

PROPOSED RESIDENTIAL DEVELOPMENT

25-27 WARRIEWOOD ROAD, WARRIEWOOD

STORMWATER CONCEPT DESIGN - STAGE II (S4.55)



LOCALITY PLAN
NOT TO SCALE
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DRAWING REGISTER			
SHEET No.	No.	TITLE	REV
1	SW100	COVER SHEET	E
2	SW200	STORMWATER CONCEPT DESIGN - BASEMENT PLAN	E
3	SW201	STORMWATER CONCEPT DESIGN - GROUND FLOOR PLAN	E
4	SW202	STORMWATER CONCEPT DESIGN - ROOF PLAN	E
5	SW300	STORMWATER CONCEPT DESIGN - DETAILS SHEET - SHEET 1 OF 2	E
6	SW301	STORMWATER CONCEPT DESIGN - DETAILS SHEET - SHEET 2 OF 2	E
7	SW400	EROSION AND SEDIMENT CONTROL - PLAN AND DETAILS	E
8	SW500	STORMWATER CONCEPT DESIGN - MUSIC CATCHMENT PLAN	E



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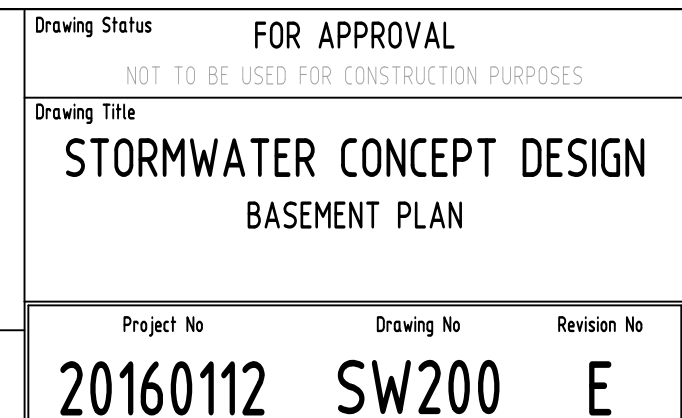
ARCHITECT:

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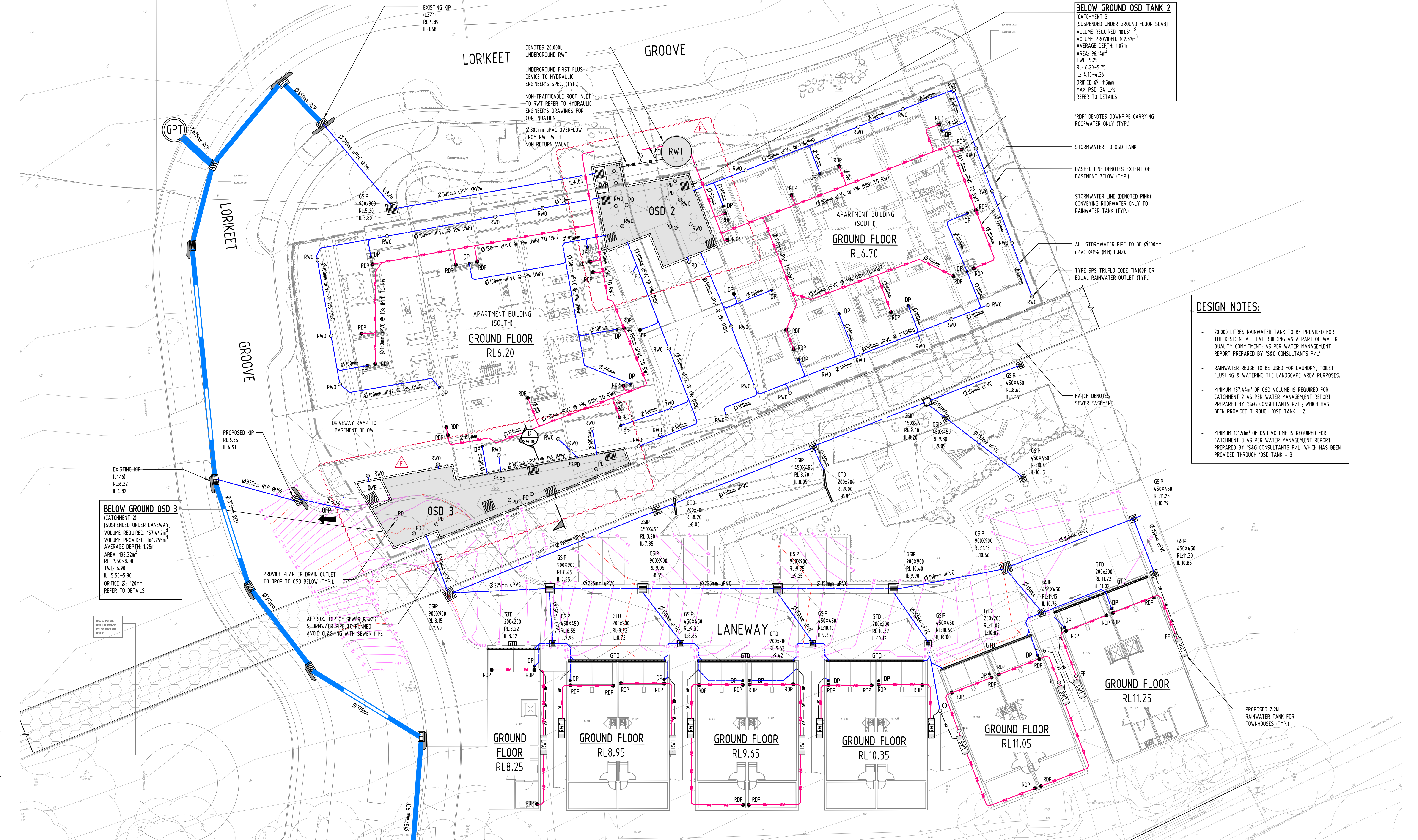
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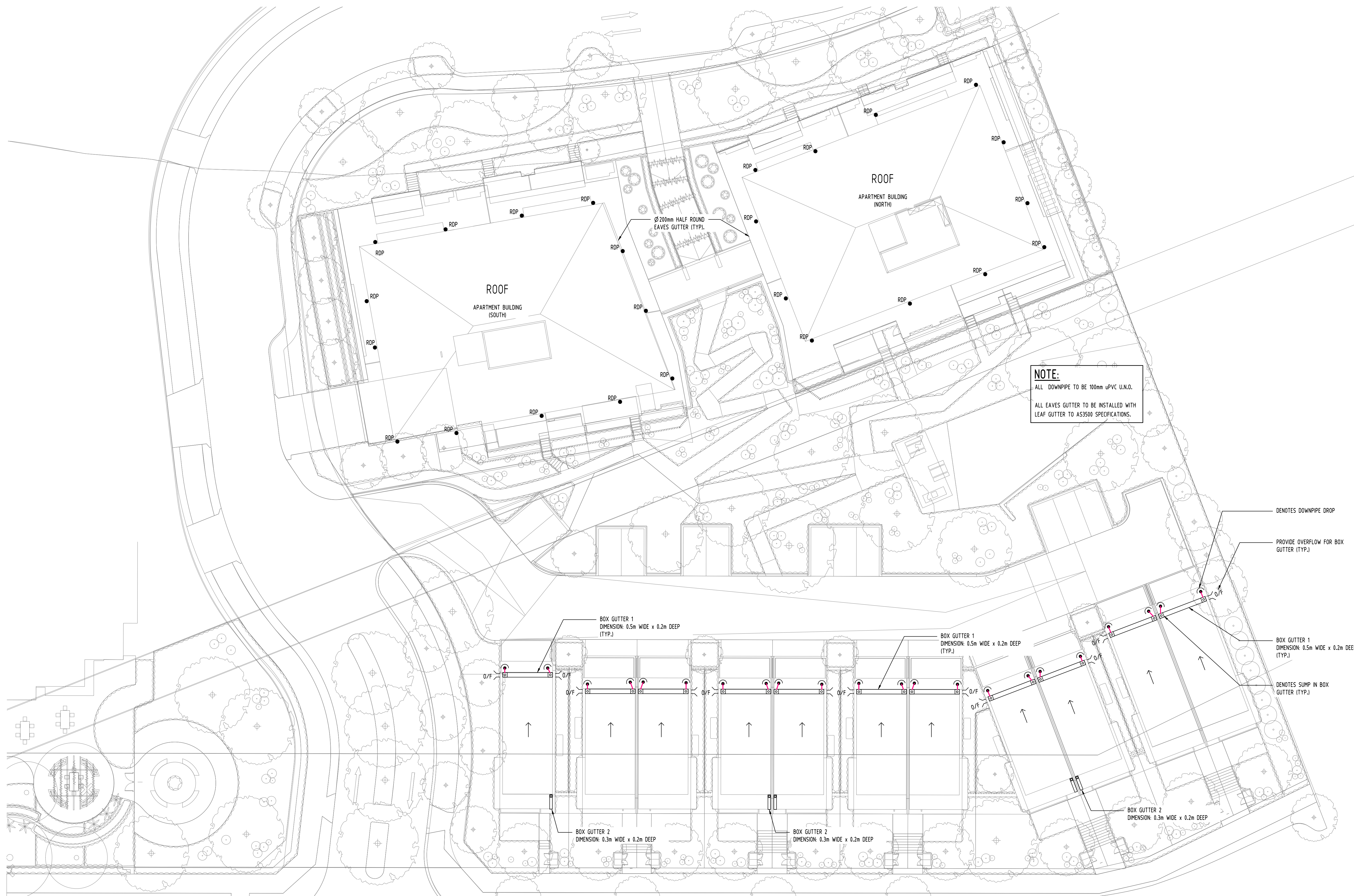


A1




- DESIGN NOTES:**
- 20,000 LITRES RAINWATER TANK TO BE PROVIDED FOR THE RESIDENTIAL FLAT BUILDING AS A PART OF WATER QUALITY COMMITMENT; AS PER WATER MANAGEMENT REPORT PREPARED BY 'S&G CONSULTANTS P/L'.
 - RAINWATER REUSE TO BE USED FOR LAUNDRY, TOILET FLUSHING & WATERING THE LANDSCAPE AREA PURPOSES.
 - MINIMUM 157.44m³ OF OSD VOLUME IS REQUIRED FOR CATCHMENT 2 AS PER WATER MANAGEMENT REPORT PREPARED BY 'S&G CONSULTANTS P/L'; WHICH HAS BEEN PROVIDED THROUGH 'OSD TANK - 2'.
 - MINIMUM 101.51m³ OF OSD VOLUME IS REQUIRED FOR CATCHMENT 3 AS PER WATER MANAGEMENT REPORT PREPARED BY 'S&G CONSULTANTS P/L'; WHICH HAS BEEN PROVIDED THROUGH 'OSD TANK - 3'.

