



Stormwater Management Report

153-157 Walker St, North Sydney

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Report Amendment Register

Issue Ref	Amended Section(s)	Issue/Amendment Details	Author(s)	Reviewer	Date
P01	ALL	Draft Issue for SSDA Submission	Baarith Baskaran	Allen Ang	22/05/25
P02	ALL	Draft Issue for SSDA Submission	Baarith Baskaran	Chris Waite	23/06/25
P03	Sec 1.3	Proposed Development Description	Mark Labid	Allen Ang	31/07/25



Executive Summary

Robert Bird Group (RBG) were commissioned by Freecity North Sydney Development Pty Ltd (Freecity) to undertake the stormwater design for the proposed development located at 153-157 Walker Street, North Sydney, 2060. This Stormwater Management Report has been prepared on behalf of Freecity Group (the applicant), in support of a State Significant Development Application (SSDA) for a 51-storey mixed use tower development comprising of residential apartments and a hotel. The SSDA related to land legally identified as Deposited Plan (DP) 84729 and Strata Plan (SP) 50411.

The purpose of this report is to outline the design parameters for stormwater design to ensure the site and locality infrastructure will be adequately protected from stormwater. This Stormwater Management Report describes the hydrologic and hydraulic design undertaken and the mitigation measures proposed for the development of 153-157 Walker Street, North Sydney.



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1. Introduction

This Stormwater Management Report is submitted to the Department of Planning, Housing and Infrastructure (DPHI) on behalf of Freecity Group Holdings Pty Ltd (Freecity) to support a State Significant Development Application (SSDA) for a mixed-used hotel and residential development at 153-157 Walker Street, North Sydney (the site).

1.1 Purpose of the Report

This document forms the basis for the stormwater management design and documentation for the project. This report provides reference information, design standards and inputs, a description of the existing site and the proposed works, and discussion on the hydrological and hydraulic analysis of the proposed stormwater design.

1.2 Secretary's Environmental Assessment Requirements

This Stormwater Management Report has been prepared in accordance with the following directions contained within the Secretary's Environmental Assessment Requirements (SEARs) that were issued by DPHI for this project [Reference: SSD-82599709]:

Table 1: SEARs Requirements

Requirements	Report Reference
<p>12. Water Management</p> <ul style="list-style-type: none">Detail the proposed drainage design and servicing infrastructure to be incorporated as part of the development (stormwater and wastewater).Demonstrate how the development complies with council's drainage requirements and identify proposed stormwater treatment and water quality management measures to minimise adverse environmental impacts. <p>Address comments raised by Sydney Water within Appendix 1. An Integrated Water Cycle Management Plan must be submitted to allow Sydney Water to determine the impact of the proposed development on existing services and required system capacity to service the development.</p>	<p>Refer to Section 3 and Section 5 of this report for the stormwater component.</p> <p>Refer to the response that has been provided by Neuron as an attachment to the Services Infrastructure Report that has been prepared to support this project.</p>

1.3 Proposed Development

The proposed development includes:

- Site preparation, including ground excavation and the demolition of existing structures at the site.
- Construction of a new fifty-one (51) storey mixed-use tower, which will accommodate:
 - Residential apartments, including a build-to-rent housing component.
 - Nine (9) affordable housing apartments equating to 3% of the total dwellings proposed.



- A hotel that will be operated by one entity with a central management structure.
- Ancillary lounge and wellness facilities.
- Retail floorspace at ground level.
- Eleven (11) basement levels with car parking facilities and plant rooms to service the proposed development.
- One (1) loading zone at the Lower Ground Level.
- Vehicle access from Little Walker Street.
- Associated building plant, utilities and service connections.

Further reference should be made to the detailed description of the proposed development within the Environmental Impact Statement (EIS) that has been prepared by Urbis Ltd (Urbis).

1.4 Site Description

The site, located within the North Sydney Council area at 153-157 Walker Street, North Sydney, comprises two rectangular lots situated between Walker Street (to the west) and Little Walker Street (to the east). The total site area is 1,928m².

The site benefits from dual street frontages:

- Walker Street (west), with a frontage length of 45.5m.
- Little Walker Street (east), with a frontage length of 45.9m.

The site has two side boundaries:

- The northern side boundary, measuring 42.2 metres in length, abuts the property at 161-165 Walker Street.
- The southern side boundary, also measuring 42.2 metres in length, abuts the property at 141 Walker Street.

The topography of the site features a gentle slope towards the south-east, with a total elevation change of approximately 6.7 metres from the north-western to the south-eastern extent of the site.

The legal lot entities within the site are Lot 1 in Deposited Plan (DP)84729 and Strata Plan (SP)50411.



Figure 1: Site Aerial (Source: Urbis)



Figure 2: Existing Site Frontage at Walker Street (Top) and Little Walker Street (Bottom)



2. Methodology

The Integrated Water Management Report follows a structured methodology, integrating technical analysis and stakeholder engagement to ensure optimal outcomes. Key components include:

2.1 Site Analysis & Baseline Assessment

As part of a general site analysis, RBG have reviewed the existing hydrological conditions, rainfall patterns, and soil permeability. A baseline assessment has been completed which involves assessing the site constraints, including flooding, drainage capacity, and water table levels. Performing this site analysis and baseline assessment has assisted in identifying opportunities for water reuse and stormwater treatment.

2.2 Stormwater Management Strategy

Hydrological and hydraulic modelling has been performed to design the proposed additions and modifications to the existing stormwater infrastructure. A treatment train approach will be implemented to facilitate the integration of stormwater filter systems, rain gardens, and WSUD assets where possible.

2.3 Stakeholder Engagement & Regulatory Compliance

RBG have coordinated with local councils, water authorities, and environmental agencies to ensure that the proposed stormwater management design is compliant with the relevant regulatory authorities. RBG have prepared SSDA-compliant documentation addressing planning and environmental conditions.

2.4 Implementation & Monitoring Framework

RBG will develop an asset management plan for long-term system maintenance of the drainage infrastructure before a Construction Certificate is issued. This monitoring framework will include adaptive management strategies that can be implemented to refine water performance over time. This methodology ensures that the Integrated Water Management strategy aligns with project objectives while delivering sustainable, functional, and compliant water management solutions for the SSDA.

3. Design Inputs and Guidelines

3.1 Consultation

Robert Bird Group has liaised with the project team throughout the process of design development. This included collaborative workshops with the design team from Architectus to ensure that the architectural scheme was coordinated to address flood planning considerations. Council was also approached directly to obtain flood modelling for the site to inform the assessment that is provided herein.

According to the North Sydney Development Control Plan 2013, Section 2.6.7, Provision P11, mixed-use developments with a gross floor area over 2,000m² are required conduct a stormwater quality assessment. For multi-storey developments, the gross floor area exceeds 2,000m², but the site area is a more relevant parameter for WSUD design. RBG has confirmed with the North Sydney Council engineering department that the term

'gross floor area' in Provision P11 is incorrect. The 2,000m² criterion should refer to 'site area'. Correspondence from the council on this matter is attached in Appendix C. This correct interpretation ensures stormwater quality assessments are aligned with the development's scale and impact, promoting effective environmental management.

Furthermore, RBG has confirmed with the North Sydney Council engineering department that the design storm events that we need to adopt for this site is 1% for OSD's and overland flow paths and 5% for stormwater street infrastructure. Correspondence from the council on this matter is attached in Appendix D. Obtaining the council's recommended stormwater design parameters helps ensure that the proposed stormwater infrastructure is designed appropriately.

3.2 Relevant Standards and Design Guidelines

The stormwater drainage design of the project to date has been carried out in accordance with the relevant local, state and national design guidelines and Australian Standard Codes of practices including the following:

- North Sydney Development Control Plan 2013 (NSDCP 2013)
 - Although the NSDCP 2013 does not apply to State Significant Development, it has been referred to where relevant as a guide for benchmarking local expectations.
- North Sydney Council Performance Guide for Engineering Design & Construction 2005
- North Sydney Council Infrastructure Specification for Roadworks, Drainage and Miscellaneous Works
- North Sydney Council Public Domain Style Manual & Design Codes 2024
- Australian Rainfall and Runoff 2019 (ARR 2019)
- AS3500.3:2021 National Plumbing and Drainage Codes
- Secretary's Environmental Assessment Requirements: Item no. 12 – Water Management
- AS 3798-2007 Guidelines on Earthworks for Commercial and Residential Developments
- National Construction Code of Australia 2019 (NCC 2019)

3.3 Other Consultants Inputs

The concept stormwater design is based on:

- Draft architectural drawings provided by Architectus
- Survey drawing provided by Rygate Surveyors

3.4 Design Rainfall Intensities

Local rainfall data has been obtained from the Bureau of Meteorology, revised in accordance with the Australian rainfall and Runoff (2019) and is summarised in Figure 3.

Duration	Annual Exceedance Probability (AEP)						
	63.2%	50%#	20%*	10%	5%	2%	1%
1 min	147	164	221	260	299	351	391
2 min	122	136	180	210	241	283	317
3 min	113	126	167	196	224	263	294
4 min	106	118	158	185	212	250	279
5 min	100	112	150	176	202	237	265
10 min	79.0	88.7	120	141	162	190	212
15 min	65.8	73.9	99.7	118	135	159	177
20 min	56.7	63.7	85.9	101	116	136	152
25 min	50.1	56.2	75.7	89.1	102	120	134
30 min	45.0	50.5	67.9	79.9	91.8	108	120
45 min	35.1	39.3	52.7	61.9	71.1	83.5	93.2
1 hour	29.2	32.7	43.7	51.3	58.9	69.2	77.4
1.5 hour	22.5	25.1	33.4	39.2	45.1	53.2	59.5
2 hour	18.7	20.8	27.7	32.5	37.4	44.2	49.6
3 hour	14.4	16.1	21.4	25.2	29.0	34.4	38.7
4.5 hour	11.2	12.5	16.7	19.7	22.8	27.1	30.6
6 hour	9.45	10.5	14.1	16.7	19.4	23.1	26.1
9 hour	7.46	8.33	11.2	13.4	15.6	18.7	21.1
12 hour	6.32	7.08	9.62	11.5	13.4	16.1	18.2
18 hour	5.01	5.64	7.73	9.27	10.9	13.1	14.8
24 hour	4.24	4.78	6.60	7.94	9.33	11.2	12.7
30 hour	3.71	4.20	5.82	7.01	8.24	9.91	11.2
36 hour	3.32	3.76	5.24	6.31	7.41	8.92	10.1
48 hour	2.76	3.14	4.39	5.29	6.21	7.46	8.43
72 hour	2.09	2.39	3.34	4.02	4.71	5.63	6.35
96 hour	1.69	1.93	2.70	3.24	3.78	4.50	5.05
120 hour	1.42	1.62	2.26	2.71	3.15	3.73	4.17
144 hour	1.23	1.40	1.94	2.31	2.68	3.17	3.53
168 hour	1.08	1.23	1.69	2.01	2.33	2.74	3.04

Figure 3: Frequency Duration Design Rainfall Intensities mm/h from ARR (2019)



3.5 Design Criteria and Requirements

Table 2 presented below has summarised the design criteria for the hydrological and hydraulic analysis.

Table 2: Hydrological & Hydraulic Design Criteria

Parameter	Criteria Adopted	Reference
Hydrological Analysis	<ul style="list-style-type: none"> Horton ILSAX hydrological model in DRAINS 	RBG Recommendation
Rainfall Intensities	<ul style="list-style-type: none"> Design rainfall intensities are based on the current rainfall intensity and frequency data, presented in Figure 3, extracted from the 2016 IFDs of Bureau of Meteorology (BOM). 	BOM 2016
Design Storm Events	<ul style="list-style-type: none"> Proposed stormwater drainage systems: <ul style="list-style-type: none"> designed for the peak flow of 5% Annual Exceedance Probability (AEP) minor storm events OSDs and overland flow/flooding: <ul style="list-style-type: none"> designed for major storms up to 1% AEP. 	North Sydney Council Recommendation as per the correspondence attached in Appendix D
Run-off Coefficients	<ul style="list-style-type: none"> To be calculated using the AS3500.3 Standard 	AS3500.3 Plumbing and Drainage 2021
Time of Concentration (T_c)	<ul style="list-style-type: none"> T_c be calculated using the Kinematic Wave Equation T_c shall not be less than 5 minutes or greater than 20 minutes within urban catchment 	AS3500.3 Plumbing and Drainage 2021 & RBG Recommendation
Hydraulic Grade Line Analysis	<ul style="list-style-type: none"> The Colebrook-White formula will be used with a roughness coefficient of 0.15 for all reinforced concrete pipes 	AS3500.3 Plumbing and Drainage 2021
Pit Loss Coefficient	<ul style="list-style-type: none"> QUDM Charts Procedure 	QUDM 2017
Design Pipe Flow Velocities	<ul style="list-style-type: none"> Minimum velocity: <ul style="list-style-type: none"> Absolute minimum 0.7m/s Preferable minimum 1.2m/s for self-cleaning Maximum velocity: <ul style="list-style-type: none"> Absolute maximum 6.0 m/s Preferable maximum 4.7m/s to prevent any pipe scouring 	RBG Recommendation
Minimum Pipe Sizes	<ul style="list-style-type: none"> In-ground for internal site – 150mm dia. External area – Matching existing public drainage pipe sizes 	North Sydney Council DCP 2013 Section 18.2.2 P9 & RBG Recommendation
Pipe Cover	<ul style="list-style-type: none"> Pedestrian Area (not subject to vehicle loading) – minimum 300mm for RCP or uPVC pipes. Pedestrian Area (subject to vehicle loading) – minimum 450mm for RCP or uPVC pipes. 	RBG Recommendation



Parameter	Criteria Adopted	Reference		
	<ul style="list-style-type: none"> Trafficable Area (sealed road) – minimum 600mm for RCP or uPVC pipes. 			
Pit Freeboard	<ul style="list-style-type: none"> The water surface level for inlet pits shall be 0.15m below the invert of the gutter or 0.15m below the underside of the lid for junction pits. 	RBG Recommendation		
Pit Blockage Factors	<ul style="list-style-type: none"> Sag Pit Blockage Factor = 0.5 On Grade Pit Blockage Factor = 0.2 	RBG Recommendation		
Pit Size	RBG Recommendation			
	Minimum Internal Dimensions for Stormwater Pits			
	Depth to Invert of Outlet (mm)	Minimum Internal Dimensions (mm)		
		Rectangular		Circular
		Width	Length	Diameter
	≤600	450	450	600
>600 ≤900	600	600	900	
>900 ≤1200	900	900	1000	
>1200	900	900	1000	
Pipe Grade	<ul style="list-style-type: none"> A minimum of 1% shall be provided for self-cleansing purposes under low flow velocities. 	AS3500.3 Plumbing and Drainage 2021		
Step Irons	<ul style="list-style-type: none"> Step irons are required for all pits deeper than 1200mm. 	NS Council Infrastructure Specification 2022		
Overland Flow path Safe Factor	<ul style="list-style-type: none"> Pedestrian Area - Maximum D x V of 0.4 m²/s Trafficable Area - Maximum D x V of 0.6 m²/s 	ARR 2019 & RBG Recommendation		

4. Existing Drainage Infrastructure

RBG have obtained North Sydney Council's available data on the existing drainage infrastructure in the surrounding areas of the site. According to the council's records, an existing Council drainage stormwater line of 300mm diameter runs along Walker St to the opposite side of the proposed site. Another 375mm to 450mm diameter Council stormwater line runs through Little Walker St further south of the development. Both lines discharge to the trunk drainage system (in blue as shown in Figure 4) which is owned by the Sydney Water Corporation (SWC). These council records of the existing drainage infrastructure cannot be relied on completely and will need to be verified by a surveyor.





Figure 4: Existing Drainage Infrastructure from North Sydney Council Maps

The proposed development is located at the southern portion of the North Sydney catchment. The south catchment has a total area of about 396 hectares and is situated within the North Sydney Council LGA (Refer to Figure 5). Most parts of the catchment area are classified as residential, commercial and industrial although there is a big portion of the catchment that is characterised as open space.

