

Mirvac Green Square – Sites 7, 17 and 18

**Integrated Water Management Plan
960A Bourke Street, Zetland NSW
2017**

CLIENT/ Mirvac

DATE/ 12/12/2025

CODE/ 22-1030

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Document Registration

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1. Introduction

This report supports one of the detailed State Significant Development Applications (SSDA) (SSD-83899206) and concurrent rezoning being lodged with the Department of Planning, Housing and Infrastructure (DPHI) for the construction of three mixed-use Build-to-Rent buildings at 960A Bourke Street (the site). The site is also known collectively as Sites 7, 17 and 18 of the Green Square Town Centre (GSTC) and is legally described as Lot 6, DP 1199427. The proponent for the SSDA is Mirvac Green Square Pty Limited.

The proposal aims to:

- Respond to the housing challenges facing Sydney through the delivery of diverse housing types in a highly accessible location;
- Demonstrate the strategic and site-specific merit of accommodating the proposed height and FSR of development on the site;
- Contribute to the establishment of Green Square as a town centre through a mixed-use approach and use urban design principles to integrate residential and non-residential land uses;
- Improve the pedestrian connectivity throughout the site, while encouraging the direct connections to public transport and the existing street network; and
- Appropriately respond to neighbouring development and public domain within the GSTC through podium and tower forms with appropriate massing, which protect solar access and minimise environmental impacts.

1.1. Background – Housing Delivery Authority

On 19 December 2024, the Housing Development Authority (HDA) was established by DPHI to accelerate the delivery of housing across NSW, under the Environmental Planning and Assessment (Housing Delivery Authority) Order 2024. This has provided a new State Significant Development pathway in which the proposed redevelopment can be undertaken through.

The site was declared State Significant Development (SSD) pursuant to State Significant Declaration Order 2025 (No 2) issued on 26 February 2025. The order specifies development in EOI application 232525 dated 17 January 2025, including development for the purposes of mixed use development comprising commercial premises and residential accommodation with the provision for affordable housing and Build to Rent (BTR) at 960A Bourke Street, 6 Geddes Ave and 411 Botany Road, Zetland as identified in Schedule 18, is declared to be SSD.

The HDA SSD pathway has been established to accelerate delivery of housing and requires that the subject SSD is lodged within 9 months from receipt of the Secretary's Environmental Assessment Requirements (SEARs). Current SEARs for the project were issued for Early Works on 15 April 2025 (SSD-82328958) (SSDA 1), Sites 7, 17 and 18 on 15 May 2025 (SSD-83899206) (SSDA 2) and for Sites 8 and 19 on 15 May 2025 (SSD- 84322496) (SSDA 3).

The key features of the Mirvac Green Square HDA proposal are:

- Detailed development consent for the purposes of a mixed use development, with significant residential components comprising build to sell and build to rent dwelling stock and ground floor non-residential uses.
- Delivery of between 1,000 to 1,200 dwellings across 9 buildings in low rise and high rise tower formats.
- Delivery of Affordable Housing dwellings.
- Delivery of the components in two-stage detailed SSDA process.

In conjunction with the SSDA, a State-assessed rezoning process is intended to facilitate the proposed development.

This SSDA forms the second application as part of broader HDA declared development and forms the main works to develop sites 7, 17 and 18 of the GSTC.

1.2. Site Description

The site is located at 960A Bourke Street, Zetland and is located within the GSTC. It is situated within the Sydney Local Government Area (LGA) and is located approximately 3.5km south of the Sydney CBD and within immediate proximity of the Green Square Railway Station. The site forms the northern component of the Mirvac HDA proposal, consisting of one lot which is legally described as Lot 6, DP 1199427. An aerial photo of the site is shown at Figure 1 below.

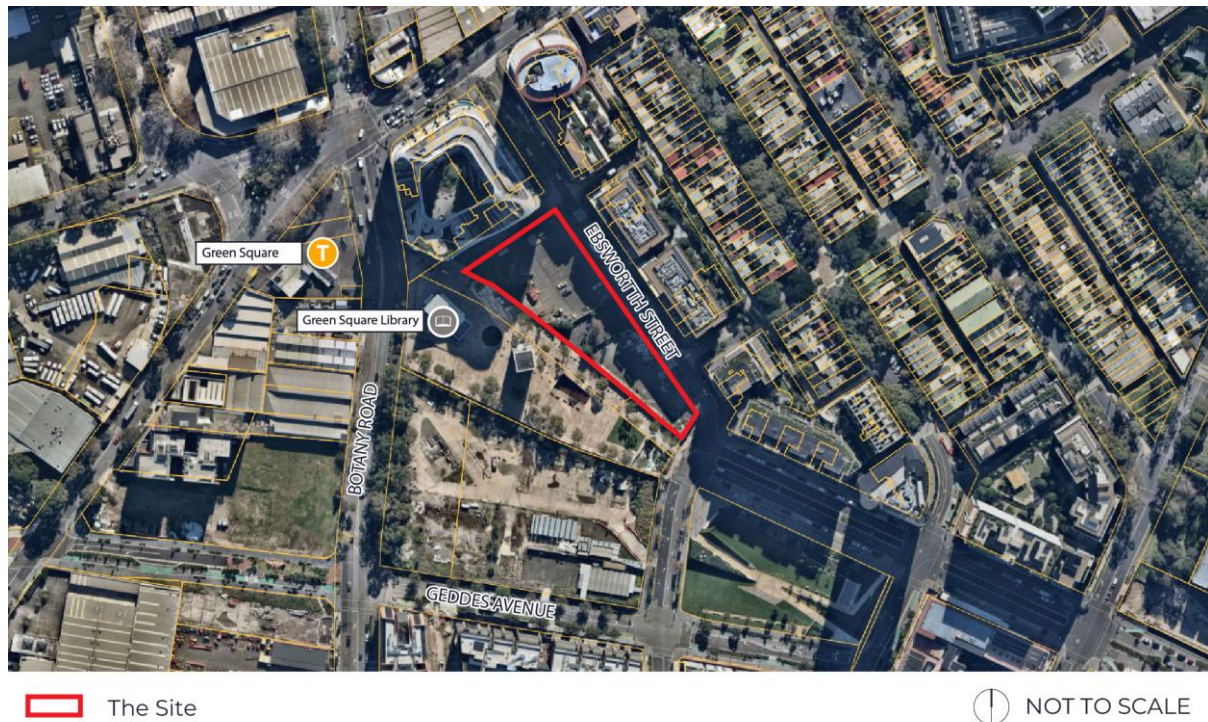


Figure 1 Sites 7, 17 and 18 Site Aerial (Source: Nearmap, Colliers Urban Planning edits)

1.3. Overview of the Proposed Development

The proposed development seeks to deliver the construction of three BTR buildings which will integrate residential, retail, resident amenity and public domain uses. Specifically, the proposal seeks approval for:

- Excavation and enabling works.
- Construction of 3 mixed use BTR buildings up to 21 storeys in height, comprising:
 - ▶ 511 BTR dwellings including a variety of dwelling types including Studio, 1, 2 and 3-bedroom apartments, a portion of which will be affordable housing.
 - ▶ Shared internal and external residential amenity space.
 - ▶ Non-residential floor space including retail, BTR staff offices and BTR resident lobbies
 - ▶ A shared basement level, incorporating loading zones, waste collection and servicing.
 - ▶ Car parking and bike parking to service the proposed development.
- Public domain and landscaping improvements, including:
 - ▶ External pedestrian laneways, pathways and through-site links.
 - ▶ Tree removal, protection, new plantings and landscaping works.
- Utility and stormwater connections to support the new development.
- Concurrent amendments to the Sydney Local Environmental Plan (Green Square Town Centre) 2013 to facilitate the SSDA.

1.4. Secretary’s Environmental Assessment Requirements

In accordance with section 4.39 of the Environmental Planning & Assessment Act 1979 (EP&A Act), Secretary’s Environmental Assessment Requirements (SEARs) (SSD-83899206) have been issued. This report has been prepared to respond to the issued SEARs, as set out in the table below.

Table 1 SSD-83899206 SEARs

SEAR	Response / Location Addressed in Report
<p>11. 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 ■ 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. 	<ul style="list-style-type: none"> ■ Drainage design has been discussed in detail in Section 4 of this report. Electrical, recycled water, sewer and potable water infrastructure is present around the site on Ebsworth Street and Tweed Place for the development to connect into. A Combined Services Plan has been prepared to demonstrate this – refer to AT&L drawing DA-2-8280. ■ Council and Sydney Water’s drainage requirements have been complied with as discussed in Section 4 of this report. On-Site Detention tanks have been designed as per Sydney Water’s requirements and correspondence and stormwater treatment devices have been incorporated to achieve Council’s pollutant reduction targets.

2. Scope of Report

The scope of this report is to discuss the water management strategy for this site, including:

- Stormwater management, including On-Site Detention (OSD);
- Water Sensitive Urban Design;
- Sediment and Erosion Control;and

2.1. Supporting Documentation

The following documentation should be read in conjunction with this report:

- Architectural SSDA drawings by FK and Plus Architects (Rev A, dated 16/12/2025)
- Civil Engineering Drawings by AT&L (Reference: DA-2-8200 series)

3. Flooding

A Flood Impact and Risk Assessment (FIRA) has been carried out by GRC Hydro (Job no. 25066, dated 9/12/2025). The subject site is noted as being outside the PMF flood extents (refer Figure 2) and the general flood planning requirement is to have the building entrances connecting to the basement at 300mm above the adjacent gutter level (where applicable) and surrounding ground.

A freeboard of 150mm has been adopted for the building entries fronting Felmonger and Barker Streets due to accessibility requirements, the limited catchment area associated with each laneway and its free-draining nature to the Plaza. The results of the FIRA show that there is no flood risk along the laneways and as such a freeboard of 150mm presents no feasible risk to flooding the basement even in the event of a failure of the drainage system.

This strategy also maintains accessibility between building and the Plaza and connectivity from the proposed retail spaces and the public domain.

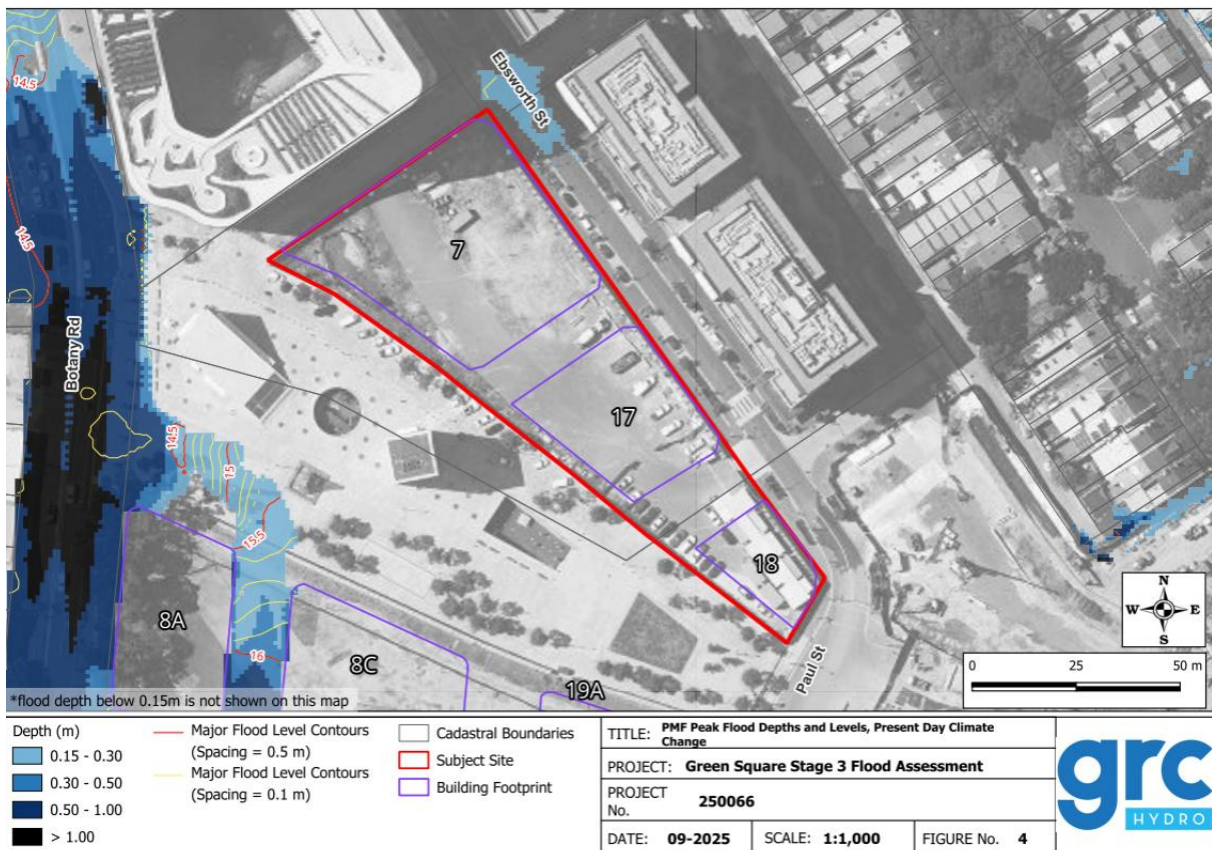


Figure 2: PMF Flood Map (Source: Floor Impact and Risk Assessment by GRC Hydro, job no. 250066)

4. Stormwater Management

4.1. Design Criteria

The design criteria has been adopted from the requirements stipulated in the following documents:

- Sydney Development Control Plan 2012
- Green Square Town Centre Development Control Plan
- Sydney Streets Technical Specification (July 2025), Section A4 Stormwater Drainage Design and Section C Standard Drawings
- LIV Design Manual
- City of Sydney Stormwater Drainage Manual (February 2017)
- Managing Urban Stormwater Soil and Construction (2004) by Landcom ('The Blue Book')
- AS/NZS3500.3 (2025) Plumbing and Drainage
- Sydney Water On-Site Detention Guidelines
- Australian Rainfall and Runoff (ARR) 2019

4.1.1. Hydrology

As per City of Sydney Council requirements, this stormwater network has been preliminarily designed by AT&L to accommodate both a minor (5% AEP) and major (1% AEP) storm event as outlined by clause 4.7.2.1 in the Sydney Streets Technical specifications.

Watercom DRAINS is used as the hydrology and hydraulic modelling software. The ILSAX method has been utilised when modelling the stormwater network within DRAINS.

Further parameters include:

- Rainfall intensities have been sourced from Bureau of Meteorology's (BOM) rainfall IFD Data System.
- Runoff coefficients shall be calculated in accordance with the ARR 2019.
- Blockage factors that are considered have been sourced from Table 2 in Clause 4.7.3.2 in the Sydney Streets Technical specifications document.
- 1% AEP overland flow limits for pedestrian and shared zone areas have been sourced from Table 5 in clause 4.7.3.2 in the Sydney Street Technical specifications.

4.1.2. Hydraulics

- A hydraulic grade line (HGL) design method shall be adopted for pipe drainage design and will be shown on long sections.
- All pipes shall be a minimum Class 4 RCP unless otherwise approved by Council Engineers.
- Minimum pipe size for public domain is to be DN375.
- All RCP pipes to be constructed to include rubber ring joints.
- Pipe cover to be minimum 600mm in roadways, and 400mm in footpath and landscaped areas.
- Minimum internal grade of 1% is to be adopted for design. A maximum of 10% is to also be adopted.
- Pipe friction coefficients to be adopted in the DRAINS model will be the standard coefficients set. See table below outlining pipe model properties.

Table 2- Pipe Details

Material	Mannings – n	Colebrook-White - k	Minimum Pipe Class U.N.O
RCP	0.013	0.3	4

- All pipes shall be designed for the ultimate service loads and where applicable, construction loads will be accounted for.
- Where tailwater level is unknown, a 150mm freeboard has been adopted for the purpose of design.
- Maximum overland flow limit for pedestrian and shared zone is 50mm deep, 1.5m wide and a maximum velocity of 0.4m²/s.

4.2. Proposed Stormwater Drainage

4.2.1. On-Site Detention Tanks

The stormwater management strategy is to collect the stormwater from each building within On-Site Detention (OSD) tanks which will discharge stormwater via weir and orifice in a controlled manner into Council’s stormwater network in Tweed Place. One below-ground OSD is proposed per lot, towards the south-west of site, adjacent to Green Square Plaza. An overview of the OSD locations is shown on Figure 3.

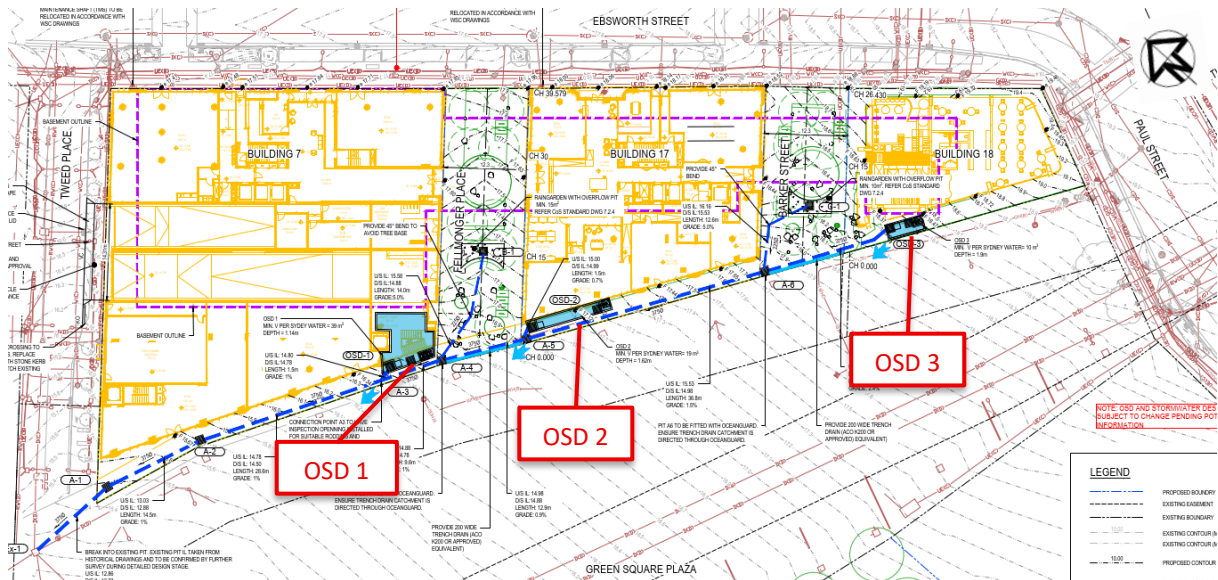


Figure 3: OSD locations (source: AT&I Civil Drawings)

As per Council’s guidelines, compliance is required with Sydney Water’s OSD requirements. Advice was sought from Sydney Water on the minimum OSD volume requirement and Permissible Site Discharge (PSD) (refer Appendix B), which was used to design the proposed OSDs. The proposed OSDs parameters are provided in Table 3 below.

Table 3: OSD Parameters

Building	Min. OSD Volume (m ³) (per Sydney Water)	Permissible Site Discharge (l/s) per Sydney Water	OSD Volume Provided (m ³)	5% AEP discharge (l/s) including bypass flows	1% AEP discharge (l/s) including bypass flows
7	39	93	42	69	93
17	19	43	19	31	40
18	10	24	12	14	19

4.2.2. Laneway Drainage

Barker Street and Fellmonger Place are designed with a two-way cross-fall towards the middle of the laneways, and longitudinal fall from Ebsworth Street to Green Square Plaza. They will each have raingardens, pits and pipes and a trench drain at the boundary of the street and the plaza. The raingardens have been proposed as a Water Sensitive Urban Design measure to reduce pollutants in the runoff and is discussed further in section 5. Refer to Figure 4 for a typical section through the laneways.

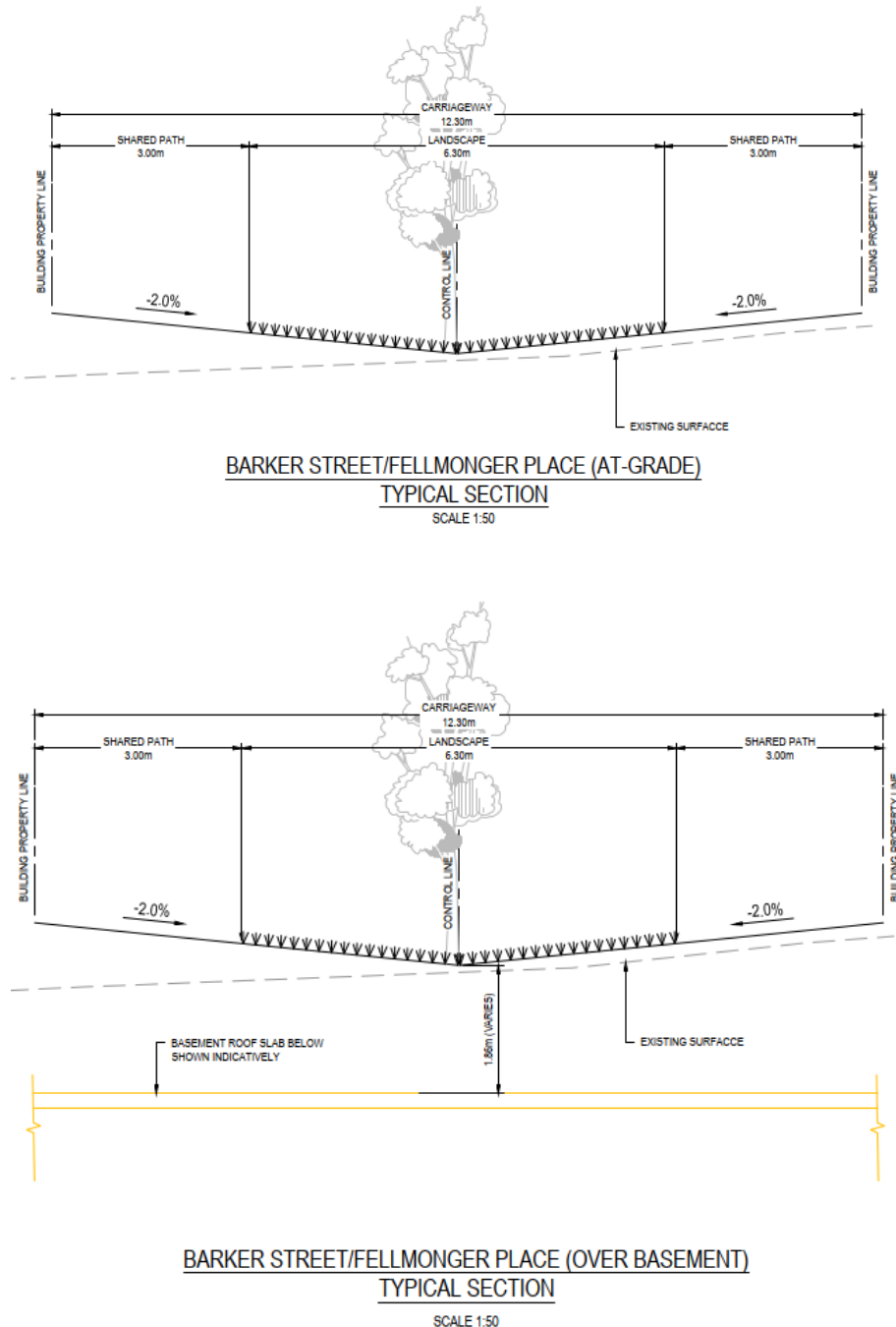


Figure 4: Typical sections through laneways (source: AT&L Civil Drawings)

5. Water Sensitive Urban Design

Water Sensitive Urban Design (WSUD) is intended to minimise the impacts of development upon the water cycle and to achieve more sustainable forms of urban development. MUSIC X software has been utilised to demonstrate that the proposed stormwater treatment meets the pollutant reduction targets required by the City of Sydney. The properties, concentration parameters and climate data are preset and remained unchanged as per the City of Sydney MUSIC-link Profile. Refer to a conceptual view of the model and MUSIC-Link report in Appendices C and D for further information.

5.1. Water Quality Devices and Measures

A combination of pit baskets (Ocean Protect’s ‘Oceanguard’ have been nominated) and filtration cartridges (Ocean Protect’s ‘Stormfilters’ have been nominated) are proposed within the OSD tanks to treat runoff from the building roof and open space areas. Additionally, raingardens have been proposed within the Council-owned Barker Street and Felmonger Place.

The site is also serviced by the Green Square recycled water system which provide a purple pipe network to the site for irrigation and other non-potable uses. Refer to Infrastructure Report (Ref: 250371_RP-001_Greensquare Stage 3 BtR dated 11/12/2025) by JHA for further details.