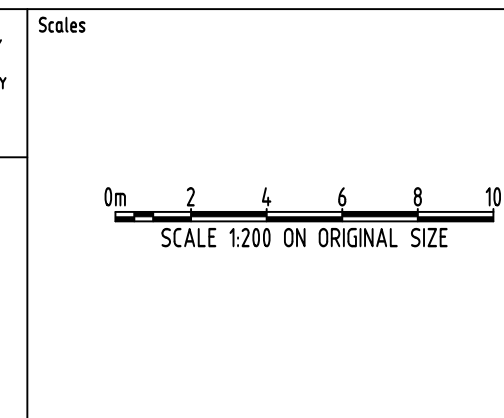
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<p>Project No 20160112</p>					<p>Drawing No SW201</p>																																																																																																													
<p>Revision No E</p>					<p>Revision No E</p>																																																																																																													



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B	ISSUE FOR DA	RJ	05.05.20	2	ARCH		
A	ISSUE FOR DA	RJ	30.04.20	2	STRUCT		
P3	PRELIMINARY ISSUE	MS	24.02.20	2	MECH		
P2	PRELIMINARY ISSUE	MS	17.01.20	1	ELEC		
P1	PRELIMINARY ISSUE	MS	29.11.19	1	HYD		
Issue	Last revision title	by	Date	Status	FILE		
<p>Issuer internal sequence and revision history</p> <p>1-preliminary 4-tender</p> <p>2-development application 5-construction</p> <p>3-construction certificate 6-other</p> <p>CIVIL SURVEY</p>							

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	DESIGNED	MS	DATE	03.05.21
	VERIFIED	SH	DATE	03.05.21
	APPROVED	SH	DATE	03.05.21

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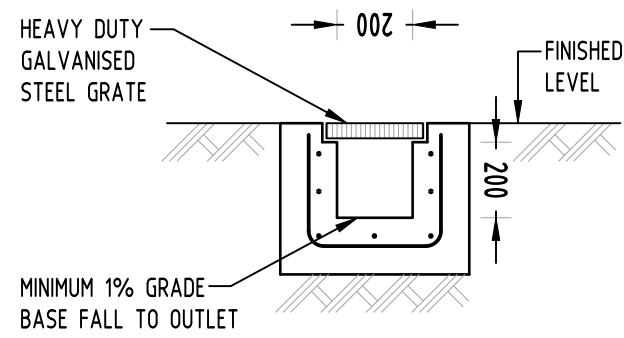
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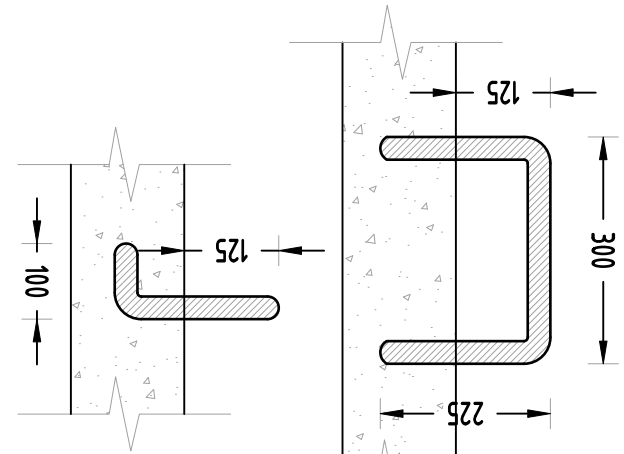
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PROPOSED RESIDENTIAL DEVELOPMENT			
25-27 WARRIEWOOD ROAD, WARRIEWOOD - STAGE II			
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-	A.H.D.	4 OF 8	1:200 @ A1

Drawing Status	FOR APPROVAL		
Drawing Title	NOT TO BE USED FOR CONSTRUCTION PURPOSES		
	STORMWATER CONCEPT DESIGN		
	ROOF PLAN		
Project No	Drawing No	Revision No	
20160112	SW202	E	

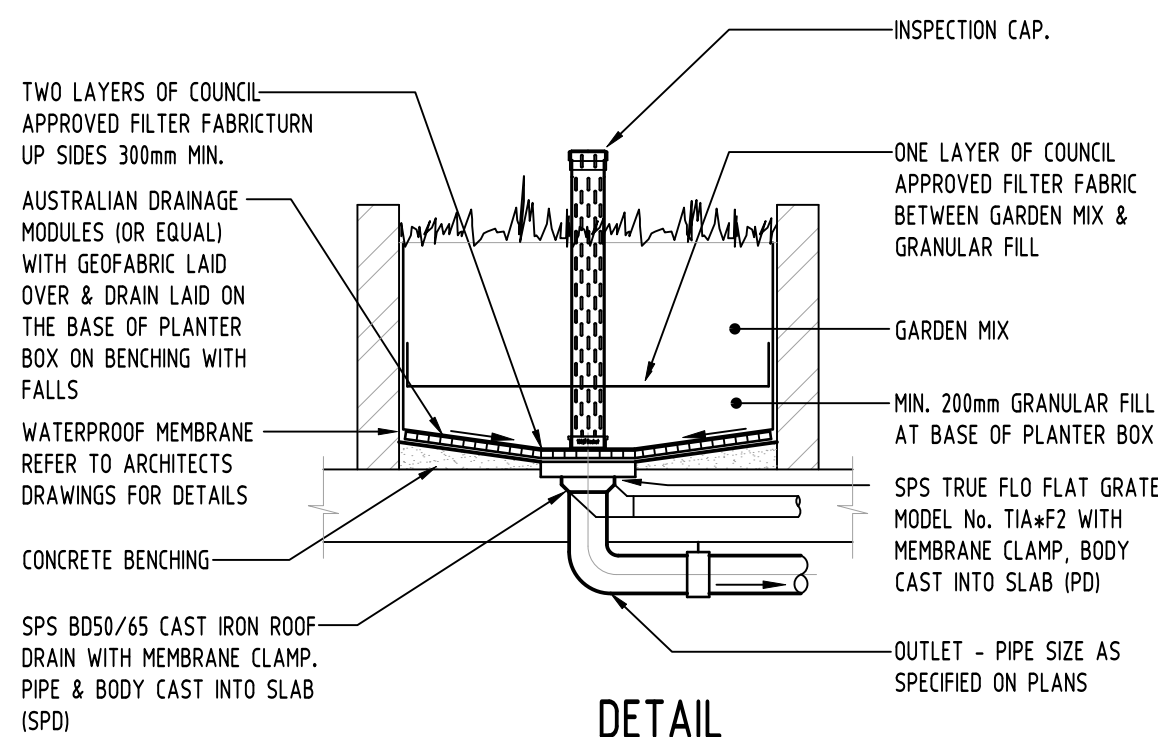
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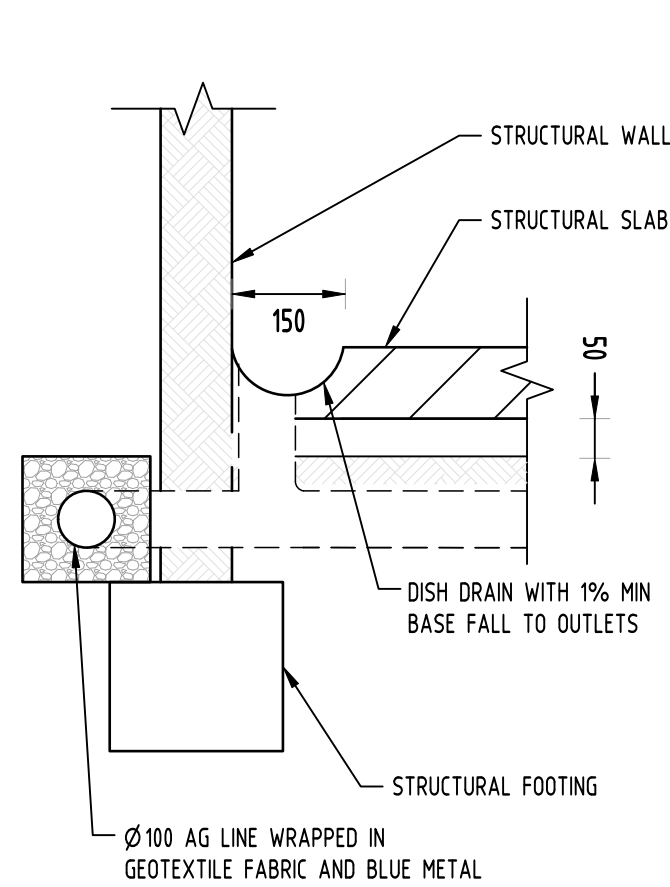
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NOT TO SCALE