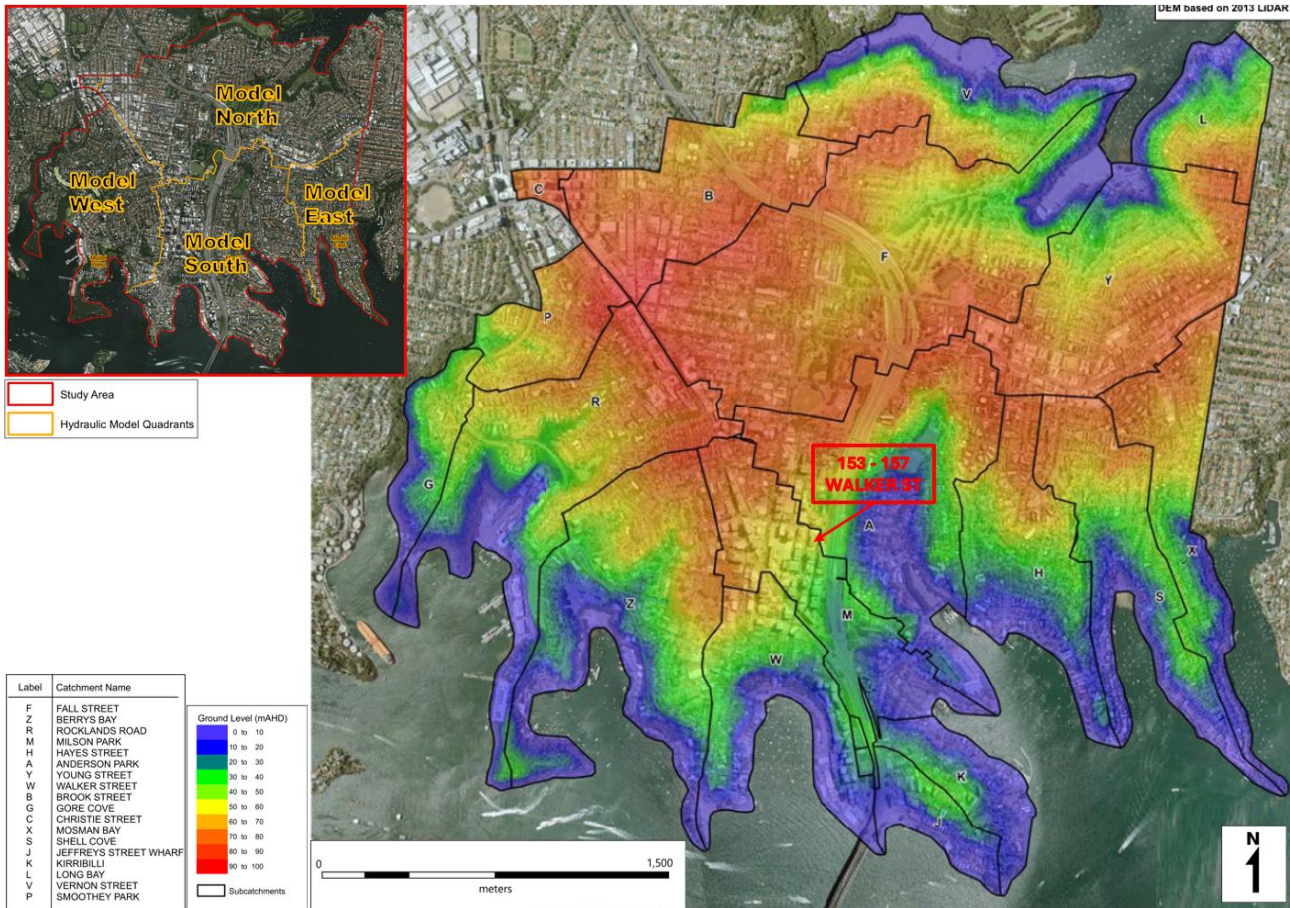


Figure 5: Catchment Areas and LiDAR Topography from North Sydney Council's Flood Study

5. Stormwater Management Design

5.1 Design Philosophy

The stormwater design concept for the project is to provide elements that:

- Promote the planning and architectural visions and adhere to the functional requirements.
- Provide minimal disturbance to the region, maintaining catchments for stormwater drainage paths and reduced earthworks.
- Provide natural systems where possible.
- Propose assets that are seamless within the site, incorporate constructability aspects, are safe and minimise nuisance for the operational phase of the building.

Key principals in the civil stormwater design are to provide:

- Value for Money
- Fit for purpose
- Long term reliability
- Minimal maintenance requirements/costs
- Water sensitive urban design and sustainability

5.2 On-Site Detention

Based on the guidelines outlined in the NSDCP, an OSD will not be required for the site. As per Provision P5 in Section 2.6.7 of the NSDCP (refer to Figure 6), the post-development discharge rates should be, as a minimum, less than pre-development stormwater discharge rates.

2.6.7 Stormwater management

Provisions

- P5** As a minimum, post-development stormwater discharge rates should be less than pre-development stormwater discharge rates.

Figure 6: North Sydney Council DCP (2013) Section 2.6.7 Provision P5

We have produced a simple model to provide direct comparison of the pre- and post-development flows during a major 1% AEP storm event as shown in Figure 7.

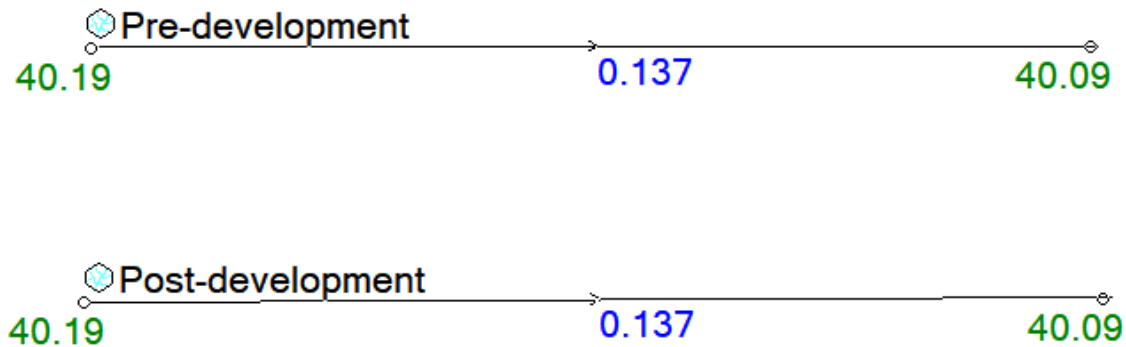


Figure 7: 153-157 Walker St Concept DRAINS Model

The model considers that the existing condition is 100% impervious and that the proposed development also maintains a 100% impervious condition or less. As a result, the stormwater discharge rate for the post-developed site will remain the same as the pre-development site's stormwater discharge rate. According to the NSDCP, an OSD will not be required for the site and the provision is satisfied.

5.3 Proposed Drainage Design

The proposed development's roof and eaves will capture a majority of the stormwater runoff within the site. All roof water will be directed by gravity and piped system to a rainwater tank located in basement level 1 as per the current architectural plans prepared by Architectus. The location of the rainwater tank is to be finalised by ESD before a Construction Certificate is issued. Refer to the hydraulic engineer plans for the roof water connection system and details and the location and size of the rainwater tank. The stormwater that has not been captured by the roof will be directed into the existing overland flow paths on Walker Street and Little Walker Street.

A sealed junction pit is proposed to be constructed within the site to connect the building hydraulics and roof water captured in the rainwater tank. The pit has currently been positioned on the upper ground floor at the southwest corner of the site. The proposed location of this junction pit will allow for convenient connection to the fire pump room, fire tank room and rainwater tank which are located directly below according to the current architectural plans prepared by Architectus. The junction pit location, size, and levels are to be coordinated

with the hydraulic consultant and architects before a Construction Certificate is issued. Based on the initial site survey and site observations at this preliminary stage, the discharge point is not proposed to change from the existing point of discharge to the Walker St kerb inlet pits (to be verified by the detailed survey). A 375mm diameter Class 3 reinforced concrete pipe will carry the stormwater and building hydraulics from the proposed internal junction pit to the southern existing Walker St kerb inlet pit. The drainage design and discharge point will be finalised before a Construction Certificate is issued in line with accepted industry practice for works of this scale and nature.

The proposed concept drainage design is presented in Figure 8.



Figure 8: Proposed Stormwater Management Plan

Refer to the Civil Engineering Plans prepared by RBG attached in Appendix A.

5.4 Water Sensitive Urban Design

Water Sensitive Urban Design (WSUD) aims to minimise the impacts of developments on the quantity and quality of stormwater runoff, to decrease flooding risk and reduce the effects of waterborne pollution on receiving waterways. This is an important consideration during an urban development's planning and design process to satisfy the ecological and sustainable outcomes as required by the North Sydney Council. WSUD principles have been implemented in a way that is appropriate to the site for this project, which is not located on Flood Prone Land.

As per North Sydney Council DCP Section 2.6.7, Provision P11, mixed-use developments with a gross floor area exceeding 2,000m² are required to conduct a stormwater quality assessment to demonstrate compliance with the post-development pollutant load reduction standards presented in Table 3. The gross floor area for a multi-

storey development like this is significantly larger than the 2,000m². Site area is a more relevant parameter in relation to WSUD design. RBG have confirmed with the North Sydney Council engineering department that the term 'gross floor area' referred to in Provision P11 is an error and that the 2,000m² criteria should instead refer to the 'site area'. The council correspondence regarding the discussion on Provision P11 is attached in Appendix C.

Table 3: North Sydney Council Water Quality Targets (Source: North Sydney Council DCP 2013)

Water Quality Parameters	Pollutant Reduction Targets
Total Suspended Solids (TSS)	85%
Total Phosphorus (TP)	65%
Total Nitrogen (TN)	45%
Gross Pollutants	90% (>5mm)

The proposed development's site area is 1,928m², which is below the 2,000m² threshold. Therefore, a stormwater quality assessment is not required to be conducted as per Provision P11 and the water quality targets specified by North Sydney Council are not applicable on this development.

6. Erosion and Sediment Control

6.1 Design Intent and Criteria

To maintain the water quality during the construction stage, erosion and sediment control measures will be installed. The sediment and erosion design criteria are outlined as below:

- AS/NZS 3500.3:2021 Stormwater Drainage
- Managing Urban Stormwater Soil & Construction (2004) by Landcom (The Blue Book)
- Sydney Water Onsite Stormwater Detention Policy (2021)
- North Sydney Council Erosion and Sediment Control for Urban Development (2024)

6.2 Design

Potential erosion and sediment control measures during the construction phase of the proposed development will include the following:

- Sediment fences around stockpiles and construction zones where soils are exposed.
- Settlement tanks/basins
- Catch drains/bunds to collect construction site runoff and convey flows to the settlement basin
- Sediment protection devices on existing and proposed inlet pits, i.e. sandbags.
- Truck Wash/Shaker Grid at all site access/egress points.

Refer to the Civil Engineering Plans prepared by RBG attached in Appendix A.

Detailed erosion and sediment controls will be confirmed before a Construction Certificate is issued. The preliminary erosion and sediment controls that are shown on the Civil Engineering Plans have been provided for the purpose of demonstrating that, in due course, the proposed development will be capable of implementing suitable measures to minimise the potential for silt-laden runoff from the site.

7. Conclusion & Recommendations

The proposed stormwater management plan and WSUD is consistent with the guidelines established by North Sydney Council and sufficiently responds to Item 12 of the SEARs.

According to Provision P5 in Section 2.6.7 of the NSDCP 2013, post-development discharge rates must be less than pre-development rates. A DRAINS model has been prepared and provided to demonstrate that the post-development flow does not exceed pre-development flow. The design effectively leverages the existing drainage systems to manage both minor and major storm events. The model assumes both existing and proposed conditions are 100% impervious. Thus, the post-development stormwater discharge rate will match the pre-development rate. Accordingly, an On-Site Detention (OSD) system is not required, and the provision is satisfied.

The legal point of discharge to Walker St is currently proposed to be maintained as it is in the existing site (to be verified by the detailed survey). The proposed drainage design and discharge point will be finalised before a Construction Certificate is issued in line with accepted industry practice for works of this scale and nature.

Furthermore, the plan incorporates sustainable, low-maintenance features aligned with water-sensitive urban design principles. As confirmed through direct correspondence with Council (Appendix C), water quality reduction targets are not applicable to this project. This is based on our correct interpretation of the NSDCP 2013, which has been verified by Council.

A sediment basin may be required to effectively capture sediment runoff during site preparation and development works. Sediment and erosion control measures must be installed and maintained throughout the construction period. The proposed sediment and erosion plan is preliminary and has been provided to demonstrate that the proposed development will be capable of implementing suitable measures to minimise the potential for silt-laden runoff from the site.

Further refinement of the proposed design and models during the detailed design stage may lead to adjustments in the locations of infrastructure and structures. However, the final design must achieve the performance outcomes specified in this report. Subject to the recommendations made in this report, it is our professional opinion that the proposed development will be capable of achieving a suitable stormwater management outcome during both the construction and operational phases. We are confident that these recommendations can be satisfactorily implemented before a Construction Certificate is issued.

As outlined throughout this report, the following actions will be undertaken during the detailed design phase before a Construction Certificate is issued:

- A detailed Erosion and Sediment Control Plan will be prepared for implementation during the construction phase.
- It will be confirmed whether a sediment basin is required to capture runoff during the construction phase. If required, detailed design specifications and the location of this basin will be accounted for in the final Erosion and Sediment Control Plan.
- The location, size and level of the internal junction pit for building hydraulics will be coordinated with the hydraulic consultant and design team.
- The final drainage design and point of discharge will be subject to further detailed design development and finalised.
- RBG will develop an asset management plan for long-term system maintenance of the drainage infrastructure.





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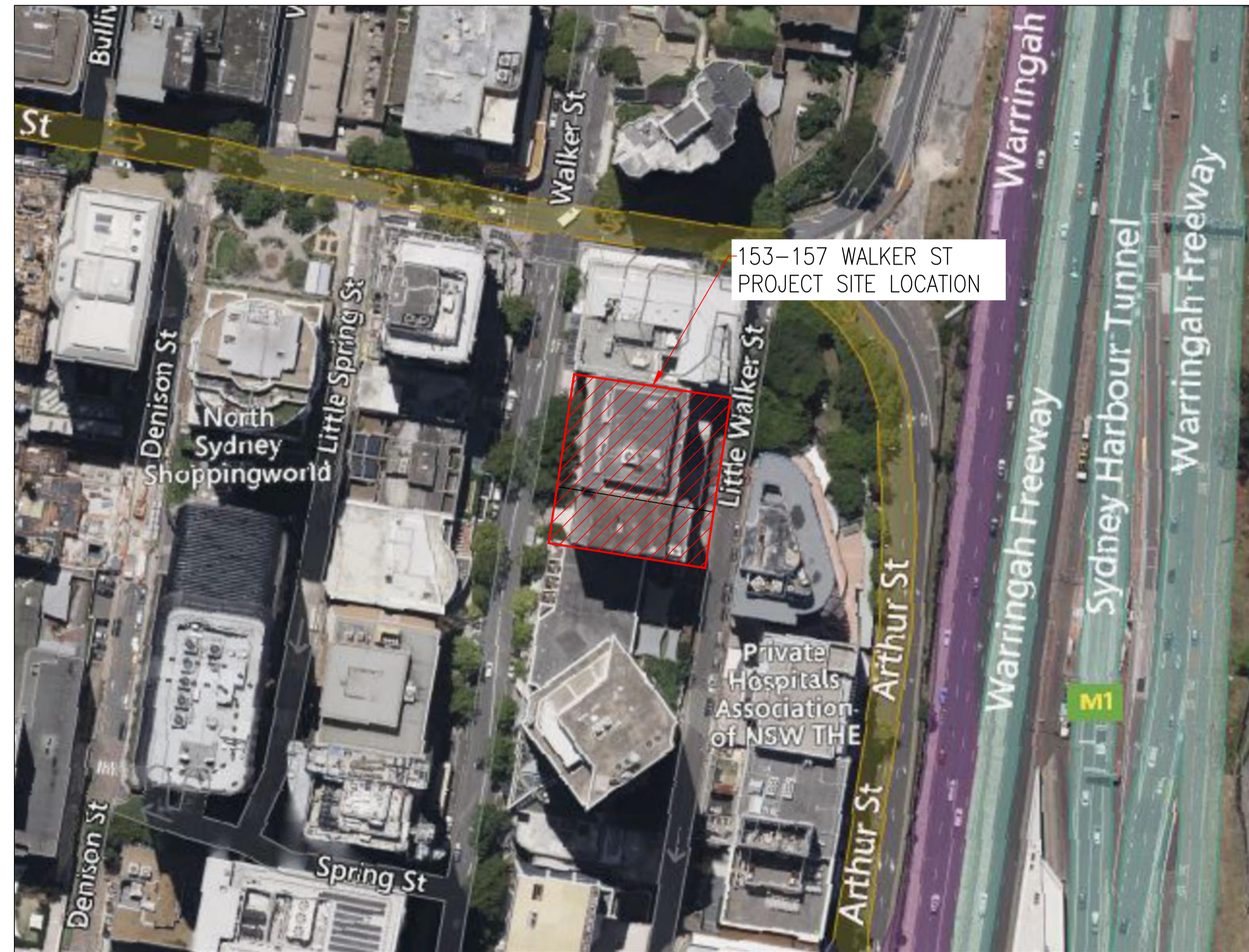
Appendix A Civil Plans