5.2. Water Quality Modelling - MUSIC X Results

The water quality modelling demonstrates that the proposed treatment measures satisfactorily meet the pollutant reduction targets set by City of Sydney. The results are shown below.

Table 4: MUSICX Modelling Results

Pollutant	Sources (Kg/yr)	Residual Load (Kg/yr)	Reduction (%)	CoS Target Reduction (%)
Total Suspended Solids	668.5	63.75	89.32	85
Total Phosphorus	1.364	0.4002	69.16	65
Total Nitrogen	13.02	5.922	53.14	45
Gross Pollutantsuiui	142.8	0.2605	99.38	90

6. Sediment and Erosion Control

6.1. Sediment and Erosion Control (Construction)

The Stormwater Management Plan has been prepared in accordance with the Landcom's Managing Urban Stormwater- Soils and Construction (2004) and the relevant Council guidelines.

6.2. Sources of Pollution

The activities and aspects of the works that have potential to lead to erosion, sediment transport, siltation and contamination of natural waters include:

- Earthworks undertaken immediately prior to rainfall periods.
- Work areas that have not been stabilised.
- Clearing of vegetation and the methods adopted, particularly in advance of construction works.
- Stripping of topsoil, particularly in advance of construction works.
- Bulk earthworks and construction of pavements.
- Works within drainage paths, including depressions and waterways.
- Stockpiling of excavated materials.
- Storage and transfer of oils, fuels, fertilisers and chemicals.
- Maintenance of plant and equipment.
- Ineffective implementation of erosion and sediment control measures.
- Inadequate maintenance of environmental control measures; and
- Time taken for the rehabilitation / revegetation of disturbed areas.

6.3. Potential Impacts

The major potential impacts on waterways relate to erosion of distributed areas or stockpiles and sediment transportation. Potential adverse impacts from erosion and sediment transportation can include:

- Loss of topsoil.
- Increased water turbidity.
- Decreased levels of dissolved oxygen.
- Changed salinity levels.
- Changed pH levels.
- Smothering of stream beds and aquatic vegetation.
- Reduction in aquatic habitat diversity.
- Increased maintenance costs; and
- Decrease in waterway capacity leading to increased flood levels and durations.

6.4. Construction Methodology

The following construction methodology will be followed to minimise the impact of sedimentation due to construction works:

- Diversion of "clean" water away from the disturbed areas and discharge via suitable scour protection.
- Diversion of sediment-laden water into temporary sediment control tanks/basins to capture the design storm volume and undertake flocculation (if required). This will generally be the basement excavation in urban development.

- Provision of construction traffic shaker grids and wash-down facilities to prevent vehicles carrying soil beyond the site.
- Provision of catch drains to carry sediment-laden water to sediment tanks/basins.
- Provision of silt fences to filter and retain sediments at source.
- Provision of geofabric filters to new stormwater pits to retain sediments at source; and
- Where future construction and building works are not proposed, the rapid stabilisation of disturbed and exposed ground surfaces with turf or hydro-seeding.

6.5. Site Inspection and Maintenance

The inspection and maintenance requirements outlined in this section must be carried out while either earthworks or quarrying is being conducted, and all areas re-established.

The Contractor will be required to inspect the site after every rainfall event and at least weekly, and will:

- Inspect and assess the effectiveness of the SWMP and identify any inadequacies that may arise during normal work activities or from a revised construction methodology. Construct additional erosion and sediment control works as necessary to ensure the desired protection is given to downstream lands, drainage systems, and waterways.
- Ensure that drains operate properly and to affect any repairs.
- Remove 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.
- Remove trapped sediment whenever less than design capacity remains within the structure.
- Ensure rehabilitated lands have affectively reduced the erosion hazard and to initiate upgrading or repair as appropriate.
- Maintain erosion and sediment control measures in a fully functioning condition until all construction activity is completed and the site has been rehabilitated; and
- Remove temporary soil conservation structures as the last activity in the rehabilitation.

Appendix A – Civil Drawings

MIRVAC GREEN SQUARE

SITES 7, 17 & 18 CIVIL WORKS

SSDA - 83899206



LOCALITY PLAN
NOT TO SCALE

DRAWING LIST

DRAWING NO.	DRAWING TITLE
DA-2-8200	COVER SHEET LOCALITY PLAN AND DRAWING LIST
DA-2-8201	NOTES SHEET
DA-2-8205	GENERAL ARRANGEMENT PLAN
SITWORKS	
DA-2-8210	SITWORKS AND STORMWATER DRAINAGE PLAN
DA-2-8220	ROAD LONGITUDINAL SECTIONS
DA-2-8230	PAVEMENT PLAN
DA-2-8240	SITWORKS AND STORMWATER DETAILS
STORMWATER DRAINAGE	
DA-2-8250	STORMWATER DRAINAGE WSUD CATCHMENT PLAN
DA-2-8251	STORMWATER DRAINAGE WSUD CALCULATION
DA-2-8255	STORMWATER DRAINAGE OSD CATCHMENT PLAN
DA-2-8260	STORMWATER DRAINAGE OSD 1 SECTIONS
DA-2-8261	STORMWATER DRAINAGE OSD 2 SECTIONS
DA-2-8262	STORMWATER DRAINAGE OSD 3 SECTIONS
DA-2-8263	STORMWATER DRAINAGE OSD DETAILS
COMBINED SERVICES PLAN	
DA-2-8280	COMBINED SERVICES PLAN
EROSION AND SEDIMENT CONTROL	
DA-2-8290	EROSION AND SEDIMENT CONTROL PLAN
DA-2-8295	EROSION AND SEDIMENT CONTROL DETAILS

Issue	Description	Date
A	ISSUED FOR SSDA 2	12-12-25
P1	ISSUED FOR INFORMATION	14-11-2025

Bar Scales

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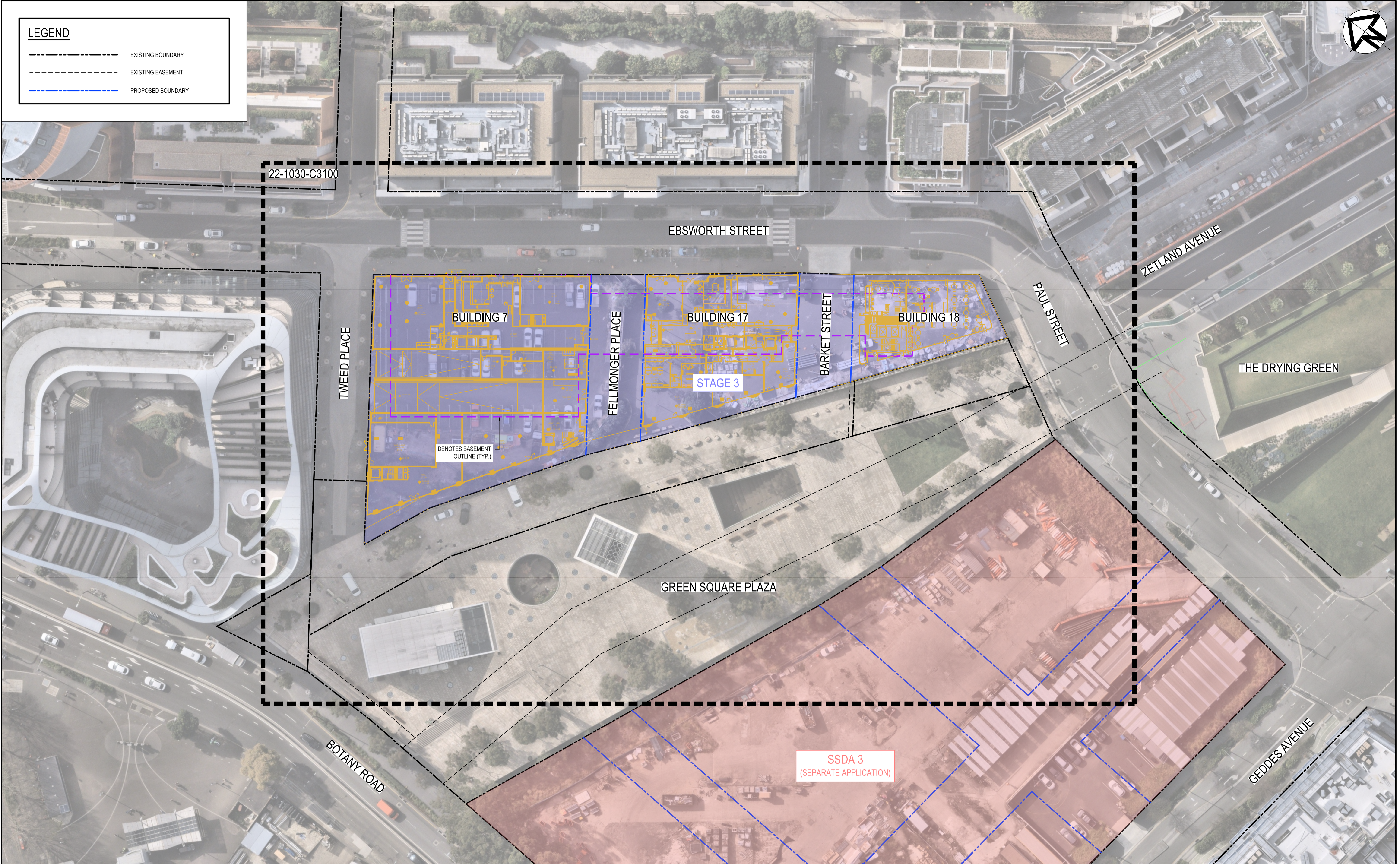
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Project	Title
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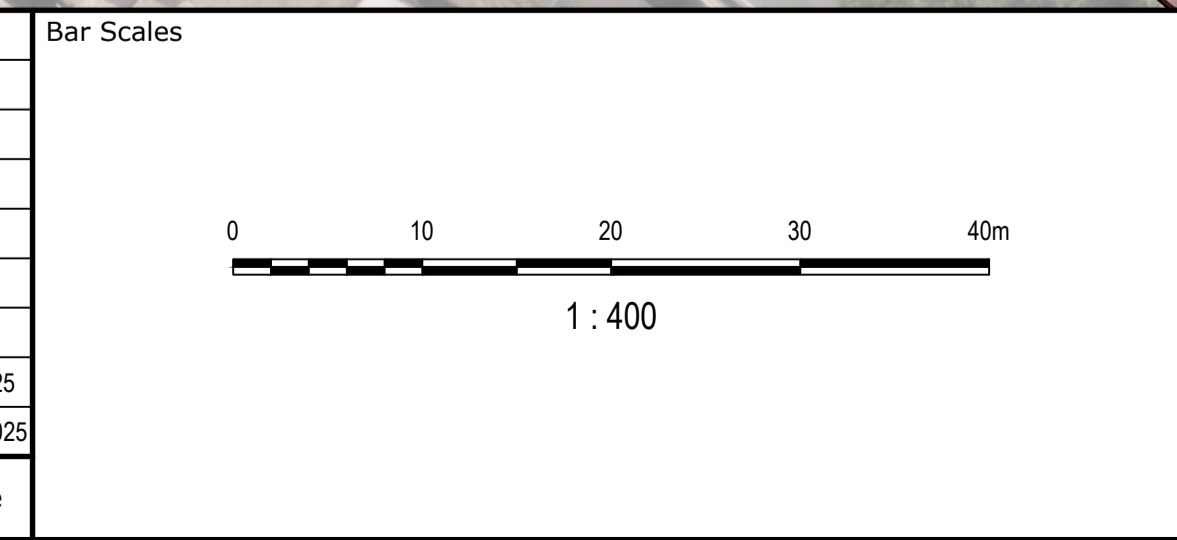
Civil Engineers and Project Managers	Status	Issue
 Level 7, 153 Walker Street North Sydney NSW 2060 P 02 9439 1777 E info@at.net.au www.at.net.au ABN 96 130 882 405	FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION Project - Drawing No. DA-2-8200	A1 Issue A



LEGEND	
	EXISTING BOUNDARY
	EXISTING EASEMENT
	PROPOSED BOUNDARY



Issue	Description	Date
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P1	ISSUED FOR INFORMATION	14-11-2025



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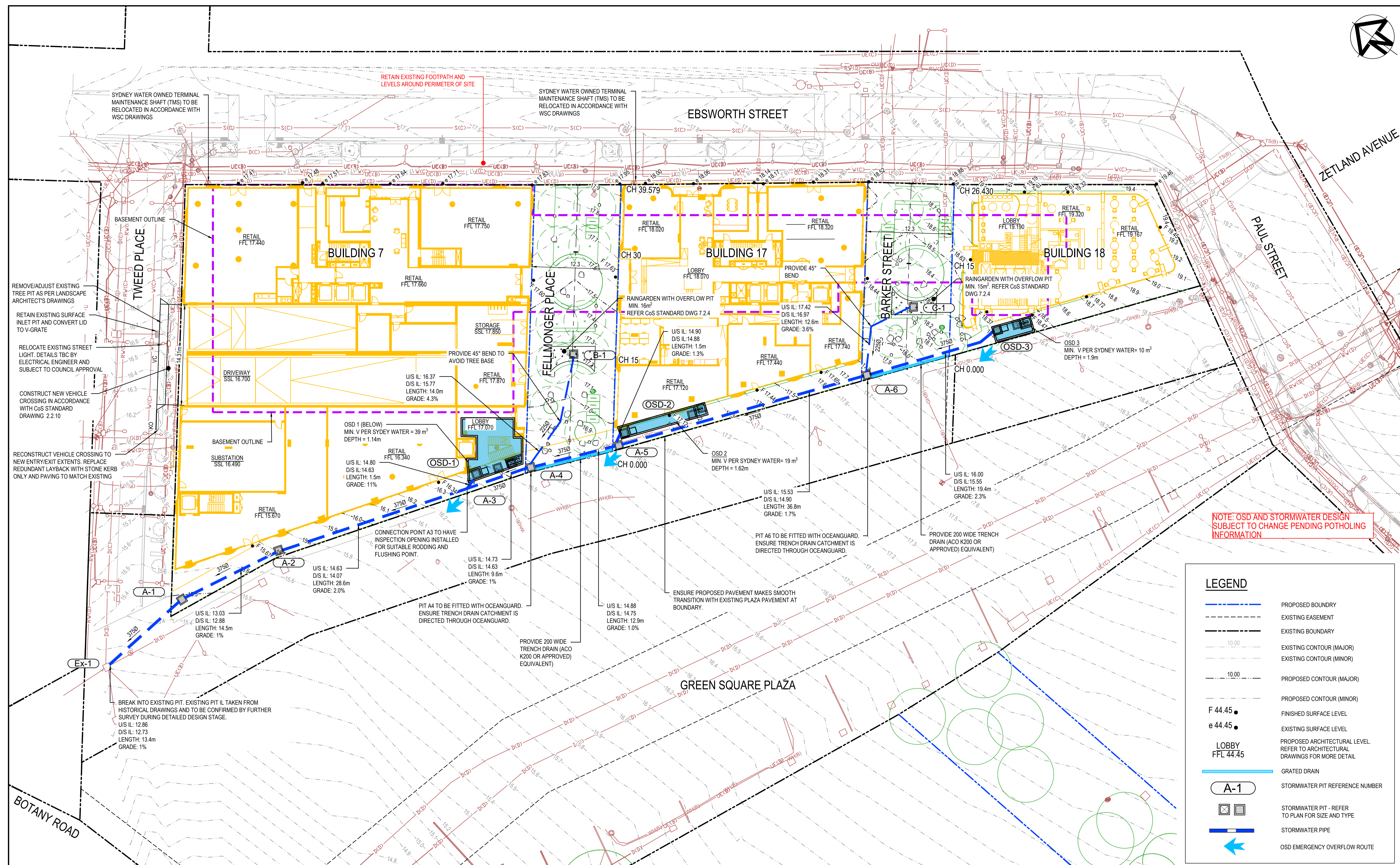
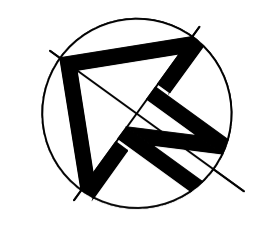
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Height Datum	AHD	Approved	JC

Project	MIRVAC GREEN SQUARE SITES 7, 17 & 18 CIVIL WORKS SSDA 2
Title	GENERAL ARRANGEMENT PLAN

Civil Engineers and Project Managers

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P 02 9439 1777
E info@at.net.au
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ABN 96 130 882 405

Status	FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION	A1
Project - Drawing No.	DA-2-8205	Issue
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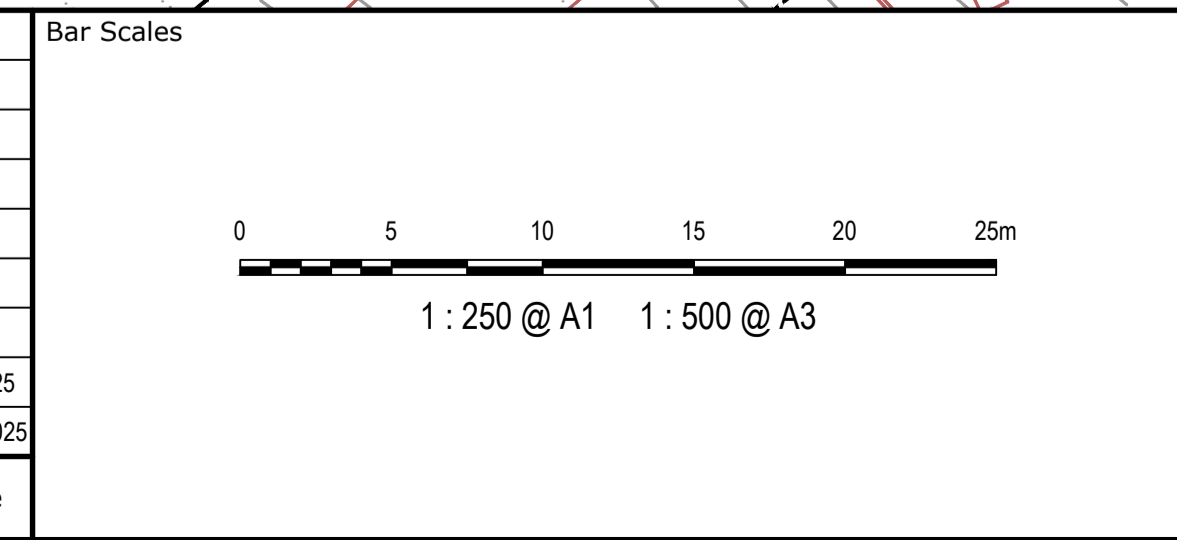


NOTE: OSD AND STORMWATER DESIGN SUBJECT TO CHANGE PENDING POTHOLING INFORMATION

LEGEND

- PROPOSED BOUNDARY
- EXISTING EASEMENT
- EXISTING BOUNDARY
- EXISTING CONTOUR (MAJOR)
- EXISTING CONTOUR (MINOR)
- PROPOSED CONTOUR (MAJOR)
- PROPOSED CONTOUR (MINOR)
- F 44.45 FINISHED SURFACE LEVEL
- e 44.45 EXISTING SURFACE LEVEL
- LOBBY FFL 44.45 PROPOSED ARCHITECTURAL LEVEL. REFER TO ARCHITECTURAL DRAWINGS FOR MORE DETAIL
- GRATED DRAIN
- STORMWATER PIT REFERENCE NUMBER
- STORMWATER PIT - REFER TO PLAN FOR SIZE AND TYPE
- STORMWATER PIPE
- OSD EMERGENCY OVERFLOW ROUTE

Issue	Description	Date
A	ISSUED FOR SSDA 2	12-12-25
P1	ISSUED FOR INFORMATION	14-11-2025



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Height Datum	AHD
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Approved	JC

Project **MIRVAC GREEN SQUARE SITES 7, 17 & 18 CIVIL WORKS SSDA 2**

Title **SITWORKS AND STORMWATER DRAINAGE PLAN**

Civil Engineers and Project Managers

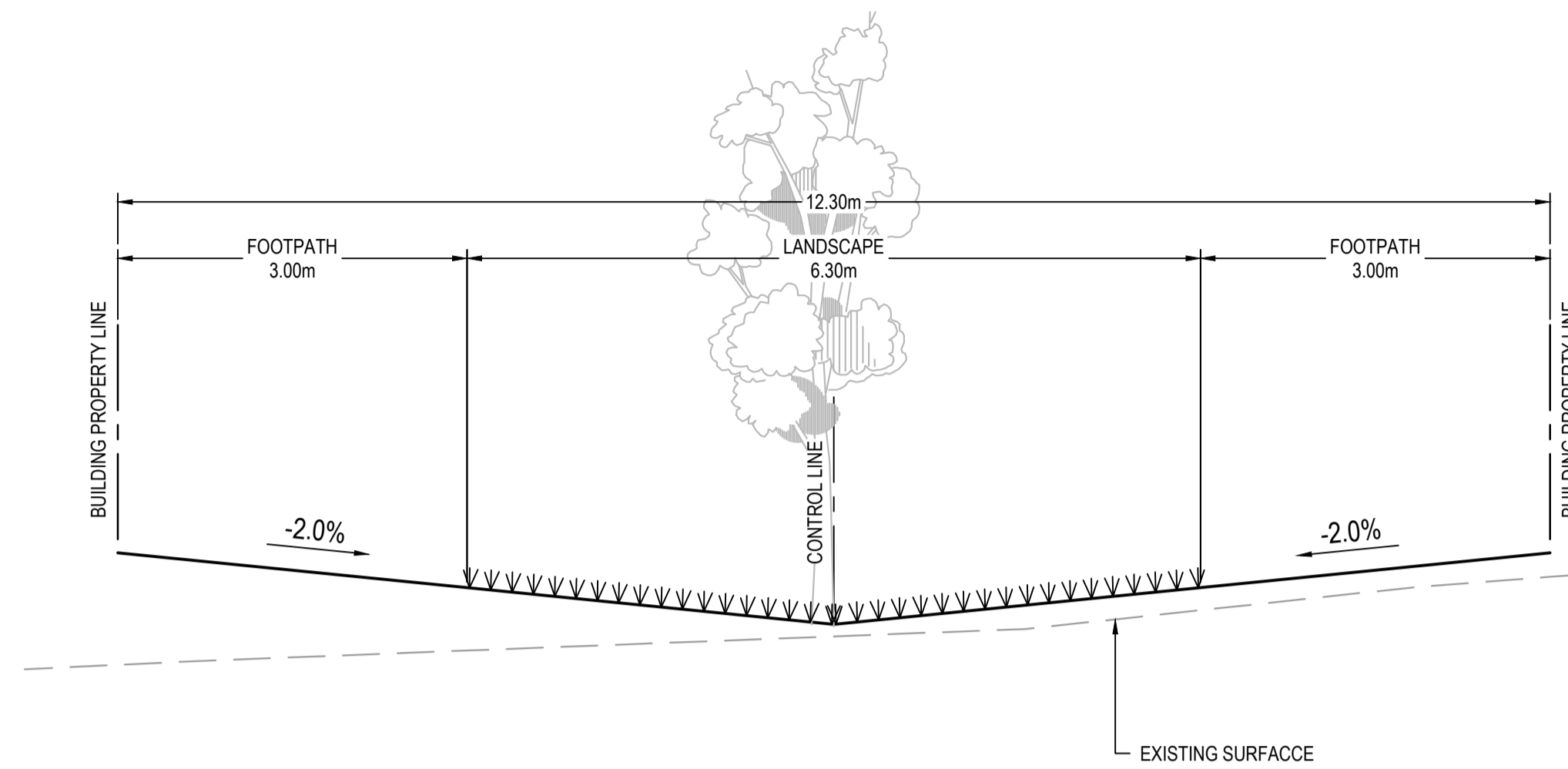
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ABN 96 130 882 405