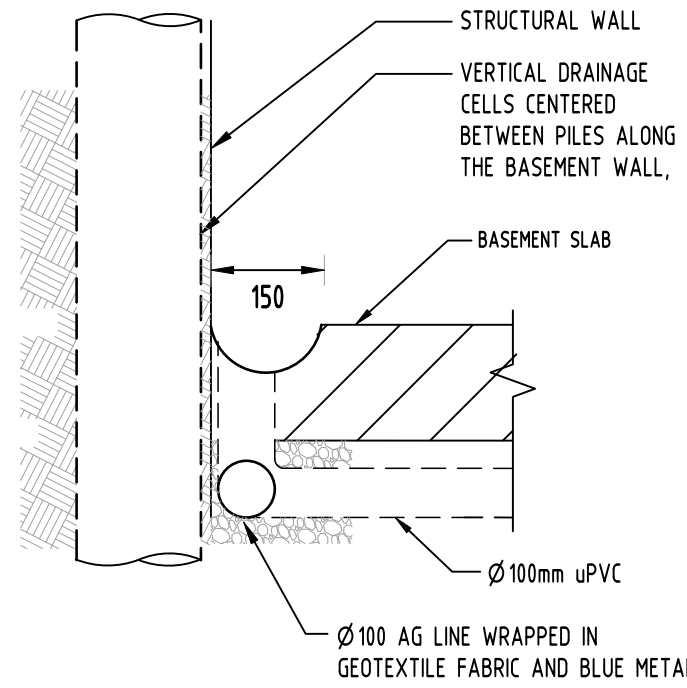
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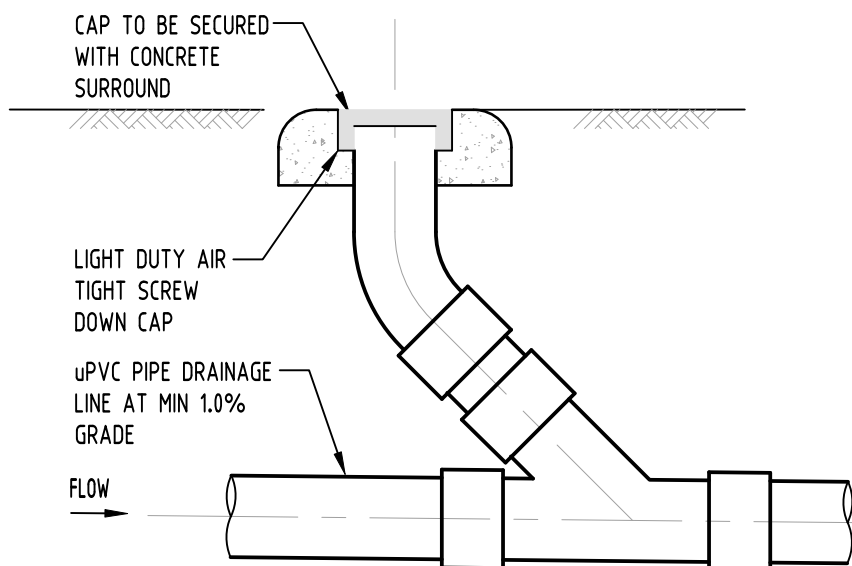
DETAIL
PLANTER DRAIN
SCALE 1:20



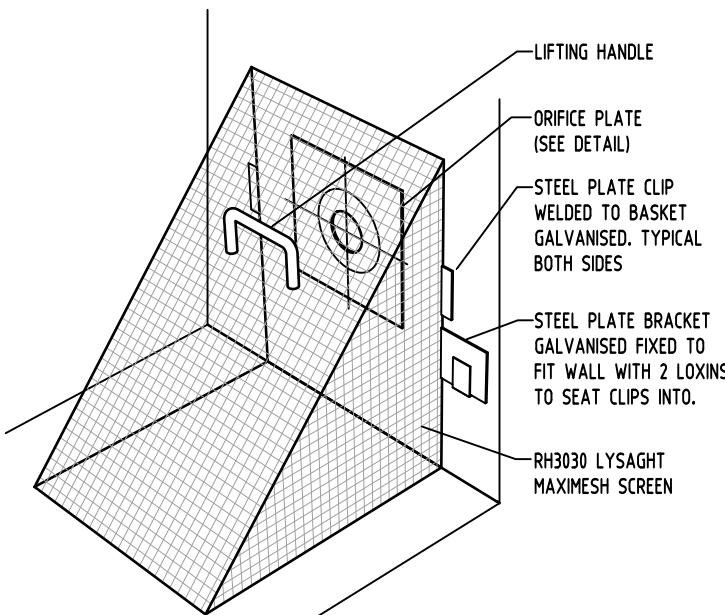
RETAINING WALL SUBSOIL DRAINAGE
NOT TO SCALE



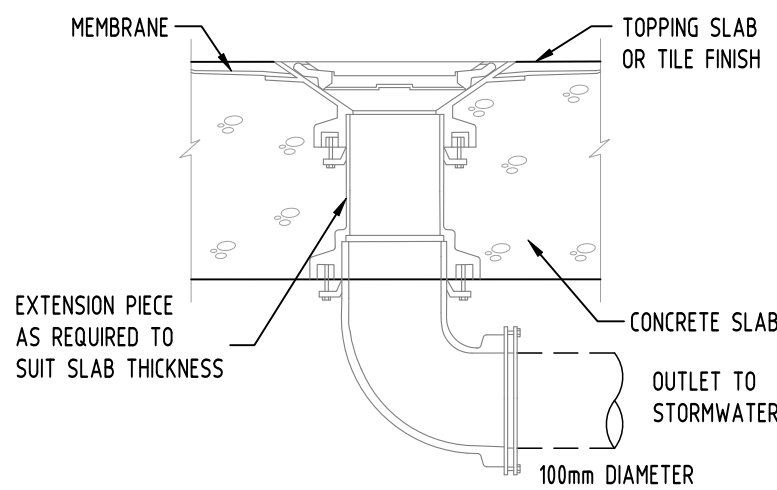
SUBSOIL DRAINAGE AT PILE STRUCUTRE
NOT TO SCALE



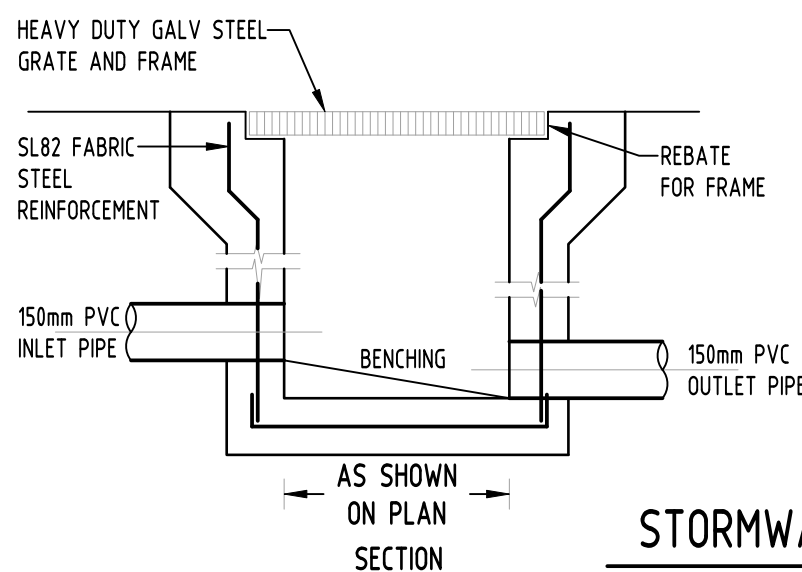
CLEANING EYE
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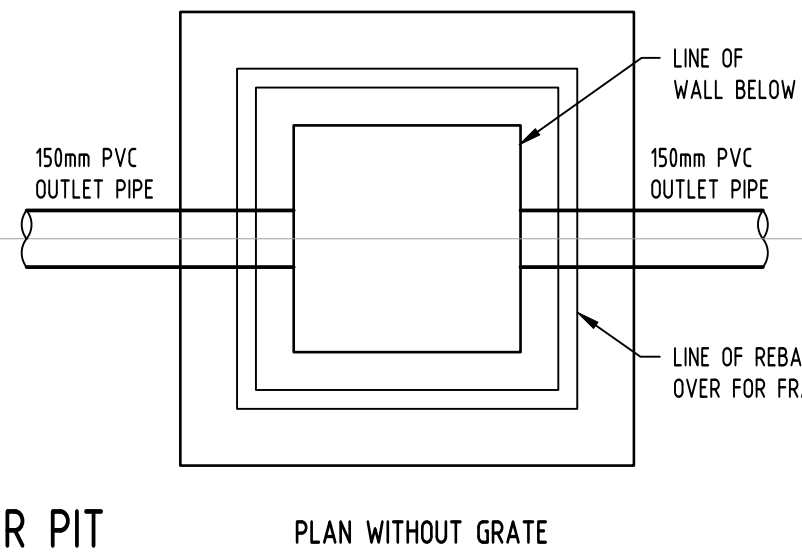
DETAIL
DEBRIS SCREEN
NOT TO SCALE