153-157 Walker St, North Sydney

153-157 WALKER ST NORTH SYDNEY, NSW 2060

CIVIL ENGINEERING DRAWINGS CONCEPT DESIGN

Sheet List Table	
Sheet Description	Sheet Title
24524-RBG-XX-XX-DR-CV-80000	COVER SHEET
24524-RBG-XX-XX-DR-CV-80005	GENERAL NOTES
24524-RBG-XX-XX-DR-CV-81001	EROSION AND SEDIMENT CONTROL PLAN
24524-RBG-XX-XX-DR-CV-81101	EROSION AND SEDIMENT CONTROL DETAILS
24524-RBG-XX-XX-DR-CV-87001	STORMWATER MANAGEMENT PLAN
24524-RBG-XX-XX-DR-CV-87101	STORMWATER DETAILS



153-157 WALKER ST
PROJECT SITE LOCATION

LOCALITY PLAN
SCALE: NTS

Rev	Revision Description	By	App	Date
P01	DRAFT ISSUE FOR SSDA SUBMISSION	BB	AA	21.05.25
P02	DRAFT ISSUE FOR SSDA SUBMISSION	BB	CW	23.06.25

Rev	Revision Description	By	App	Date

Scale 1:1 2:1 3:1 4:1 5:1 6:1 7:1 8:1 9:1 10:1 11:1 12:1 13:1 14:1 15:1 16:1 17:1 18:1

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REFER TO GENERAL NOTES UNLESS NOTED OTHERWISE**

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Client

FREECITY

Title
COVER SHEET

Project
**153-157 WALKER STREET,
NORTH SYDNEY**

Date 16.06.25	Drawn MARELLANO	Design Checker A.JANG
Scale of A1 NTS	Designer B.BASKARAN	Approved A.JANG
Drawing Number 24524-RBG-XX-XX-DR-CV-80000		Revision P02

NOT FOR CONSTRUCTION

RBG Project No.
24524

GENERAL NOTES

- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER ENGINEERING DRAWINGS AND NORTH SYDNEY COUNCIL SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCIES BETWEEN THESE NOTES AND NORTH SYDNEY SPECIFICATION, THE NORTH SYDNEY SPECIFICATION TAKES PRECEDENCE.
- THESE ENGINEERING PLANS ARE TO BE READ IN CONJUNCTION WITH PROJECT SPECIFICATIONS AND OTHER CONSULTANTS DOCUMENTATION ON THE PROJECT.
- THESE ENGINEERING PLANS HAVE BEEN PREPARED FROM INFORMATION AVAILABLE AT THE TIME OF ISSUE. AS THIS INFORMATION MAY BE THE SUBJECT OF CHANGE PRIOR TO OR DURING CONSTRUCTION THE CONTRACTOR IS TO ADVISE THE ENGINEER WHERE DISCREPANCIES OCCUR.
- THESE DRAWINGS SHALL NOT BE USED FOR FINAL SETOUT OF THE PROJECT UNLESS SPECIFICALLY STATED.
- ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE RESPECTIVE COUNCIL STANDARDS, GUIDELINES AND TECHNICAL MANUALS.
- ALL WORKS SHALL HAVE SMOOTH JUNCTIONS WITH EXISTING.
- ALL SURFACES SHALL BE EVEN GRADED AT MINIMUM 1% TO PREVENT SURFACE WATER PONDING.
- WHERE CERTIFICATION IS REQUIRED, INSPECTIONS ARE TO BE PERFORMED BY A DULY APPOINTED INSPECTOR FROM 'ROBERT BIRD GROUP'. THESE INSPECTIONS ARE TO BE PERFORMED IN ACCORDANCE WITH THE INSPECTION & TEST PLANS PREPARED BY 'ROBERT BIRD GROUP.' THE INSPECTOR IS TO BE GIVEN A MINIMUM NOTICE AS DETAILED IN THE SPECIFICATIONS.
- ALL MATERIALS SHALL COMPLY WITH WHAT IS SHOWN ON THE PROJECT DRAWINGS AND IN THE PROJECT SPECIFICATIONS.
- THE CONTRACTOR SHALL VERIFY THE LOCATIONS OF ALL EXISTING SERVICES WITH ALL RELEVANT SERVICE AUTHORITIES PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. A COPY OF THE LOCATIONS OF THE EXISTING SERVICES IS TO BE PROVIDED TO THE MANAGING CONTRACTOR BY THE SERVICES ENGINEER. CONTRACTOR TO NOTIFY MANAGING CONTRACTOR OF ANY POTENTIAL CLASHES.
- THE CONTRACTOR SHALL VERIFY OFFSET PEGS AND BENCHMARK LEVELS, AND ADVISE THE MANAGING CONTRACTOR OF ANY DISCREPANCY PRIOR TO COMMENCING CONSTRUCTION.
- THE CONTRACTOR SHALL VERIFY THE EXISTING LEVELS WHERE NEW WORKS ARE TO JOIN TO EXISTING WORKS, AND ADVISE THE MANAGING CONTRACTOR OF ANY DISCREPANCY PRIOR TO COMMENCING CONSTRUCTION.
- THE CONTRACTOR SHALL CHECK OR OBTAIN ALL DIMENSIONS RELEVANT TO SETTING OUT OF SITE WORKS.
- DURING CONSTRUCTION THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE STABILITY OF THE WORKS AND ENSURE NO PART IS OVERSTRESSED. THE DESIGN AND CERTIFICATION OF ALL FORMWORK AND BACKPROPPING IS TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
- THE CONTRACTOR IS TO OBTAIN DESIGN ADVICE FROM A SUITABLY QUALIFIED ENGINEER REGARDING DEMOLITION, RETROFITTING, TEMPORARY WORKS, HEALTH & SAFETY AND NUISANCE. THIS HAS BEEN REFERRED TO AS THE "CONTRACTORS ENGINEER" THROUGHOUT THE REMAINING NOTES.
- FORMWORK STRIPPING: UNLESS SPECIFIED OTHERWISE IN THE PROJECT DOCUMENTATION, MINIMUM STRIPPING TIMES FOR IN-SITU CONCRETE FORMWORK SHALL COMPLY WITH SECTION 5.4.3 (TABLE 5.4.1) OF AS3610-"FORMWORK FOR CONCRETE".
- WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH THE CURRENT AUSTRALIAN STANDARDS AND BCA STATUTORY REQUIREMENTS, EXCEPT WHERE VARIED BY THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT SUFFICIENT TOLERANCES ARE PROVIDED AND INTEGRATED THROUGHOUT ALL ELEMENTS OF THE WORKS.
- ALL DIMENSIONS ARE IN METRES UNLESS STATED OTHERWISE.
- ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (A.H.D.).
- DESIGN LEVELS AND SETOUT DETAILED HEREIN ARE DERIVED FROM THE LANDSCAPE AND ARCHITECTURAL CONCEPT PLANS. CONTRACTOR SHALL CONFIRM LEVELS ARE COORDINATED PRIOR TO COMMENCING WORKS. EXISTING LEVELS ARE DERIVED FROM SURVEY DATA. CONTRACTOR TO CONFIRM ALL ON SITE PRIOR TO COMMENCING WORKS.

SITE LEVELS NOTES

- GRADES ARE SHOWN FOR GUIDANCE ONLY. SET OUT FROM LEVELS ONLY.

SURVEY NOTES

- THE SURVEY INFORMATION SHOWN ON ROBERT BIRD GROUP DRAWINGS HAS BEEN OVERLAID FROM INFORMATION PROVIDED IN THE DETAILED SURVEY BY RYGATE SURVEYORS, FILE REF: 80110, DATED 03.02.2025. ROBERT BIRD GROUP DOES NOT GUARANTEE THAT THE SURVEY INFORMATION IS ACCURATE, AND ACCEPTS NO LIABILITY FOR INACCURACIES.

SEDIMENT AND EROSION CONTROL NOTES

- EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PROVIDED IN ACCORDANCE WITH SPECIFICATION AND EPA "MANAGING URBAN STORMWATER CONSTRUCTION ACTIVITIES" 1998. ALL WORKS SHALL BE COMPLETED PRIOR TO CONSTRUCTION COMMENCING.
- REFER TO ROBERT BIRD GROUP'S DRAWING SHEETS 81001 AND 81101 FOR EROSION AND SEDIMENT CONTROL NOTES AND DETAILS.

EARTHWORKS NOTES

- REFER TO THE GEOTECHNICAL ENGINEERING REPORT BY DOUGLAS PARTNERS, REPORT ON GEOTECHNICAL INVESTIGATION PROPOSED COMMERCIAL DEVELOPMENT, FILE REF: 217311.00.R.002.REVO, DATED 30.11.2022.
- THE CONTRACTOR IS RESPONSIBLE FOR THE REMOVAL, COMPACTION AND DISPOSAL OF ALL EXCAVATED MATERIAL.
- ALL EARTHWORKS AREAS ARE TO BE LEFT IN A FREE DRAINING STATE.
- PROOF ROLL SUBGRADE TO REVEAL SOFT SPOTS. SOFT SPOTS TO BE REMOVED AND BACKFILLED. ALL NATURAL SUBGRADE IS TO BE COMPACTED TO IN ACCORDANCE WITH AS1289 PRIOR TO PLACEMENT OF FILL MATERIAL.
- MATERIAL WON FROM THE SITE TO BE INSPECTED BY THE GEOTECHNICAL ENGINEER FOR APPROVAL PRIOR TO USE AS FILL. ALL FILL TO BE COMPACTED TO MIN. 98% STANDARD COMPACTION IN 200mm MAXIMUM THICK LAYERS IN ACCORDANCE WITH AS1289.
- TEST CERTIFICATES ON THE FILL MATERIAL SHALL BE SUPPLIED TO THE SUPERINTENDENT FOR APPROVAL PRIOR TO THE USE OF THE FILL MATERIAL.

EXISTING SERVICES NOTES

- EXISTING SERVICES MAY NOT BE SHOWN ON THE DRAWINGS.
- WHERE EXISTING SERVICES ARE SHOWN, NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.
- EXISTING SERVICES SHOWN ARE INDICATIVE ONLY.
- THE CONTRACTOR SHALL HAVE UNDERTAKEN THEIR OWN INVESTIGATIONS AS TO THE EXISTENCE AND LOCATION OF SERVICES AND THEIR POTENTIAL IMPACT ON THE WORKS PRIOR TO TENDERING FOR THE WORKS, INCLUDING, BUT NOT LIMITED TO, VISITING THE SITE AND DIAL BEFORE YOU DIG SEARCHES. WHERE THE CONTRACTOR BELIEVES EXISTING SERVICES MAY IMPACT THE WORKS THEY SHALL IDENTIFY POTENTIAL IMPACTS TO THE PRINCIPAL OR MANAGING CONTRACTOR PRIOR TO EXECUTION OF A CONTRACT OF SERVICES. THE CONTRACTOR SHALL NOT BE ENTITLED TO A VARIATION FOR BEING UNAWARE OF THE EXISTENCE OF EXISTING SERVICES WHERE REASONABLE ACTIONS WOULD HAVE IDENTIFIED THEIR EXISTENCE.
- THE CONTRACTOR SHALL DETERMINE THE EXACT POSITION AND LEVEL OF EXISTING SERVICES PRIOR TO COMMENCING CONSTRUCTION.
- THE CONTRACTOR SHALL CONTACT THE RELEVANT SERVICE AUTHORITY PRIOR TO ANY WORKS WITHIN CLOSE PROXIMITY OF SERVICES AND COMPLY WITH THE RELEVANT AUTHORITIES REQUIREMENTS INCLUDING MINIMUM CLEARANCE FOR CONSTRUCTION MACHINERY AND COMMISSIONING OF AN ACCREDITED PLANT LOCATOR IF REQUIRED.
- ANY DAMAGE TO EXISTING SERVICES IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL PROTECT ALL SERVICES AND SHALL RECTIFY ANY DAMAGE AT THEIR EXPENSE.
- EXISTING SERVICE COVERS MUST BE RAISED OR LOWERED AS APPROPRIATE TO BE SET FLUSH WITH THE FINISHED CONSTRUCTED SURFACE, INCLUDING SLOPING THE COVER TO MATCH CROSSFALLS, UNLESS SPECIFIED OTHERWISE.

HEALTH & SAFETY

- THE CONTRACTOR SHALL DEVELOP, IMPLEMENT AND ADMINISTER A WORKPLACE HEALTH AND SAFETY PROGRAM THAT WILL ENSURE THAT ALL CONSTRUCTION ACTIVITIES ARE PERFORMED TO THE RELEVANT WORKPLACE HEALTH AND SAFETY REQUIREMENTS AND ANY OTHER RELEVANT STATUTORY REQUIREMENTS.
- THE WORKPLACE HEALTH AND SAFETY PROGRAM MUST BE CO-ORDINATED WITH ADJOINING PROPERTY OWNERS AND ALL RELEVANT PARTIES AS NECESSARY TO ENSURE A SAFE BUILDING ENVIRONMENT AT ALL TIMES.

NUISANCE

- THE CONTRACTOR SHALL DEVELOP, IMPLEMENT, AND ADMINISTER A PLAN THAT WILL ENSURE THE MANAGEMENT OF NOISE AND VIBRATION RESULTING FROM CONSTRUCTION WORKS. REFER TO SPECIFICATIONS FOR REQUIRED LIMITS, OTHERWISE, CONTACT ENGINEER FOR GUIDANCE.
- THE CONTRACTOR WILL NEED TO ENSURE ALL ADJOINING PROPERTY REQUIREMENTS RELATING TO NOISE AND VIBRATION ARE MET.
- IF IT IS ESTABLISHED THAT THERE ARE NO SITE SPECIFIC REQUIREMENTS, THEN THE CONTRACTOR SHALL REFER TO MINIMUM REQUIREMENTS FOR ABATEMENT OF NOISE AND VIBRATION NOMINATED BY RELEVANT STATUTORY REQUIREMENTS
- THE CONTRACTOR WILL NEED TO PREPARE AND ADVISE ON MONITORING AND MANAGEMENT OF NOISE AND VIBRATION BASED ON PROFESSIONAL ADVICE FROM SUITABLY QUALIFIED PERSON OR PERSONS.

RETAINING WALL NOTES

- RETAINING WALLS SHALL BE IN ACCORDANCE WITH AS 4678-2002 EARTH RETAINING STRUCTURES.
- CONTRACTOR TO ENSURE NO CONSTRUCTION OR OTHER ADVERSE LOADS ACT ON RETAINING STRUCTURES.

LANDSCAPING NOTES

- REFER TO LANDSCAPE ARCHITECTS DRAWINGS FOR LANDSCAPING DETAILS.

WARNING

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDERGROUND SERVICES ARE INDICATIVE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL OR ANY EXISTING SERVICES ARE SHOWN.

WORKS WITHIN THE JURISDICTION OF LOCAL AUTHORITIES

WORKS WITHIN THE JURISDICTION OF LOCAL AUTHORITIES SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL REQUIREMENTS AND INSTRUCTIONS OF THE RELEVANT LOCAL AUTHORITY. THE CONTRACTOR MUST CONTACT THE RELEVANT AUTHORITY PRIOR TO COMMENCEMENT AND DURING THE WORKS TO ENSURE THE REQUIRED PERMITS AND PREPARATIONS ARE IN PLACE AND ALLOW INSPECTION OF THE WORKS AT POINTS REQUIRED BY THE RELEVANT AUTHORITY TO ENABLE SIGNOFF OF THE WORKS AT COMPLETION BY THE RELEVANT AUTHORITY. FAILURE TO DO SO MAY NECESSITATE REMOVAL AND RECONSTRUCTION OF ALL OR PART OF THE WORKS.