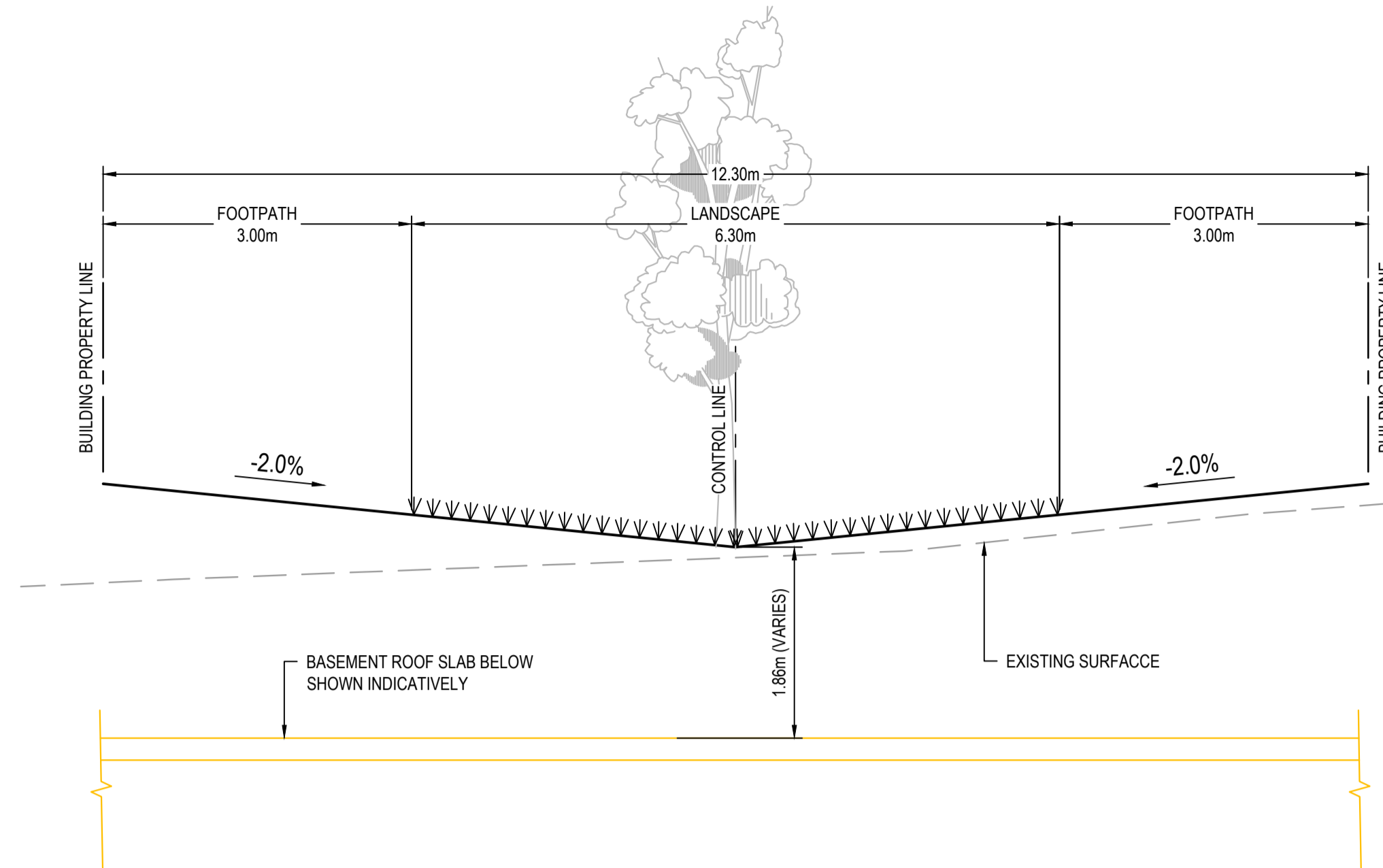
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NOT TO BE USED FOR CONSTRUCTION

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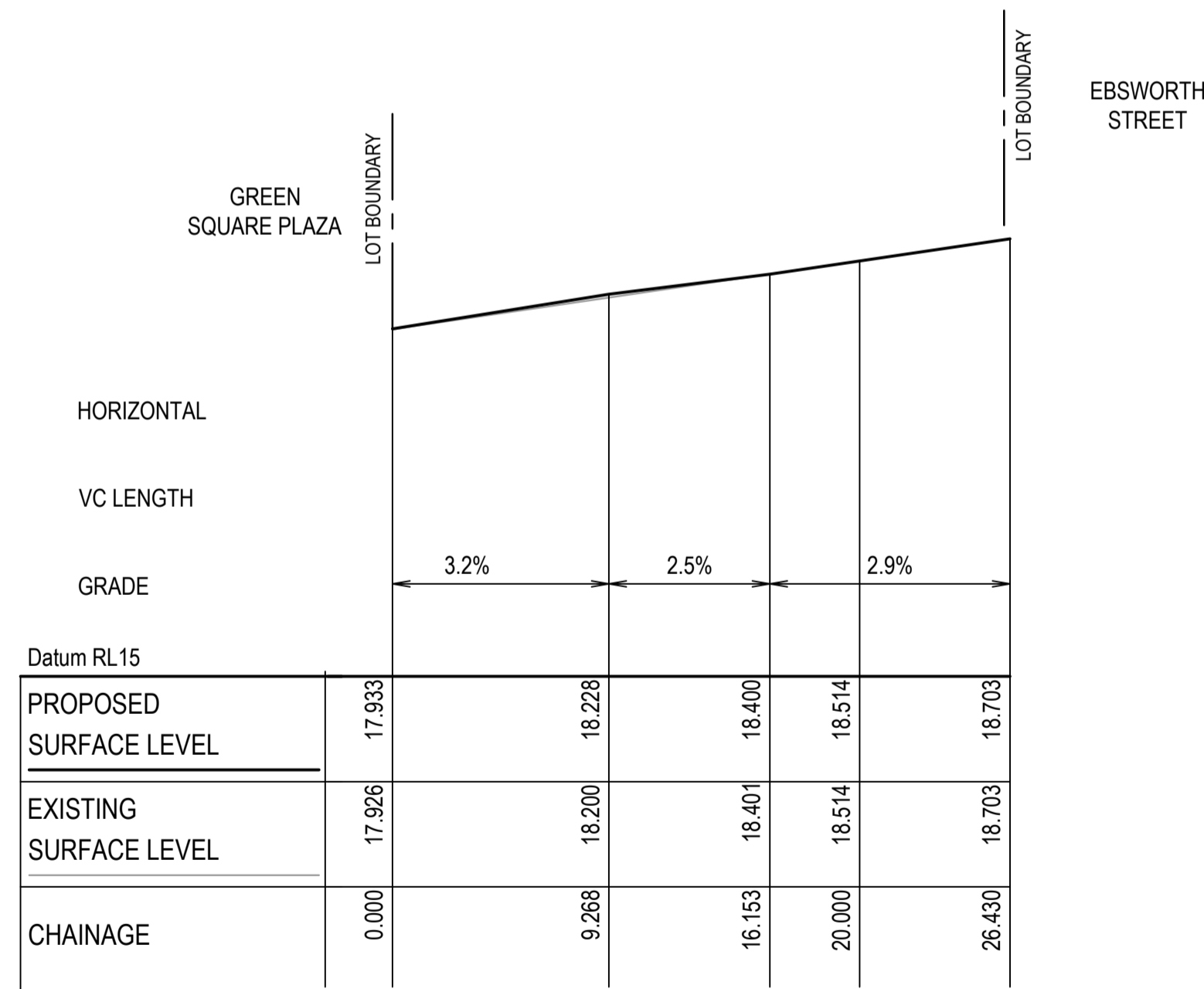
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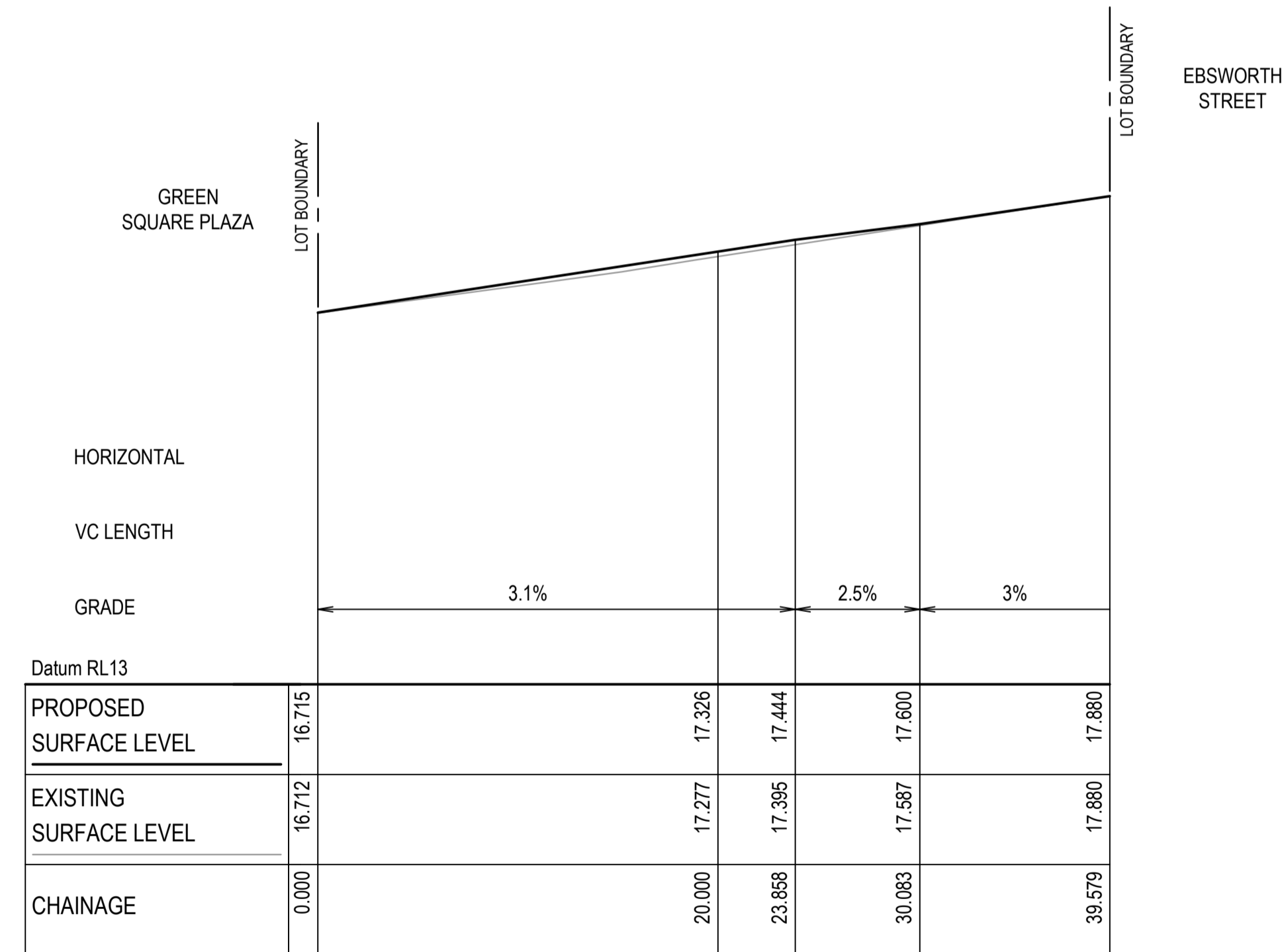
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TYPICAL SECTION
 SCALE 1:50



BARKER STREET/FELLMONGER PLACE (OVER BASEMENT)
TYPICAL SECTION
 SCALE 1:50

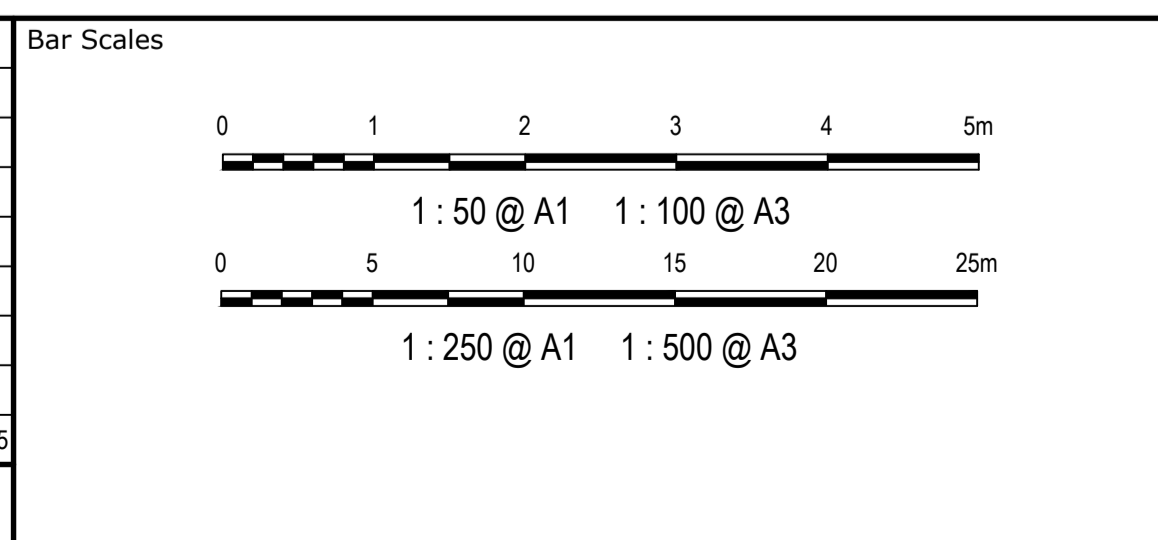


BARKER STREET LONGITUDINAL SECTION
 SCALE 1:250 HORI.
 1:50 VERT.



FELLMONGER PLACE LONGITUDINAL SECTION
 SCALE 1:250 HORI.
 1:50 VERT.

Issue	Description	Date
A	ISSUED FOR SSDA 2	12-12-25
P1	ISSUED FOR INFORMATION	14-11-2025



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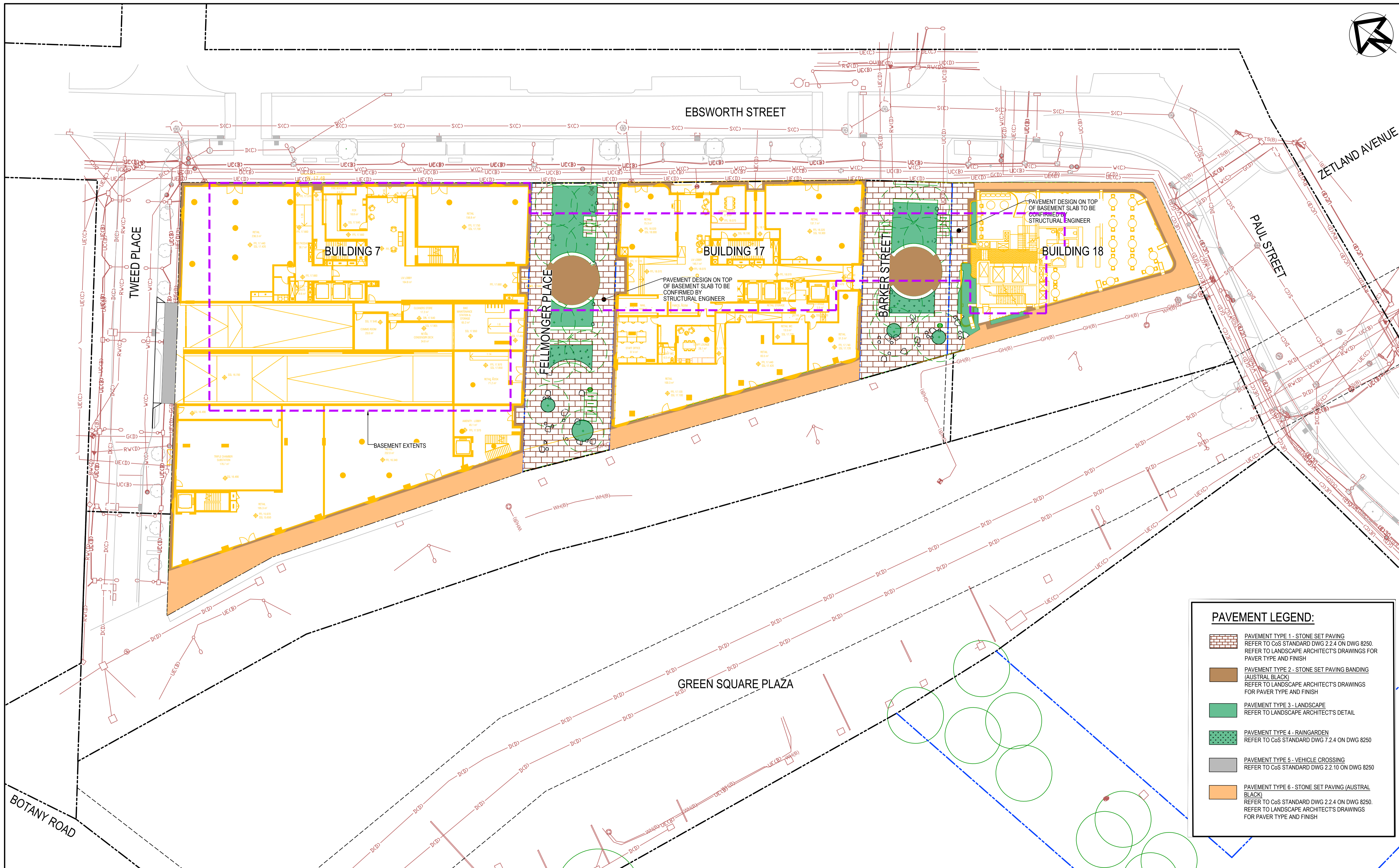
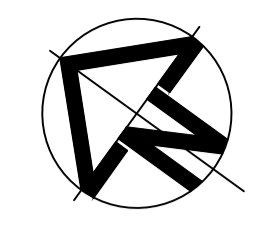
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	Grid GDA20 MGA56	Designed JT	
	Height Datum AHD	Checked SM	
		Approved JC	

Title
ROAD LONGITUDINAL SECTIONS

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 ABN 96 130 882 405

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Status	FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION	A1
Project - Drawing No.	DA-2-8220	Issue
		A



PAVEMENT LEGEND:	
	PAVEMENT TYPE 1 - STONE SET PAVING REFER TO CoS STANDARD DWG 2.2.4 ON DWG 8250. REFER TO LANDSCAPE ARCHITECT'S DRAWINGS FOR PAVEMENT TYPE AND FINISH
	PAVEMENT TYPE 2 - STONE SET PAVING BANDING (AUSTRAL BLACK) REFER TO LANDSCAPE ARCHITECT'S DRAWINGS FOR PAVEMENT TYPE AND FINISH
	PAVEMENT TYPE 3 - LANDSCAPE REFER TO LANDSCAPE ARCHITECT'S DETAIL
	PAVEMENT TYPE 4 - RAINGARDEN REFER TO CoS STANDARD DWG 7.2.4 ON DWG 8250
	PAVEMENT TYPE 5 - VEHICLE CROSSING REFER TO CoS STANDARD DWG 2.2.10 ON DWG 8250
	PAVEMENT TYPE 6 - STONE SET PAVING (AUSTRAL BLACK) REFER TO CoS STANDARD DWG 2.2.4 ON DWG 8250. REFER TO LANDSCAPE ARCHITECT'S DRAWINGS FOR PAVEMENT TYPE AND FINISH

Issue	Description	Date
A	ISSUED FOR SSDA 2	12-12-25
P1	ISSUED FOR INFORMATION	14-11-2025

Bar Scales

1 : 250 @ A1 1 : 500 @ A3

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Client		
Scales	AS SHOWN	Drawn JT
Grid	GDA20 MGA56	Designed JT
Height Datum	AHD	Checked SM
		Approved JC

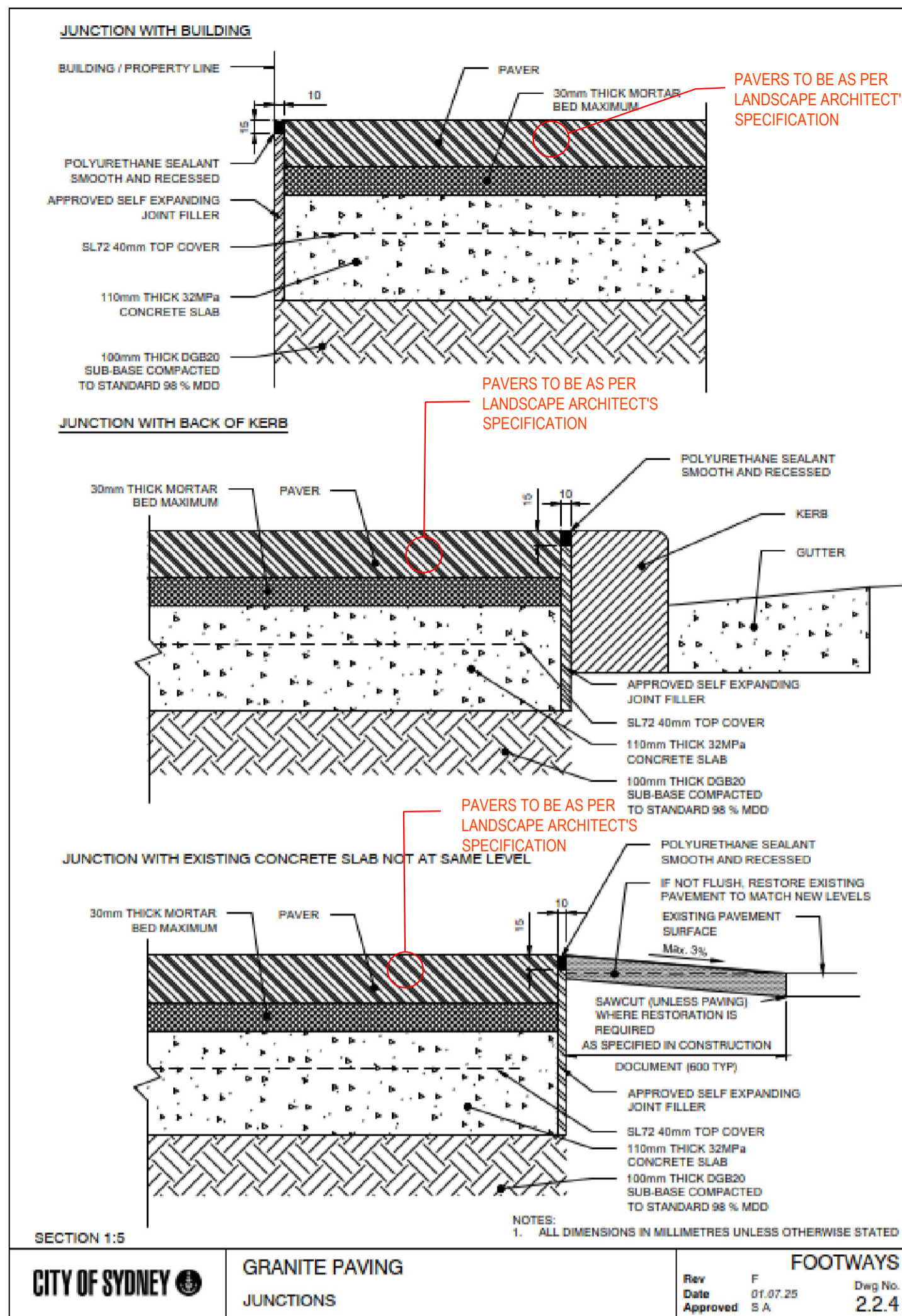
Project	MIRVAC GREEN SQUARE SITES 7, 17 & 18 CIVIL WORKS SSDA 2
Title	PAVEMENT PLAN

Civil Engineers and Project Managers

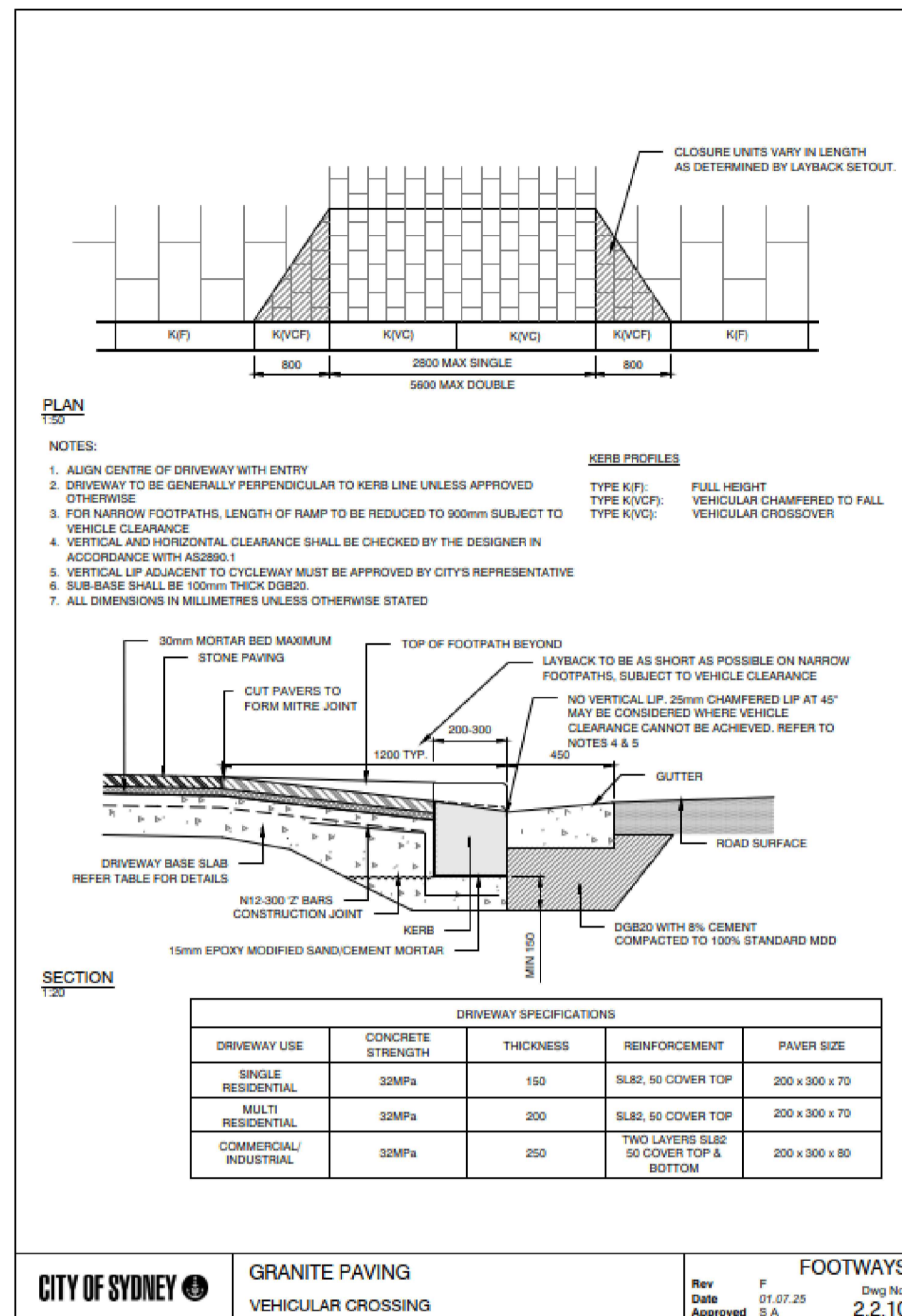
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ABN 96 130 882 405

