76 HOBART STREET. ST. MARY'S PROPOSED MULTI-UNIT DEVELOPMENT STORMWATER CONCEPT PLANS

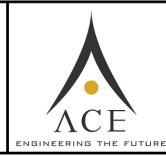


					Certification By Dr. Anthony Hasham (NPER):	Architect
В	COUNCIL COMMENTS	07/09/2021	AGN	JSF	(All -	ARCHITECTS
А	ISSUE FOR DEVELOPMENT APPLICATION	19/05/2021	AGN	JSF	Hall mouth	Unit 43, 2 Slough Ave, Silverwater NSW
Issue	Description	Date	Design	Checked	MART	
0 10	cm at full size 10cm 10cm			20cm		PHONE : (02) 9648 8848

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	DRAWING INDEX				
Drawing No.	DESCRIPTION				
000 COVER SHEET PLAN					
101 STORMWATER LAYOUT PLAN GROUND LEVEL					
102	WSUD CATCHMENT PLAN				
103	OSD/WSUD/RWT DETAILS AND CALCULATION SHEETS SHEET 1 OF 3				
104	OSD/WSUD/RWT DETAILS AND CALCULATION SHEETS SHEET 2 OF 3				
105	OSD/WSUD/RWT DETAILS AND CALCULATION SHEETS SHEET 3 OF 3				
106	SEDIMENT & EROSION & MISCELLANEOUS DETAILS				

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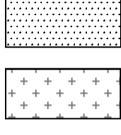


76 HOBART S PROPOSED MUL STORMWATE DEVELOPM

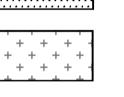
		NOT FOR CONST	FRUCTION		
STREET, ST. MARY'S LTI-UNIT DEVELOPMENT ER CONCEPT PLANS	Drawing Title COVER SHEET PLAN				
IENT APPLICATION	Scale A1 N.T.S.	Project No. 201191	Dwg. No. 000	lssue B	

LEGEND

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— – → – —
•
——— ExS ———
ExW
———— ExE ————
——— ExT ———
X RL 47.00
NS 26.45 -t
IL 47.00



///



PROPOSED OSD STORAGE

MASONRY RETAINING WALL TO

STRUCTURAL ENGINEER'S DETAILS

INVERT LEVEL OF PIPE JUNCTION

PROPOSED STORMWATER

PROPOSED STORMWATER

PROPOSED STORMWATER

MINIMUM 150mm CLEARANCE

BYPASSING OSD

DRAINING TO RWT

DRAINING TO OSD

PIPE OVERCROSSING

EXISTING SEWER MAIN

(FROM RECORDS)

EXISTING WATER

(FROM RECORDS)

EXISTING POWER

(FROM RECORDS)

EXISTING TELSTRA

(FROM RECORDS)

GUTTER DOWNPIPE

SURFACE FLOW ARROWS

DESIGN SURFACE LEVEL

EXISTING SURFACE LEVEL

PROPOSED WSUD / BIO-RETENTION AREA / POND

AREA BYPASSING OSD



 \land

.

TREES TO BE RETAINED

UNDERGROUND RAINWATER TANK

TREES TO BE REMOVED

DRIVEWAY NOTE: REFER TO ARCHITECTURAL PLANS FOR MORE INFORMATION **REGARDING DRIVEWAY GRADES.**

ROOF NOTE:

ALL ROOF DRAINAGE SYSTEM TO BE IN ACCORDANCE WITH BASIX REPORT, IS SUBJECT TO DETAILED DESIGN STAGE & TO BE CONNECTED TO OSD.