STORMWATER DRAINAGE NOTES

- INSTALLATION AND CONSTRUCTION TO BE IN ACCORDANCE WITH THE RELEVANT SPECIFICATIONS, AS 3500.3, LOCAL AUTHORITY STANDARDS AS APPROPRIATE UNLESS OTHERWISE DIRECTED.
- THE CONTRACTOR SHALL CONFIRM THE LEVEL AND POSITION OF EXISTING DRAINS AND PITS BEING CONNECTED TO PRIOR TO STARTING CONSTRUCTION.
- THE CONTRACTOR SHALL INVESTIGATE AND ACCURATELY LOCATE EXISTING DRAINAGE THAT IS REQUIRED TO BE RETAINED FOR THE SITE (E.G. DOWNPIPE CONNECTIONS FOR EXISTING BUILDINGS AND EXISTING SITE DRAINS THAT MAY BE CROSSING THE SITE). SUCH EXISTING DRAINAGE SHALL REMAIN UNDAMAGED AND BE GIVEN ALL NECESSARY PROTECTION. ANY DAMAGE TO EXISTING DRAINAGE SHALL BE REPAIRED OR DIVERTED AT THE CONTRACTORS EXPENSE. THE CONTRACTOR SHALL REFER EXISTING DRAINAGE CLASHES WITH THE PROPOSED WORKS TO THE ENGINEER FOR CLARIFICATION.
- PRIOR TO STARTING CONSTRUCTION THE CONTRACTOR MUST SET OUT THE DRAINAGE ALIGNMENT ON THE GROUND AND REPORT ON ANY OBSTRUCTIONS THAT MAY NECESSITATE AMENDMENTS TO THE PROPOSED ALIGNMENT.
- THE CONTRACTOR SHALL USE EXISTING SERVICE LOCATION DETECTION METHODS ALONG THE ALIGNMENT OF ALL PROPOSED STORMWATER DRAINS TO IDENTIFY CROSSING SERVICES PRIOR TO CONSTRUCTION. CROSSING SERVICES SHALL BE MARKED ON THE GROUND.
- THE CONTRACTOR SHALL INVESTIGATE AND CONFIRM EXISTING SERVICES CLEARANCES FROM EXACT LOCATIONS (E.G. POTHOLING) PRIOR TO CONSTRUCTION AND REPORT ANY CLASHES TO THE ENGINEER FOR CLARIFICATION.
- PIPELAYING SHALL COMMENCE AT THE DOWNSTREAM END OF THE DRAINAGE SYSTEM AND PROCEED IN AN UPSTREAM DIRECTION. PIPE SOCKETS AND REBATES SHALL POINT UPSTREAM.
- EXISTING OBSOLETE DRAINS AND PITS UNDER PROPOSED BUILDINGS AND PAVEMENTS ARE TO BE REMOVED TO WASTE AND BACKFILLED AS PER DRAINAGE TRENCH DETAIL UNLESS ALLOWED TO REMAIN BY THE ENGINEER.
- THE CONTRACTOR SHALL NOT REMOVE ANY EXISTING OBSOLETE UNDERGROUND DRAINAGE SYSTEM UNTIL WORKS HAVE BEEN DONE TO CATER FOR DRAINAGE OF THE SITE.
- PIPES UP TO AND INCLUDING 300mm DIAMETER TO BE CLASS SN8 UPVC RUBBER RING JOINT PRODUCED IN ACCORDANCE WITH AS 1254 REQUIREMENTS FOR "BEST ENVIRONMENTAL PRACTICE FOR PVC PIPES AND FITTINGS" OR APPROVED SIMILAR UNLESS OTHERWISE ANNOTATED.
- PIPES GREATER THAN 300mm Ø TO BE RCRRJ CLASS "2" UNLESS OTHERWISE ANNOTATED.
- ALL IN GROUND PIPES UP TO 600mm DIAMETER TO BE RUBBER RING JOINTED.
- PIPE GRADES ARE SHOWN FOR GUIDANCE ONLY AND/OR TO INFORM MINIMUM GRADE REQUIREMENTS. INVERT LEVELS SHALL BE USED FOR SETOUT AND TO DETERMINE EXACT GRADES FOR CONSTRUCTION.
- DOWNPIPE CONNECTIONS TO BE THE SAME DIAMETER AS DOWNPIPES AND LAID AT A MINIMUM GRADE OF 1:100 WITH MINIMUM COVER AS SPECIFIED IN AUSTRALIAN STANDARDS.
- WHERE DOWNPIPES DO NOT DISCHARGE DIRECTLY TO OPEN GRATES, PROVIDE INSPECTION OPENINGS ABOVE GROUND IN ALL DOWNPIPES TO ALLOW FOR MAINTENANCE ACCESS.
- EXISTING AND PROPOSED COVERS MUST BE SET FLUSH WITH THE FINISHED CONSTRUCTED SURFACE, INCLUDING SLOPING THE COVER TO MATCH CROSSFALLS, UNLESS SPECIFIED OTHERWISE.
- ALL INSPECTION OPENINGS TO BE BROUGHT TO THE SURFACE AND CAPPED TO APPROPRIATE LOAD CAPACITY FOR AREA OF USE.
- ALL PITS ARE TO BE CAST IN-SITU AS PER THE STORMWATER DRAINAGE DETAILS UNLESS NOTED OTHERWISE.
- ALL PITS ARE TO BE BENCHED WITH A STEEL TROWELLED FINISH TO PROVIDE SMOOTH FLOW THROUGH THE PIT.
- ALLOW TO CLEAN AND FLUSH ALL EXISTING PITS AND PIPES FROM POINT OF NEW CONNECTION TO POINT OF DISCHARGE FROM THE SITE IN ADDITION TO FLUSHING ALL NEW DRAINAGE AT COMPLETION OF THE WORKS.
- THE CONTRACTOR SHALL COMPLY WITH CONFINED SPACE REQUIREMENTS TO AS 2865.
- THE CONTRACTOR SHALL PROVIDE AS-CONSTRUCTED DRAWINGS OF THE STORMWATER DRAINAGE NETWORK AT COMPLETION OF THE WORKS.
- CONNECT ALL SUBSOIL DRAINS TO THE NEAREST AVAILABLE STORMWATER PIT THAT HAS AN INVERT LEVEL ABLE TO ACCOMMODATE THE SUBSOIL DRAIN AT MINIMUM GRADE.
- FLUSHING POINTS ARE TO BE PROVIDED AT THE UPSTREAM END OF ALL SUBSOIL DRAINS WHERE ACCESS CANNOT BE OBTAINED VIA PITS. PROVIDE ADDITIONAL FLUSHING POINTS AT A SPACING NO GREATER THAN 50 METERS.

Rev	Revision Description	By	App	Date
P01	DRAFT ISSUE FOR SSSA SUBMISSION	BB	AA	21.05.25
P02	DRAFT ISSUE FOR SSSA SUBMISSION	BB	CW	23.05.25

Rev	Revision Description	By	App	Date
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Scale	11	12	13	14	15	16	17	18
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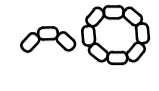
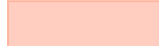





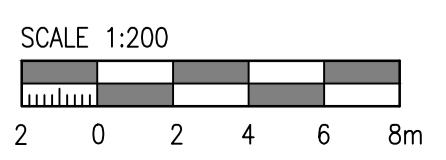
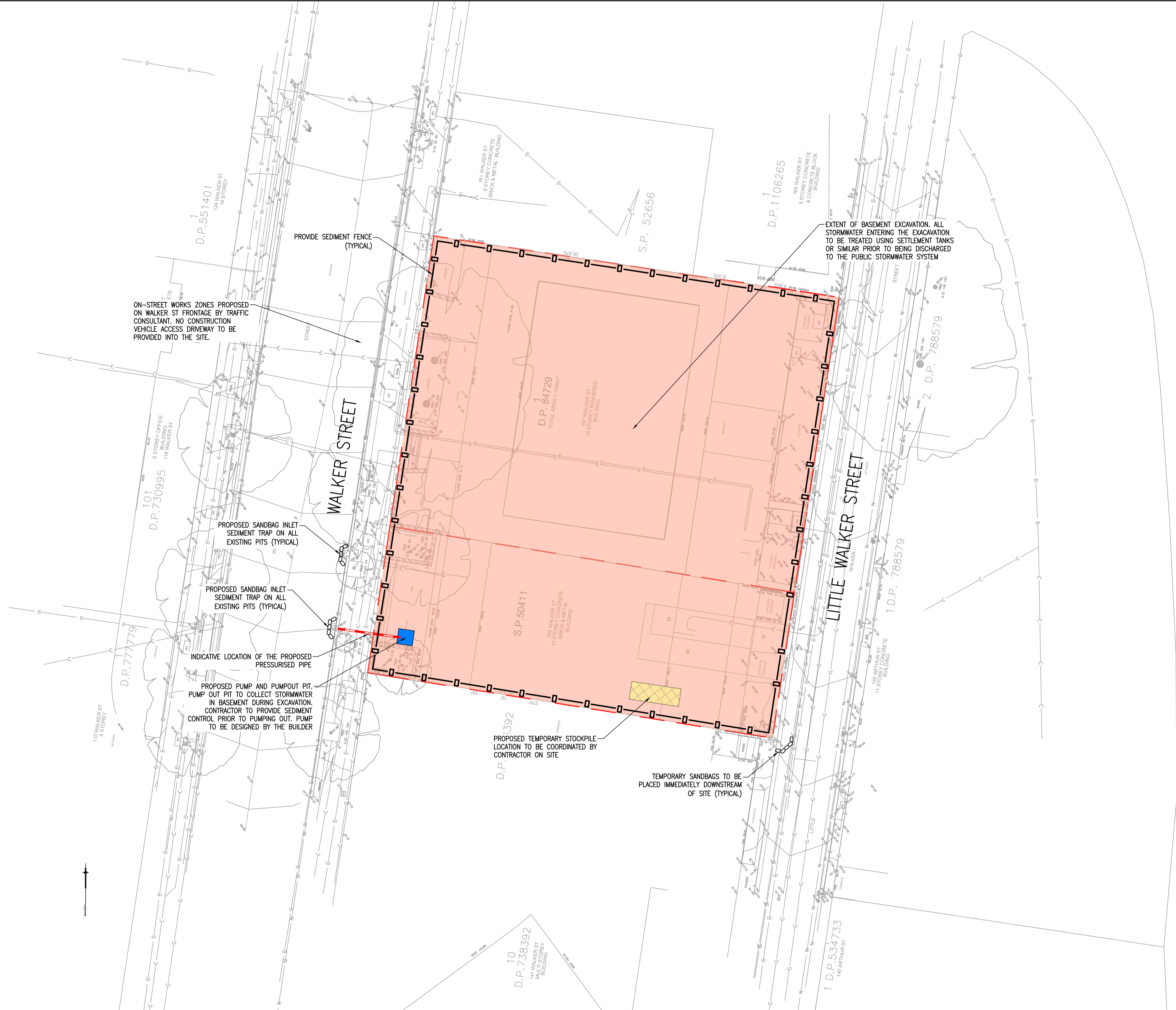
Title
GENERAL NOTES

Project
**153-157 WALKER STREET,
NORTH SYDNEY**

Date 05.05.25	Drawn M.MARELLANO	Design Checker A.ANG
Scale of A1 NTS	Designer B.BASKARAN	Approved A.ANG
RBG Project No. 24524		
NOT FOR CONSTRUCTION		
Drawing Number 24524-RBG-XX-XX-DR-CV-80005	Revision P02	

LEGEND

-  PROPERTY BOUNDARY
-  SEDIMENT FENCE
-  PROPOSED SANDBAGS
-  EXTENT OF DEEP EXCAVATION
-  STOCKPILE LOCATION
-  PUMP OUT PIT
-  PRESSURISED PIPE



Rev	Revision Description	By	App	Date
P01	DRAFT ISSUE FOR SSDA SUBMISSION	BB	AA	21.05.25
P02	DRAFT ISSUE FOR SSDA SUBMISSION	BB	CW	23.06.25

Rev	Revision Description	By	App	Date

Scale 1:1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

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Client

FREECITY

Title
EROSION AND SEDIMENT CONTROL PLAN

Project
**153-157 WALKER STREET,
NORTH SYDNEY**

Date
18.06.25

Scale of A1
1:200

Drawn
M.MARELLANO

Designer
B.BASKARAN

Design Checker
A.ANG

Approved
A.ANG

RBG Project No.
24524

NOT FOR CONSTRUCTION

Drawing Number
24524-RBG-XX-XX-DR-CV-81001

Revision
P02

GENERAL NOTES:

- A1. THIS SOIL AND WATER MANAGEMENT PLAN IS TO BE READ IN CONJUNCTION WITH OTHER ENGINEERING PLANS RELATING TO THIS DEVELOPMENT.
- A2. CONTRACTORS WILL ENSURE THAT ALL SOIL AND WATER MANAGEMENT WORKS ARE UNDERTAKEN AS INSTRUCTED IN THIS SPECIFICATION AND CONSTRUCTED FOLLOWING THE NORTH SYDNEY COUNCIL REQUIREMENTS AND TO LANDCOM – MANAGING URBAN STORMWATER: SOIL AND CONSTRUCTION, 4th EDITION, MAR 2004.
- A3. REFER GEOTECHNICAL REPORT FOR EARTHWORKS AND PARAMETERS.
- A4. ALL CONSTRUCTION VEHICLES SHALL ENTER AND EXIT THE SITE VIA THE APPROVED CONSTRUCTION ENTRY/EXIT ROUTE.
- A5. ALL VEHICLES LEAVING THE SITE SHALL BE CLEANED AND INSPECTED BEFORE LEAVING.
- A6. MAINTAIN ALL STORMWATER PIPES AND PITS CLEAR OF DEBRIS AND SEDIMENT. INSPECT STORMWATER SYSTEM AND CLEAN OUT AFTER EACH STORM EVENT.
- A7. CLEAN OUT ALL EROSION AND SEDIMENT CONTROL DEVICES AFTER EACH STORM EVENT.
- A8. ALL DISTURBED AREAS SHALL BE REVEGETATED AS SOON AS THE RELEVANT WORKS HAVE BEEN COMPLETED.
- A9. KERB INLET SOCKS TO BE PROVIDED ON DOWNSTREAM PITS.

SITE MAINTENANCE NOTES:

- SM1. THE CONTRACTOR WILL INSPECT THE SITE AT LEAST WEEKLY AND AT THE CONCLUSION OF EVERY STORM EVENT TO:
 - A) ENSURE THAT DRAINS OPERATE PROPERLY AND TO EFFECT AND NECESSARY REPAIRS.
 - B) REMOVED SPILLED SAND OR OTHER MATERIALS FROM HAZARD AREAS, INCLUDING LANDS CLOSER THAN 5 METRES FROM AREAS OF LIKELY CONCENTRATED OR HIGH VELOCITY FLOWS ESPECIALLY WATERWAYS AND PAVED AREAS.
 - C) REMOVED TRAPPED SEDIMENT WHENEVER THE DESIGN CAPACITY OF THAT STRUCTURES HAS BEEN EXCEEDED.
 - D) ENSURE REHABILITATION LANDS HAVE EFFECTIVELY REDUCED THE EROSION HAZARD TO INITIATE UPGRADING OR REPAIR AS NECESSARY.
 - E) CONSTRUCT ADDITIONAL EROSION AND OR SEDIMENT CONTROL WORKS AS MIGHT BECOME NECESSARY TO ENSURE THE DESIRED PROTECTION IS GIVEN TO DOWNSLOPE LANDS AND WATERWAYS. MAKE ONGOING CHANGES TO THE PLAN WHERE IT PROVES INADEQUATE IN PRACTICE OR IS SUBJECT TO CHANGES IN CONDITIONS ON THE WORK-SITE OR ELSEWHERE IN THE CATCHMENT.
 - F) MAINTAIN EROSION AND SEDIMENT CONTROL STRUCTURES IN A FULLY FUNCTIONING CONDITION UNTIL ALL EARTHWORK ACTIVITIES ARE COMPLETED AND THE SITE IS REHABILITATED.
 - G) FILL IN AND COMPACT ALL TRENCHES IMMEDIATELY AFTER SERVICES HAVE BEEN LAID.
- SM2. THE CONTRACTOR WILL KEEP A LOGBOOK MAKING ENTRIES AT LEAST WEEKLY, IMMEDIATELY BEFORE FORECAST RAIN AND AFTER RAINFALL. ENTRIES WILL INCLUDE:
 - A) THE VOLUME AND INTENSITY OF ANY RAINFALL EVENTS.
 - B) THE CONDITION OF ANY SOIL AND WATER MANAGEMENT WORKS.
 - C) THE CONDITION OF VEGETATION AND ANY NEED TO IRRIGATE.
 - D) THE NEED FOR DUST PREVENTION STRATEGIES
 THE LOGBOOK WILL BE KEPT ON-SITE AND MADE AVAILABLE TO ANY AUTHORISED PERSON UPON REQUEST. IT WILL BE GIVEN TO THE PROJECT MANAGER AT THE CONCLUSION OF THE WORKS.