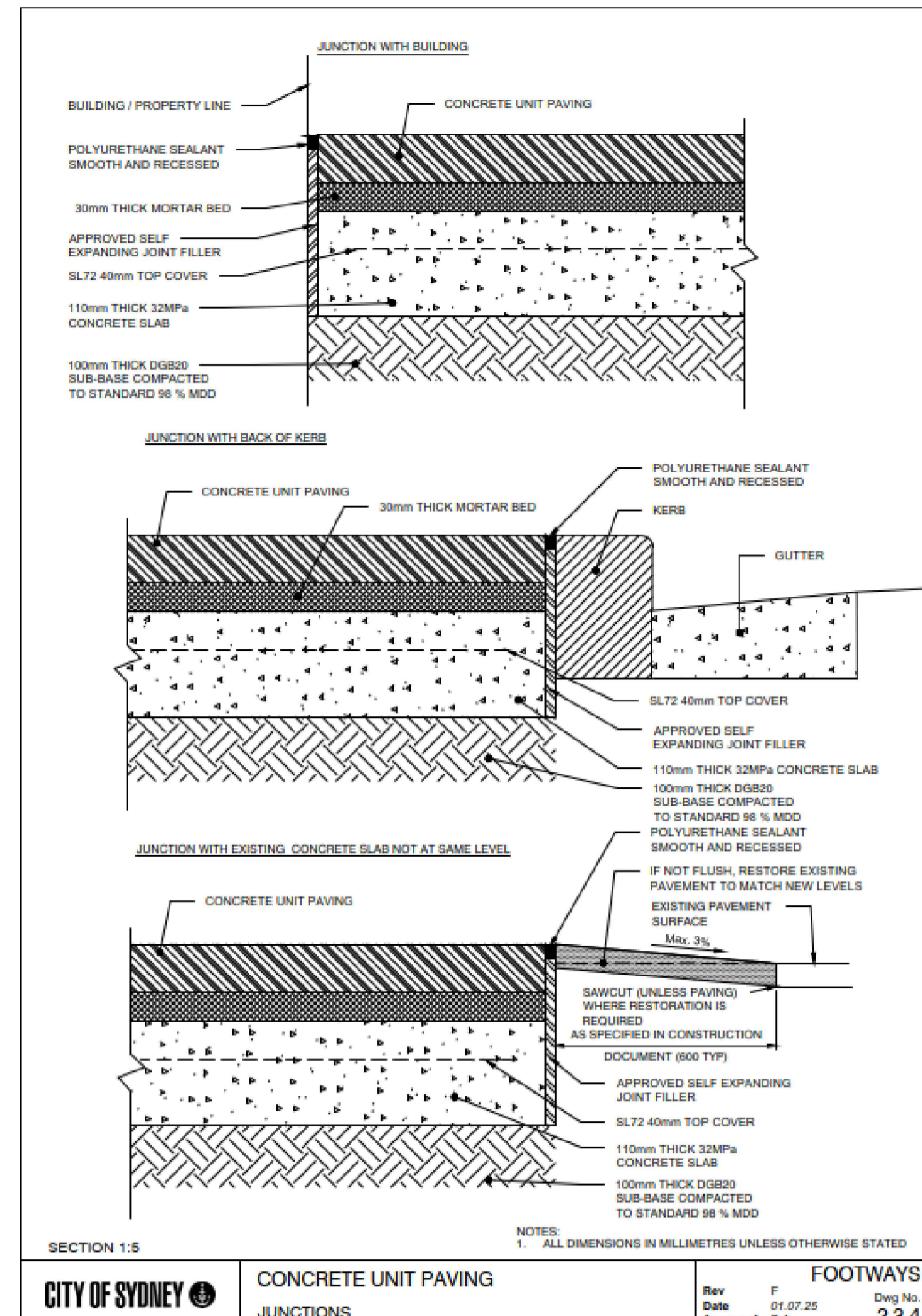
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Project - Drawing No.	DA-2-8230	Issue
		A



CITY OF SYDNEY	GRANITE PAVING	Rev F Date 01.07.25 Approved S.A.	FOOTWAYS Dwg No. 2.2.4
	JUNCTIONS		

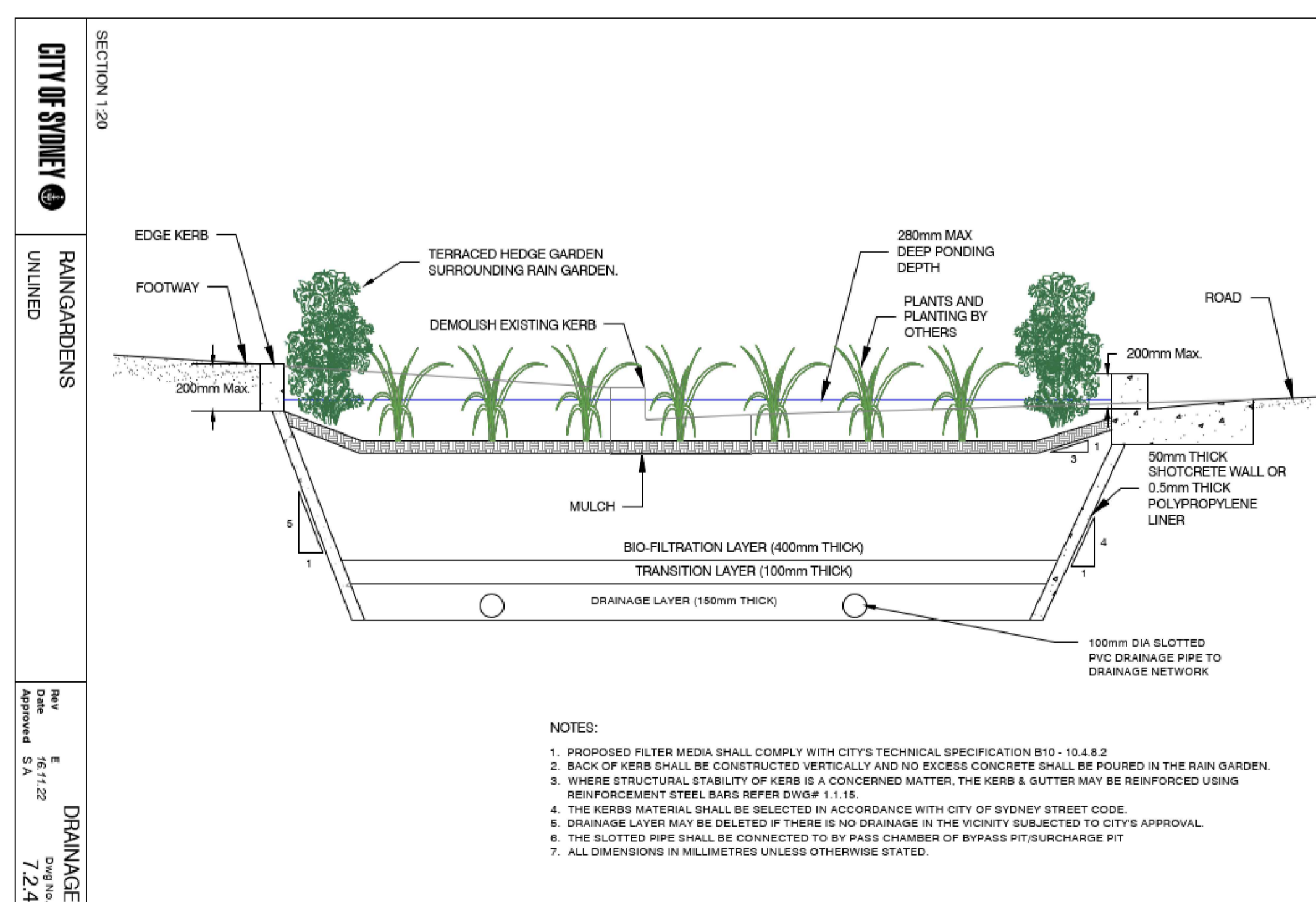


CITY OF SYDNEY	GRANITE PAVING	Rev F Date 01.07.25 Approved S.A.	FOOTWAYS Dwg No. 2.2.10
	VEHICULAR CROSSING		



CITY OF SYDNEY	CONCRETE UNIT PAVING	Rev F Date 01.07.25 Approved S.A.	FOOTWAYS Dwg No. 2.3.4
	JUNCTIONS		

NOTE: PAVEMENT DESIGN TO BE CONFIRMED PENDING GEOTECHNICAL ADVICE ON CBR VALUES



CITY OF SYDNEY	RAIN GARDENS	Rev F Date 01.07.25 Approved S.A.	DRAINAGE Dwg No. 7.2.4
	UNLINED		

Issue	Description	Date
A	ISSUED FOR SSDA 2	12-12-25
P1	ISSUED FOR INFORMATION	14-11-2025

Bar Scales

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Client

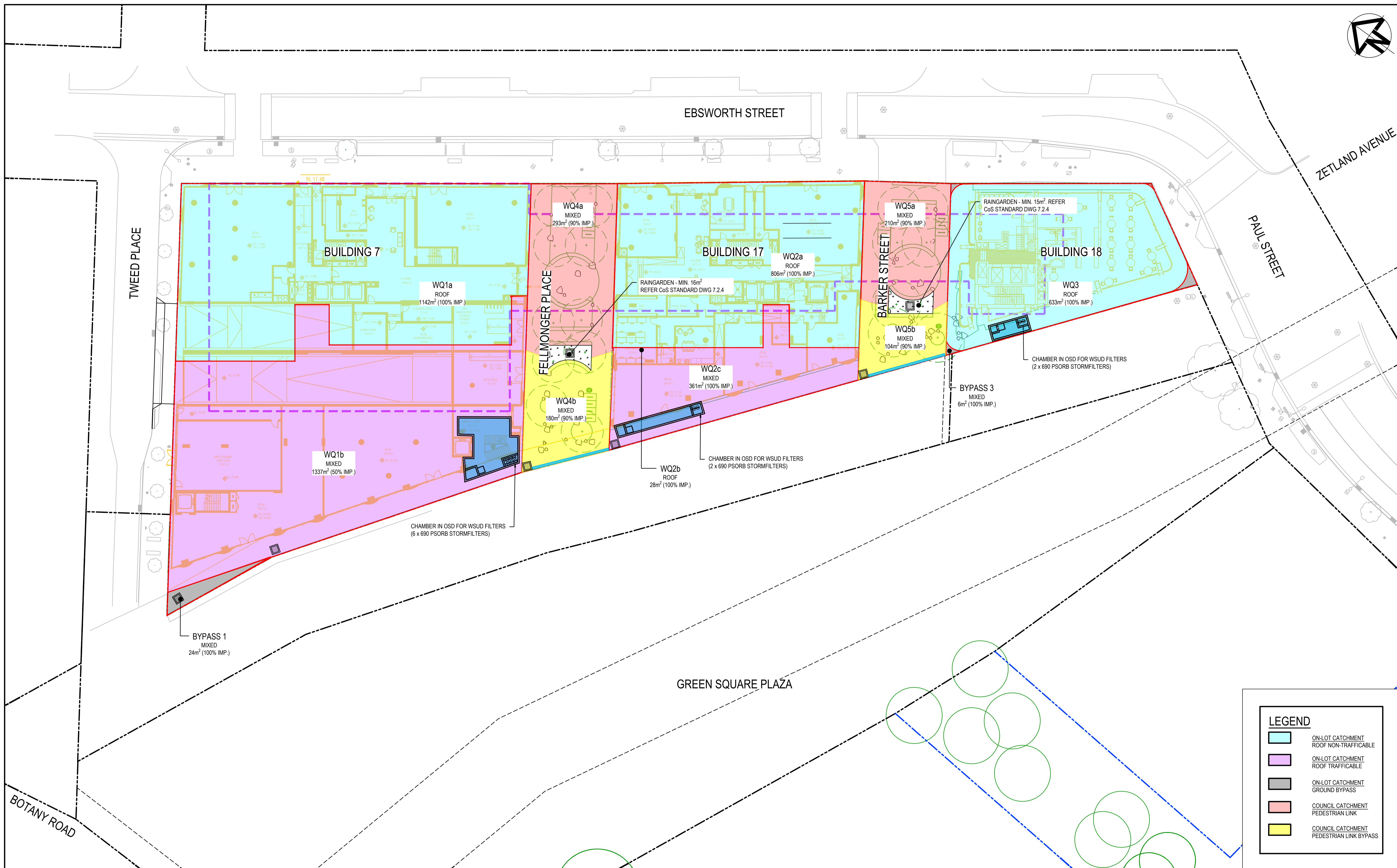
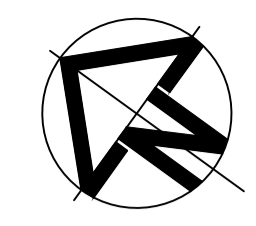
Scales	NTS	Drawn	JT
Grid	GDA20 MGA56	Designed	JT
Height Datum	AHD	Checked	SM
		Approved	JC

Project	MIRVAC GREEN SQUARE SITES 7, 17 & 18 CIVIL WORKS SSDA 2
Title	SITWORKS AND STORMWATER DETAILS

Status	FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION	Issue	A1
Project - Drawing No.	DA-2-8240	Issue	A

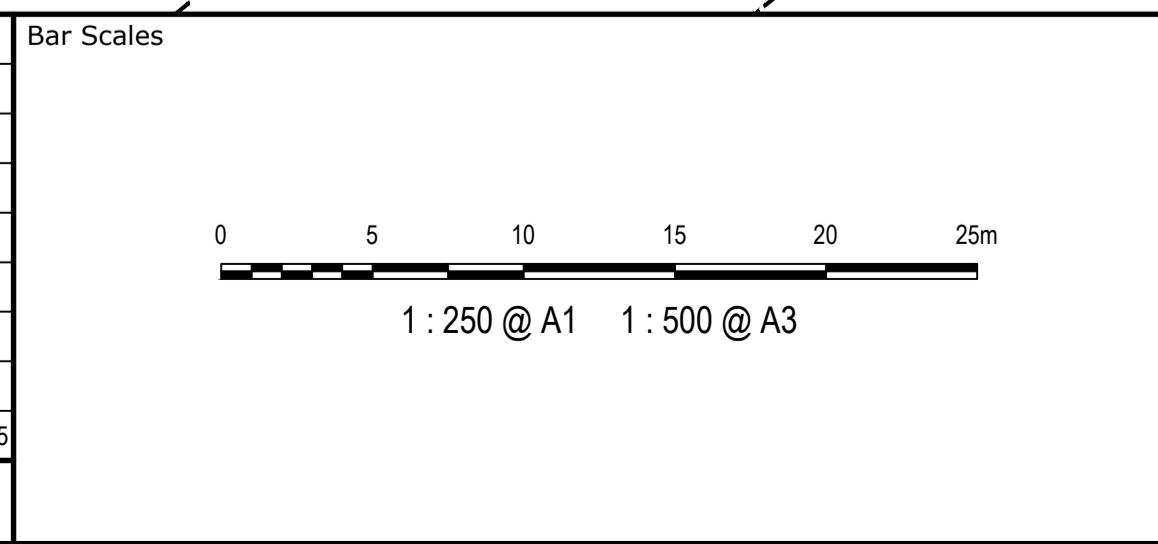
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LEGEND	
	ON-LOT CATCHMENT ROOF NON-TRAFFICABLE
	ON-LOT CATCHMENT ROOF TRAFFICABLE
	ON-LOT CATCHMENT GROUND BYPASS
	COUNCIL CATCHMENT PEDESTRIAN LINK
	COUNCIL CATCHMENT PEDESTRIAN LINK BYPASS

Issue	Description	Date
A	ISSUED FOR SSDA 2	12-12-25
P1	ISSUED FOR INFORMATION	14-11-2025



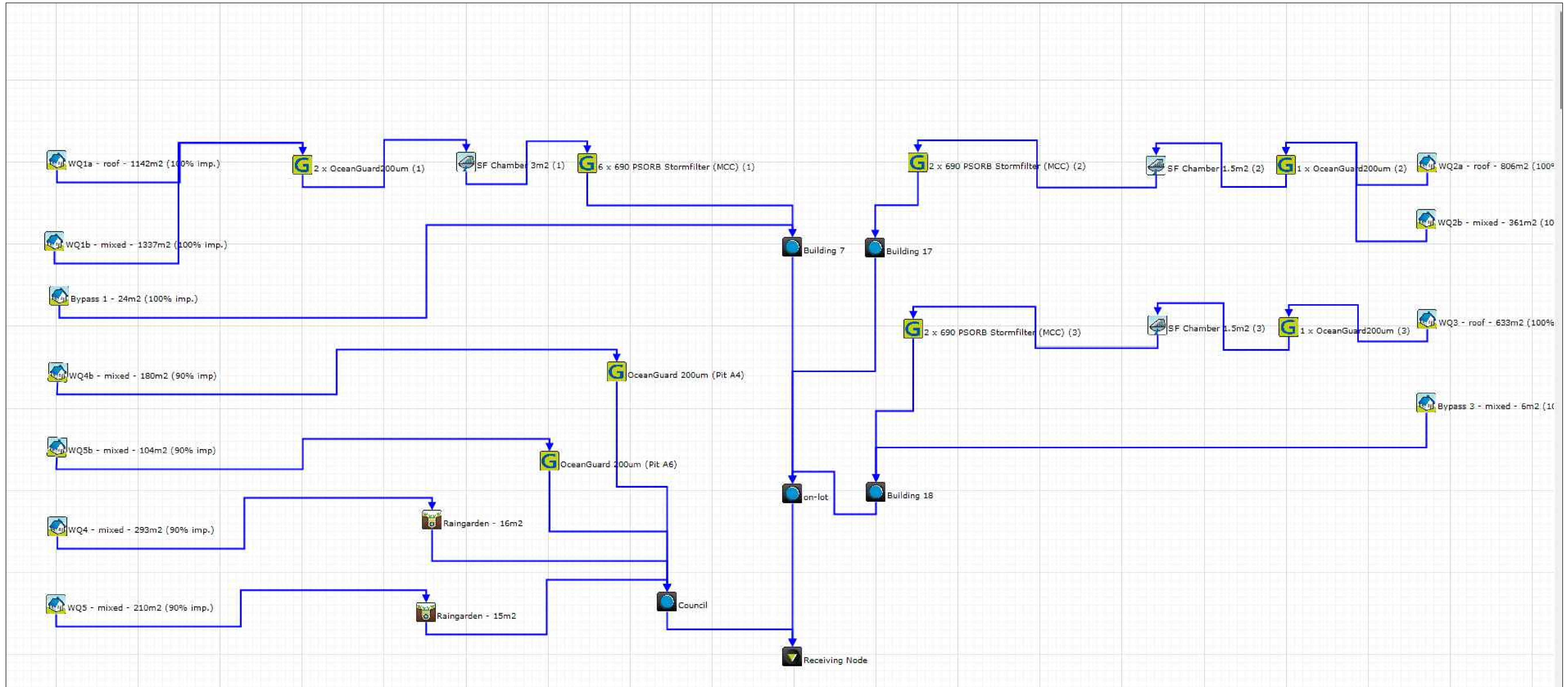
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Client		
Scales	1 : 250	Drawn CK
Grid	GDA20 MGA56	Designed CK
Height Datum	AHD	Checked SM
		Approved JC

Project	MIRVAC GREEN SQUARE SITES 7, 17 & 18 CIVIL WORKS SSDA 2
Title	STORMWATER DRAINAGE WSUD CATCHMENT PLAN

Civil Engineers and Project Managers	
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Status	FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION
Project - Drawing No.	DA-2-8250
Issue	A



WSUD LAYOUT
NTS

Treatment Train Effectiveness		Treatment Nodes		Source Nodes	
Node:	Reduction	Node Type	Number	Node Type	Number
Flow	1.042%	Bioretention Nodes	2	Urban_Roof Nodes	3
TSS	89.32%	Sedimentation Basin Nodes	3	Urban_Mixed Nodes	8
TP	69.156%	Generic Treatment Nodes	8		
TN	53.141%				
GP	99.383%				

WSUD RESULTS
NTS

Issue	Description	Date
A	ISSUED FOR SSDA 2	12-12-25
P1	ISSUED FOR INFORMATION	14-11-2025

Bar Scales

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Client	Scales	Drawn	CK
	AS SHOWN	Designed	CK
	Grid GDA20 MGA56	Checked	SM
	Height Datum AHD	Approved	JC

Project MIRVAC GREEN SQUARE SITES 7, 17 & 18 CIVIL WORKS SSDA 2

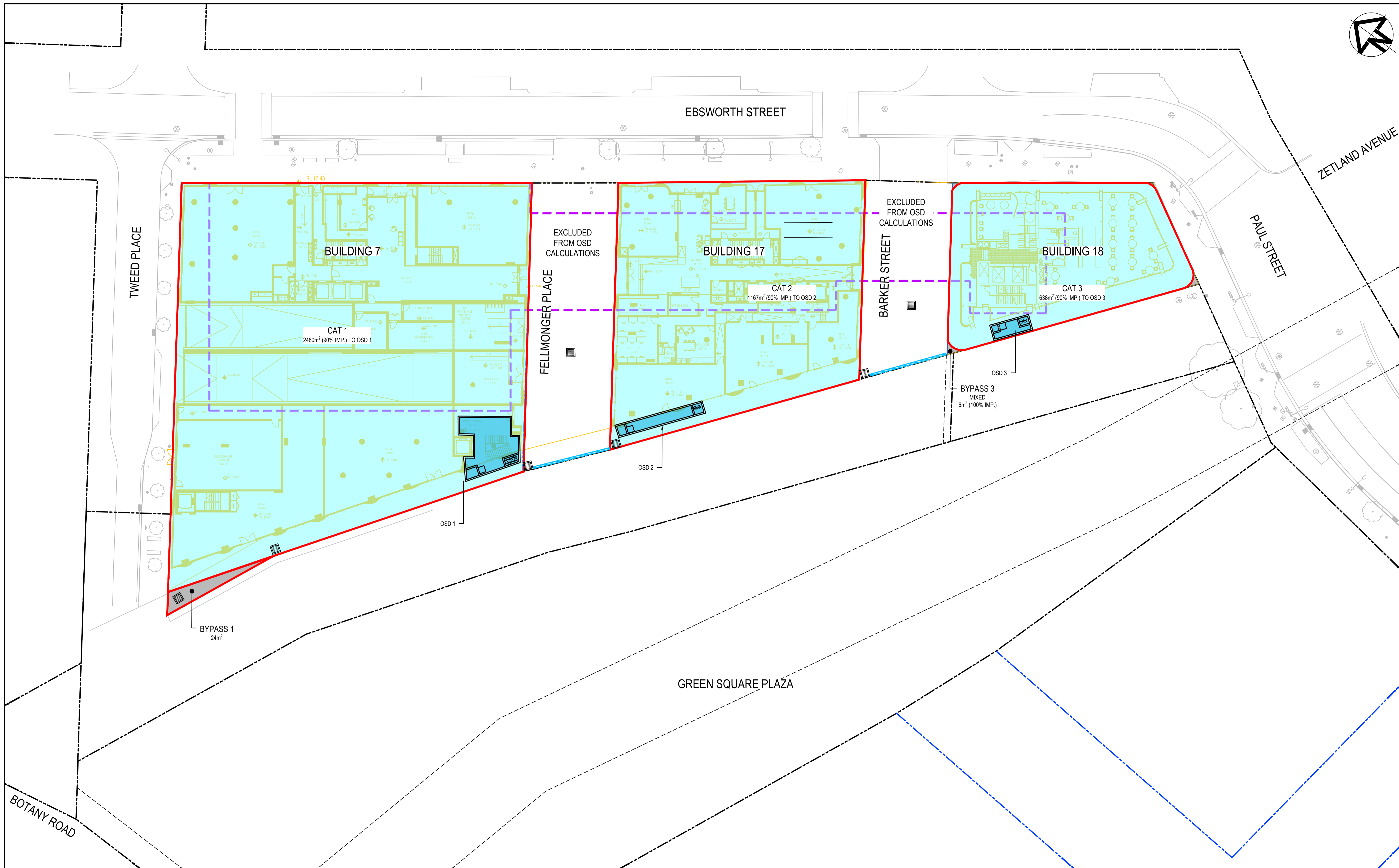
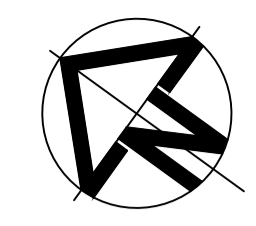
Title STORMWATER DRAINAGE WSUD CALCULATION