<u>(</u>	<u>GENERAL NOTES</u>
1.	ALL LINES ARE TO BE Ø90 uPVC 1.0% GRADE UNLESS NOTED OTHERWISE. CHARGED LINES TO BE SEWERGRADE & SEALED.
2.	EXISTING SERVICES LOCATIONS SHOWN INDICATIVE ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE & LEVEL ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS.
3.	ALL PIPES TO HAVE MIN 150mm COVER IF LOCATED WITHIN PROPERTY.
4.	ALL PITS IN DRIVEWAYS TO BE 450x450 CONCRETE AND ALL PITS IN LANDSCAPED AREAS TO BE 450x450 PLASTIC.
5.	PITS LESS THAN 600mm DEEP MAY BE BRICK, PRECAST OR CONCRETE.
6.	ALL BALCONIES AND ROOFS TO BE DRAINED AND TO HAVE SAFETY OVERFLOWS IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS.
7.	ALL EXTERNAL SLABS TO BE WATERPROOFED.
8.	ALL GRATES TO HAVE CHILD PROOF LOCKS.
9.	ALL DRAINAGE WORKS TO AVOID TREE ROOTS.
10.	ALL DPs TO HAVE LEAF GUARDS.
11.	ALL EXISTING LEVELS TO BE CONFIRMED BY BUILDER PRIOR TO CONSTRUCTION.
12.	ALL WORK WITHIN COUNCIL RESERVE TO BE INSPECTED BY COUNCIL PRIOR TO CONSTRUCTION.
13.	COUNCIL'S ISSUED FOOTWAY DESIGN LEVELS TO BE INCORPORATED INTO THE FINISHED LEVELS ONCE ISSUED BY COUNCIL.
14.	ALL WORK SHALL BE IN ACCORDANCE WITH B.C.A. AND A.S.3500.3.
15.	REFER TO LANDSCAPE ARCHITECT'S DRAWINGS FOR LANDSCAPING.
16.	CARE TO BE TAKEN AROUND EXISTING SEWER. STRUCTURAL ADVIICE IS REQUIRED FOR SEWER PROTECTION AGAINST ADDITIONAL LOADING FROM NEW PITS, PIPES, RETAINING WALLS AND OSD BASIN WATER LEVELS.
17.	ALL WALLS FORMING THE DETENTION BASINS SHALL BE CONSTRUCTED WHOLLY WITHIN THE PROPERTY BOUNDARIES OF THE SITE BEING DEVELOPED.
18.	OSD WARNING SIGN AND SAFETY FENCING SHALL BE PROVIDED TO ABOVE GROUND OSD STORAGE AREA IN ACCORDANCE WITH COUNCIL REQUIREMENTS.
19.	ENSURE THAT NON FLOATABLE MULCH IS USED IN DETENTION BASINS, ie, USE DECORATIVE ROCK MULCH OR EQUIVALENT.
20.	ALL PIPES IN BALCONIES TO BE Ø65 uPVC CAST IN CONCRETE SLAB. CONTRACTOR TO PROVIDE A BREAK / OPEN VOID IN RAIL / BALLUSTRADE FOR STORMWATER EMERGENCY OVERFLOW. ALL ENCLOSED AREAS/PLANTER BOXES TO BE FITTED WITH FLOOR WASTES & DRAINED TO OSD DOWNPIPES TO BE CHECKED BY ARCHITECT & PLUMBER PRIOR TO CONSTRUCTION

21. THE OSD BASIN / TANK IS TO BE BUILT TO THE CORRECT LEVELS & SIZE AS PER THIS DESIGN. ANY VARIATIONS ARE TO BE DONE UNDER CONSULTATION FROM OUR OFFICE ONLY. ANY AMENDMENTS WITHOUT OUR APPROVAL WOULD RESULT IN ADDITIONAL FEES FOR REDESIGN AT OC STAGE OR IF A SOLUTION CANNOT BE FOUND, RECONSTRUCTION IS REQUIRED UNDER THE CONTRACTOR'S EXPENSES.