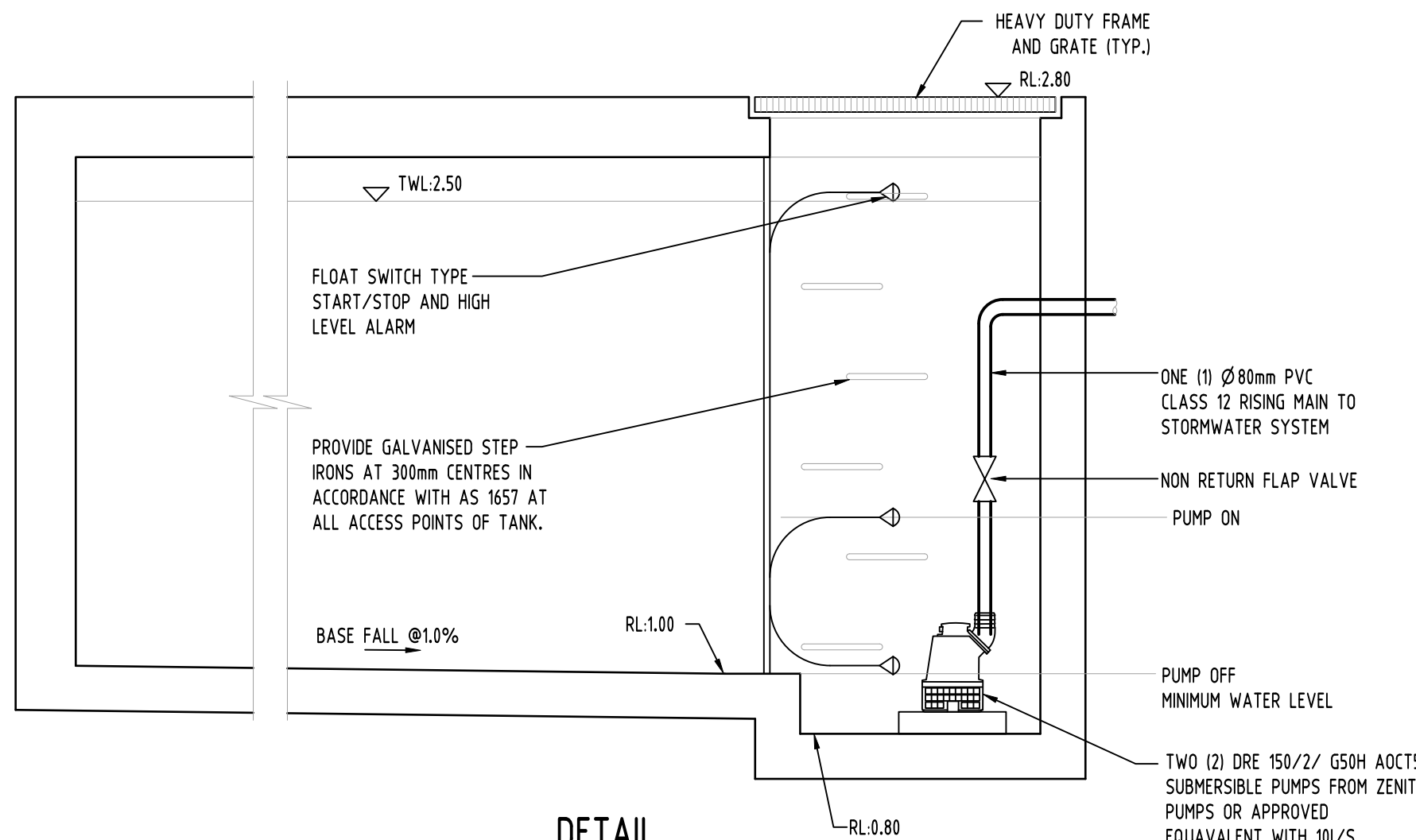
RAINWATER OUTLET
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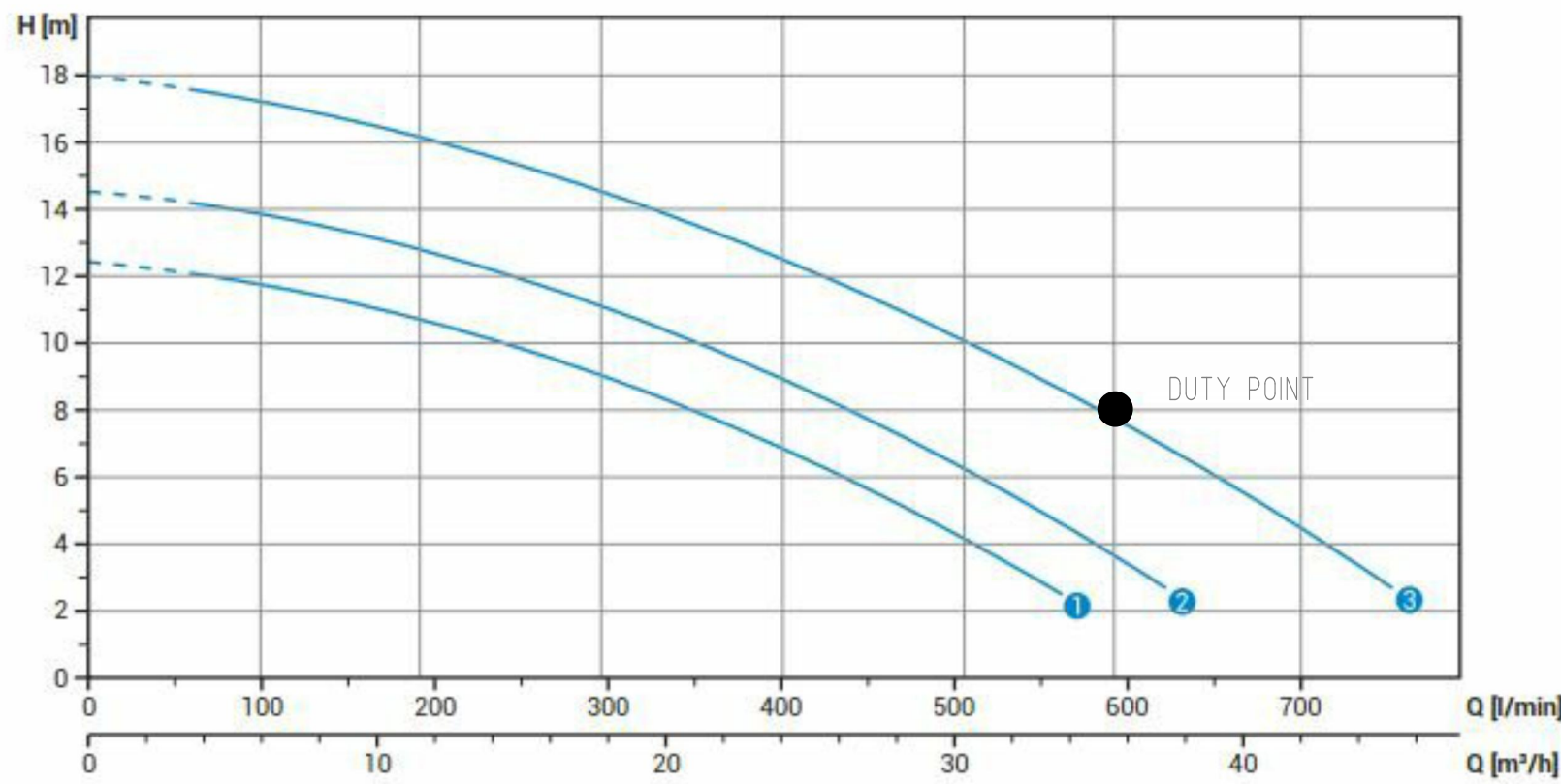
STORMWATER PIT
NOT TO SCALE



PLAN WITHOUT GRATE



DETAIL
BASEMENT PUMP OUT PIT
NOT TO SCALE



Technical data

	V	Phases	P1 [kw]	P2 [kw]	A	Rpm	Ø	Free passage
1 DRE 100/2/G50H AOCT5	230	1	-	0.88	6.5	2900	G 2"- DN50 PN10-16	15 mm
2 DRE 150/2/G50H AOCT5	230	1	-	1.10	8.2	2900	G 2"- DN50 PN10-16	15 mm
3 DRE 200/2/G50H AOCT5	230	1	-	1.50	9.3	2900	G 2"- DN50 PN10-16	15 mm
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2 DRE 150/2/G50H AOCT5	400	3	-	1.10	2.7	2900	G 2"- DN50 PN10-16	15 mm
3 DRE 150/2/G50H AOCT5	400	3	-	1.50	3.5	2900	G 2"- DN50 PN10-16	15 mm

RECOMMENDED
PUMP

PUMP PERFORMANCE CURVE

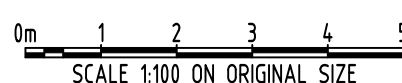
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B	ISSUE FOR DA	RJ	05.05.20	2			
A	ISSUE FOR DA	RJ	30.04.20	2			
P3	PRELIMINARY ISSUE	MS	24.02.20	1			
P2	PRELIMINARY ISSUE	MS	17.01.20	1			
P1	PRELIMINARY ISSUE	MS	29.11.19	1			
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				CIVIL			
				SURVEY			

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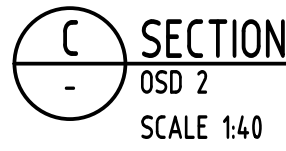
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PROJECT
PROPOSED RESIDENTIAL
DEVELOPMENT
25-27 WARRIEWOOD ROAD,
WARRIEWOOD - STAGE II