SEDIMENT CONTROL NOTES:

- SC1. SEDIMENT FENCES WILL BE INSTALLED AS SHOWN ON THE PLAN AND ELSEWHERE AT THE DISCRETION OF THE SITE CONTRACTOR TO CONTAIN SOIL AS NEAR AS POSSIBLE TO THEIR SOURCE.
- SC2. SEDIMENT FENCES WILL NOT HAVE CATCHMENT AREAS EXCEEDING 900 SQUARE METRES AND HAVE A STORAGE DEPTH OF AT LEAST 0.6 METRES.
- SC3. SEDIMENT FENCES SHOULD LAST FOR UP TO SIX MONTHS BUT REQUIRE REGULAR MAINTENANCE AND WEEKLY CHECKS. IT MUST REMAIN VERTICAL AND KEYED INTO THE SOIL. DAMAGED FENCES MUST BE REPAIRED PROMPTLY.
- SC4. SEDIMENT FENCES NEED TO BE TRENCHED IN AT LEAST 150mm AND BURIED SO THE WATER FLOWS THROUGH AND NOT UNDERNEATH.
- SC5. SEDIMENT REMOVED FROM ANY TRAPPING DEVICES WILL BE RELOCATED WHERE FURTHER POLLUTION TO DOWNSLOPE LANDS AND WATERWAYS CANNOT OCCUR.
- SC6. STOCKPILES ARE NOT TO BE LOCATED WITHIN 5 METERS OF HAZARD AREAS INCLUDING AREAS OF HIGH VELOCITY FLOWS SUCH AS WATERWAYS, PAVED AREAS AND DRIVEWAYS.
- SC7. WATER WILL BE PREVENTED FROM DIRECTLY ENTERING THE PERMANENT DRAINAGE SYSTEM UNLESS THE CATCHMENT AREA HAS BEEN PERMANENTLY LANDSCAPED AND/OR WATER HAS BEEN TREATED BY AN APPROVED DEVICE.
- SC8. TEMPORARY SEDIMENT TRAPS WILL REMAIN IN PLACE UNTIL AFTER THE LANDS THEY ARE PROTECTING ARE COMPLETELY REHABILITATED.
- SC9. ACCESS TO SITES SHOULD BE STABILIZED TO REDUCE THE LIKELIHOOD OF VEHICLES TRACKING SOIL MATERIALS ONTO PUBLIC ROADS AND ENSURE ALL-WEATHER ENTRY/EXIT.

LAND DISTURBANCE NOTES:

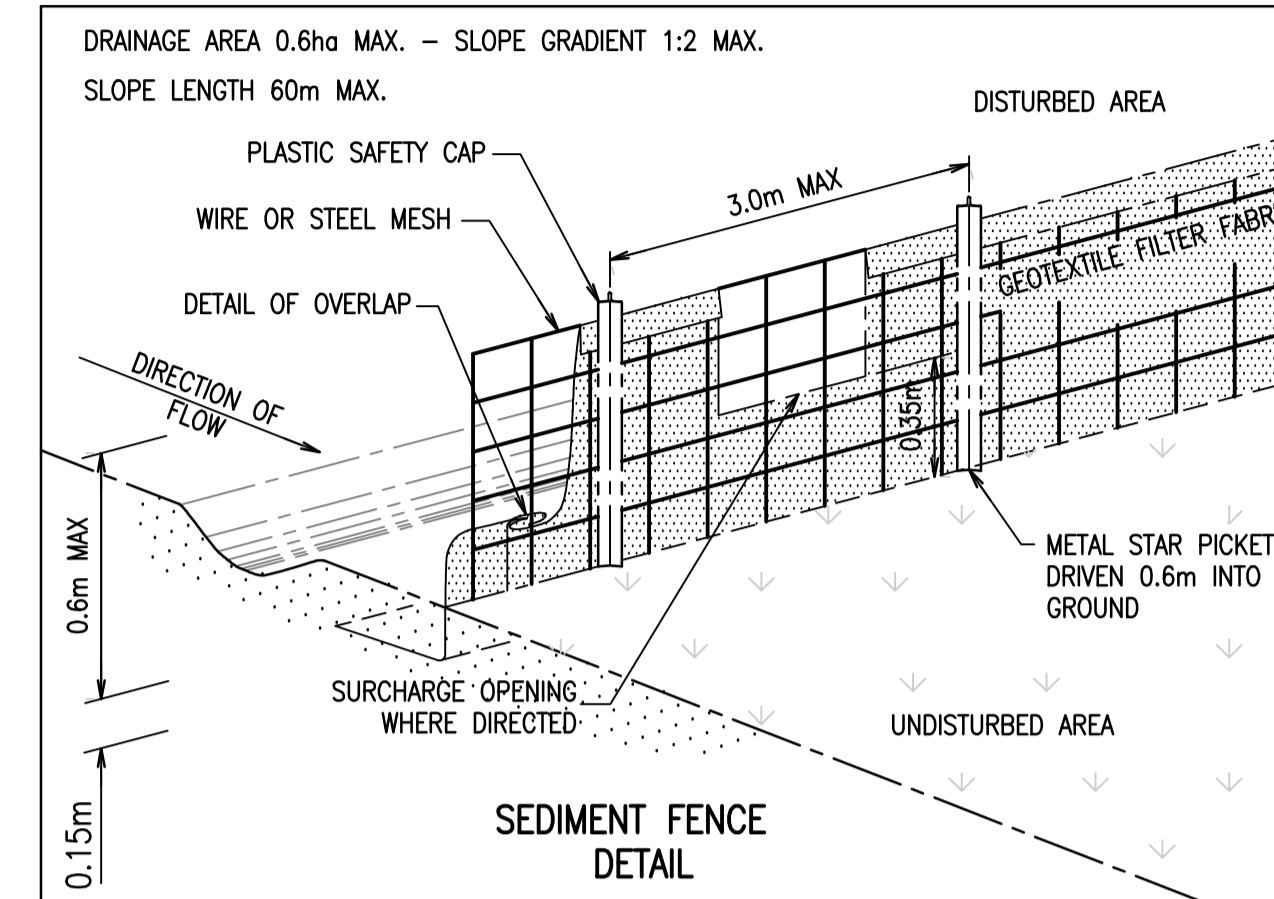
- LD1. ACCESS AREAS ARE TO BE LIMITED TO A MAXIMUM WIDTH OF 10 METERS THE SITE MANAGER WILL DETERMINE AND MARK THE LOCATION OF THESE ZONES ON-SITE. ALL SITE WORKERS WILL CLEARLY RECOGNIZE THOSE BOUNDARIES THAT, WHERE APPROPRIATE, ARE IDENTIFIED WITH A BARRIER FENCING (UPSLOPE) AND SEDIMENT FENCING (DOWNSLOPE) OR SIMILAR MATERIALS.
- LD2. ENTRY TO LANDS NOT REQUIRED FOR CONSTRUCTION OR ACCESS IS PROHIBITED EXCEPT FOR ESSENTIAL THINNING OF PLANT GROWTH.
- LD3. WORKS ARE TO PROCEED IN THE FOLLOWING SEQUENCE:
 - A) INSTALL ALL BARRIER AND SEDIMENT FENCING WHERE SHOWN ON THE PLAN.
 - B) CONSTRUCT THE STABILISED SITE ACCESS.
 - C) CONSTRUCT DIVERSION DRAINS AS REQUIRED.
 - D) INSTALL MESH AND GRAVEL INLETS FOR ANY ADJACENT KERB INLETS.
 - E) INSTALL GEOTEXTILE INLET FILTERS AROUND ANY ON-SITE DROP INLET PITS.
 - F) CLEAR SITE AND STRIP AND STOCKPILE TOPSOIL IN LOCATIONS SHOWN ON THE PLAN.
 - G) UNDERTAKE ALL ESSENTIAL CONSTRUCTION WORKS ENSURING THAT ROOF AND/OR PAVED AREA STORMWATER SYSTEMS ARE CONNECTED TO PERMANENT DRAINAGE AS SOON AS PRACTICABLE.
 - H) GRADE LOT AREAS TO FINAL GRADES AND APPLY PERMANENT STABILISATION (LANDSCAPING) WITHIN 20 DAYS OF COMPLETION OF CONSTRUCTION WORKS.
 - I) REMOVE TEMPORARY EROSION CONTROL MEASURES AFTER THE PERMANENT LANDSCAPING HAS BEEN COMPLETED.
- LD4. ENSURE THAT SLOPE LENGTHS DO NOT EXCEED 80 METRES WHERE PRACTICABLE. SLOPE LENGTHS ARE DETERMINED BY SILTATION FENCING AND CATCH DRAIN SPACING.

SOIL EROSION CONTROL NOTES:

- SE1. EARTH BATTERS WILL BE CONSTRUCTED WITH AS LOW A GRADIENT AS PRACTICABLE BUT NO STEEPER, UNLESS OTHERWISE NOTES, THAN THAT RECOMMENDED BY GEOTECHNICAL REPORT.
- SE2. ALL WATERWAYS, DRAINS, SPILLWAYS AND THEIR OUTLETS WILL BE CONSTRUCTED TO BE STABLE IN AT LEAST THE 1:20 YEAR ARI, TIME OF CONCENTRATION STORM EVENT.
- SE3. WATERWAYS AND OTHER AREAS SUBJECT TO CONCENTRATED FLOWS AFTER CONSTRUCTION ARE TO HAVE A MAXIMUM GROUND COVER C-FACTOR OF 0.05 (70% GROUND COVER) WITHIN 10 WORKING DAYS FROM COMPLETION OF FORMATION. FOOT AND VEHICULAR TRAFFIC WILL BE PROHIBITED IN THESE AREAS.
- SE4. STOCKPILES AFTER CONSTRUCTION ARE TO HAVE A MAXIMUM GROUND-COVER C-FACTOR OF 0.1% (60% GROUND-COVER) WITHIN 10 WORKING DAYS FROM COMPLETION OF FORMATION.
- SE5. ALL LANDS, INCLUDING WATERWAYS AND STOCKPILES DURING CONSTRUCTION ARE TO HAVE A MAXIMUM GROUND COVER C-FACTOR OF 0.15 (50% GROUND COVER) WITHIN 20 WORKING DAYS FROM INACTIVITY EVEN THOUGH WORKS MAY CONTINUE LATER.
- SE6. PERMANENT REHABILITATION OF LANDS AFTER CONSTRUCTION WILL ACHIEVE A GROUND-COVER C-FACTOR OF LESS THAN 0.1 AND LESS THAN 0.05 WITHIN 60 DAYS. NEWLY PLANTED LANDS WILL BE WATERED REGULARLY UNTIL AN EFFECTIVE COVER IS ESTABLISHED AND PLANTS ARE GROWING VIGOROUSLY. FOLLOW-UP SEED AND FERTILISER WILL BE APPLIED AS NECESSARY.

WASTE CONTROL NOTES:

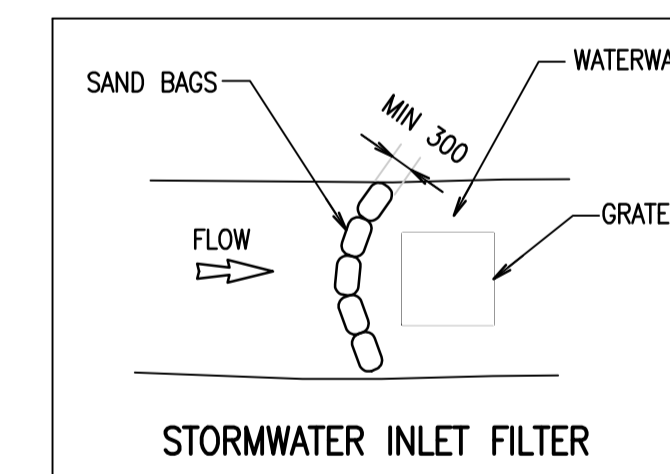
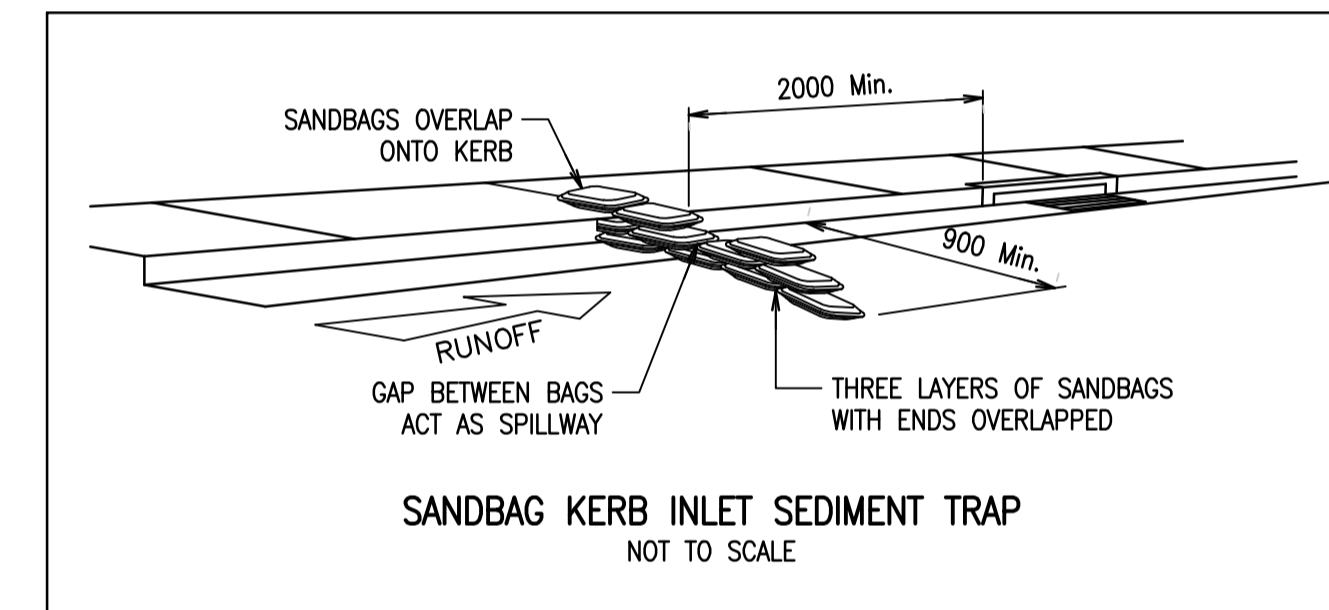
- WC1. ACCEPTABLE BINS WILL BE PROVIDED FOR ANY CONCRETE AND MORTAR SLURRIES, PAINTS, ACID WASHING, LIGHTWEIGHT WASTE MATERIALS AND LITTER. CLEARANCE SERVICES WILL BE PROVIDED AT LEAST WEEKLY. DISPOSAL OF WASTE WILL BE IN A MANNER APPROVED BY THE SITE CONTRACTOR.
- WC2. ALL POSSIBLE POLLUTANT MATERIALS ARE TO BE STORED WELL CLEAR OF ANY POORLY DRAINED AREAS, FLOW PRONE AREAS, STREAMBANKS, CHANNELS AND STORMWATER DRAINAGE AREAS. STORE SUCH MATERIALS IN A DESIGNATED AREA UNDER COVER WHERE POSSIBLE AND WITHIN CONTAINMENT BUNDS.
- WC3. ALL SITE STAFF AND SUBCONTRACTORS ARE TO BE INFORMED OF THEIR OBLIGATION TO USE WASTE CONTROL FACILITIES PROVIDED.
- WC4. ANY DE-WATERING ACTIVITIES ARE TO BE CLOSELY MONITORED TO ENSURE THAT WATER IS NOT POLLUTED BY SEDIMENT, TOXIC MATERIALS OR PETROLEUM PRODUCTS.
- WC5. PROVIDE DESIGNATED VEHICULAR WASHDOWN AND MAINTENANCE AREAS WHICH ARE TO HAVE CONTAINMENT BUNDS.



INSTALLATION

1. EXCAVATE A TRENCH AT LEAST 150mm DEEP.
2. DRIVE POSTS 500-600mm INTO GROUND AT A MAXIMUM SPACING OF 3.0m CENTRES.
3. PLACE AND FIX SUPPORT MESH (F52) TO POST.
4. LAY BIDIM GEOTEXTILE (SF 2000) AGAINST THE SUPPORT MESH AND FIX BY TIE WIRE, STAPLES OR HOG RINGS.
5. PLACE BIDIM IN TRENCH AND BACKFILL WITH SOIL.
6. SOIL ON BOTH SIDES OF THE FENCE MUST BE COMPACTED TO AVOID SEEPAGE UNDER THE BARRIER.

NOTE:
POSITION OF SEDIMENT FENCE AS DIRECTED BY MANAGING CONTRACTOR. FENCE TO REMAIN IN PLACE UNTIL EXCAVATION IS BELOW FOOTPATH LEVEL. PROVIDE 2mx2m TURFED AREA ON DOWNSTREAM SIDE OF FENCE AT SURCHARGE OPENINGS, TO BE CONFIRMED BY CONTRACTOR ON SITE.



