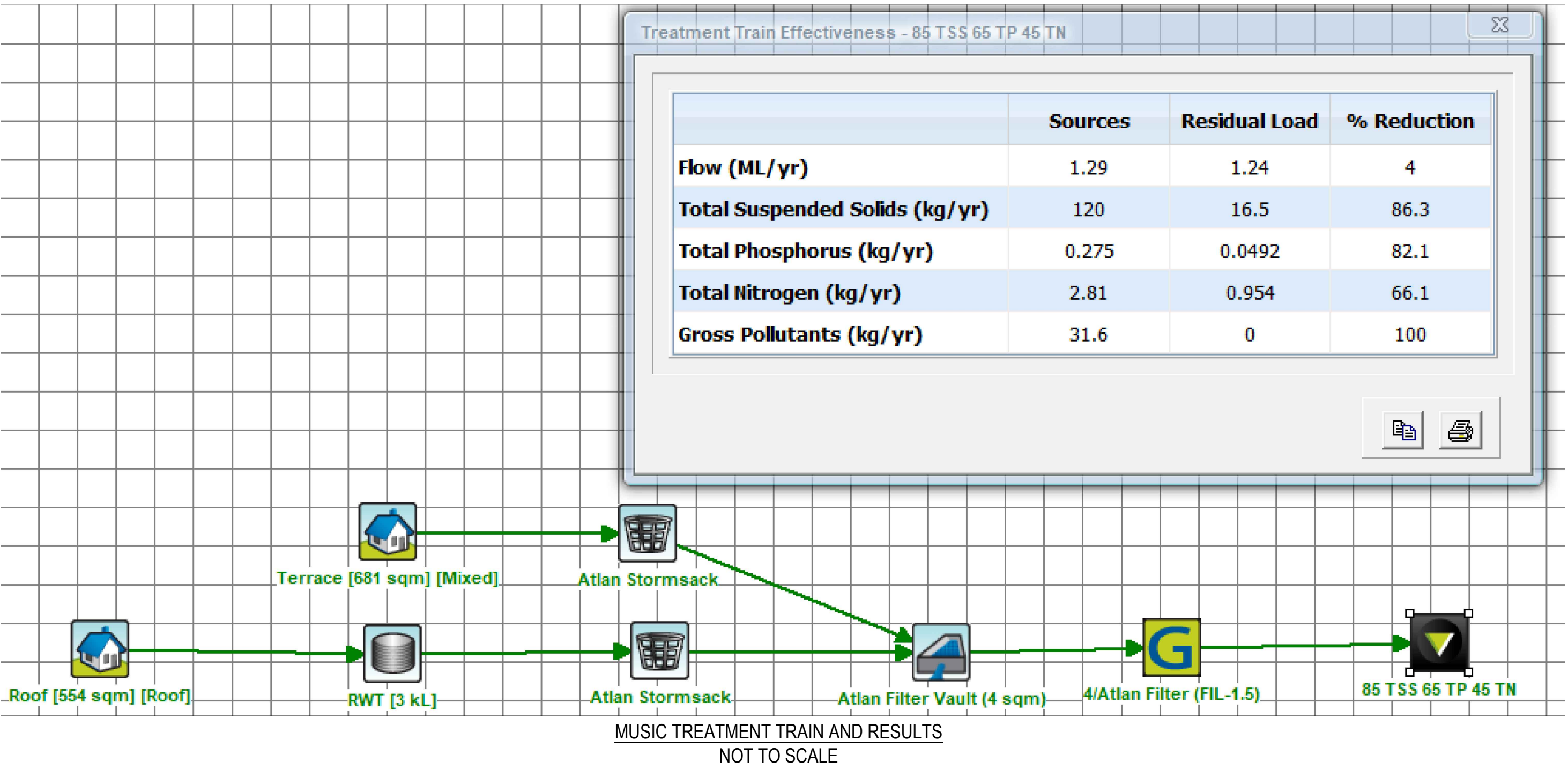
Drafted	Designed	Approved	Date	Scale	Sheet Size
AD	MH	SS	SEP 2025	1:100 @	A1
Job Number	Drawing Number	Revision	North Point		
SYD3746	CE100	P2			