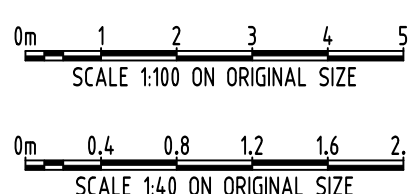
Grid	Datum	Sheet	Scale (at original size)
-	A.H.D.	5 OF 8	AS SHOWN

Drawing Status	FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES
Drawing Title	STORMWATER DRAINAGE DESIGN DETAILS SHEET SHEET 1 OF 3
Project No	20160112
Drawing No	SW300
Revision No	E



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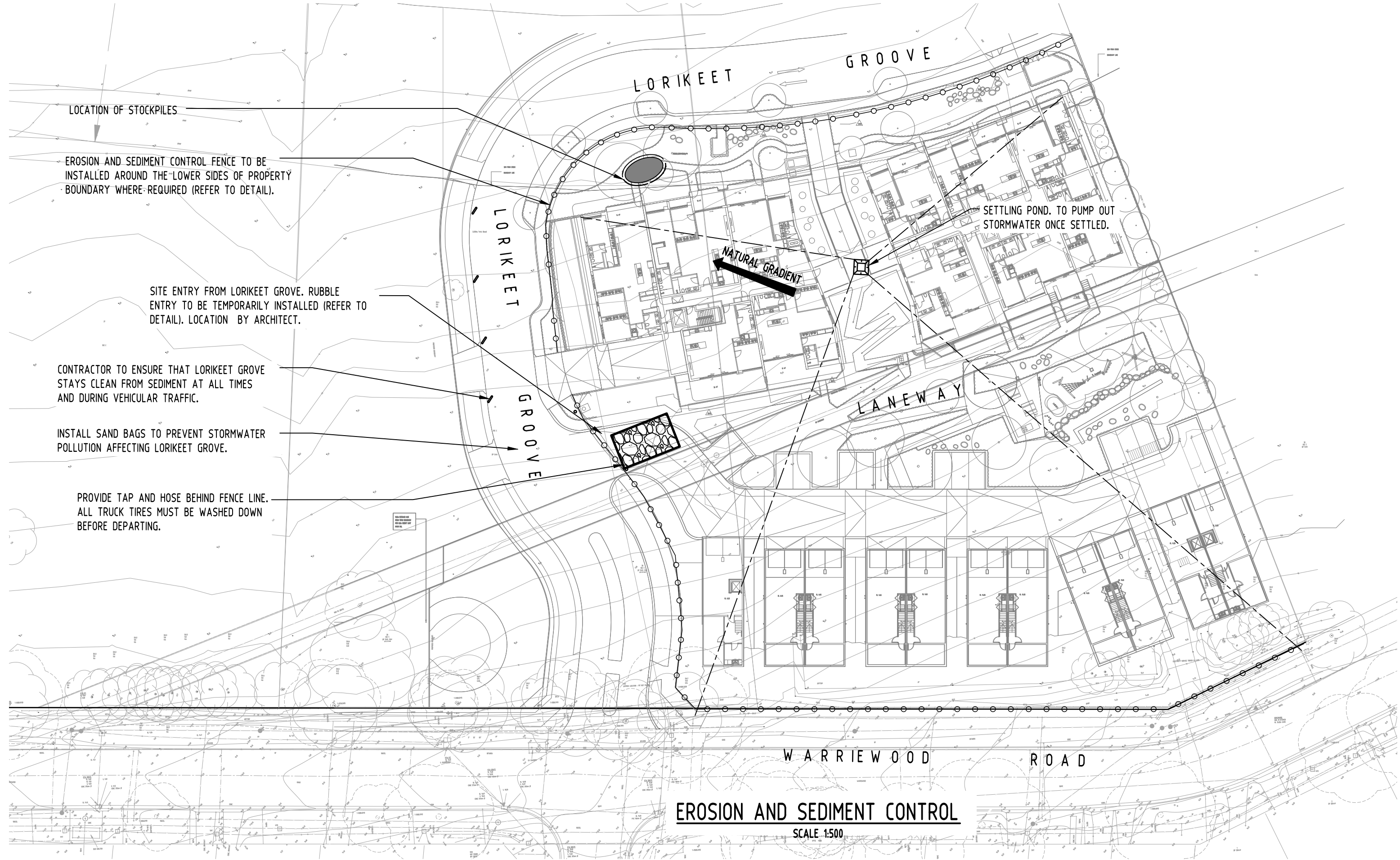
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PROJECT
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25-27 WARRIEWOOD ROAD,
WARRIEWOOD - STAGE II

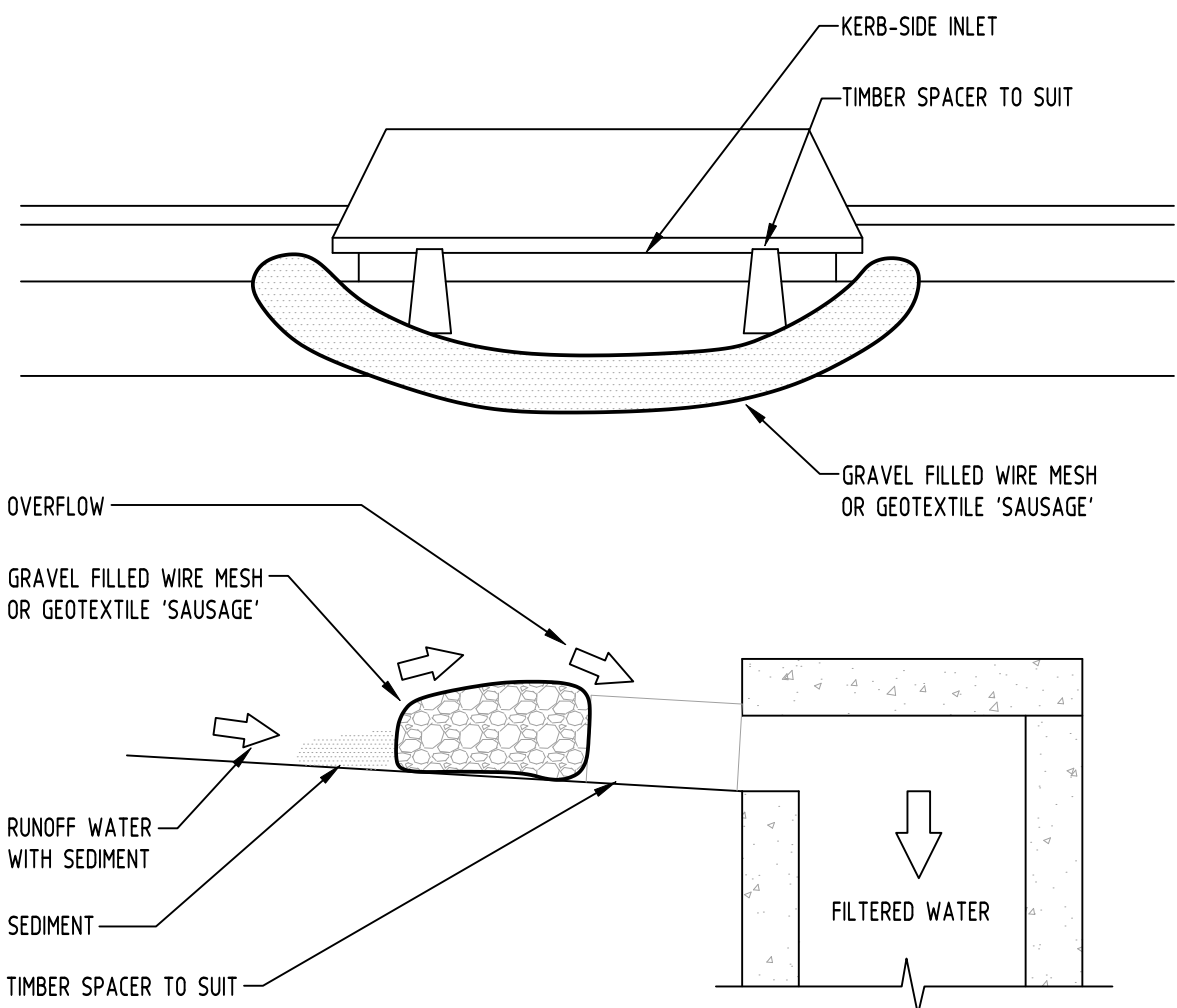
Grid	Datum	Sheet	Scale (at original size)
-	A.H.D.	6 OF 8	AS SHOWN

Drawing Status	FOR APPROVAL		
NOT TO BE USED FOR CONSTRUCTION PURPOSES			
Drawing Title	STORMWATER DRAINAGE DESIGN DETAILS SHEET SHEET 2 OF 3		
Project No	Drawing No	Revision No	
20160112	SW301	E	



EROSION & SEDIMENTATION CONTROL NOTES

1. CONTRACTOR SHALL PROVIDE SEDIMENT FENCING MATERIAL DURING CONSTRUCTION TO THE LOW SIDE OF THE WORKS, TIE SEDIMENT FENCING MATERIAL TO CYCLONE WIRE SECURITY FENCE. SEDIMENT CONTROL FABRIC SHALL BE AN APPROVED MATERIAL (EG. HUMES PROPEX SILT STOP) STANDING 300mm ABOVE GROUND & EXTENDING 150mm BELOW GROUND.
2. EXISTING DRAINS LOCATED WITHIN THE SITE SHALL ALSO BE ISOLATED BY SEDIMENT FENCING MATERIAL.
3. NO PARKING OR STOCKPILING OF MATERIALS IS PERMITTED ON THE LOWER SIDE OF THE SEDIMENT FENCE.
4. GRASS VERGES SHALL BE MAINTAINED AS MUCH AS PRACTICAL TO PROVIDE A BUFFER ZONE TO THE CONSTRUCTION SITE.
5. CONSTRUCTION ENTRY/EXIT SHALL BE VIA THE LOCATION NOTED ON THE DRAWING. CONTRACTOR SHALL ENSURE ALL DROPPABLE SOIL & SEDIMENT IS REMOVED PRIOR TO CONSTRUCTION TRAFFIC EXITING SITE. CONTRACTOR SHALL ENSURE ALL CONSTRUCTION TRAFFIC ENTERING & LEAVING THE SITE DO SO IN A FORWARD DIRECTION.