Rev	Revision Description	By	App	Date
P01	DRAFT ISSUE FOR SSDA SUBMISSION	BB	AA	21.05.25
P02	DRAFT ISSUE FOR SSDA SUBMISSION	BB	CW	23.06.25

Rev	Revision Description	By	App	Date
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Scale	11	12	13	14	15	16	17	18
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Client

FREECITY







Title
EROSION AND SEDIMENT CONTROL DETAILS

Project
153-157 WALKER STREET, NORTH SYDNEY

Date 05.05.25 Scale of A1 NTS	Drawn M.MARELLANO Designer B.BASKARAN	Design Checker A.ANG Approved A.ANG RBG Project No. 24524
Drawing Number 24524-RBG-XX-XX-DR-CV-81101		Revision P02

NOT FOR CONSTRUCTION

LEGEND

-  PROPERTY BOUNDARY
-  EXISTING STORMWATER GRANITE KERB INLET PIT
-  PROPOSED STORMWATER SEALED JUNCTION PIT
-  EXISTING STORMWATER PIPE TO BE RETAINED
-  PROPOSED STORMWATER PIPE
-  EXISTING OVERLAND FLOW PATH

- NOTES**
- ALL LEVELS PROPOSED ON THIS DRAWING FOR STORMWATER PITS AND PIPES ARE INDICATIVE AND ARE SUBJECT TO CHANGE AFTER FURTHER DETAILED SURVEY IS COMPLETED BY THE SURVEYOR.
 - PROPOSED STORMWATER DRAINAGE IS DESIGNED FOR 5% AEP STORM EVENTS.
 - PROPOSED OVERLAND FLOW PATHS ARE DESIGNED FOR 1% AEP STORMWATER EVENTS.
 - REFER TO BUILDING SERVICES HYDRAULIC ENGINEER FOR ALL INTERNAL HYDRAULIC SYSTEM INCLUDING THE STORMWATER DOWN PIPES AND IN-GROUND SERVICES FOR DETAILS.
 - CONSTRUCTION MUST BE CARRIED OUT IN ACCORDANCE WITH COUNCIL'S DOCUMENT "INFRASTRUCTURE SPECIFICATION FOR ROAD & DRAINAGE WORKS", "VEHICULAR ACCESS APPLICATION GUIDELINES AND SPECIFICATION", CURRENT EDITION OF "NEW PUBLIC DOMAIN STYLE MANUAL", AS 2890.1.2004, AND GENERALLY IN ACCORDANCE WITH APPROVED PLANS.
 - BUILDER TO MAKE NECESSARY MINOR ADJUSTMENT TO THE LOCATION AND ORIENTATION OF PITS TO AVOID CLASHES WITH IN-GROUND SERVICES, IF IDENTIFIED AFTER EXCAVATION

ON SITE DETENTION (OSD) DESIGN NOTE:

ACCORDING TO NORTH SYDNEY COUNCIL DCP SECTION 2.6.7 PROVISION P5, AT MINIMUM POST-DEVELOPMENT DISCHARGE RATES SHOULD BE LESS THAN PRE-DEVELOPMENT STORMWATER DISCHARGE RATES.

THE MODEL CONSIDERS THAT THE EXISTING CONDITION IS 100% IMPERVIOUS AND THAT THE PROPOSED DEVELOPMENT ALSO MAINTAINS A 100% IMPERVIOUS CONDITION. AS A RESULT, THE STORMWATER DISCHARGE RATE FOR THE POST-DEVELOPED SITE WILL REMAIN THE SAME AS THE PRE-DEVELOPMENT SITE'S STORMWATER DISCHARGE RATE. ACCORDING TO THE COUNCIL DCP, AN OSD WILL NOT BE REQUIRED FOR THE SITE AND THE PROVISION IS SATISFIED.

DRAINS MODEL FOR 1 IN 100 YEAR STORM EVENT:

Pre-development	40.19	0.137	40.09
Post-development	40.19	0.137	40.09



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P01	DRAFT ISSUE FOR SSDA SUBMISSION	BB	AA	21.05.25
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Rev	Revision Description	By	App	Date

Scale 1:1200

1 2 3 4 5 6 7 8

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Client

FREECITY

Title
STORMWATER MANAGEMENT PLAN

Project
**153-157 WALKER STREET,
NORTH SYDNEY**

Date
23.06.25

Scale of A1
1:200

Drawn
M.MARELLANO

Designer
B.BASKARAN

Design Checker
A.ANG

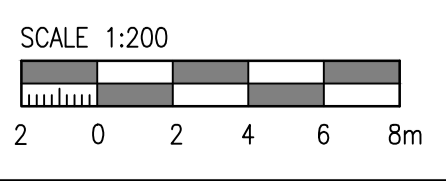
Approved
A.ANG

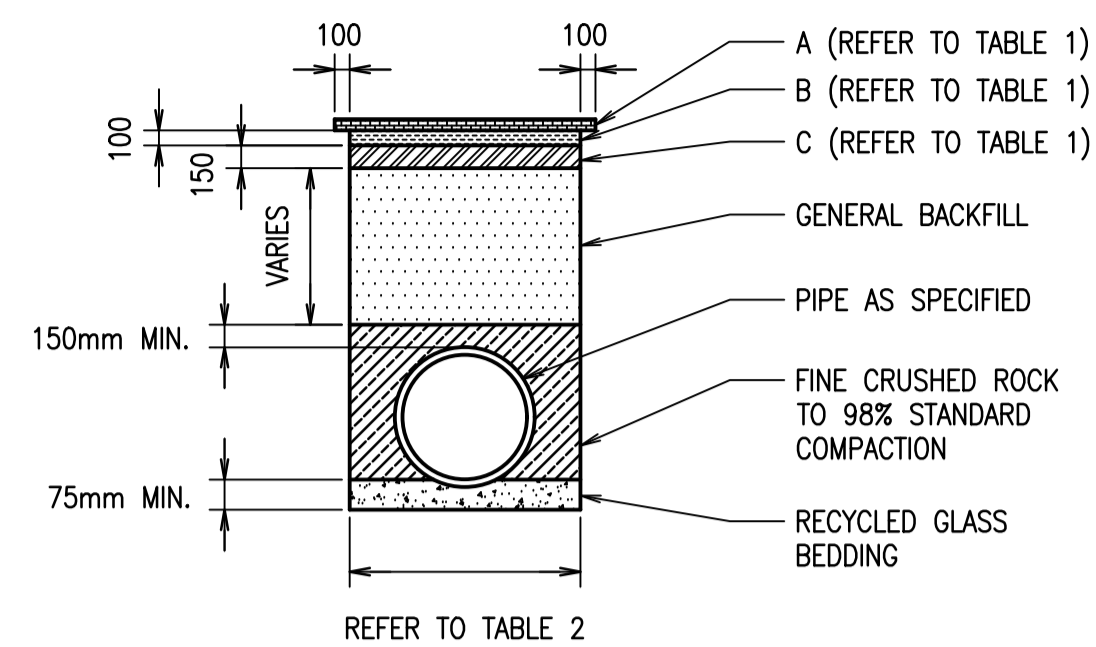
RBG Project No.
24524

NOT FOR CONSTRUCTION

Drawing Number
24524-RBG-XX-XX-DR-CV-87001

Revision
P02





TYPICAL TRENCH DETAIL
NTS

TABLE 1

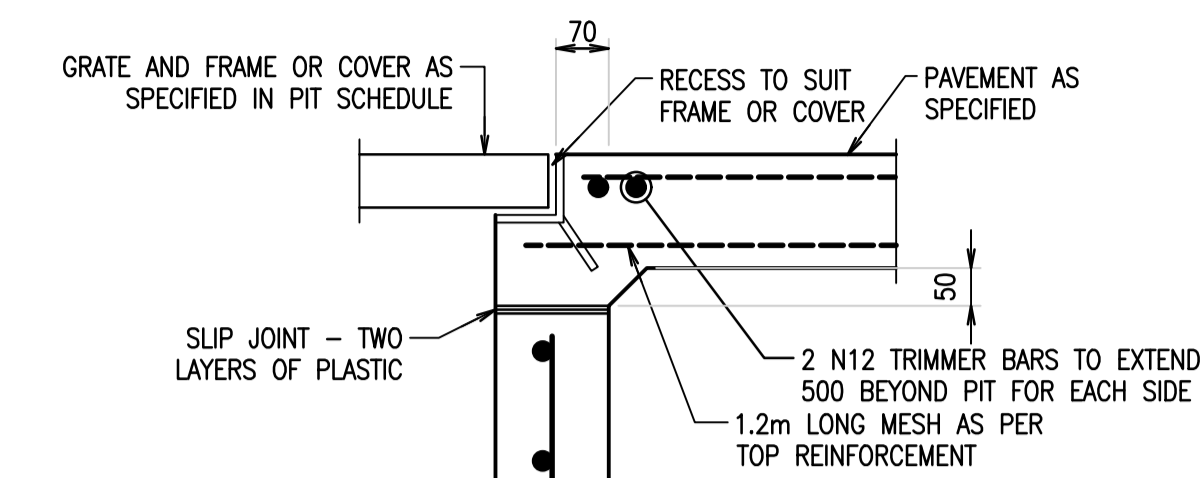
SURFACE TYPE	BACKFILL MATERIALS		
	A	B	C
ROAD WAY	AC10 - 50mm THICK	D9820	D9840
FOOTPATH	REFER TO NORTH SYDNEY SPECIFICATION	D9820	-
PARK/GRASS VERGE	TURF	TOP SOIL	TURF UNDERLAY

TABLE 2

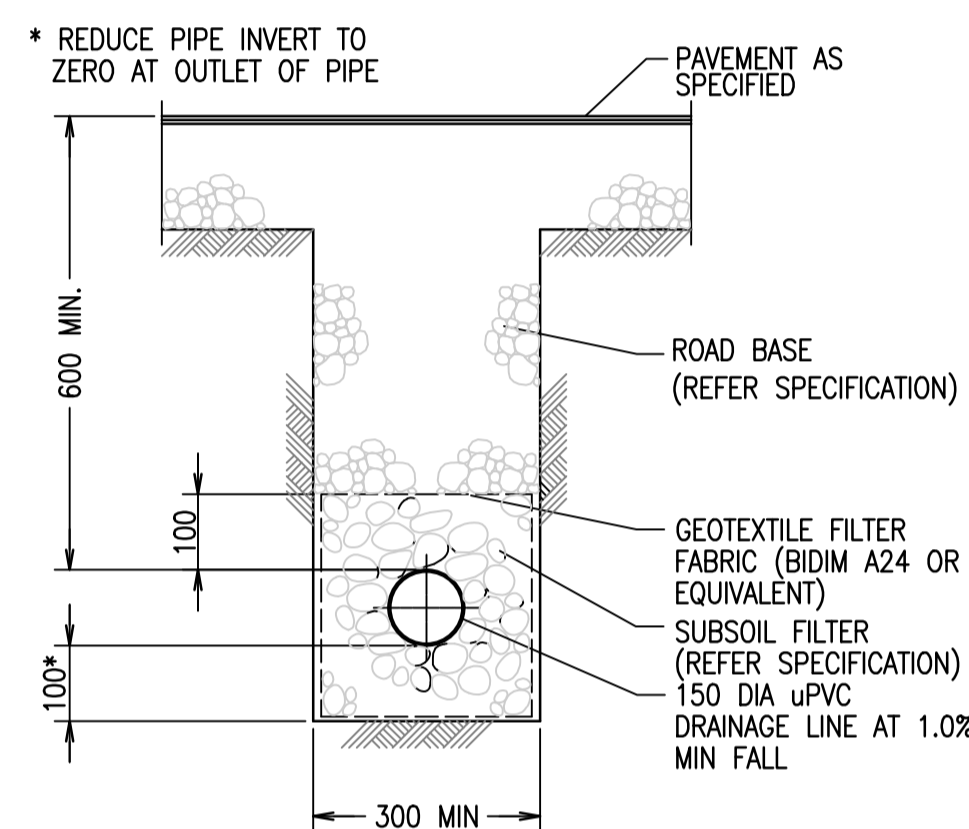
PIPE Ø (mm)	TRENCH WIDTH (m)
150	0.6
225	0.6
300	0.6
375	0.9
450	0.9
525	0.9
600	0.9
675	1.2
750	1.2
825	1.2
900	1.2

STORMWATER PIT NOTES:

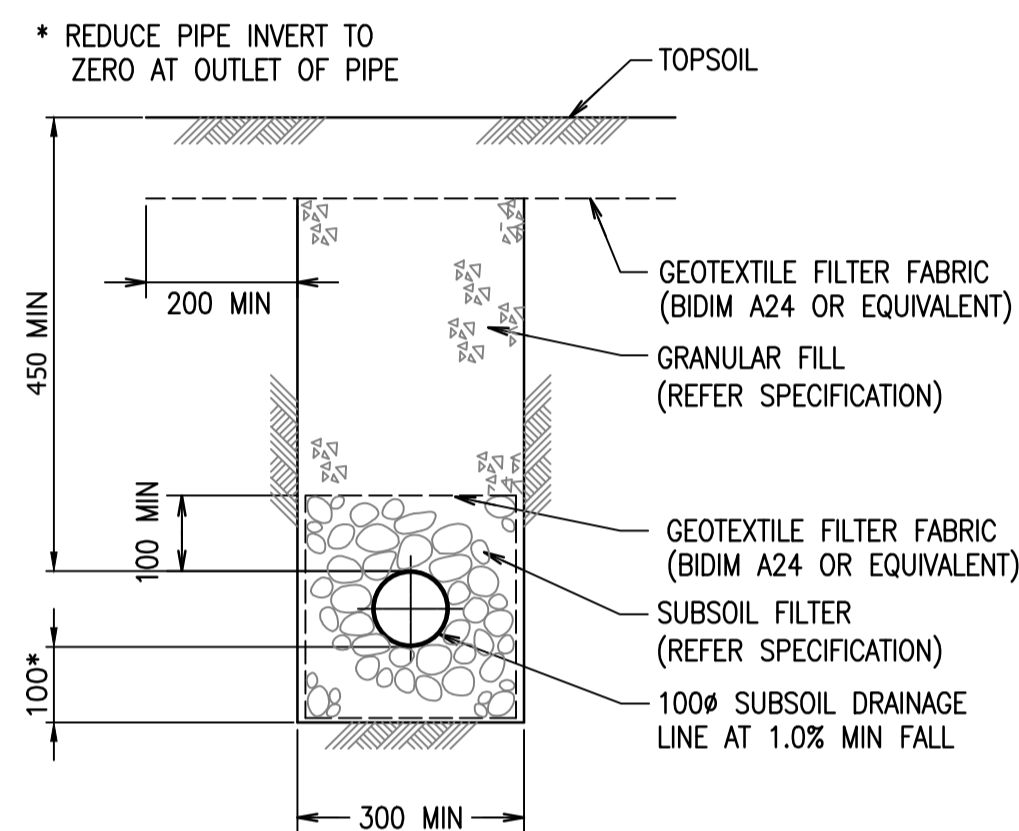
1. STORMWATER JUNCTION PIT DETAILS TO BE IMPLEMENTED FOR PIT 1/A. REFER TO CIVIL DRAWING 24524-RBG-XX-XX-DR-CV-87001 FOR PIT LOCATIONS.
2. MAXIMUM PIPE Ø IS 825mm.
3. COMPRESSIVE STRENGTH f_{cd} FOR CAST IN SITU CONCRETE TO BE MINIMUM 32MPa @ 28 DAYS.
4. MINIMUM 50mm COVER TO BE PROVIDED FOR STEEL REINFORCEMENT.
5. PROVIDE SL82 MESH CENTRALLY PLACED TO WALLS AND BASE ALL PITS ≥ 1500 mm DEEP. RETURN MESH MIN 300 INTO BASE AND SIDES.
6. PIT NOT TO EXCEED 2500mm IN DEPTH.
7. STEP IRONS TO BE PROVIDED FOR PITS GREATER THAN 1200mm DEEP. REFER TO STANDARD STEP IRONS DETAILS.
8. ALL PIPES SHALL BE AS SPECIFIED ON PLANS AND SHALL BE STEEL REINFORCED.
9. 75mm MINIMUM BENCHING TO HALF PIPE HEIGHT. TOTAL BENCHING TO OVERTOP OF PIPE.
10. PROVIDE A 2m LENGTH SLOTTED AG-PIPE WITH FILTER SOCK AT THE UPSTREAM END OF THE PIT.
11. ALL PITS ARE TO BE CAST IN-SITU UNLESS DIRECTED OTHERWISE.