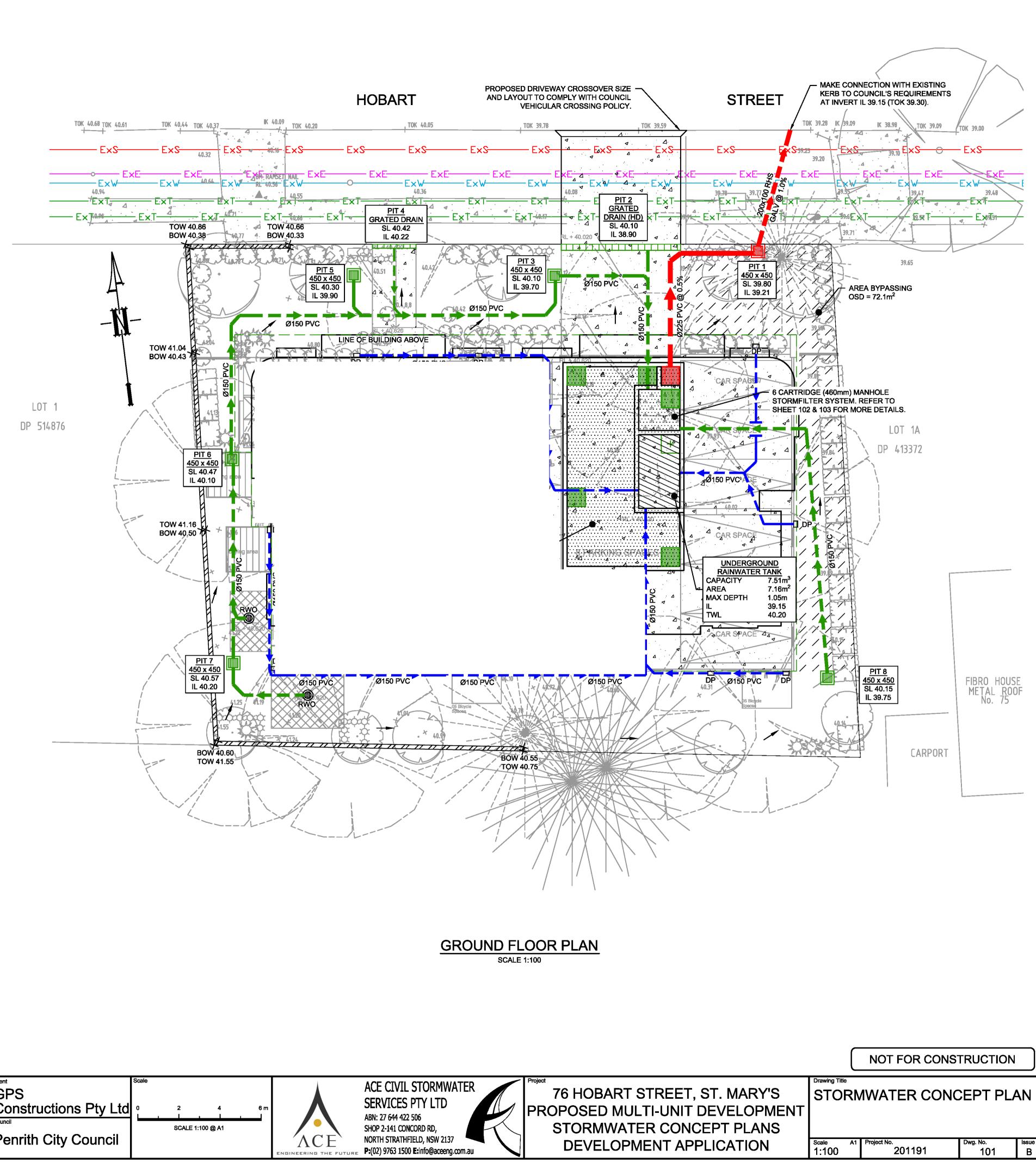
PLUMBER PRIOR TO CONSTRUCTION.