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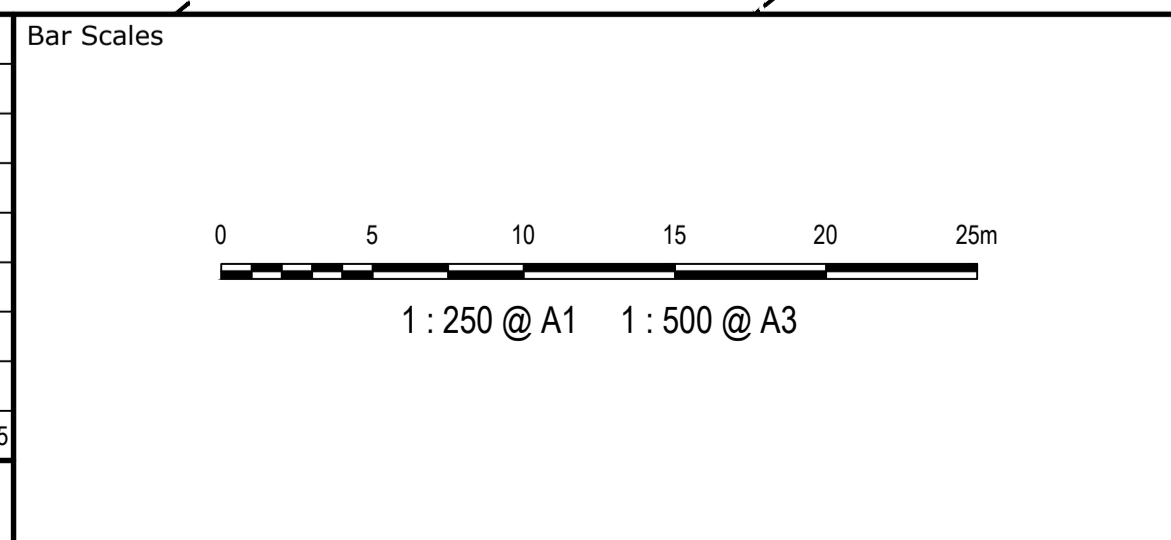
Status FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION

Project - Drawing No. DA-2-8251

Issue A



Issue	Description	Date
A	ISSUED FOR SSDA 2	12-12-25
P1	ISSUED FOR INFORMATION	14-11-2025



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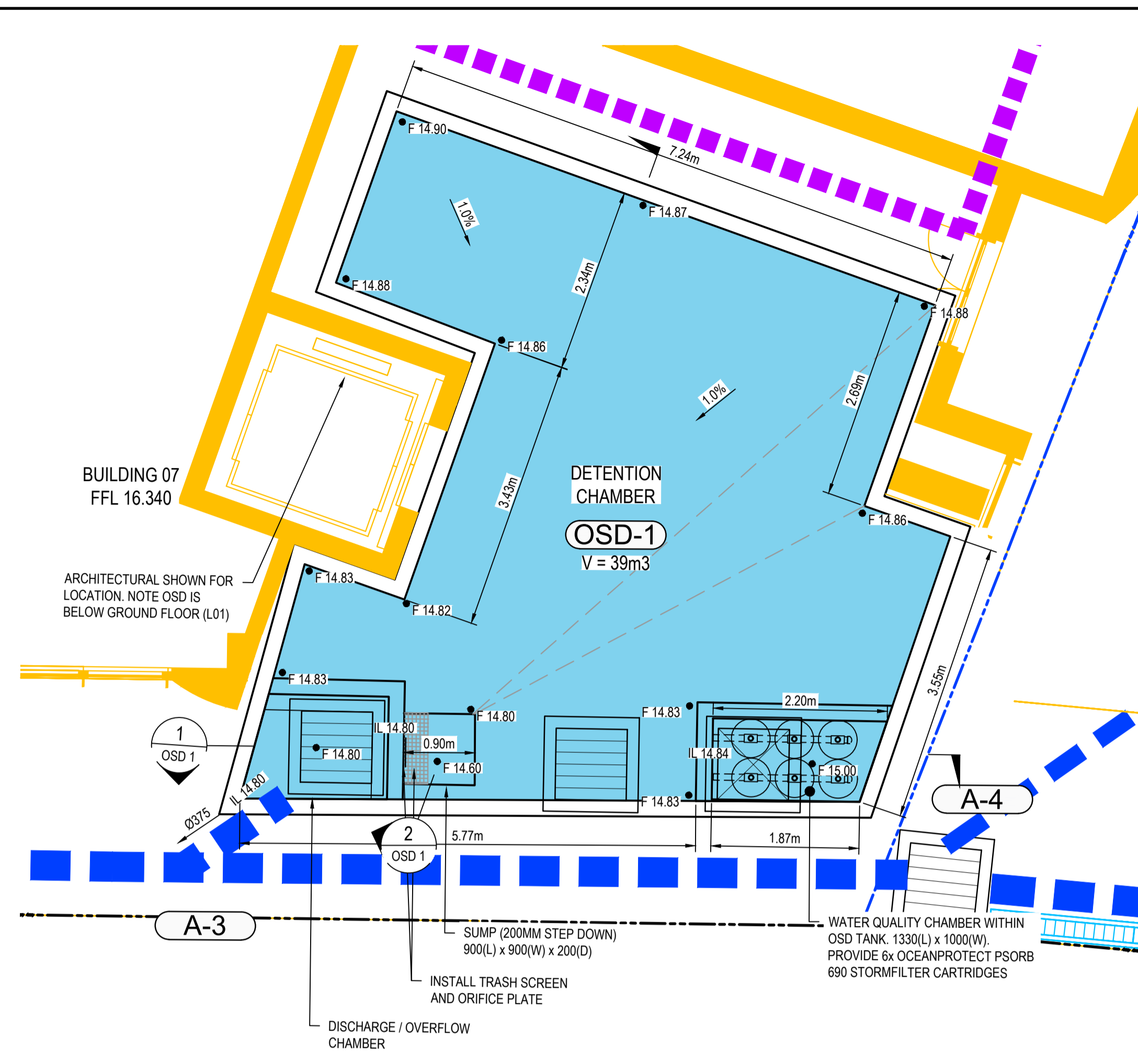


Client		
Scales	1 : 250	Drawn CK
Grid	GDA20 MGA56	Designed CK
Height Datum	AHD	Checked SM
		Approved JC

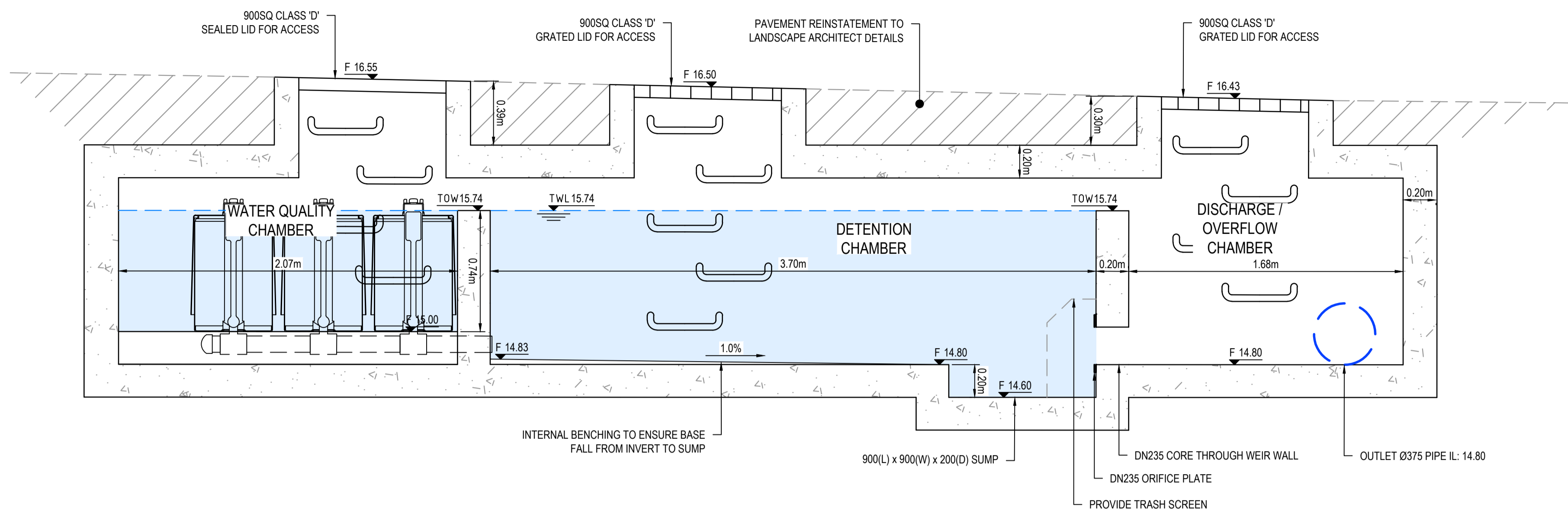
Project	MIRVAC GREEN SQUARE SITES 7, 17 & 18 CIVIL WORKS SSDA 2
Title	STORMWATER DRAINAGE OSD CATCHMENT PLAN

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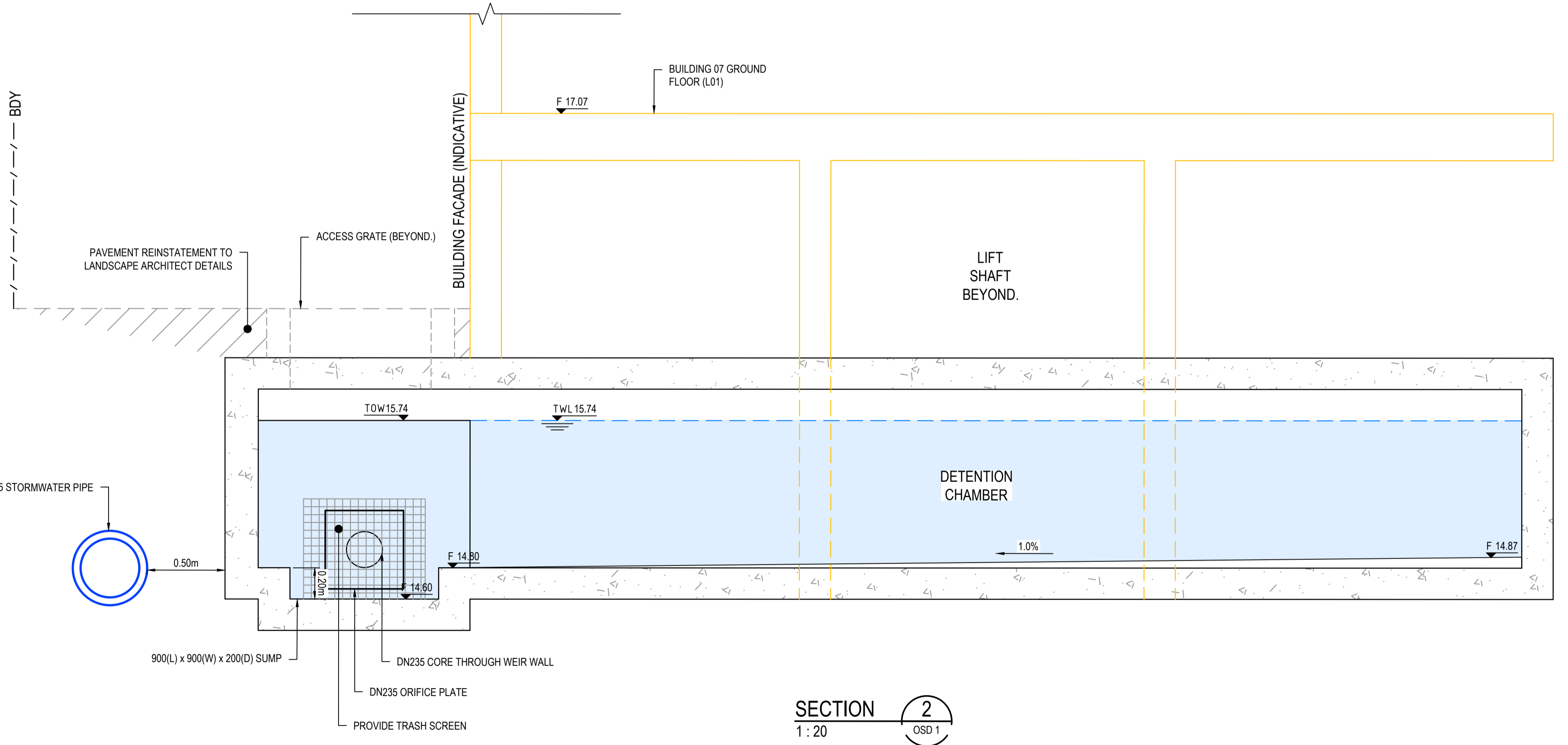
Status	FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION	A1
Project - Drawing No.	DA-2-8255	Issue
		A



OSD 2 PLAN
1:50

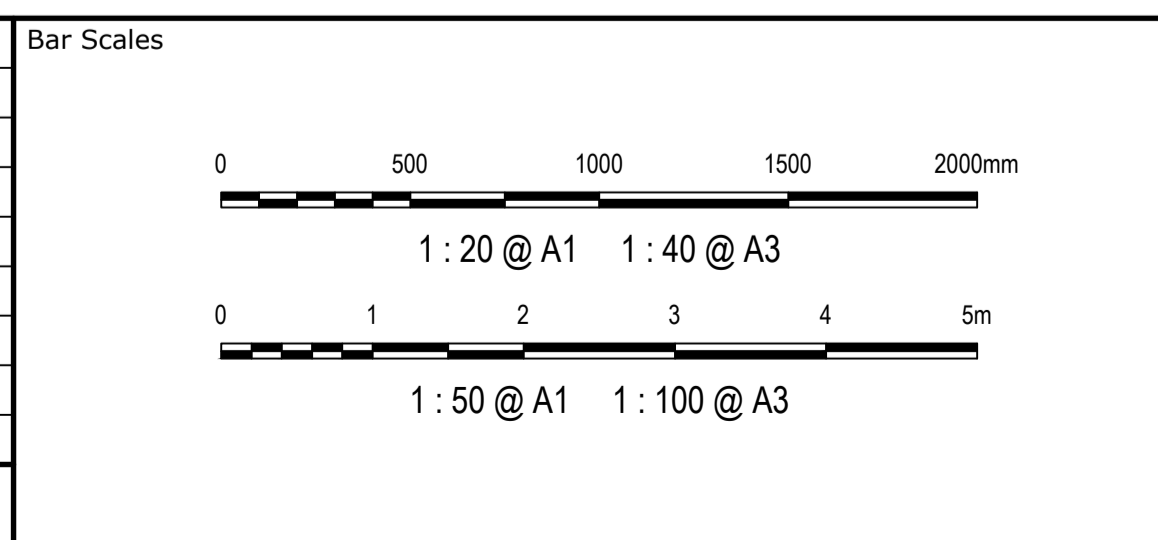


SECTION 1
OSD 1
1:20



SECTION 2
OSD 1
1:20

Issue	Description	Date
A	ISSUED FOR SSSA 2	12-12-25



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Client	Scales		Drawn	LD
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	Grid GDA20 MGA56		Checked	SM
	Height Datum AHD		Approved	JC

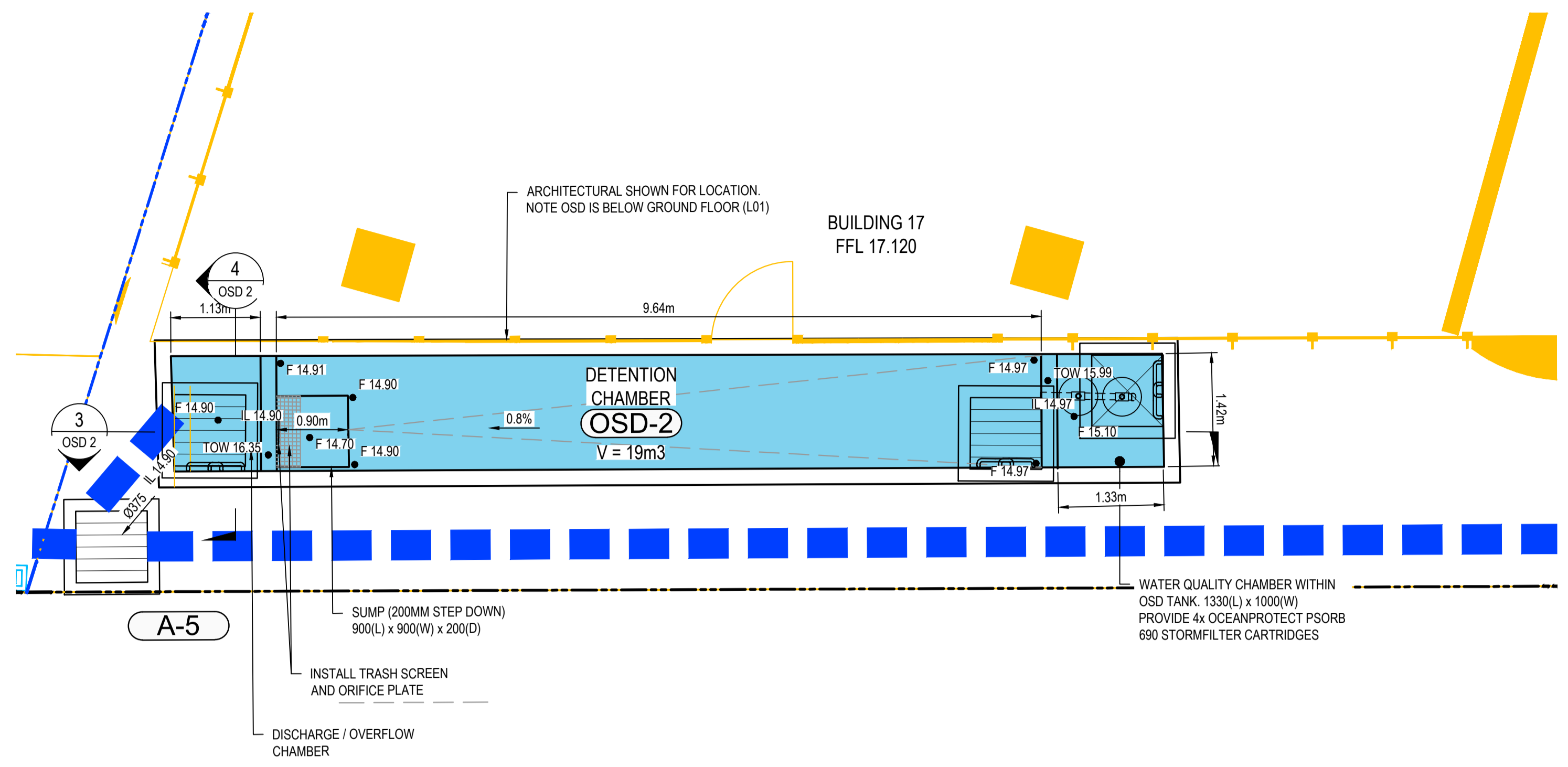
Project	MIRVAC GREEN SQUARE SITES 7, 17 & 18 CIVIL WORKS SSSA 2
Title	STORMWATER DRAINAGE OSD 1 SECTIONS

Civil Engineers and Project Managers

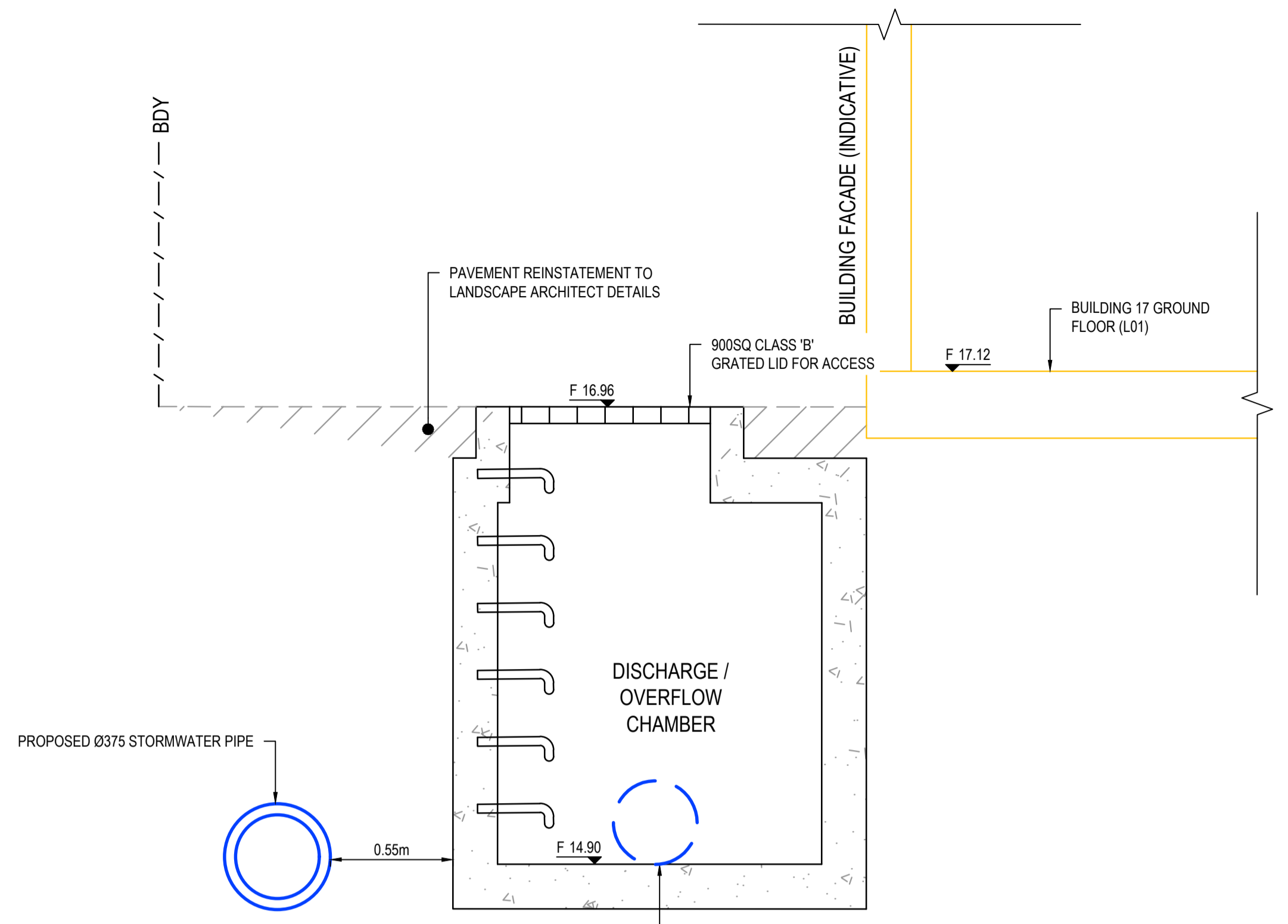
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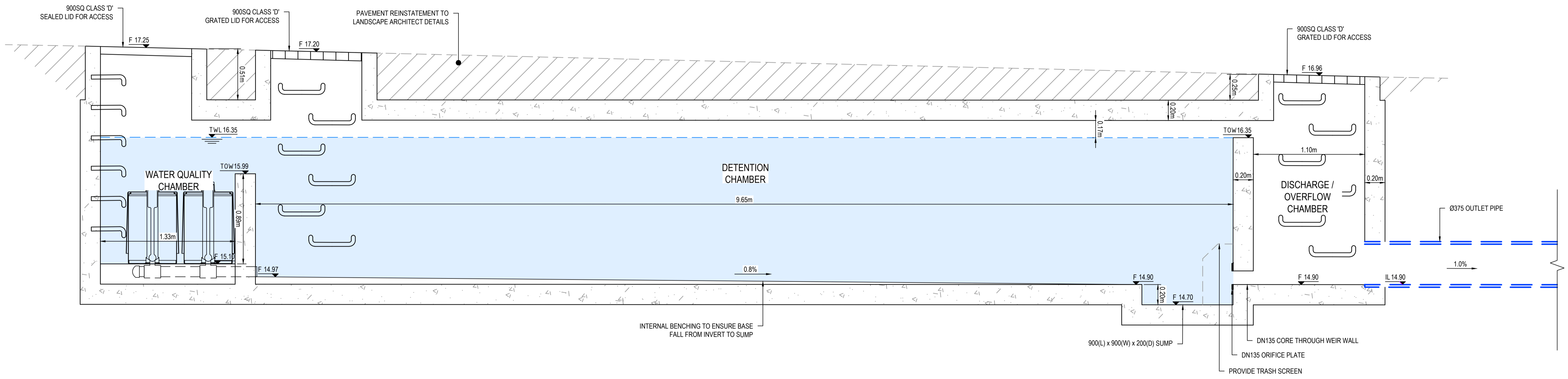
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Project - Drawing No.	DA-2-8260	Issue
		A