GRAVEL INLET FILTER (SAUSAGE) NOT TO SCALE

GENERAL NOTES

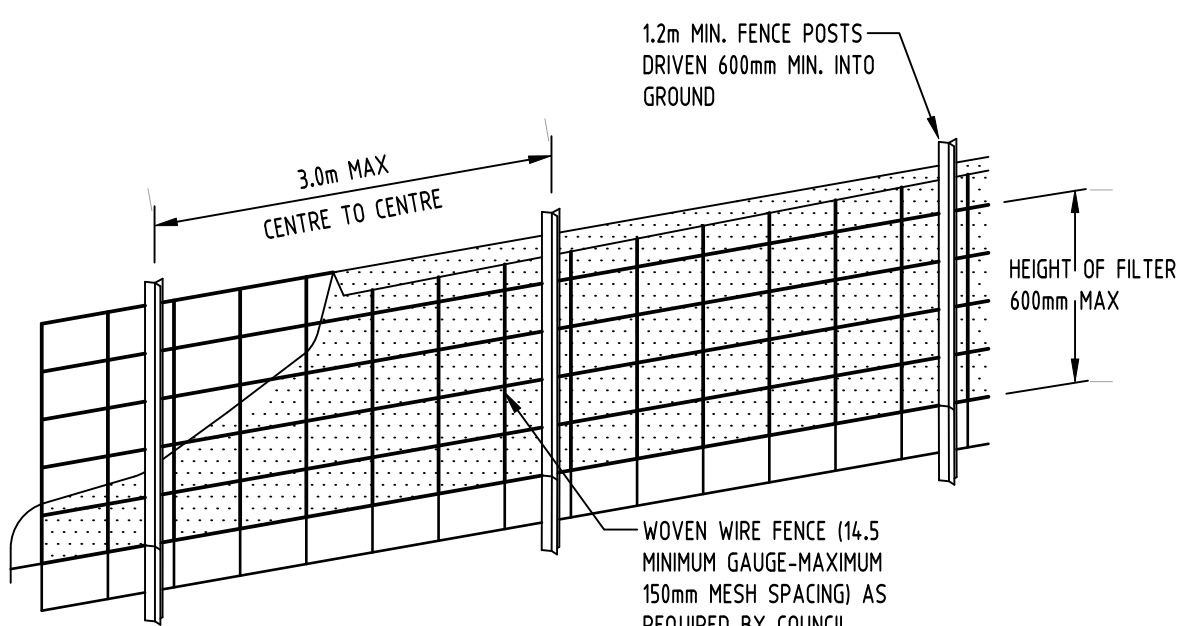
1. THIS PLAN IS A CONCEPT PLAN ONLY FOR STORMWATER DISPOSAL & EROSION CONTROL. IT IS NOT SUITABLE FOR CONSTRUCTION. THIS PLAN SHOULD BE ADAPTED BY THE BUILDER DURING DEMOLITION, EXCAVATION & CONSTRUCTION PHASES TO ENSURE ADEQUATE PERFORMANCE.

2. ALL DRAINAGE LAYOUT & DETAILS ARE DIAGRAMMATIC & INDICATIVE ONLY. ACTUAL LOCATION, SIZES, LEVELS & GRADES MAY ALTER WHEN DETAIL DESIGN WORKS ARE DOCUMENTED.

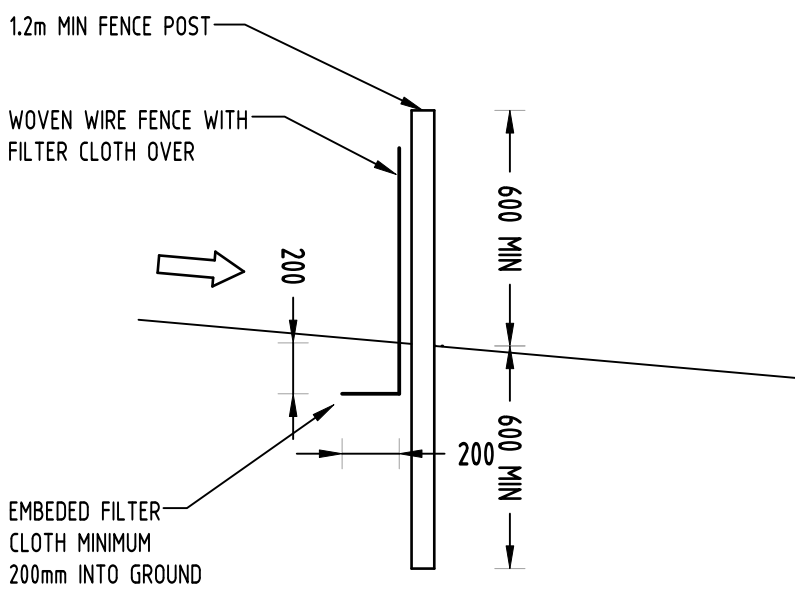
CLAY SOILS

A SYSTEM SHALL BE INSTALLED TO EITHER:

1. TRANSPORT STORMWATER RUNOFF WITH SUSPENDED SOLIDS FROM SITE VIA PUMP TRUCKS.
2. TREAT THE STORMWATER RUNOFF WITH SUSPENDED SOLIDS SO THE DISCHARGE WATER QUALITY TO COUNCIL STORMWATER DRAINAGE SYSTEM HAS A MAXIMUM CONCENTRATION OF SUSPENDED SOLIDS THAT DOES NOT EXCEED 50 MILLIGRAMS PER LITRE IN ACCORDANCE WITH THE PROTECTION OF THE ENVIRONMENT OPERATION ACT (POEO 1997) AND SHALL BE APPROVED BY LOCAL COUNCIL.



DIAGRAMMATIC VIEW

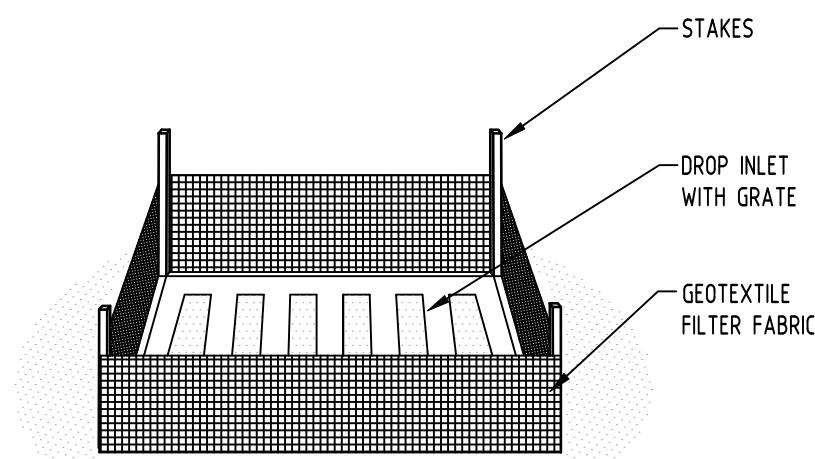
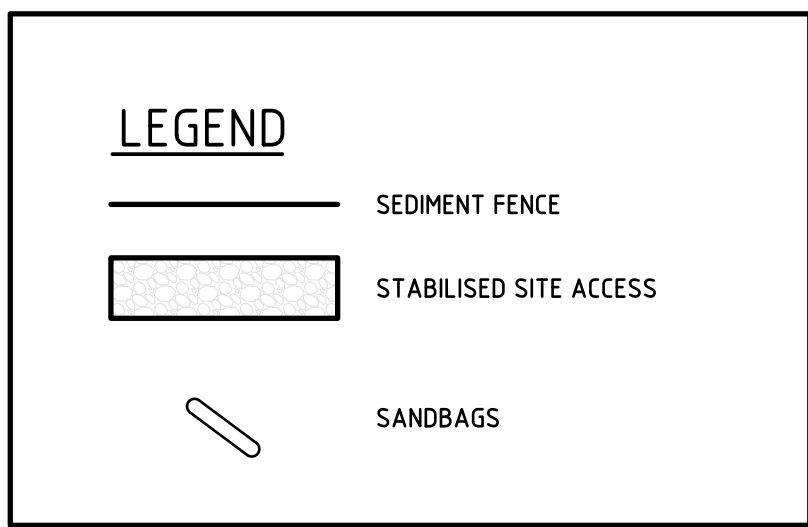