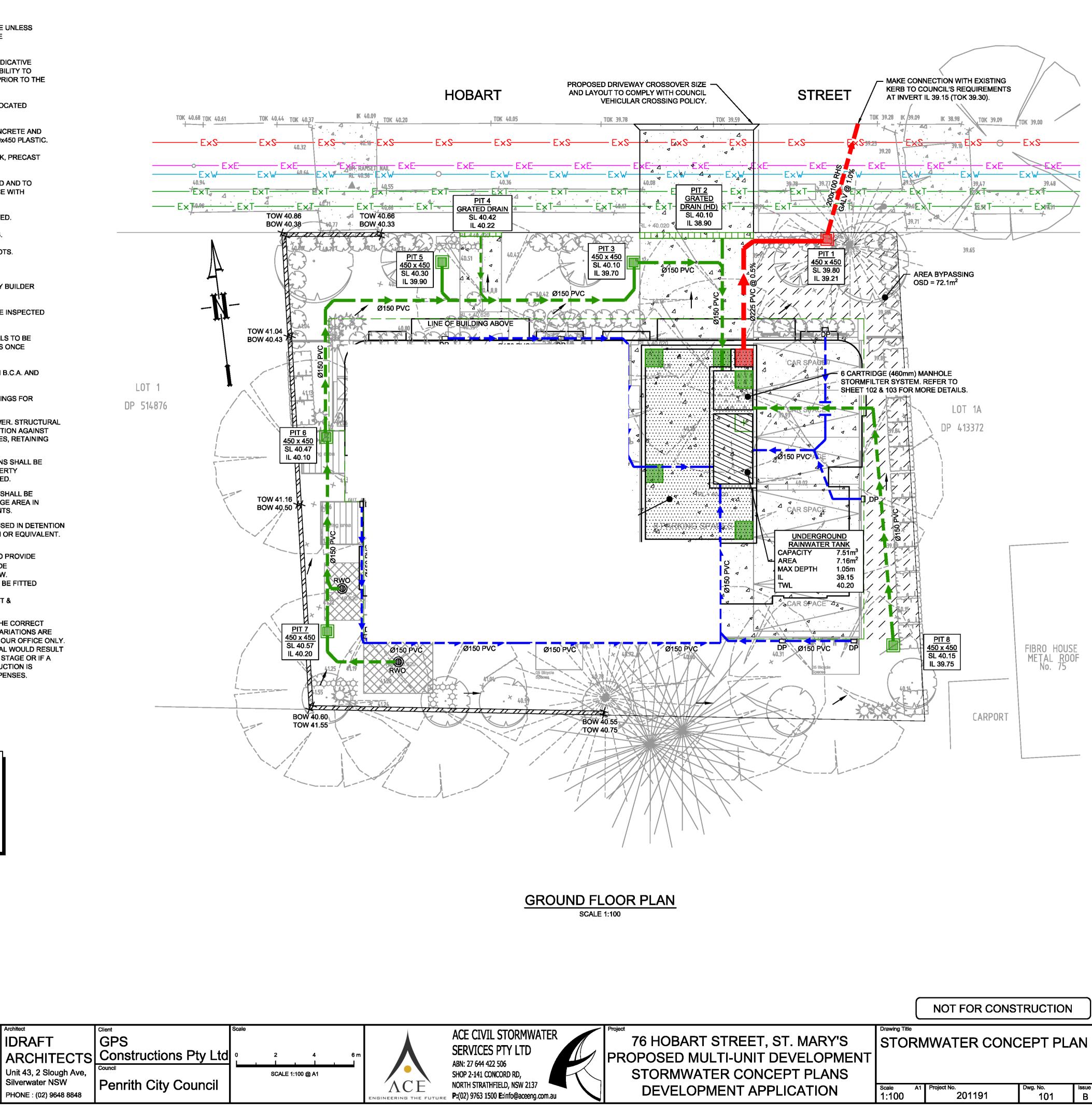
PIPES NOTE:					
Ø65 PVC @ MIN 1.0%					
Ø90 PVC @ MIN 1.0%					
Ø100 PVC @ MIN 1.0%					
Ø150 PVC @ MIN 1.0%					
Ø225 PVC @ MIN 0.5%					
Ø300 PVC @ MIN 0.4%					
UNLESS NOTED OTHERWISE					

ROOF NOTE:

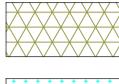
IT IS CONTRACTOR'S RESPONSIBILITY TO ENSURE MINIMUM 30 TO 40MM OF PONDING IS ACHIEVED OVER THE RAINWATER OUTLETS BY GRADING CATCHMENTS' SURFACES AT MINIMUM 1.0% FALL FOR PAVED SURFACES AND FOR OTHER SURFACES.

ication By Dr. Anthony Hasham (NPE **IDRAFT** COUNCIL COMMENTS 07/09/2021 AGN JSF в Unit 43, 2 Slough Ave, ISSUE FOR DEVELOPMENT APPLICATION Α 19/05/2021 AGN JSF Silverwater NSW lssue Description Date Design Checke PHONE : (02) 9648 8848 1cm at full size