OSD 2 PLAN
1:50

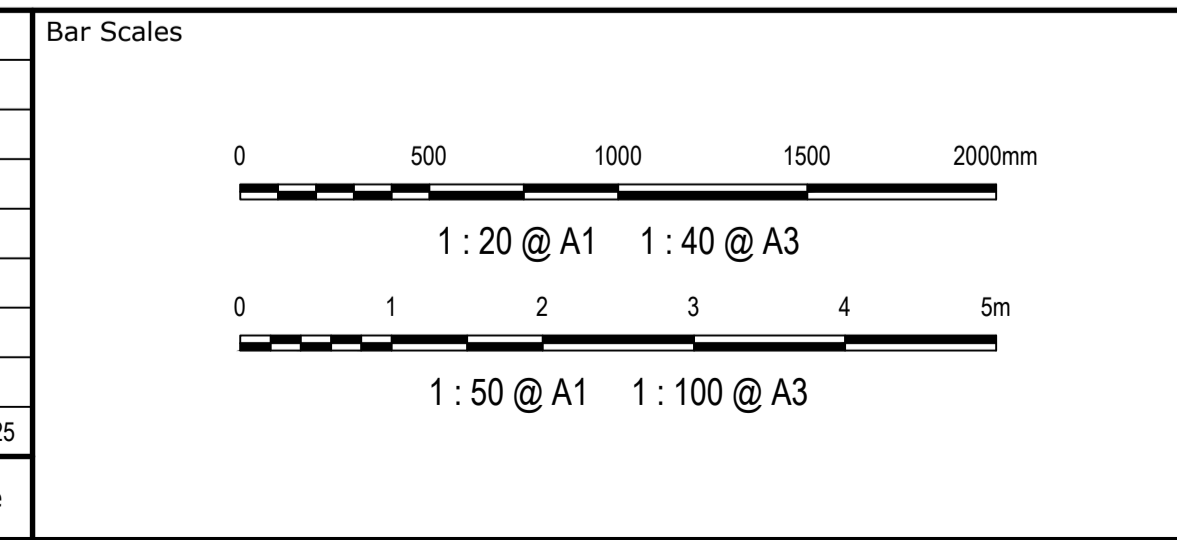


SECTION 4
1:20



SECTION 3
1:20

Issue	Description	Date
A	ISSUED FOR SSSA 2	12-12-25



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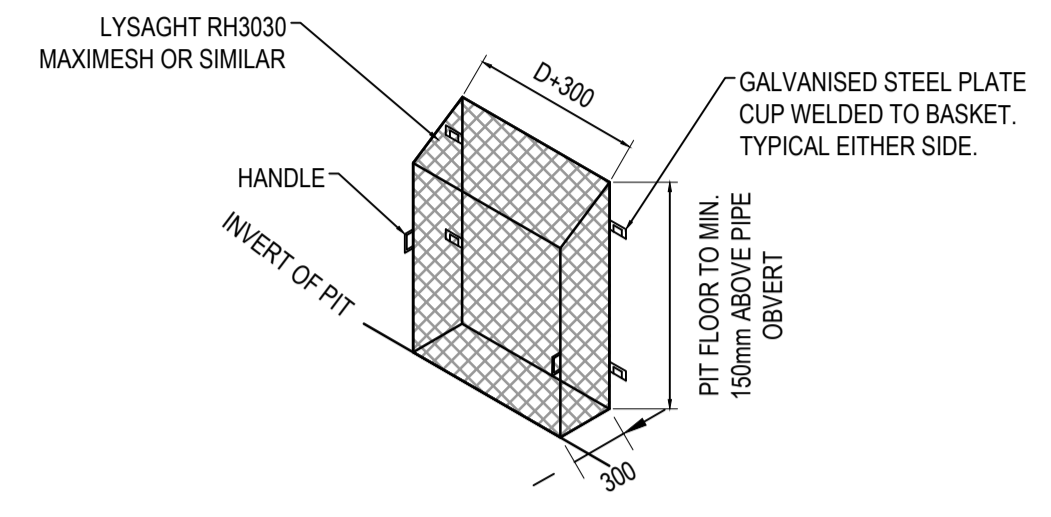
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Grid	GDA20 MGA56	Checked	SM
Height Datum	AHD	Approved	JC

Project	MIRVAC GREEN SQUARE SITES 7, 17 & 18 CIVIL WORKS SSSA 2
Title	STORMWATER DRAINAGE OSD 2 SECTIONS

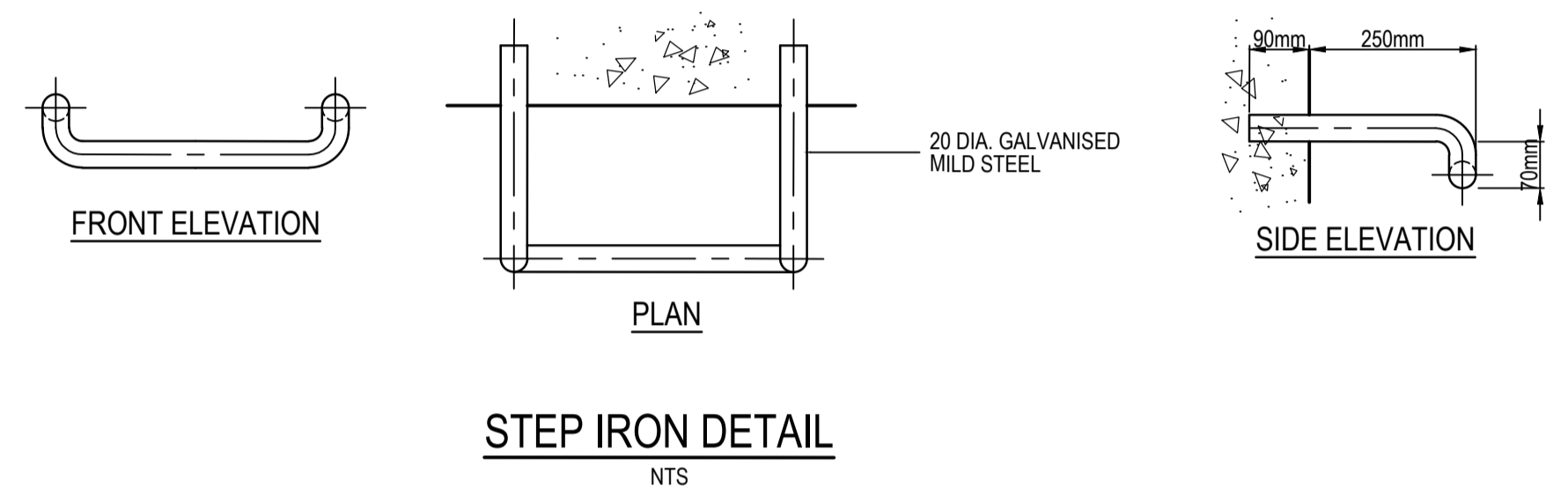
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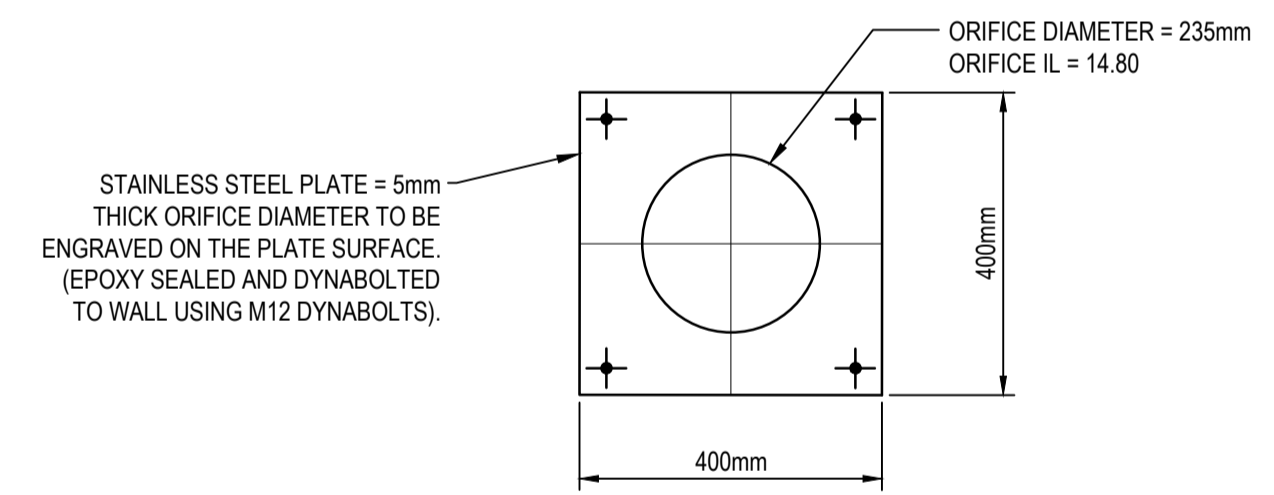
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Project - Drawing No.	DA-2-8261	Issue
		A



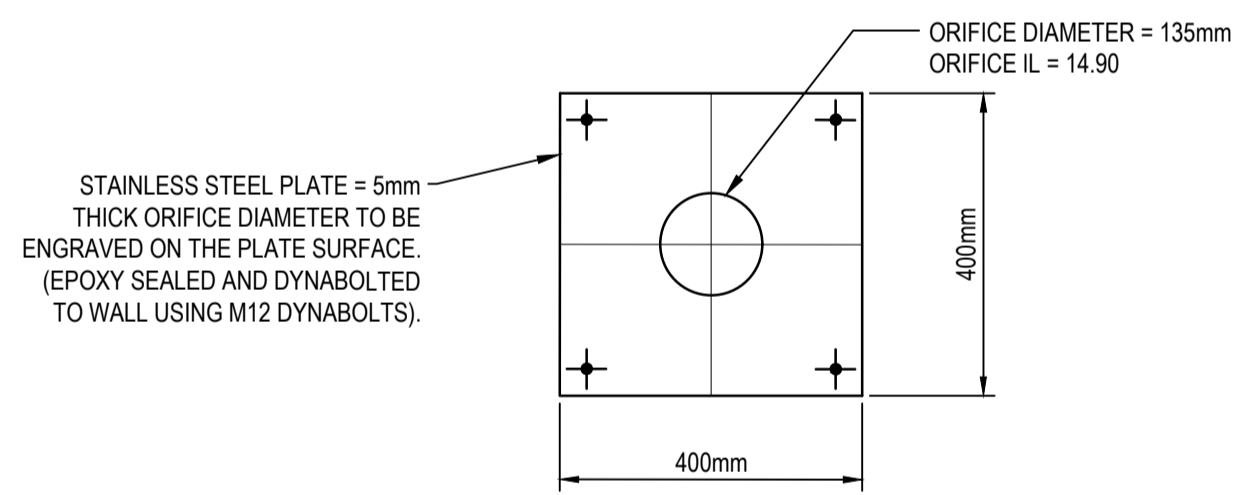
SCREEN MESH DETAILS
NOT TO SCALE



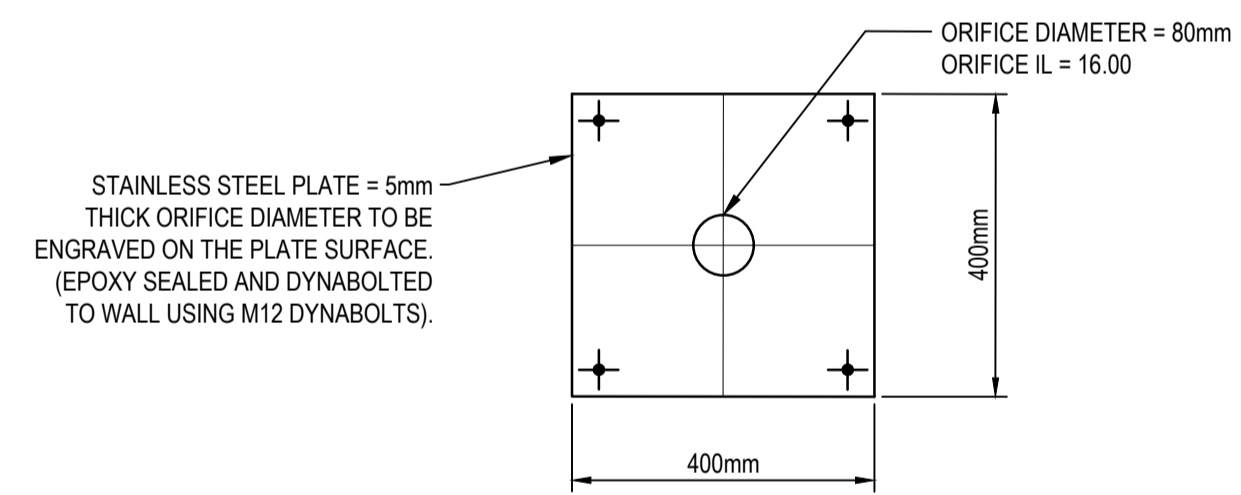
STEP IRON DETAIL
NTS



ORIFICE PLATE DETAIL - OSD 1
1:10

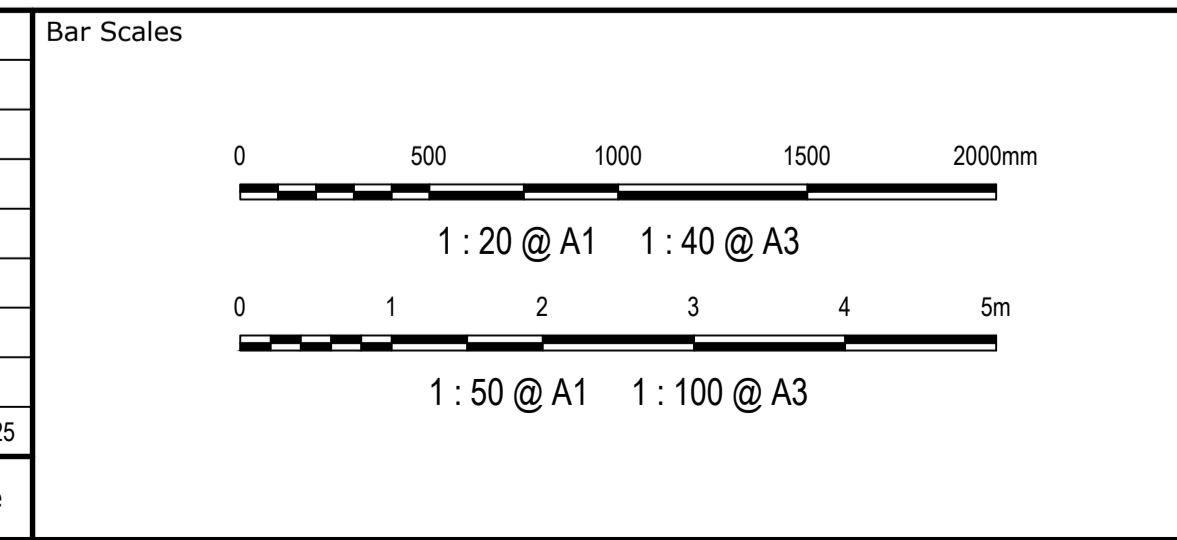


ORIFICE PLATE DETAIL - OSD 2
1:10



ORIFICE PLATE DETAIL - OSD 3
1:10

Issue	Description	Date
A	ISSUED FOR SSDA 2	12-12-25



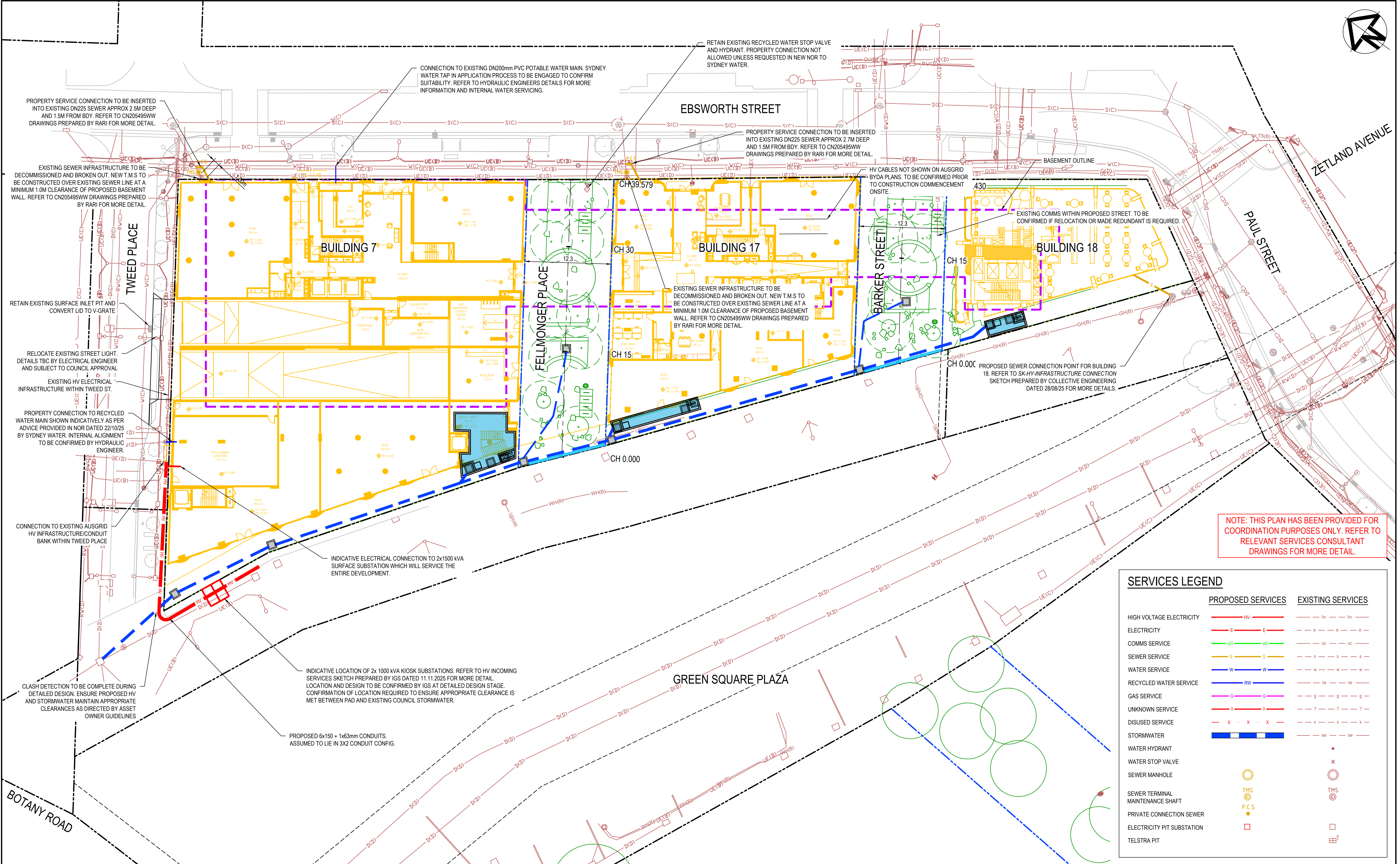
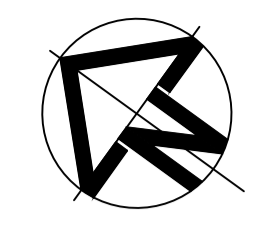
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Scales	1 : 250	Drawn	LD
	Grid GDA20 MGA56	Designed	LD
		Checked	SM
Height Datum	AHD	Approved	JC

Project	MIRVAC GREEN SQUARE SITES 7, 17 & 18 CIVIL WORKS SSDA 2
Title	STORMWATER DRAINAGE OSD DETAILS

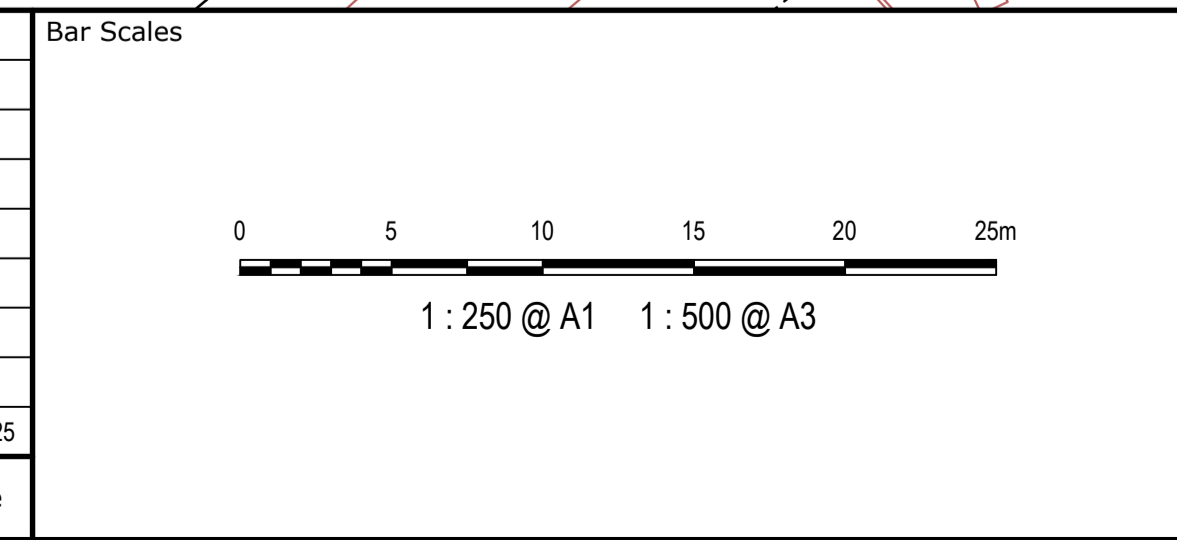
Civil Engineers and Project Managers	
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Status	FOR APPROVAL
NOT TO BE USED FOR CONSTRUCTION	
Project - Drawing No.	DA-2-8263
Issue	A



NOTE: THIS PLAN HAS BEEN PROVIDED FOR COORDINATION PURPOSES ONLY. REFER TO RELEVANT SERVICES CONSULTANT DRAWINGS FOR MORE DETAIL.