LEGEND

- SITE BOUNDARY
- ROOF AREA DRAINING TO RAINWATER TANK THEN WSUD CHAMBER = 554 m²
- TERRACE AREA DRAINING TO WSUD CHAMBER = 447 m²
- GARDEN AREA DRAINING TO WSUD CHAMBER = 234 m²

STORMWATER CATCHMENT PLAN
SCALE 1:200

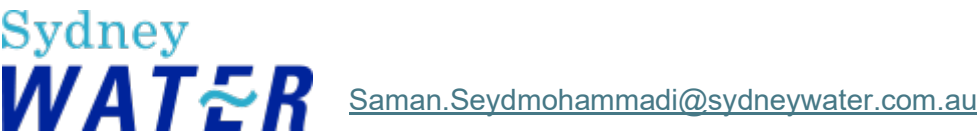


PRINTING NOTE:
THIS DRAWING TO BE
PRINTED IN COLOUR.

3.5 Appendix C – Sydney Water Advice

Best regards,

Saman Seyd Mohammadi
Senior Capability Assessor
Growth & Development



From: Michael Haditio <m.haditio@adpconsulting.com>
Sent: Monday, 23 June 2025 11:17 AM
To: Stormwater <Stormwater@sydneywater.com.au>
Cc: Scott Sharma <s.sharma@adpconsulting.com>
Subject: [External] Sydney Water OSD Parameters Enquiry 41-49 Mountain St Ultimo

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To whom it may concern,

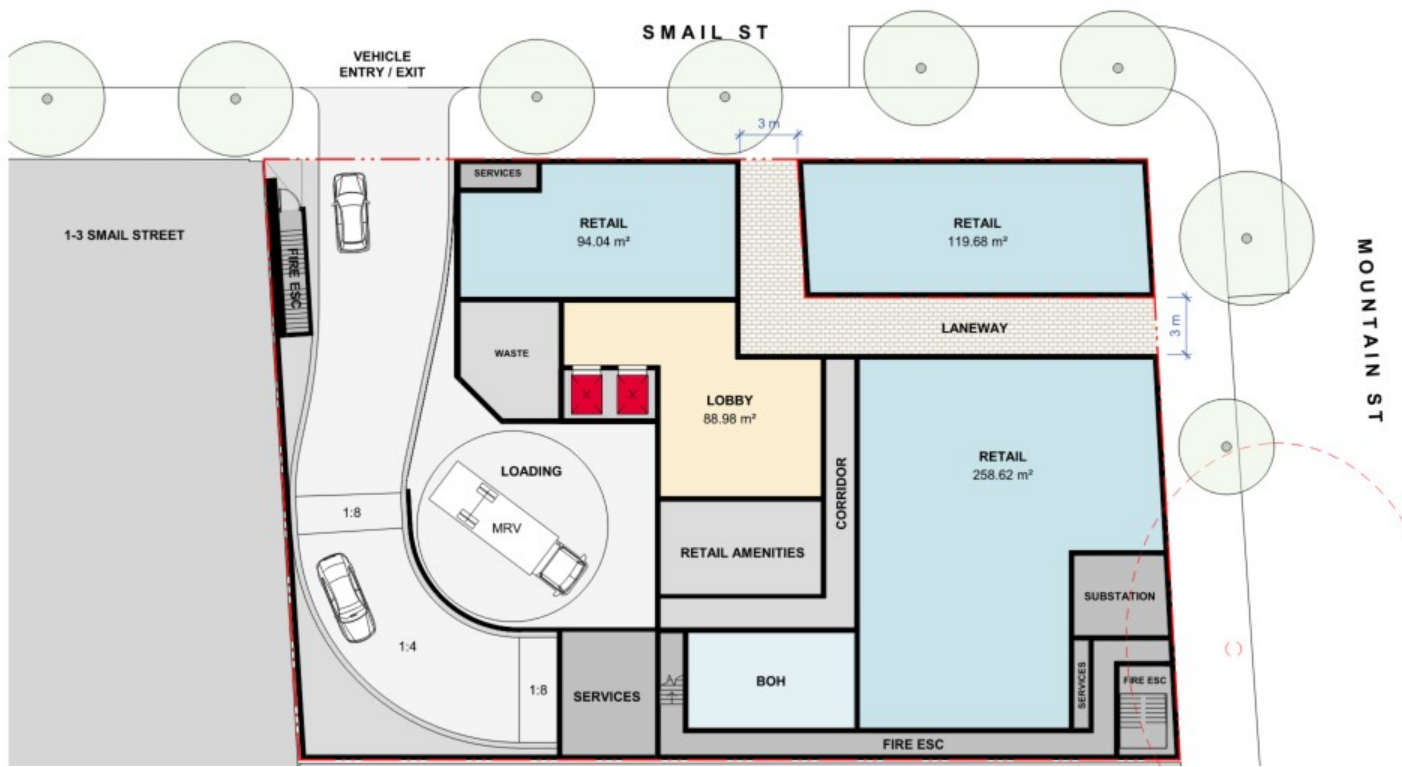
I am writing this email on behalf of ADP Consulting.