TYPICAL SECTION

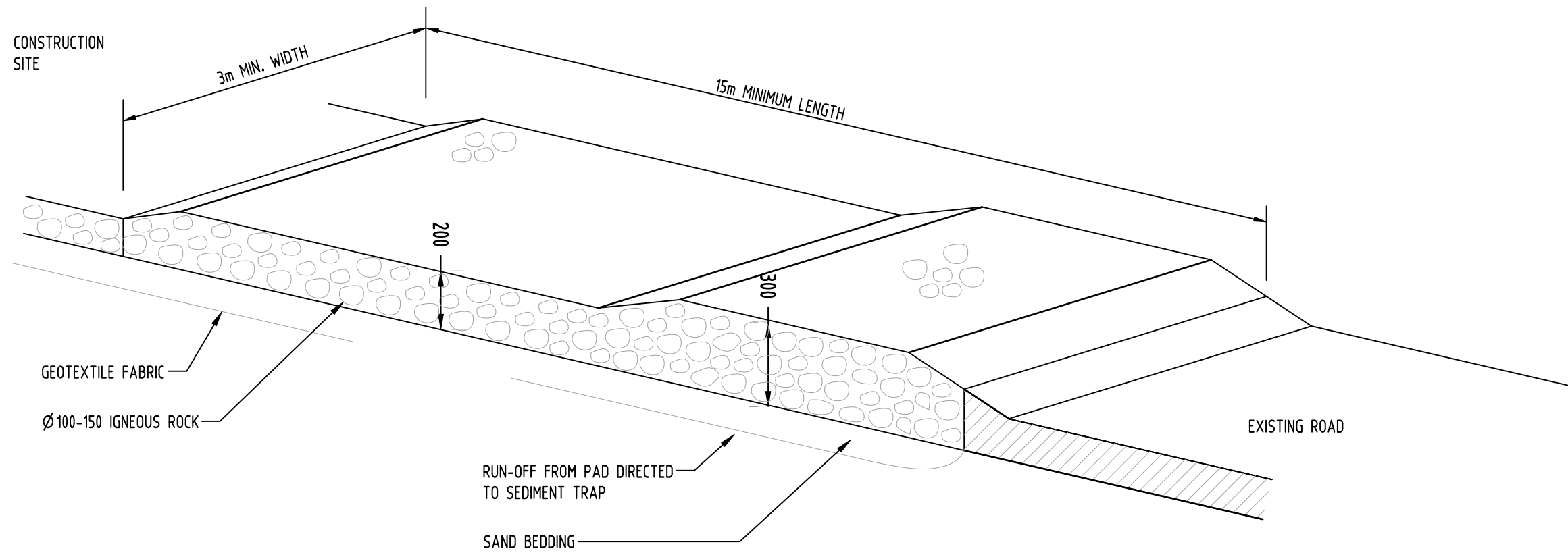
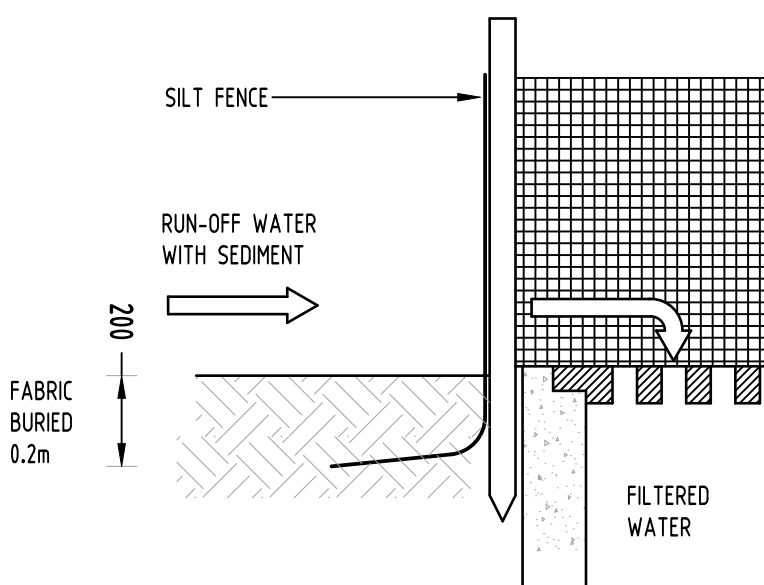
SEDIMENT FENCE NOT TO SCALE

GEOTEXTILE INLET FILTER

GEOTEXTILE INLET FILTER IS PLACED IN EVERY PIT WITHIN THE SITE TO ENSURE THE RUNOFF WATER DURING CONSTRUCTION NOT ENTER THE PITS.



GEOTEXTILE INLET FILTER NOT TO SCALE

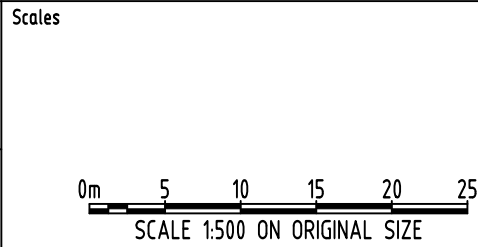
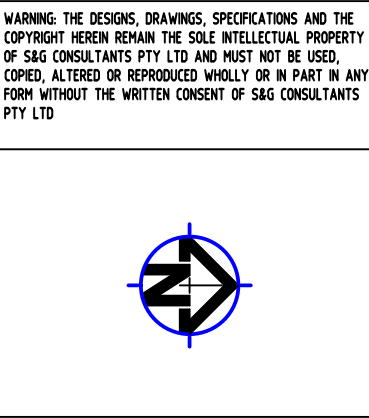


TEMPORARY CONSTRUCTION EXIT RUBBLE ALTERNATIVE NOT TO SCALE

Reference Coordination Drawing						
Issue	Last revision title	by	Date	Status	Rev.	
E	ISSUE FOR DA	MS	03.05.21	2		
D	ISSUE FOR DA	MS	26.05.20	2		
C	ISSUE FOR DA	MS	15.05.20	2		
B	ISSUE FOR DA	RJ	05.05.20	2		
A	ISSUE FOR DA	RJ	30.04.20	2		
P3	PRELIMINARY ISSUE	MS	24.02.20	1		
P2	PRELIMINARY ISSUE	MS	17.01.20	1		
P1	PRELIMINARY ISSUE	MS	29.11.19	1		
Issuer internal sequence and revision history				LANDS		
1-preliminary	2-development application	3-construction certificate	4-tender	5-construction	6-other	

ENGINEERS AUSTRALIA	Qualified Professional Engineer
MEMBER	
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QUALITY CONTROL			
DRAWN	MS	DATE	03.05.21
CHECKED	SH	DATE	03.05.21
DESIGNED	MS	DATE	03.05.21
VERIFIED	SH	DATE	03.05.21
APPROVED	SH	DATE	03.05.21



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PROJECT
PROPOSED RESIDENTIAL
DEVELOPMENT
25-27 WARRIWOOD ROAD,
WARRIWOOD - STAGE II

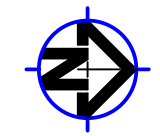
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-	A.H.D.	7 OF 8	1500 @ A1

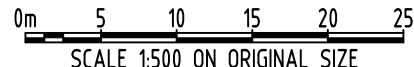
Drawing Status	FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Drawing Title	EROSION AND SEDIMENT CONTROL PLAN AND DETAILS		
Project No	Drawing No	Revision No	
20160112	SW400	E	

Reference Coordination Drawing					Rev.
Issue	Last revision title	by	Date	Status	
E	ISSUE FOR DA	MS	03.05.21	2	
D	ISSUE FOR DA	MS	26.05.20	2	
C	ISSUE FOR DA	MS	15.05.20	2	
B	ISSUE FOR DA	RJ	05.05.20	2	
A	ISSUE FOR DA	RJ	30.04.20	2	
P3	PRELIMINARY ISSUE	MS	24.02.20	1	
P2	PRELIMINARY ISSUE	MS	17.01.20	1	
P1	PRELIMINARY ISSUE	MS	29.11.19	1	
Issuer internal sequence and revision history					
1-preliminary	2-development application	3-construction certificate			
4-tender	5-construction	6-other			

 ENGINEERS AUSTRALIA Chartered Professional Engineer MEMBER	Reference Coordination Drawing		
	Discipline	Drawing Title and Number	Date
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	DESIGNED	MS	DATE 03.05.21
	VERIFIED	SH	DATE 03.05.21
	APPROVED	SH	DATE 03.05.21

QUALITY CONTROL		
DRAWN	MS	DATE 03.05.21
CHECKED	SH	DATE 03.05.21
DESIGNED	MS	DATE 03.05.21
VERIFIED	SH	DATE 03.05.21
APPROVED	SH	DATE 03.05.21