SERVICES LEGEND	
PROPOSED SERVICES	EXISTING SERVICES
HIGH VOLTAGE ELECTRICITY	---
ELECTRICITY	---
COMMS SERVICE	---
SEWER SERVICE	---
WATER SERVICE	---
RECYCLED WATER SERVICE	---
GAS SERVICE	---
UNKNOWN SERVICE	---
DISUSED SERVICE	---
STORMWATER	---
WATER HYDRANT	•
WATER STOP VALVE	x
SEWER MANHOLE	○
SEWER TERMINAL MAINTENANCE SHAFT	⊙
PRIVATE CONNECTION SEWER	○
ELECTRICITY PIT SUBSTATION	□
TELSTRA PIT	⊞

Issue	Description	Date
A	ISSUED FOR SSSA 2	12-12-25



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Client		
Scales	1 : 250	
Grid	GDA20 MGA56	
Height Datum	AHD	
Drawn	LD	
Designed	LD	
Checked	SM	
Approved	JC	

Project **MIRVAC GREEN SQUARE SITES 7, 17 & 18 CIVIL WORKS SSSA 2**

Title **COMBINED SERVICES PLAN**

Civil Engineers and Project Managers

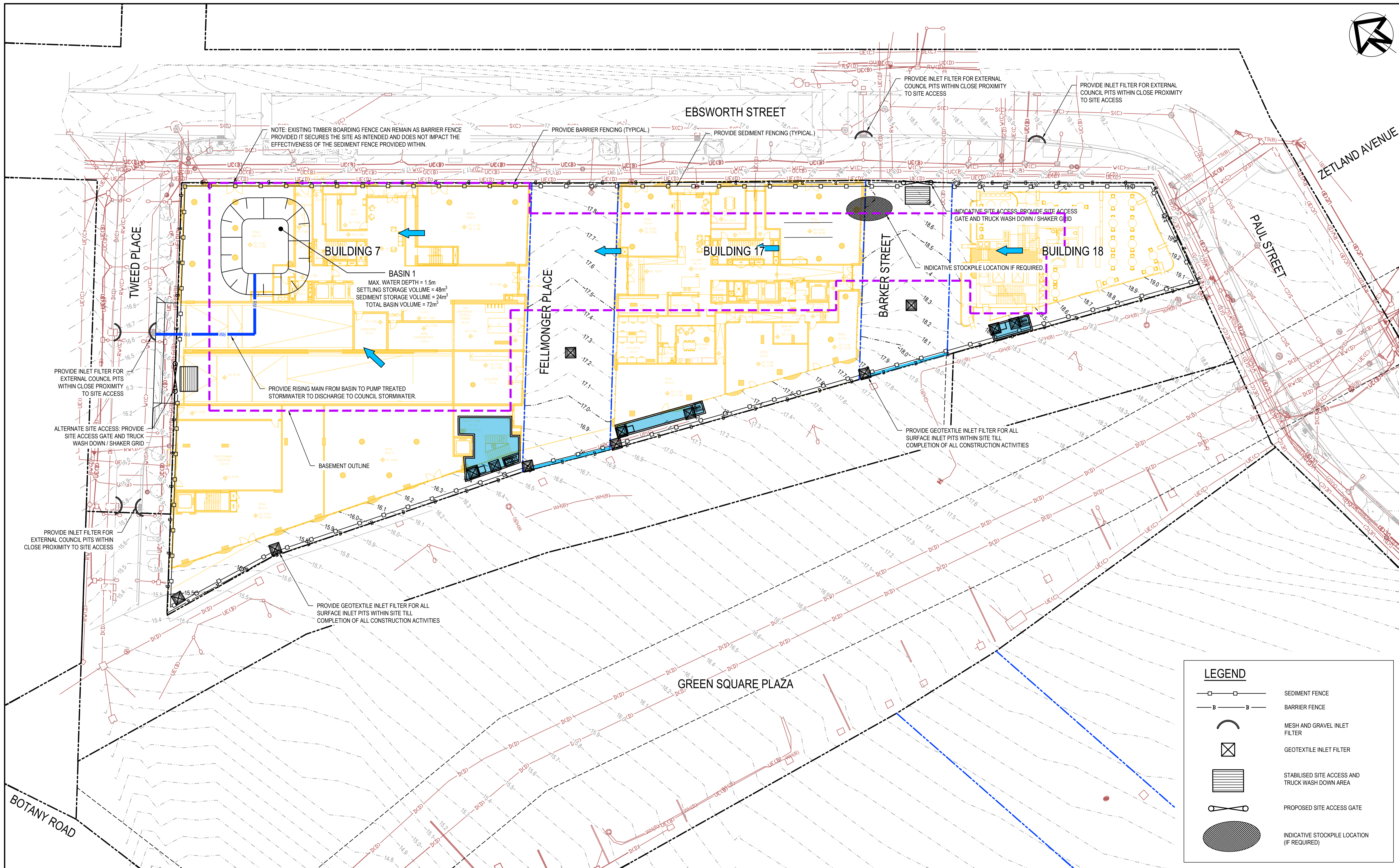
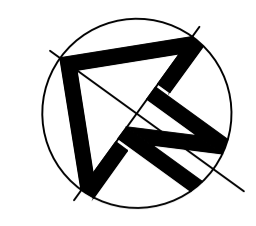
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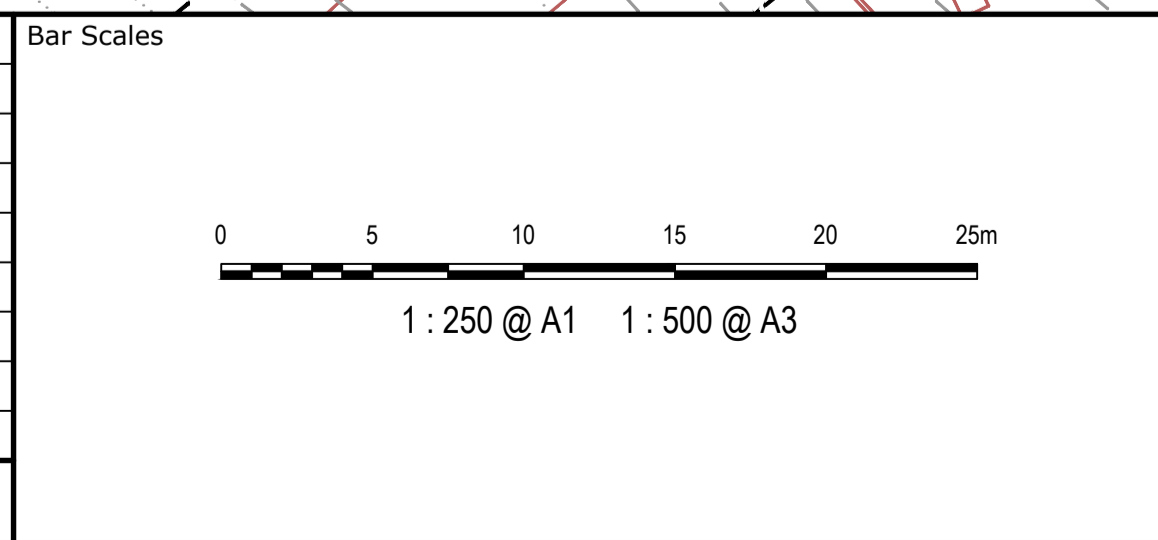
Status **FOR APPROVAL**
NOT TO BE USED FOR CONSTRUCTION

Project - Drawing No. **DA-2-8280**

Issue **A**



Issue	Description	Date
A	ISSUED FOR SSSA 2	12-12-25



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Client	
Scales	1 : 250
Grid	GDA20 MGA56
Height Datum	AHD
Drawn	LD
Designed	LD
Checked	SM
Approved	JC

Project	MIRVAC GREEN SQUARE SITES 7, 17 & 18 CIVIL WORKS SSSA 2
Title	EROSION AND SEDIMENT CONTROL PLAN

Civil Engineers and Project Managers

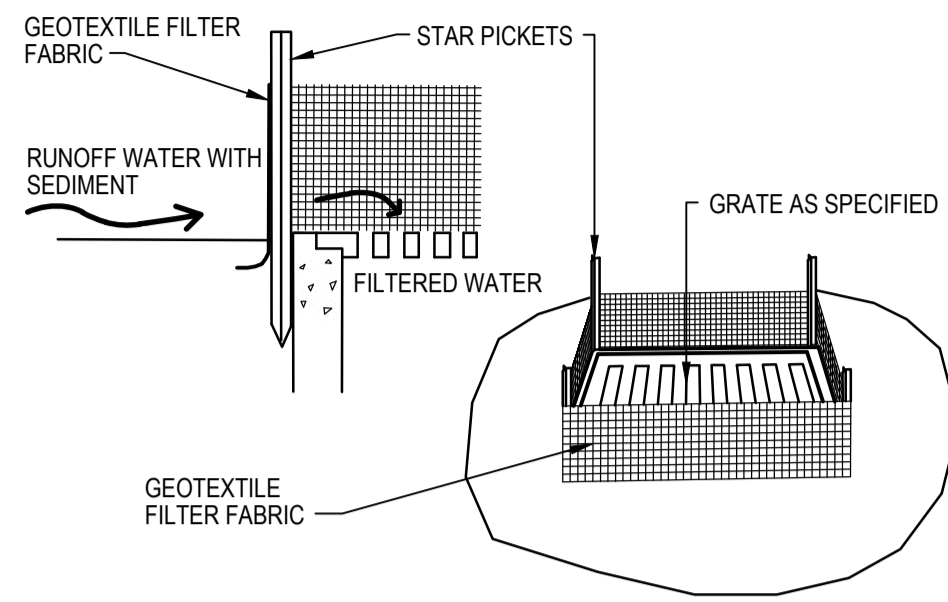
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Status: **FOR APPROVAL**
NOT TO BE USED FOR CONSTRUCTION

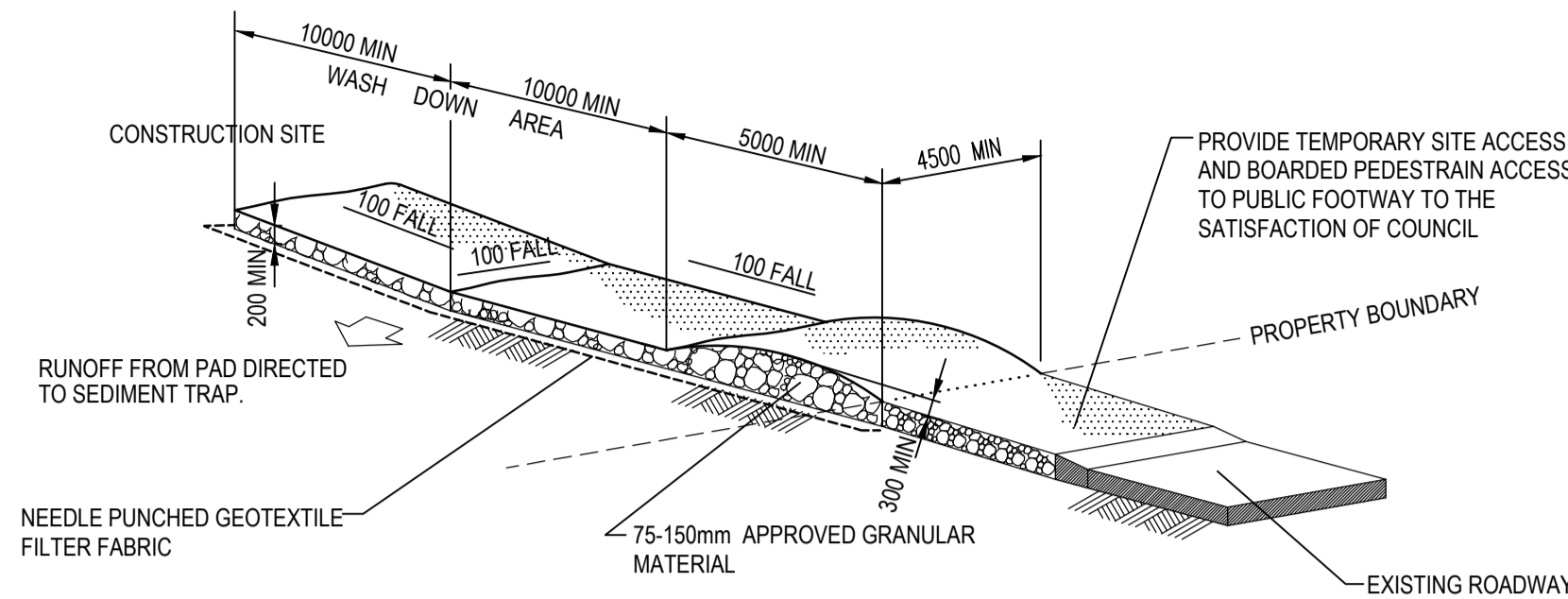
Project - Drawing No. DA-2-8290

Issue	A
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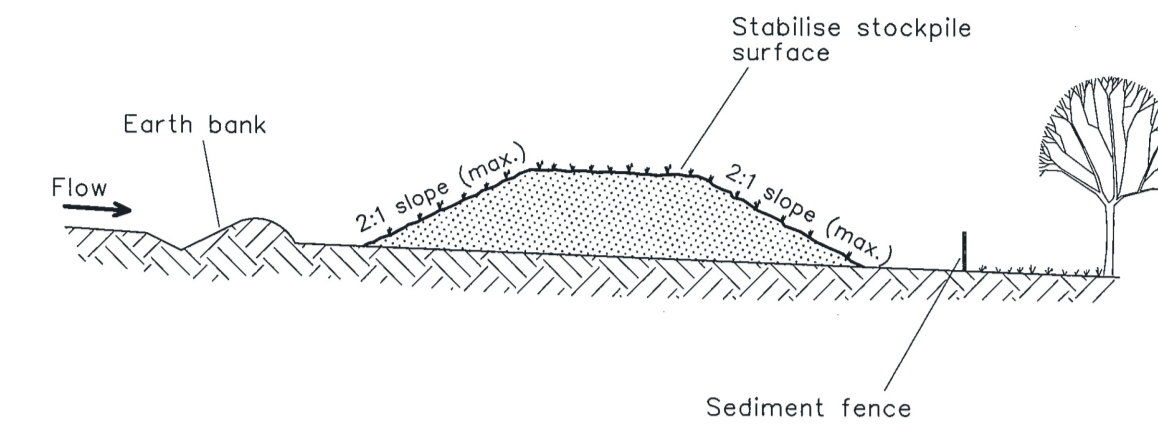
GEOTEXTILE FILTER PIT SURROUND

NTS



STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA

NTS

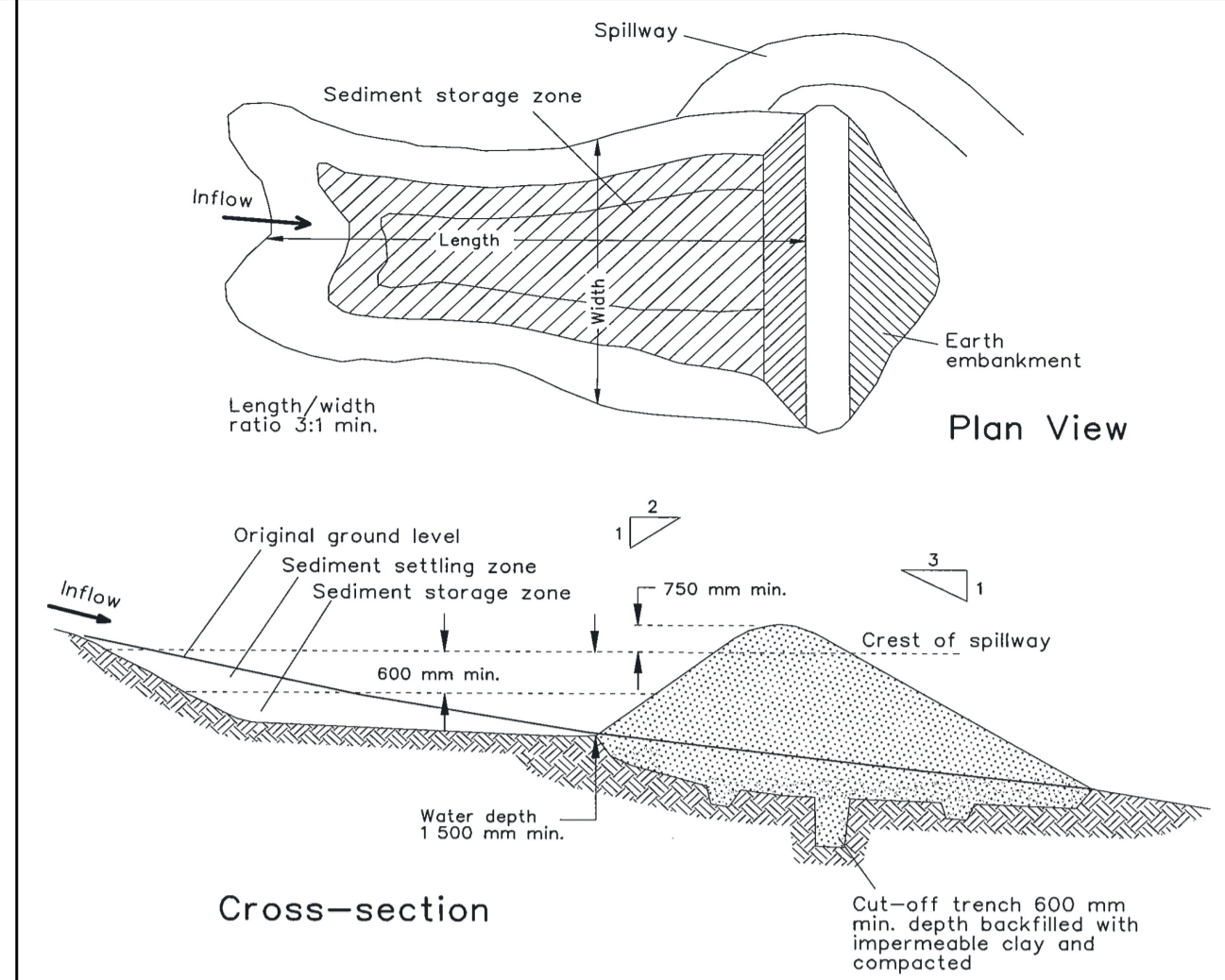


Construction Notes

1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
2. Construct on the contour as low, flat, elongated mounds.
3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
4. Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
5. Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

STOCKPILES

SD 4-1

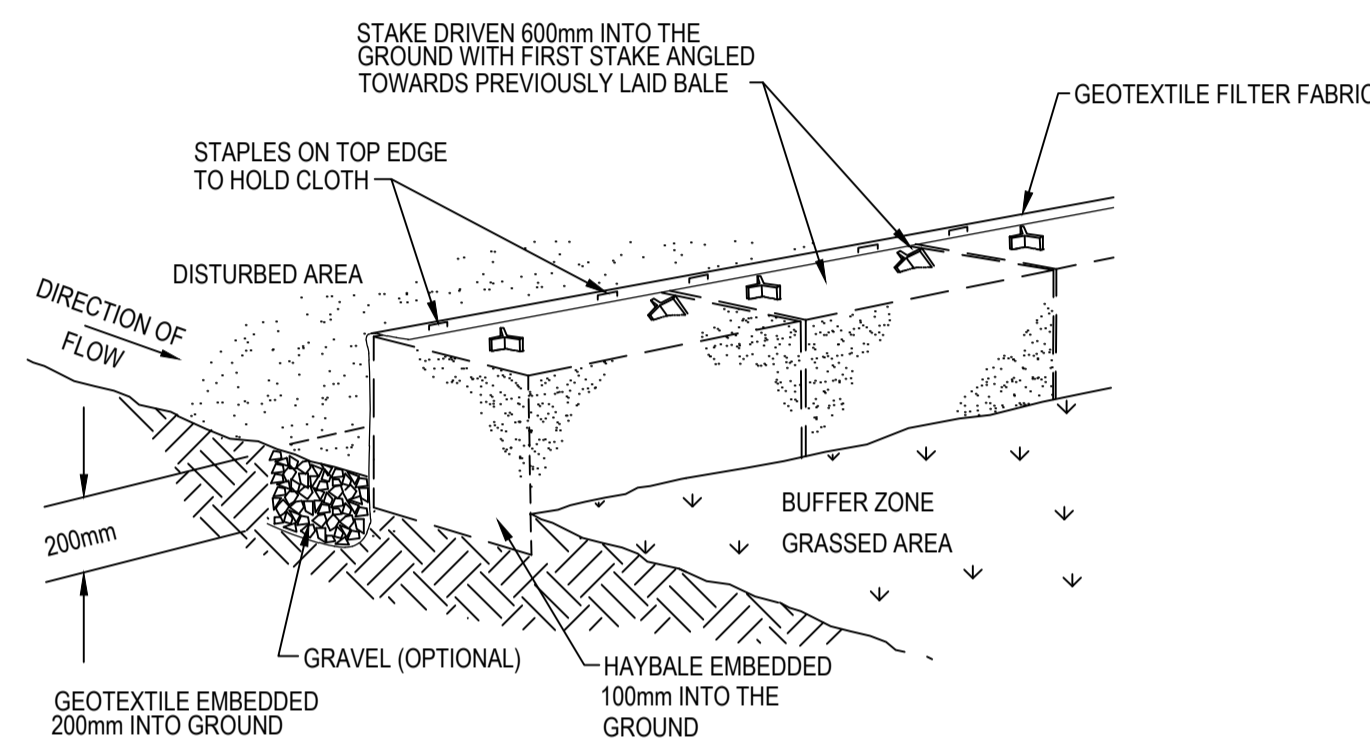


Construction Notes

1. Remove all vegetation and topsoil from under the dam wall and from within the storage area.
2. Construct a cut-off trench 500 mm deep and 1,200 mm wide along the centreline of the embankment extending to a point on the gully wall level with the riser crest.
3. Maintain the trench free of water and recompact the materials with equipment as specified in the SWMP to 95 per cent Standard Proctor Density.
4. Select fill following the SWMP that is free of roots, wood, rock, large stone or foreign material.
5. Prepare the site under the embankment by ripping to at least 100 mm to help bond compacted fill to the existing substrate.
6. Spread the fill in 100 mm to 150 mm layers and compact it at optimum moisture content following the SWMP.
7. Construct the emergency spillway.
8. Rehabilitate the structure following the SWMP.