We have been engaged by our client to prepare stormwater advice as part of a Massing study for a proposed mixed-use development at 41-49 Mountain St, Broadway. The site is located within City of Sydney LGA.

We are writing this email to seek advice from Sydney Water regarding On-Site detention requirements for the site.

Development address	: 41-49 Mountain Street, Ultimo NSW 2007 (Lot 21 DP5567)
Total site area	: 1,500 sqm
Existing pre-development impervious area	: 1,500 sqm
Proposed post-development impervious area	: 1,500 sqm

The existing site consists of an existing building, which the client is looking to retain, and hardstand carparking area. The proposed mixed-use development will be constructed over the existing hardstand carparking area.

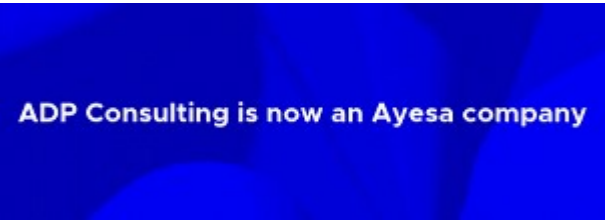


Thank you for your time, and we hope to hear back from you soon.

Kind regards,

Michael Haditio
Engineer | Civil

ADP Consulting, an Ayesa company
P: +61 2 8043 7885 | E: m.haditio@adpconsulting.com
W: www.adpconsulting.com
[London](#) | [Sydney](#) | [Melbourne](#) | [Brisbane](#) | [Adelaide](#) | [Gold Coast](#)



ADP Consulting acknowledge Aboriginal & Torres Strait Islander peoples as the Traditional Custodians of the lands on which we live, gather and work. We pay our respect to the Elders past and present, and offer that respect to the First Peoples of every Nation and Country within our circle of influence.



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Melbourne

Level 13, 55 Collins Street
Melbourne VIC 3000
t. +61 3 9521 1195

Adelaide

Level 2, 25 Grenfell Street
Adelaide SA 5000
t. +61 3 9521 1195

Brisbane

Level 16, 15 Adelaide Street
Brisbane QLD 4000
t. +61 7 3088 4022

Gold Coast

Level 10, 12-14 Marine Parade
Southport, QLD 4215
t. +61 7 3088 4022

Sydney

Level 6, 33 Erskine Street
Sydney NSW 2000
t. +61 2 8203 5447

London

53-64 Chancery Ln
London WC2A 1QS
United Kingdom
t. +44 74 9478 5117

adpconsulting.com