DETAIL A
SCALE 1:10

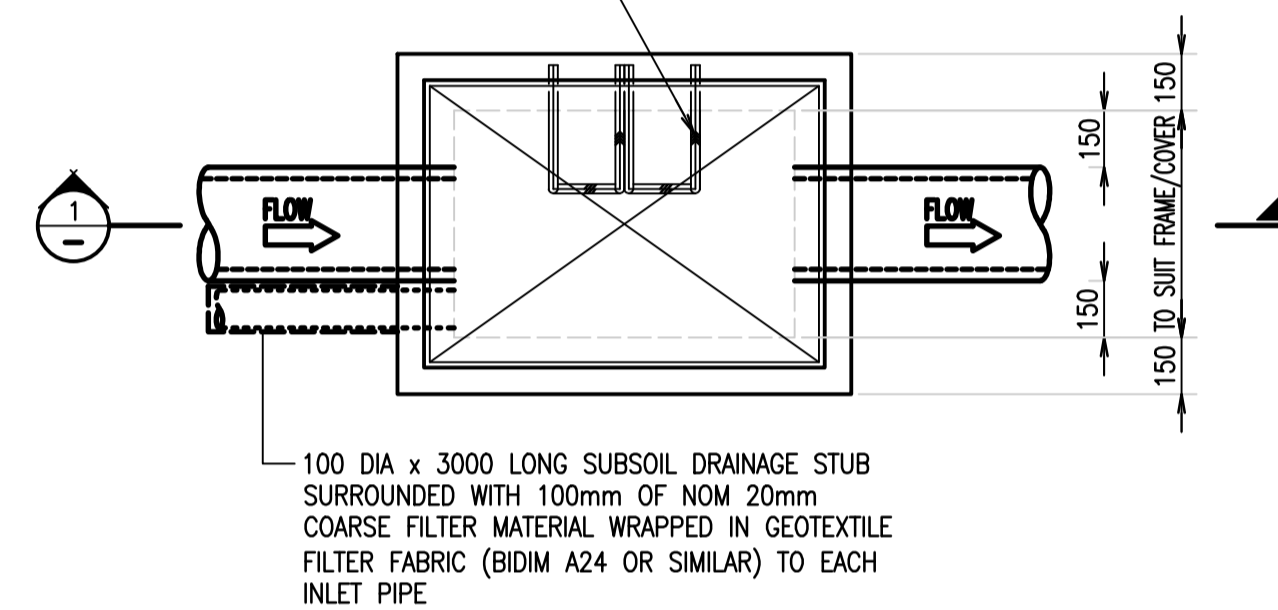


SUBSOIL DRAIN - TYPE D1
NTS
LOCATION: UNDER PAVED AREAS



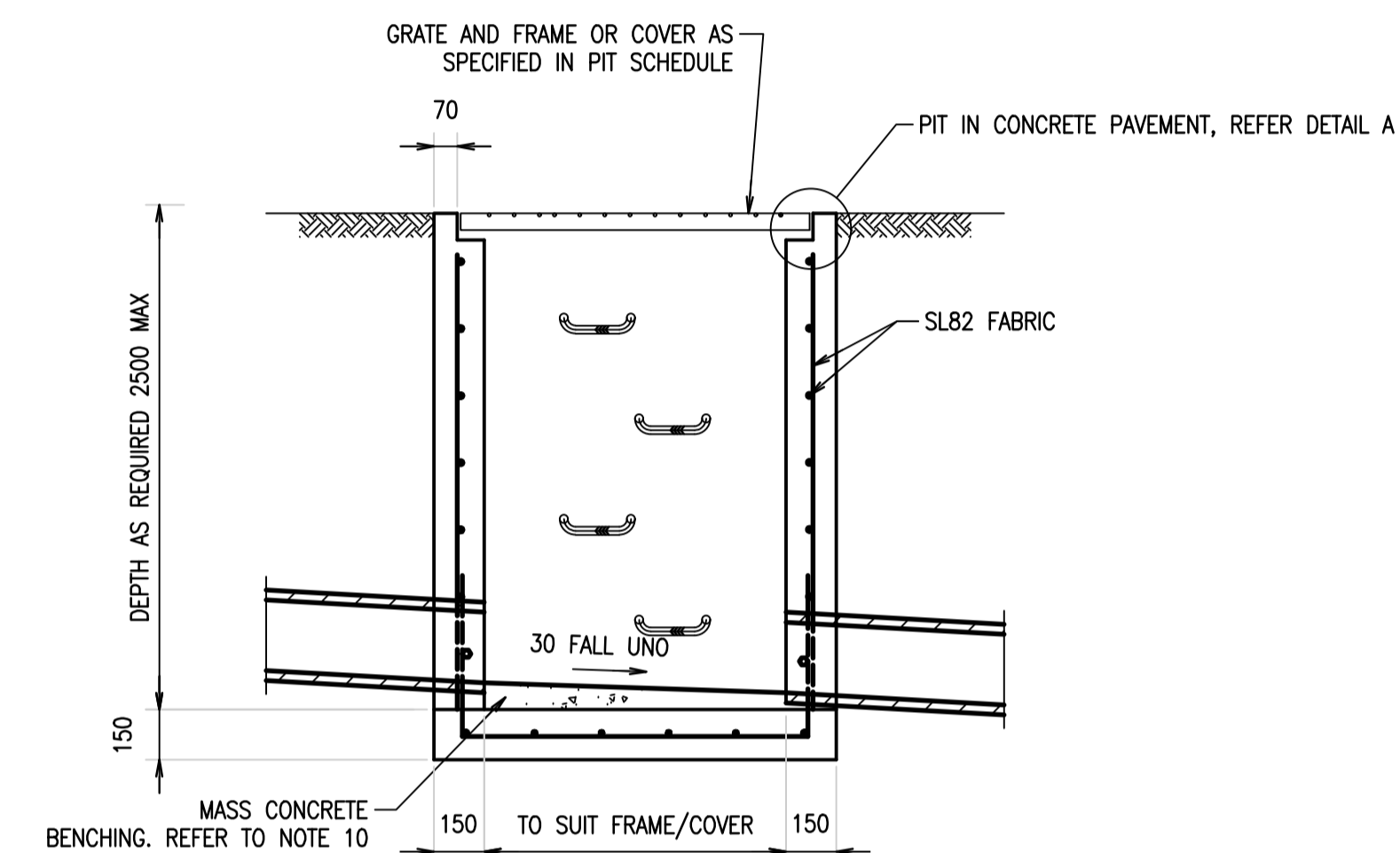
SUBSOIL DRAIN - TYPE D2
NTS
LOCATION: UNDER LANDSCAPED AREAS

PROVIDE PIT ACCESS STEPS IF PIT DEEPER THAN 1200.
REFER TO STANDARD STEP IRONS DETAIL.



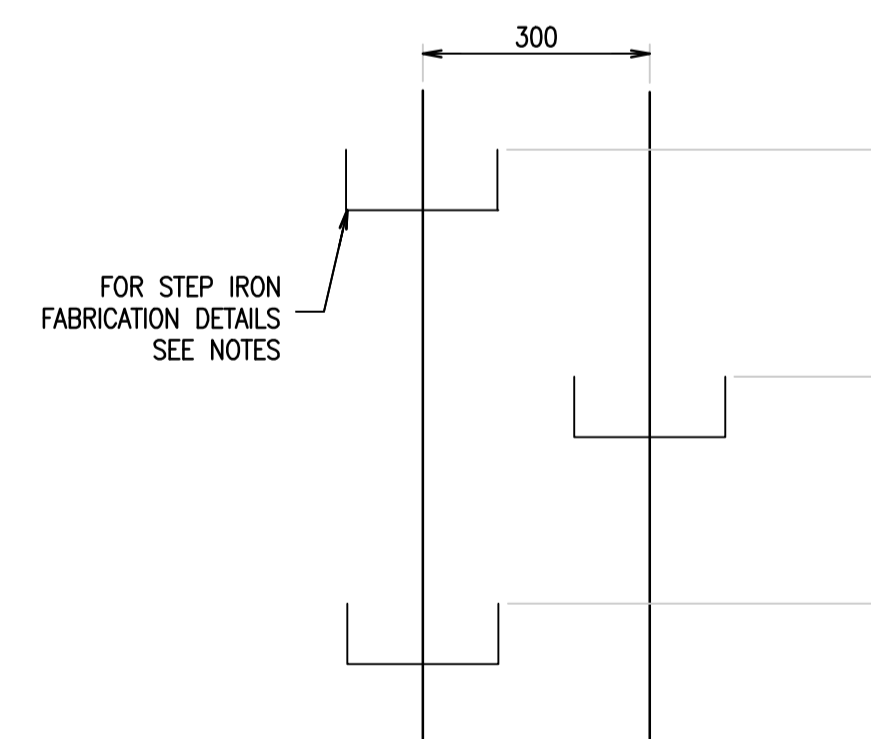
PLAN
SCALE 1:20

STORMWATER JUNCTION
PIT DETAIL

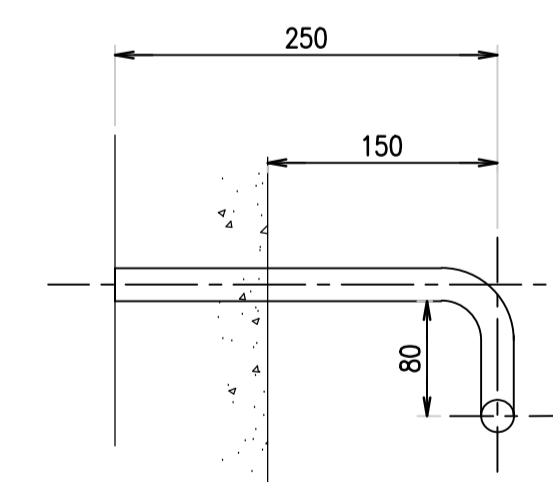


SECTION 1-1
SCALE 1:20

STORMWATER PIT SCHEDULE									
PIT No.	TYPE	PIT SIZE (m)	INLET PIPE DIAMETER (mm)	INLET I/L	OUTLET PIPE DIAMETER (mm)	OUTLET I/L (TBC AFTER DETAILED SURVEY BY SURVEYOR)	COVER LEVEL	DEPTH (m) (TBC AFTER DETAILED SURVEY BY SURVEYOR)	COVER/GRATE
1/A	SEALED JUNCTION PIT	600 X 600	TBC BY HYDRAULIC CONSULTANT	TBC BY HYDRAULIC CONSULTANT	375 RCP	58.00	59.10	1.10	600 X 600 CONCRETE INFILL GATIC 301C66D (CLASS B) OR APPROVED EQUIVALENT



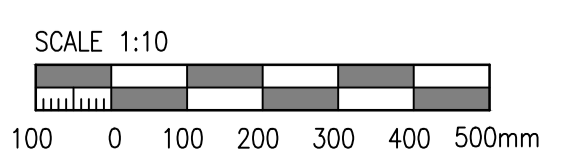
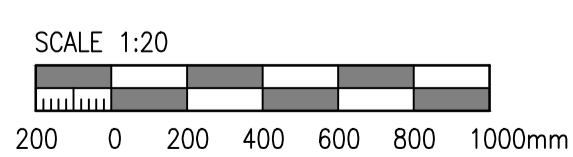
STEP IRON ARRANGEMENT - ELEVATION
SCALE 1:10



STANDARD STEP IRONS
SECTION
SCALE 1:10

STANDARD STEP IRON NOTES:

1. STEP IRONS TO BE FABRICATED FROM 20mm Ø M.S. 350 GRADE TO COMPLY WITH COUNCIL SPECIFICATIONS.
2. ALL BENDS TO BE FORMED AROUND 12mm DIAMETER PIN
3. STEP IRONS TO BE PROVIDED IN PITS DEEPER THAN 1.0m
4. STEP IRONS TO BE HOT DIPPED GALVANISED (ZINC) AS PER AS/NZS 4680.
5. STEP IRONS TO BE LOCATED DIRECTLY ABOVE PIT OUTLET PIPE



Rev	Revision Description	By	App	Date
P01	DRAFT ISSUE FOR SDA SUBMISSION	BB	AA	21.05.25
P02	DRAFT ISSUE FOR SDA SUBMISSION	BB	CW	23.06.25

Rev	Revision Description	By	App	Date
11				
12				
13				
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18				

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Client

FREECITY

Title
STORMWATER DETAILS

Date
16.06.25

Scale of A1
AS SHOWN

Project
**153-157 WALKER STREET,
NORTH SYDNEY**

Drawn
MARELLANO

Designer
B.BASKARAN

Design Checker
A.JANG

Approved
A.JANG

RBG Project No.
24524

NOT FOR CONSTRUCTION

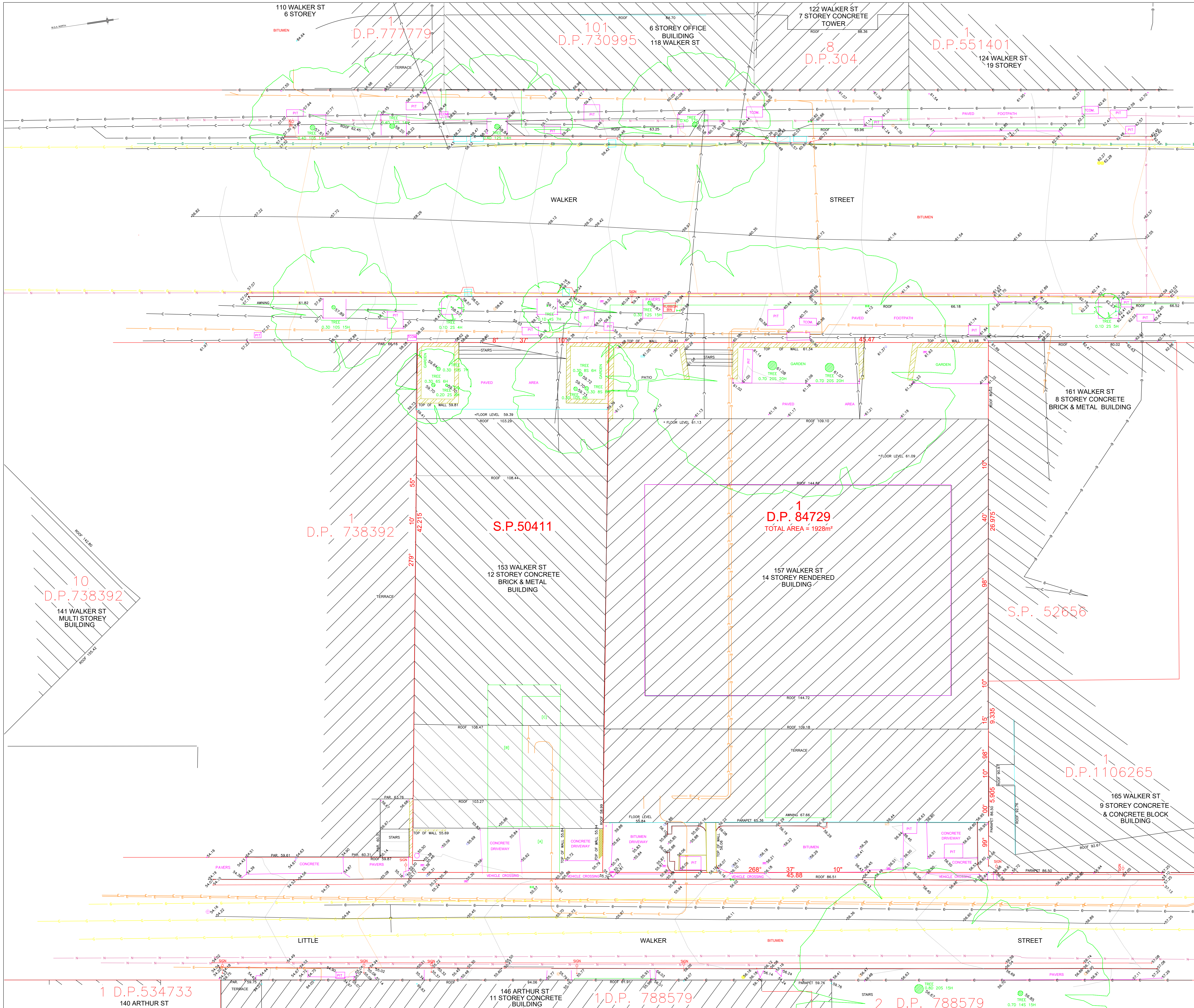
Drawing Number
24524-RBG-XX-XX-DR-CV-87101

Revision
P02



Appendix B Survey

153-157 Walker St, North Sydney



- LEGEND - Q-L-D**
- C - U/G COMMUNICATIONS
 - D - U/G DRAINAGE
 - E - U/G STORMWATER
 - F - U/G ELECTRICITY
 - G - OVERHEAD POWER LINES
 - H - U/G FIRE
 - I - U/G GAS
 - J - U/G NOT SPECIFIED
 - K - U/G PETROLEUM PRODUCTS
 - L - U/G RECYCLED WATER
 - M - U/G SEWER
 - N - U/G WATER (POTABLE)

UTILITY POSITIONING CLASSIFICATION (AS5488)

Q-L-A - VALIDATED, MEASURED DIRECTLY TO UTILITY
 Q-L-B - TRACKED, ELECTRONIC DETECTION OF UTILITY
 Q-L-C - ALIGNED, TO UTILITY SURFACE FEATURES
 Q-L-D - INDICATIVE, AS PER DWD DIAGRAMS

CERTAINTY

- A - HIGH
- B - MEDIUM
- C - LOW
- D - VERY LOW

IF ACCURATE LOCATION IS REQUIRED SERVICE TRACE IS RECOMMENDED.

INFORMATION SHOWN ON PLAN AND ELEVATIONS OF ADJOINING PROPERTIES HAS BEEN OBTAINED BY REMOTE SURVEY METHODS FROM WITHIN SUBJECT LAND AND STREET.

SYMBOLS REPRESENTING SERVICE PITS, POLES AND STREET FURNITURE ARE NOT TO SCALE.