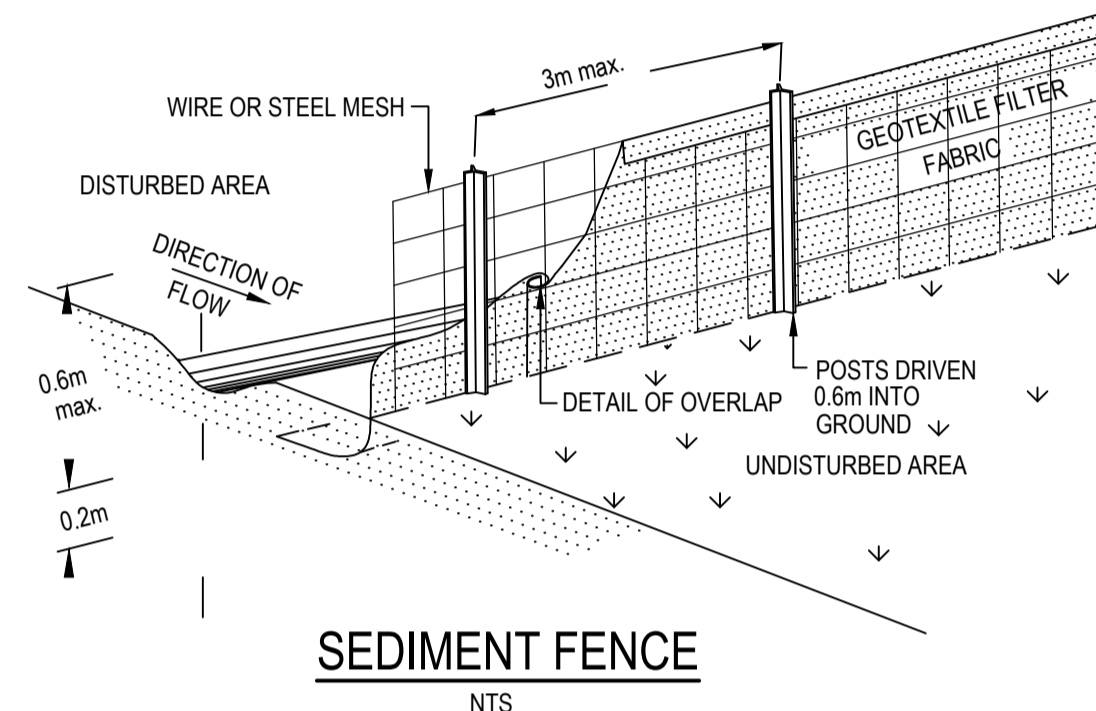
EARTH BASIN - WET
(APPLIES TO TYPE D' AND TYPE F' SOILS ONLY)

SD 6-4



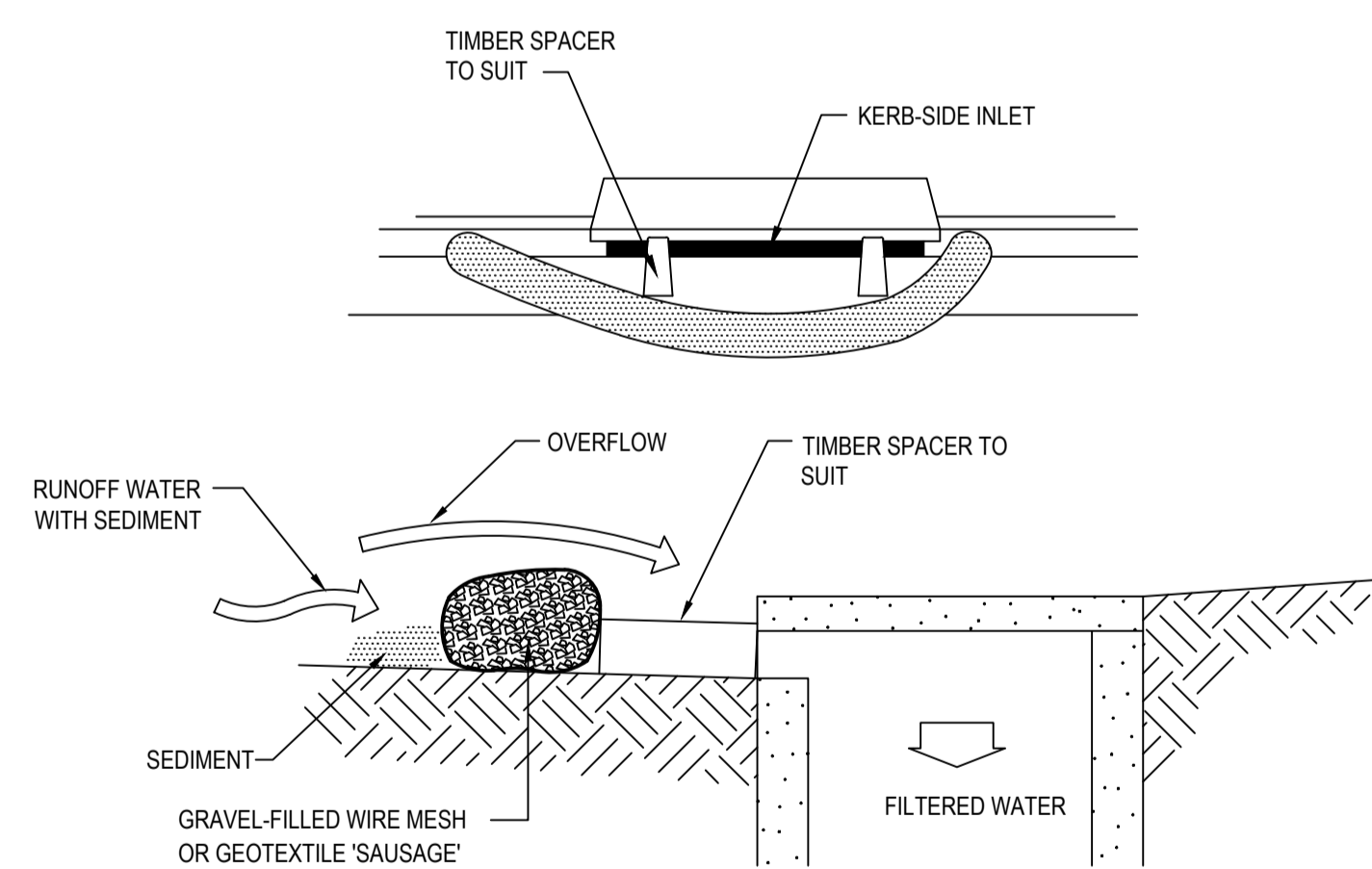
HAYBALE AND GEOTEXTILE SEDIMENT FILTER

NTS



SEDIMENT FENCE

NTS



MESH AND GRAVEL INLET FILTER

NTS

SWMP Commentary, Standard Calculation

Note: These "Standard Calculation" spreadsheets relate only to low erosion hazard lands as identified in figure 4.6 where the designer chooses to not use the RUSLE to size sediment basins. The more "Detailed Calculation" spreadsheets should be used on high erosion hazard lands as identified by figure 4.6 or where the designer chooses to run the RUSLE in calculations.

1. Site Data Sheet

Site name: Green Square Stage 3

Site location: Green Square

Precinct: -

Description of site: -

Site area	Site					Remarks
Total catchment area (ha)	B1 11*					
Disturbed catchment area (ha)	0.2392					

Soil analysis

Soil landscape	Soil texture group	DIPNR mapping (if relevant)				
D	D	D	D	D	D	Sections 6.3.3(c), (d) and (e)

Rainfall data

Design rainfall depth (days)	5	5	5	5	See Sections 6.3.4 (d) and (e)
Design rainfall depth (percentile)	85				See Sections 6.3.4 (f) and (g)
x-day, y-percentile rainfall event	40				See Section 6.3.4 (h)
Rainfall intensity, 2-year, 6-hour storm	11.6				See 1FD chart for the site
Rainfall erosivity (R-factor)	2910				Automatic calculation from above data

Comments:

SWMP Commentary, Standard Calculation

2. Storm Flow Calculations

Peak flow is given by the Rational Formula:

$$Q_p = 0.00278 \times C_{10} \times F_p \times I_{p,10} \times A$$

where: Q_p is peak flow rate (m^3/sec) of average recurrence interval (ARI) of "Y" years is the runoff coefficient (dimensionless) for ARI of 10 years. Rural runoff coefficients are given in Volume 2, figure 5 of Pilgrim (1998), while urban runoff coefficients are given in Volume 1, Book VIII, figure 1.13 of Pilgrim (1998) and construction runoff coefficients are given in Appendix F. F_p is a frequency factor for "Y" years. Rural values are given in Volume 1, Book IV, Table 1.1 of Pilgrim (1998) while urban coefficients are given in Volume 1, Book VIII, Table 1.6 of Pilgrim (1998). A is the catchment area in hectares (ha). $I_{p,10}$ is the average rainfall intensity (mm/hr) for an ARI of "Y" years and a design duration of "tc" (minutes or hours).

$$\text{Time of concentration } (t_c) = 0.76 \times (A/100)^{0.28} \text{ hrs (Volume 1, Book IV of Pilgrim, 1998)}$$

Note: For urban catchments the time of concentration should be determined by more precise calculations or reduced by a factor of 50 per cent.

Peak flow calculations, 1

Site	A (ha)	tc (mins)	Rainfall intensity, I, mm/hr					C ₁₀	
			1 _{p,10}	5 _{p,10}	10 _{p,10}	50 _{p,10}	100 _{p,10}		
B1 11*	0.2392	5	99.5	150	172	196	228	252	0.5

Peak flow calculations, 2

ARI yrs	Frequency factor (F _p)	Peak flows					Comment
		B1 11* (m ³ /s)	(m ³ /s)	(m ³ /s)	(m ³ /s)	(m ³ /s)	
1 _{p,10}	0.9	0.030					
5 _{p,10}	0.95	0.047					
10 _{p,10}	1	0.057					
20 _{p,10}	1.05	0.068					
50 _{p,10}	1.15	0.087					
100 _{p,10}	1.2	0.101					

SWMP Commentary, Standard Calculation

4. Volume of Sediment Basins, Type D and Type F Soils

Basin volume = settling zone volume + sediment storage zone volume

Settling Zone Volume

The settling zone volume for Type F and Type D soils is calculated to provide capacity to contain all runoff expected from up to the y-percentile rainfall event. The volume of the basin's settling zone (V) can be determined as a function of the basin's surface area and depth to allow for particles to settle and can be determined by the following equation:

$$V = 10 \times C_s \times A \times R_{p,10} \times t_c \text{ (m}^3\text{)}$$

where:

10 = a unit conversion factor

C_s = the volumetric runoff coefficient defined as that portion of rainfall that runs off as stormwater over the x-day period

R = is the x-day total rainfall depth (mm) that is not exceeded in y percent of rainfall events. (See Sections 6.3.4(d), (e), (f), (g) and (h)).

A = total catchment area (ha)

Sediment Storage Zone Volume

In the standard calculation, the sediment storage zone is 50 percent of the settling zone. However, designers can work to capture the 2-month soil loss as calculated by the RUSLE (Section 6.3.4(i)(ii)), in which case the "Detailed Calculation" spreadsheets should be used.

Total Basin Volume

Site	C _s	R x-day y-%ile	Total catchment area (ha)	Settling zone volume (m ³)	Sediment storage volume (m ³)	Total basin volume (m ³)
B1 11*	0.50	40	0.2392	47.84	24	71.76

Bar Scales

THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L

Client



Scales 1 : 250

Grid GDA20 MGA56

Height Datum AHD

Drawn	LD
Designed	LD
Checked	SM
Approved	JC

Project MIRVAC GREEN SQUARE SITES 7, 17 & 18 CIVIL WORKS SSDA 2


Title EROSIONAL AND SEDIMENT CONTROL DETAILS





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Status	FOR APPROVAL	A1
	NOT TO BE USED FOR CONSTRUCTION	
Project - Drawing No.	DA-2-8295	Issue
		A

Appendix B – Sydney Water OSD requirements

RE: [External] Green Square Stage 3 Sydney Water OSD Requirement

 Stormwater <Stormwater@sydney>
 To ● Chris Khant
 Cc ● Norm Chow; ● Wayne Moenting; ✓ James Clare; ● Suzanne Mustafa

22/08/2025

Please find the following advice which we gave in the past for sites 7, 17 and 18:

The On Site Detention requirements for the 2,509 square meter site at “Green Square - Site 7”, are as follows:

- On Site Detention 39 cubic meter
- Permissible Site Discharge 93 L/s

The On Site Detention requirements for the 1,179.2 square meter site at “Green Square - Site 17”, are as follows:

- On Site Detention 19 cubic meter
- Permissible Site Discharge 43 L/s

The On Site Detention requirements for the 645.1 square meter site at “Green Square - Site 18”, are as follows:


- On Site Detention 10 cubic meter
- Permissible Site Discharge 24 L/s

The approval for the On Site Detention would only be given as part of the Section 73 application for this development. The On Site Detention is to be designed according to the above values and submitted to Sydney Water for approval with the Section 73 application. The following details are to be included in your submission for On Site Detention approval:

- Location of the On Site Detention in relation to the development
- Location of the On Site Detention in relation to overall stormwater network of the property
- Plan and Elevation of the On Site Detention tank with all dimensions
- Orifice plate calculation

Best Regards

Jeya Jeyadevan
 Senior Capability Assessor
 Water and Environment Services
 Sydney Water, Level 13, 1 Smith Street, Parramatta NSW 2150


 Phone: 8849 6118
 Mobile: 0409 318 827
jeya.jeyadevan@sydneywater.com.au

Appendix D – MUSIC-Link Report

MUSIC-link Report

Project Details		Company Details	
Project:	Green Square Stage 3	Company:	AT&L
Report Export Date:	8/12/2025	Contact:	Suzanne Mustafa
Catchment Name:	Receiving Node	Address:	Suite 2, Level 1/60 Station St E, Parramatta
Catchment Area:	0.51ha	Phone:	02 9439 1777
Impervious Area*:	98.4529411764706%	Email:	suzanne.m@atl.net.au
Rainfall Station:	66062 SYDNEY		
Modelling Time-step:	Six minutes		
Modelling Period:	01/01/82 - 31/12/1986 11:54:00 PM		
Mean Annual Rainfall:	1278.438mm		
Evapotranspiration:	1265.834mm		
MUSICX Version:	1.50.0.13577 (5.50.0.13577)		
MUSIC-link data Version:	5.2		
Study Area:	City of Sydney		
Scenario:	City Of Sydney Development		

* takes into account area from all source nodes that link to the chosen reporting node, excluding Import Data Nodes

Treatment Train Effectiveness		Treatment Nodes		Source Nodes	
Node:	Reduction	Node Type	Number	Node Type	Number
Flow	1.042%	Bioretention Nodes	2	Urban_Roof Nodes	3
TSS	89.32%	Sedimentation Basin Nodes	3	Urban_Mixed Nodes	8
TP	69.156%	Generic Treatment Nodes	8		
TN	53.141%				
GP	99.383%				

Comments

SF Chamber parameters as per Ocean Protect

Passing Parameters

Node Type	Node Name	Parameter	Min	Max	Actual
Bioretention	Raingarden - 15m2	Exfiltration Rate	0	None	0 mm/h
Bioretention	Raingarden - 15m2	High Flow Bypass	0	None	100 m ³ /s
Bioretention	Raingarden - 15m2	Orthophosphate Content of Filter Media	0	55	55
Bioretention	Raingarden - 15m2	PET Scaling Factor	2.1	2.1	2.1 proportion
Bioretention	Raingarden - 15m2	TN Content of Filter Media	1	800	800
Bioretention	Raingarden - 16m2	Exfiltration Rate	0	None	0 mm/h
Bioretention	Raingarden - 16m2	High Flow Bypass	0	None	100 m ³ /s
Bioretention	Raingarden - 16m2	Orthophosphate Content of Filter Media	0	55	55
Bioretention	Raingarden - 16m2	PET Scaling Factor	2.1	2.1	2.1 proportion
Bioretention	Raingarden - 16m2	TN Content of Filter Media	1	800	800
Generic	1 x OceanGuard200um (2)	High Flow Bypass	None	99	0.02 m ³ /s
Generic	1 x OceanGuard200um (3)	High Flow Bypass	None	99	0.02 m ³ /s
Generic	2 x 690 PSORB Stormfilter (MCC) (2)	High Flow Bypass	None	99	0.002 m ³ /s
Generic	2 x 690 PSORB Stormfilter (MCC) (3)	High Flow Bypass	None	99	0.002 m ³ /s
Generic	2 x OceanGuard200um (1)	High Flow Bypass	None	99	0.04 m ³ /s
Generic	6 x 690 PSORB Stormfilter (MCC) (1)	High Flow Bypass	None	99	0.005 m ³ /s
Generic	OceanGuard 200um (Pit A4)	High Flow Bypass	None	99	0.02 m ³ /s
Generic	OceanGuard 200um (Pit A6)	High Flow Bypass	None	99	0.02 m ³ /s
Receiving	Receiving Node	Flow Reduction	None	None	1.042 %
Receiving	Receiving Node	GP Reduction	90	None	99.383 %
Receiving	Receiving Node	TN Reduction	45	None	53.141 %
Receiving	Receiving Node	TP Reduction	65	None	69.156 %
Receiving	Receiving Node	TSS Reduction	85	None	89.32 %
Sedimentation	SF Chamber 1.5m2 (2)	% Reuse Demand Met	None	None	0 %
Sedimentation	SF Chamber 1.5m2 (2)	ExfiltrationRate	0	0	0 mm/h
Sedimentation	SF Chamber 1.5m2 (2)	ExtendedDetentionDepth	0.25	1	0.77 m
Sedimentation	SF Chamber 1.5m2 (2)	High Flow Bypass Out	None	None	0 ML/y
Sedimentation	SF Chamber 1.5m2 (3)	% Reuse Demand Met	None	None	0 %
Sedimentation	SF Chamber 1.5m2 (3)	ExfiltrationRate	0	0	0 mm/h
Sedimentation	SF Chamber 1.5m2 (3)	ExtendedDetentionDepth	0.25	1	0.77 m
Sedimentation	SF Chamber 1.5m2 (3)	High Flow Bypass Out	None	None	0 ML/y
Sedimentation	SF Chamber 3m2 (1)	% Reuse Demand Met	None	None	0 %
Sedimentation	SF Chamber 3m2 (1)	ExfiltrationRate	0	0	0 mm/h
Sedimentation	SF Chamber 3m2 (1)	ExtendedDetentionDepth	0.25	1	0.77 m
Sedimentation	SF Chamber 3m2 (1)	High Flow Bypass Out	None	None	0 ML/y
Urban_Mixed	Bypass 1 - 24m2 (100% imp.)	Impervious Area	None	None	0.002 ha

NOTE: A successful self-validation check of your model does not constitute an approved model by City of Sydney
MUSIC-*link* now in MUSICX by eWater – leading software for modelling stormwater solutions

Node Type	Node Name	Parameter	Min	Max	Actual
Urban_Mixed	Bypass 1 - 24m2 (100% imp.)	Total Area	None	None	0.002 ha
Urban_Mixed	Bypass 3 - mixed - 6m2 (100% imp.)	Impervious Area	None	None	0.001 ha
Urban_Mixed	Bypass 3 - mixed - 6m2 (100% imp.)	Pervious Area	None	None	0 ha

Only certain parameters are reported when they pass validation

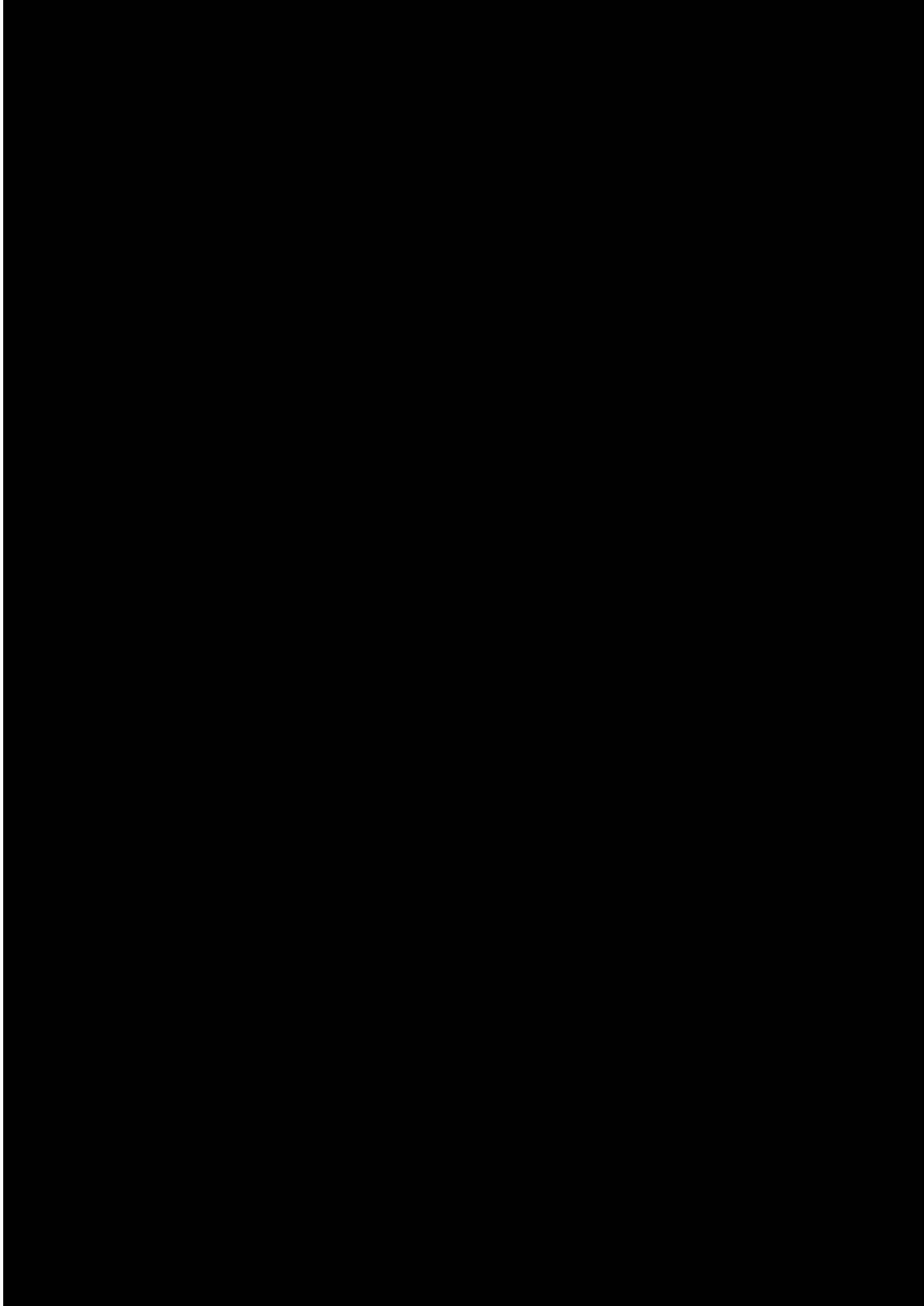
Node Type	Node Name	Parameter	Min	Max	Actual
Urban_Mixed	Bypass 3 - mixed - 6m2 (100% imp.)	Total Area	None	None	0.001 ha
Urban_Mixed	WQ1b - mixed - 1337m2 (100% imp.)	Impervious Area	None	None	0.134 ha
Urban_Mixed	WQ1b - mixed - 1337m2 (100% imp.)	Pervious Area	None	None	0 ha
Urban_Mixed	WQ1b - mixed - 1337m2 (100% imp.)	Total Area	None	None	0.134 ha
Urban_Mixed	WQ2b - mixed - 361m2 (100% imp.)	Impervious Area	None	None	0.036 ha
Urban_Mixed	WQ2b - mixed - 361m2 (100% imp.)	Pervious Area	None	None	0 ha
Urban_Mixed	WQ2b - mixed - 361m2 (100% imp.)	Total Area	None	None	0.036 ha
Urban_Mixed	WQ4 - mixed - 293m2 (90% imp.)	Impervious Area	None	None	0.026 ha
Urban_Mixed	WQ4 - mixed - 293m2 (90% imp.)	Pervious Area	None	None	0.003 ha
Urban_Mixed	WQ4 - mixed - 293m2 (90% imp.)	Total Area	None	None	0.029 ha
Urban_Mixed	WQ4b - mixed - 180m2 (90% imp)	Impervious Area	None	None	0.016 ha
Urban_Mixed	WQ4b - mixed - 180m2 (90% imp)	Pervious Area	None	None	0.002 ha
Urban_Mixed	WQ4b - mixed - 180m2 (90% imp)	Total Area	None	None	0.018 ha
Urban_Mixed	WQ5 - mixed - 210m2 (90% imp.)	Impervious Area	None	None	0.019 ha
Urban_Mixed	WQ5 - mixed - 210m2 (90% imp.)	Pervious Area	None	None	0.002 ha
Urban_Mixed	WQ5 - mixed - 210m2 (90% imp.)	Total Area	None	None	0.021 ha
Urban_Mixed	WQ5b - mixed - 104m2 (90% imp)	Impervious Area	None	None	0.009 ha
Urban_Mixed	WQ5b - mixed - 104m2 (90% imp)	Pervious Area	None	None	0.001 ha
Urban_Mixed	WQ5b - mixed - 104m2 (90% imp)	Total Area	None	None	0.01 ha
Urban_Roof	WQ1a - roof - 1142m2 (100% imp.)	Impervious Area	None	None	0.114 ha
Urban_Roof	WQ1a - roof - 1142m2 (100% imp.)	Pervious Area	None	None	0 ha
Urban_Roof	WQ1a - roof - 1142m2 (100% imp.)	Total Area	None	None	0.114 ha
Urban_Roof	WQ2a - roof - 806m2 (100% imp.)	Impervious Area	None	None	0.081 ha
Urban_Roof	WQ2a - roof - 806m2 (100% imp.)	Pervious Area	None	None	0 ha
Urban_Roof	WQ2a - roof - 806m2 (100% imp.)	Total Area	None	None	0.081 ha
Urban_Roof	WQ3 - roof - 633m2 (100% imp.)	Impervious Area	None	None	0.063 ha
Urban_Roof	WQ3 - roof - 633m2 (100% imp.)	Pervious Area	None	None	0 ha
Urban_Roof	WQ3 - roof - 633m2 (100% imp.)	Total Area	None	None	0.063 ha

Only certain parameters are reported when they pass validation

Failing Parameters

Node Type	Node Name	Parameter	Min	Max	Actual
Sedimentation	SF Chamber 1.5m2 (2)	Nitrogen Parameters.K	500	500	1 m/y
Sedimentation	SF Chamber 1.5m2 (2)	Notional Detention Time	8	12	0.106 h
Sedimentation	SF Chamber 1.5m2 (2)	Phosphorus Parameters.K	6000	6000	1 m/y
Sedimentation	SF Chamber 1.5m2 (2)	Total Suspended Solids Parameters.K	8000	8000	1 m/y
Sedimentation	SF Chamber 1.5m2 (3)	Nitrogen Parameters.K	500	500	1 m/y
Sedimentation	SF Chamber 1.5m2 (3)	Notional Detention Time	8	12	0.106 h
Sedimentation	SF Chamber 1.5m2 (3)	Phosphorus Parameters.K	6000	6000	1 m/y
Sedimentation	SF Chamber 1.5m2 (3)	Total Suspended Solids Parameters.K	8000	8000	1 m/y
Sedimentation	SF Chamber 3m2 (1)	Nitrogen Parameters.K	500	500	1 m/y
Sedimentation	SF Chamber 3m2 (1)	Notional Detention Time	8	12	0.059 h
Sedimentation	SF Chamber 3m2 (1)	Phosphorus Parameters.K	6000	6000	1 m/y
Sedimentation	SF Chamber 3m2 (1)	Total Suspended Solids Parameters.K	8000	8000	1 m/y

Only certain parameters are reported when they pass validation





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