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Scales		
		
SCALE 1500 ON ORIGINAL SIZE		

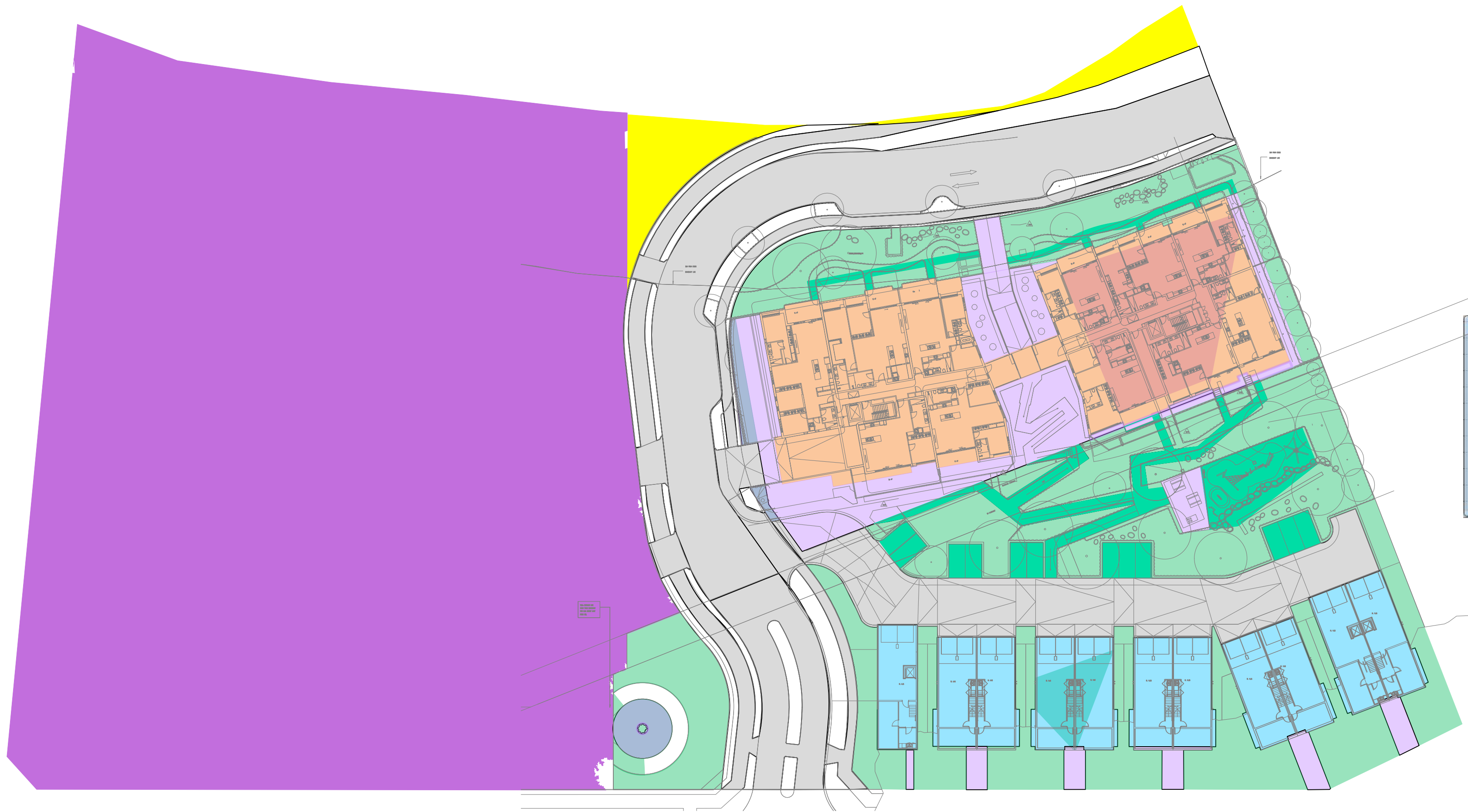
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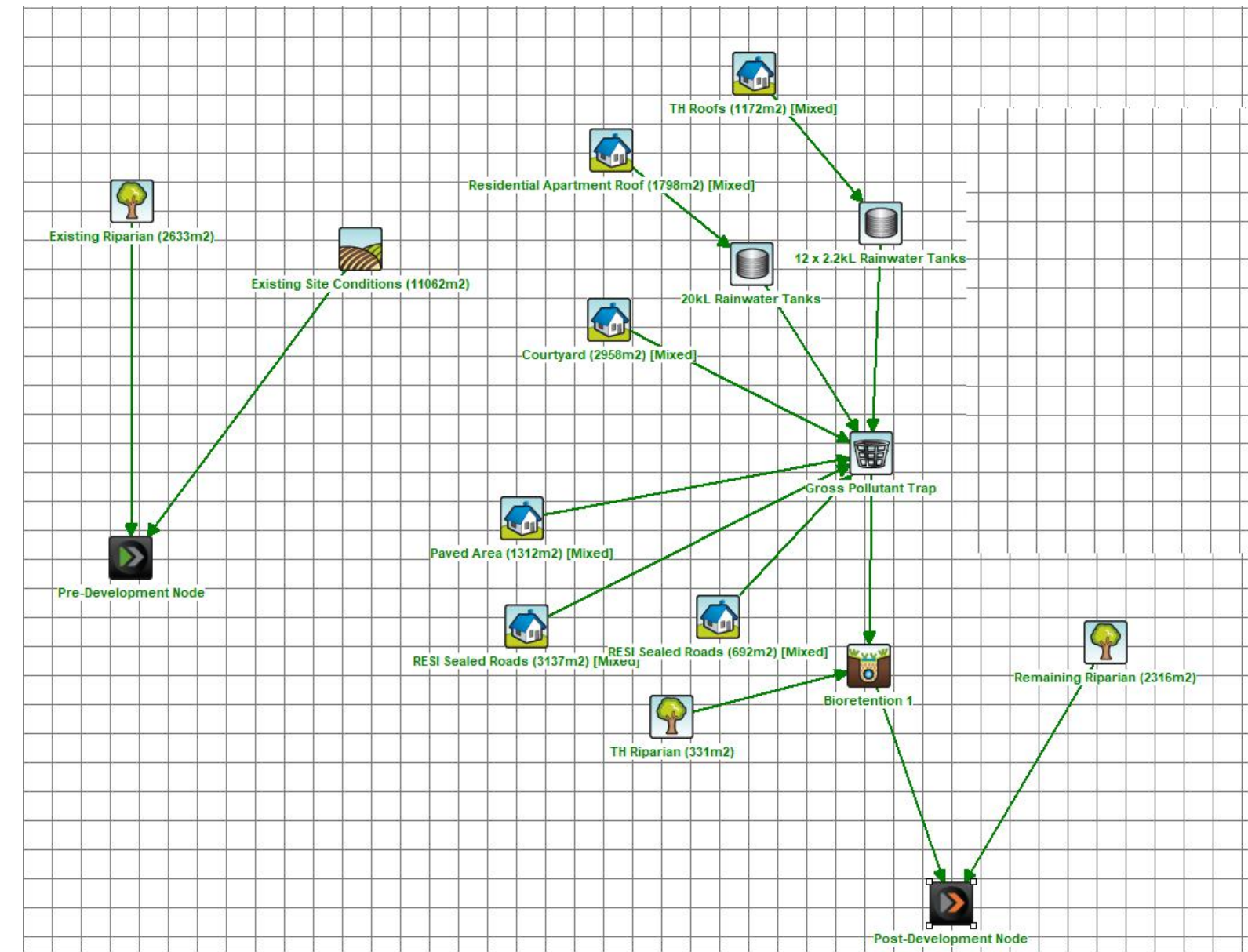
	Suite 5.03, Level 5, 156 PACIFIC HIGHWAY, ST. LEONARDS, NSW 2065 T: +61 2 8883 4239 Email: office@sgce.com.au Web: www.sgce.com.au		
	A.B.N. 21 118 222 530		

PROJECT PROPOSED RESIDENTIAL DEVELOPMENT 25-27 WARRIEWOOD ROAD, WARRIEWOOD - STAGE II			
Grid	Datum	Sheet	Scale (at original size)
-	A.H.D.	8 OF 8	1500 @ A1

Drawing Status FOR APPROVAL NOT TO BE USED FOR CONSTRUCTION PURPOSES		
Drawing Title STORMWATER CONCEPT DESIGN MUSIC CATCHMENT PLAN		
Project No 20160112	Drawing No SW500	Revision No E



Treatment Train Effectiveness - Post-Development Node			
	Sources	Residual Load	% Reduction
Flow (ML/yr)	12.5	6.71	46.2
Total Suspended Solids (kg/yr)	2090	297	85.8
Total Phosphorus (kg/yr)	4.33	1.01	76.7
Total Nitrogen (kg/yr)	24.6	9.26	62.3
Gross Pollutants (kg/yr)	227	0	100
<input type="checkbox"/> Include Pre-Development			



MUSIC MODEL AND RESULT
NOT TO SCALE

TOWNHOUSES CATCHMENT (BIORETENTION 1) STAGE 1

- RIPIARIAN ZONE INTO BIO 1. AREA: 331m², 100% PERVIOUS (OUTSIDE STAGE 2 SITE AREA)
- SEALED ROADS LANDSCAPE INTO GPT & BIO 1. AREA: 692m², 100% PERVIOUS
- SEALED ROADS INTO GPT & BIO 1. AREA: 2217m², 100% IMPERVIOUS

AGEDCARE (AC) CATCHMENT (BIORETENTION 2)

- AREA WHICH MUSIC MODEL HAS BEEN APPROVED IN DA N0611/16

STAGE 2 MUSIC CATCHMENT SUMMARY

TOTAL PERVIOUS AREA EXCLUDING ROADS (m2)	TOTAL SITE AREA EXCLUDING ROADS (m2)	PERVIOUS (%) (OF STAGE 2 SITE AREA)
3353	8187	41.00

TOWNHOUSE CATCHMENT (BIORETENTION 1) STAGE 2

- AREA WHICH MUSIC MODEL HAS BEEN APPROVED IN DA N0611/16
- COURTYARD INTO GPT & BIO 1. AREA: 2768m², 100% PERVIOUS
- RESIDENTIAL APARTMENT ROOF INTO 20000L RWT, GPT & BIO 1. AREA: 1798m², 100% IMPERVIOUS
- 11 TOWNHOUSES ROOF INTO 11x2200L RWT, GPT & BIO 1. AREA: 1180m², 100% IMPERVIOUS
- SEALED ROADS INTO GPT & BIO 1. AREA: 770.3m², 100% IMPERVIOUS
- PAVED AREA INTO GPT & BIO 1. AREA: 1082m², 100% IMPERVIOUS
- PERMEABLE PAVING INTO GPT & BIO 1. AREA: 585.75m², 100% PERVIOUS