CONSTRUCTION WORKS MUST BE RELATED TO THE SITE BENCH MARK AND NOT LEVELS OF STRUCTURES SHOWN ON THE PLAN.

TREE SPREADS AND TRUNK DIAMETERS SHOWN ARE DIAGRAMMATIC ONLY AND TREE HEIGHTS ARE ESTIMATED. IF ANY OF THESE ELEMENTS ARE CRITICAL TO DESIGN (IN PARTICULAR DRIP LINES) MORE SPECIFIC DETAILS SHOULD BE REQUESTED FOR ACCURATE LOCATION.

VISIBLE SURFACE PITS ONLY SHOWN. THE EXISTENCE AND POSITION OF UNDERGROUND SERVICES HAS NOT BEEN INVESTIGATED.

POSITION OF UNDERGROUND SERVICES PLOTTED FROM INFORMATION SUPPLIED BY THE RELEVANT AUTHORITIES AND MAY BE APPROXIMATE ONLY UNDER AS5488 2018 CLASSIFICATION OF SUBSURFACE UTILITY INFORMATION (SUI). THE SERVICES SHOWN AS Q-L-D ARE AN APPROXIMATE LOCATION ONLY, DERIVED FROM DWD DRAWINGS / EXISTING RECORDS. IT DOES NOT ENCOMPASS ANY FIELD VERIFICATION INVOLVING DIRECT MEASUREMENT.

SERVICE LINES SHOWN ARE DIAGRAMMATIC ONLY AND DO NOT REPRESENT THE WIDTH AND NUMBER OF CABLES OR PIPES IN THE GROUND.

PIT SIZE IS SHOWN AT GROUND LEVEL. PITS MAY BE LARGER BELOW THE SURFACE.

IT IS THE RESPONSIBILITY OF EACH CONTRACTOR AND/OR CONSULTANT TO CONTACT THE RELEVANT AUTHORITY AND/OR 'Dig Before You Dig' (Phone 1100) BEFORE COMMENCING ANY EXCAVATION.

THIS PLAN HAS BEEN CREATED AT A SCALE OF 1:100 AND MAY NOT BE SATISFACTORY FOR OTHER PURPOSES. THE ACCURACY OF ANY ENLARGEMENT OR OTHER REPRODUCTION MAY BE LESS THAN THAT OF THE ORIGINAL.

(A) RIGHT OF WAY BASEMENT FOR PURPOSES 5.715 WIDE (N845529)
 (B) RIGHT OF WAY 2.745 & 5.715 WIDE (N845529)
 (C) SUBSTATION PREMISES 10.3251 (N845529)

- LEGEND**
- ⊕ ELECTRICITY PIT
 - ⊕ ELEC POLE WITH LIGHT
 - ⊕ ELECTRICITY POLE
 - ⊕ LIGHT POLE
 - ⊕ TRAFFIC SIGNAL
 - ⊕ GAS METER
 - ⊕ GAS VALVE
 - ⊕ POLE (UNSPECIFIED)
 - ⊕ PIT (UNSPECIFIED)
 - ⊕ MANHOLE (UNSPECIFIED)
 - ⊕ TELECOM PIT
 - ⊕ TELECOM PILLAR
 - ⊕ WATER METER
 - ⊕ WATER VALVE
 - ⊕ STOP VALVE
 - ⊕ HYDRANT
 - ⊕ STORM WATER GRATE
 - ⊕ STORM WATER MANHOLE
 - ⊕ STORM WATER PIT
 - ⊕ SEWER PIT
 - ⊕ MANHOLE SEWER
 - ⊕ MANHOLE SEWER
 - ⊕ BOLLARD
 - ⊕ SIGN

REV.	DATE	AMENDMENTS
C	03/02/2025	ADDITIONAL DETAIL ADDED (80717)
B	18/11/2022	ADDITIONAL DESCRIPTIONS INCLUDED
A	9/11/2022	FOR INFORMATION

REV.	DATE	AMENDMENTS
C	03/02/2025	ADDITIONAL DETAIL ADDED (80717)
B	18/11/2022	ADDITIONAL DESCRIPTIONS INCLUDED
A	9/11/2022	FOR INFORMATION

RYGATE SURVEYORS
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 p +61 2 9262 6800
 f +61 2 9262 6843
 e surveyors@rygate.com.au
 w rygate.com.au

SUBDIVISION | STRATA PLANS | STRATUM SUBDIVISION | LEASE PLANS | TOPOGRAPHIC SURVEYS | GPS SURVEYS | 3D MODELLING | RACECOURSE DESIGN | PROJECT MANAGEMENT | SUN SHADOW DIAGRAMS

SURVEYOR	DRAWN	CHECKED	APPROVED
J.C.	D.S.	J.C.	A.F.

REDUCTION RATIO 1:100 @ A0

DATUM : AUSTRALIAN HEIGHT DATUM
 CONTOUR INTERVAL : 0.2m
 ORIGIN OF LEVELS : S.S.M. 25.302 R.L. 55.657

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CLIENT: G.P.T.

LOCALITY: NORTH SYDNEY

L.G.A.: NORTH SYDNEY

PLAN
 SHOWING DETAIL & LEVELS
 LOT 1 D.P. 84729 & S.P. 50411
 No. 153-157 WALKER STREET

REFERENCE No.	PLAN No.	DATE	SHEET
80110	80110-C.DWG	3/11/2022	1 OF 1 SHEETS



Appendix C

North Sydney Council

WSUD Correspondence

153-157 Walker St, North Sydney

Baarath BASKARAN

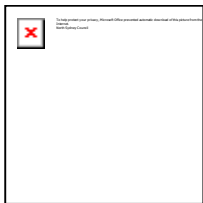
From: Zarko Cvetkovic <Zarko.Cvetkovic@northsydney.nsw.gov.au>
Sent: Monday, 3 March 2025 11:12 AM
To: Baarath BASKARAN
Subject: RE: 153-157 Walker St - WSUD Floor Area Provision - 24524 [Filed 03 Mar 2025 11:52]

Categories: Filed by Mail Manager

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Yes, this is how I understand this.



Zarko Cvetkovic
Senior Development Engineer

P +61 2 9936 8364
Zarko.Cvetkovic@northsydney.nsw.gov.au



From: Baarath BASKARAN <Baarath.Baskaran@robertbird.com.au>
Sent: Monday, 3 March 2025 10:40 AM
To: Zarko Cvetkovic <Zarko.Cvetkovic@northsydney.nsw.gov.au>
Cc: Allen ANG <Allen.Ang@robertbird.com.au>
Subject: RE: 153-157 Walker St - WSUD Floor Area Provision - 24524

CAUTION: Do not click links or open attachments unless you recognise the sender and know the content is safe.

Hi Zarko,

Please see the relevant NS Council DCP condition that I am referring to below. The only clarification we need from council is the definition of *Gross Floor Area* in the below provision. It seems to be a typo in the document and instead should be site area. It does not really make sense for it to be gross floor area as the number of building storeys should not affect the water quality. Please provide this clarification if possible.

DCP Commercial & Mixed-Use Development - Section 2.6.7 Provision P10 and P11

- P10 In addition to a Stormwater Drainage Plan, residential developments with a gross floor area greater than 2000m² must also submit a Water Sensitive Urban Design report from a suitably qualified consultant demonstrating that WSUD has been incorporated to the maximum extent practicable and that stormwater discharge will be reduced to the maximum extent practicable.
- P11 All developments with a **gross floor area** greater than 2000m² are to undertake a stormwater quality assessment to demonstrate that the development will achieve the post-development pollutant load standards indicated below:
- (a) Litter and vegetation larger than 5mm: 90% reduction on the Baseline Annual Pollutant Load;
 - (b) Total Suspended Solids: 85% reduction on the Baseline Annual Pollutant Load;
 - (c) Total Phosphorous: 65% reduction on the Baseline Annual Pollutant Load;
 - (d) Total Nitrogen: 45% reduction on the Baseline Annual Pollutant Load.

Kind Regards,

Baarith Baskaran

Graduate Engineer

Cammeraygal Country, Level 6, 100 Pacific Highway, North Sydney, NSW, 2060, Australia

P 02 82463200



an  company



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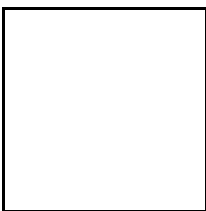
From: Zarko Cvetkovic <Zarko.Cvetkovic@northsydney.nsw.gov.au>

Sent: Monday, 3 March 2025 10:24 AM

To: Baarith BASKARAN <Baarith.Baskaran@robertbird.com.au>

Subject: RE: 153-157 Walker St - WSUD Floor Area Provision - 24524

I am not aware of that 2000 sqm threshold but if you found that information in our DCP, then you do not have to address the water quality.

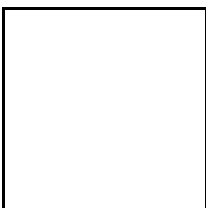
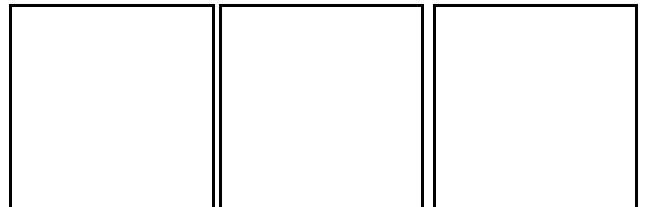


Zarko Cvetkovic

Senior Development Engineer

P +61 2 9936 8364

Zarko.Cvetkovic@northsydney.nsw.gov.au



From: Baarith BASKARAN <Baarith.Baskaran@robertbird.com.au>

Sent: Monday, 3 March 2025 10:18 AM

To: Zarko Cvetkovic <Zarko.Cvetkovic@northsydney.nsw.gov.au>

Cc: Sandesh Ghimire <Sandesh.Ghimire@northsydney.nsw.gov.au>; Josh Glanville <Josh.Glanville@northsydney.nsw.gov.au>; Allen ANG <Allen.Ang@robertbird.com.au>; Mark LABID <Mark.Labid@robertbird.com.au>

Subject: RE: 153-157 Walker St - WSUD Floor Area Provision - 24524

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Hi Zarko,

Thanks for the response.

The 153-157 Walker St development site has a site area of 1,928 sqm. Therefore, the water quality design does not need to be assessed and designed for this site. Would that be correct?

This area is not including the floor area of each storey of the building.

Kind Regards,

Baarath Baskaran

Graduate Engineer

Cammeraygal Country, Level 6, 100 Pacific Highway, North Sydney, NSW, 2060, Australia

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From: Zarko Cvetkovic <Zarko.Cvetkovic@northsydney.nsw.gov.au>

Sent: Monday, 3 March 2025 9:05 AM

To: Baarath BASKARAN <Baarath.Baskaran@robertbird.com.au>

Cc: Sandesh Ghimire <Sandesh.Ghimire@northsydney.nsw.gov.au>; Josh Glanville <Josh.Glanville@northsydney.nsw.gov.au>

Subject: FW: 153-157 Walker St - WSUD Floor Area Provision - 24524

Hi Baarath,

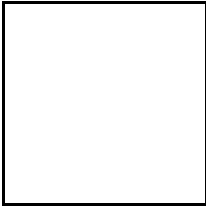
Sandesh is on his A. L. until 24th March.

The water quality design is based on the property area, which is as you have mentioned a bit over 2000 sqm.

Kind regards,

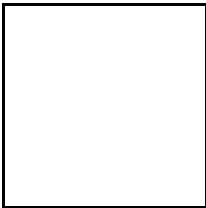
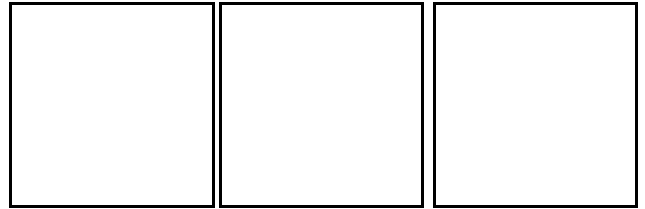
Zarko Cvetkovic

Senior Development Engineer - N.S.C.



Zarko Cvetkovic
Senior Development Engineer

P +61 2 9936 8364
Zarko.Cvetkovic@northsydney.nsw.gov.au

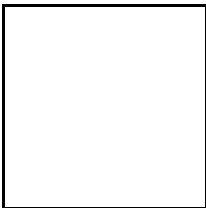


From: Jim Moore <Jim.Moore@northsydney.nsw.gov.au>
Sent: Monday, 3 March 2025 8:50 AM
To: Josh Glanville <Josh.Glanville@northsydney.nsw.gov.au>; Zarko Cvetkovic <Zarko.Cvetkovic@northsydney.nsw.gov.au>
Subject: FW: 153-157 Walker St - WSUD Floor Area Provision - 24524

Hi Josh and Zarko,

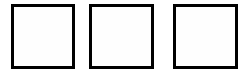
Can one of you please provide an answer to this developer?

Thanks
Jim



Jim Moore
Engineering Project Manager

P +61 2 9936 8233 | M
Jim.Moore@northsydney.nsw.gov.au



From: Baarath BASKARAN <Baarath.Baskaran@robertbird.com.au>
Sent: Friday, 28 February 2025 3:59 PM
To: Jim Moore <Jim.Moore@northsydney.nsw.gov.au>; council <council@northsydney.nsw.gov.au>
Cc: Mark LABID <Mark.Labid@robertbird.com.au>; Allen ANG <Allen.Ang@robertbird.com.au>; Sandesh Ghimire <Sandesh.Ghimire@northsydney.nsw.gov.au>
Subject: RE: 153-157 Walker St - WSUD Floor Area Provision - 24524

Some people who received this message don't often get email from baarath.baskaran@robertbird.com.au. [Learn why this is important](#)

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Hi Jim,

It seems that Sandesh is on leave so if you could kindly provide a response to the below it would be much appreciated.

Kind Regards,

Baarath Baskaran

Graduate Engineer

Cammeraygal Country, Level 6, 100 Pacific Highway, North Sydney, NSW, 2060, Australia

P 02 82463200



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From: Baarath BASKARAN

Sent: Friday, 28 February 2025 3:49 PM

To: Sandesh.Ghimire@northsydney.nsw.gov.au

Cc: Jim.Moore@northsydney.nsw.gov.au; Mark LABID <Mark.Labid@robertbird.com.au>; Allen ANG <Allen.Ang@robertbird.com.au>

Subject: 153-157 Walker St - WSUD Floor Area Provision - 24524 [Filed 28 Feb 2025 15:48]

Hi Sandesh, hope you have been well

RBG is doing the water quality design for a proposed development in North Sydney. According to the DCP Efficient Use of Resources section, residential developments with a gross floor area greater than 2000m² must also submit a Water Sensitive Urban Design report. Does the Gross Floor Area consist of the sum of the floor areas of all floors of the building? For example, the gross floor area of a 50-storey tower would be the sum of the floor area of all 50 storeys?

Would appreciate a prompt response on this if possible, thanks!

Kind Regards,

Baarath Baskaran

Graduate Engineer

Cammeraygal Country, Level 6, 100 Pacific Highway, North Sydney, NSW, 2060, Australia

P 02 82463200





Appendix D
North Sydney Council
Design Storm Event
Correspondence

153-157 Walker St, North Sydney

Baarath BASKARAN

From: Zarko Cvetkovic <Zarko.Cvetkovic@northsydney.nsw.gov.au>
Sent: Monday, 3 March 2025 3:47 PM
To: Baarath BASKARAN
Subject: Re: 153-157 Walker St - WSUD Floor Area Provision - 24524 [Filed 03 Mar 2025 15:59]

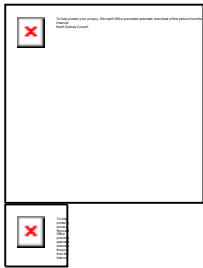
Categories: Filed by Mail Manager

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1% AEP for OSD-s and overland flow paths

5% AEP for stormwater street infrastructure.



Zarko Cvetkovic
Senior Development Engineer

P +61 2 9936 8364
Zarko.Cvetkovic@northsydney.nsw.gov.au



From: Baarath BASKARAN <Baarath.Baskaran@robertbird.com.au>
Sent: Monday, 3 March 2025 3:32 PM
To: Zarko Cvetkovic <Zarko.Cvetkovic@northsydney.nsw.gov.au>
Cc: Allen ANG <Allen.Ang@robertbird.com.au>; Mark LABID <Mark.Labid@robertbird.com.au>
Subject: RE: 153-157 Walker St - WSUD Floor Area Provision - 24524

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Thanks Zarko,

If you could also please confirm if NS Council has any requirement or recommendation for the minor and major design storm events that proposed stormwater systems should be designed for, that would be much appreciated. The design storm events are not specifically stated within the DCP.

Kind Regards,

Baarath Baskaran

Graduate Engineer
Cammeraygal Country, Level 6, 100 Pacific Highway, North Sydney, NSW, 2060, Australia
P 02 82463200