CATCHMENT LEGEND



ROOF AREA TO RWT THEN TO WSUD = $428.5m^{2}$



PERVIOUS AREA TO WSUD = 221.6m²



IMPERVIOUS AREA TO WSUD = $25.9m^2$



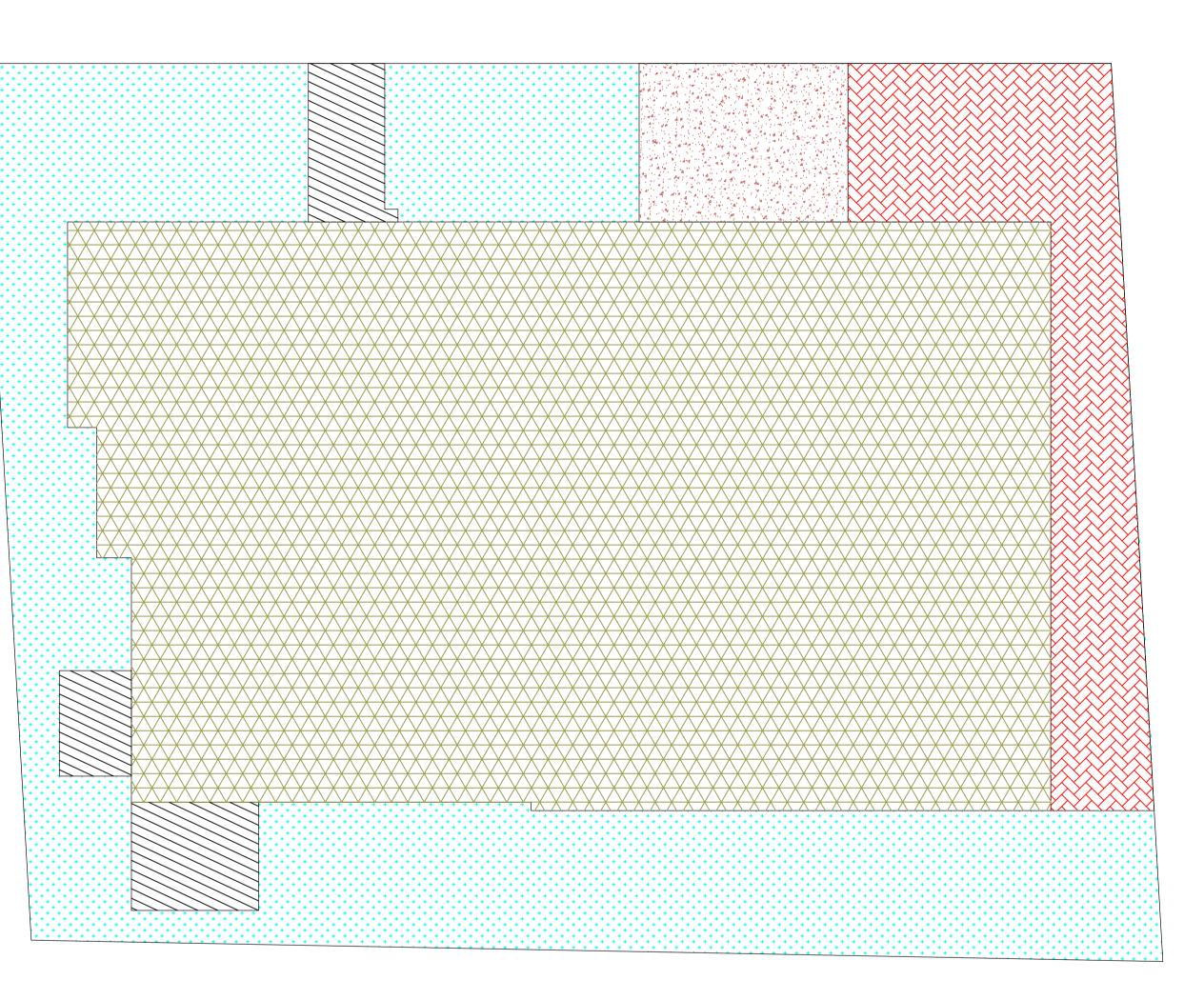
ROAD AREA TO WSUD = $25.5m^2$

PERVIOUS AREA BYPASSING $WSUD = 72.1m^2$

TOTAL AREA TO WSUD = $701.5m^2$ TOTAL SITE AREA = $773.6m^2$

					Certification By Dr. Anthony Hasham (NPER):	Architect	C
					1	IDRAFT	
					(All	ARCHITECTS	
В	COUNCIL COMMENTS	07/09/2021	AGN	JSF	VI- MAKE		(
A	ISSUE FOR DEVELOPMENT APPLICATION	19/05/2021	AGN	JSF	Ho mone	Unit 43, 2 Slough Ave, Silverwater NSW	
Issue	Description	Date	Design	Checked	10 and		
0 10	m at full size 10cm			20cm	100	PHONE : (02) 9648 8848	

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WSUD CATCHMENT PLAN SCALE 1:100

GPS Constructions Pty Ltd	0
Council	
Penrith City Council	

SCALE 1:100 @ A1

4

Scale

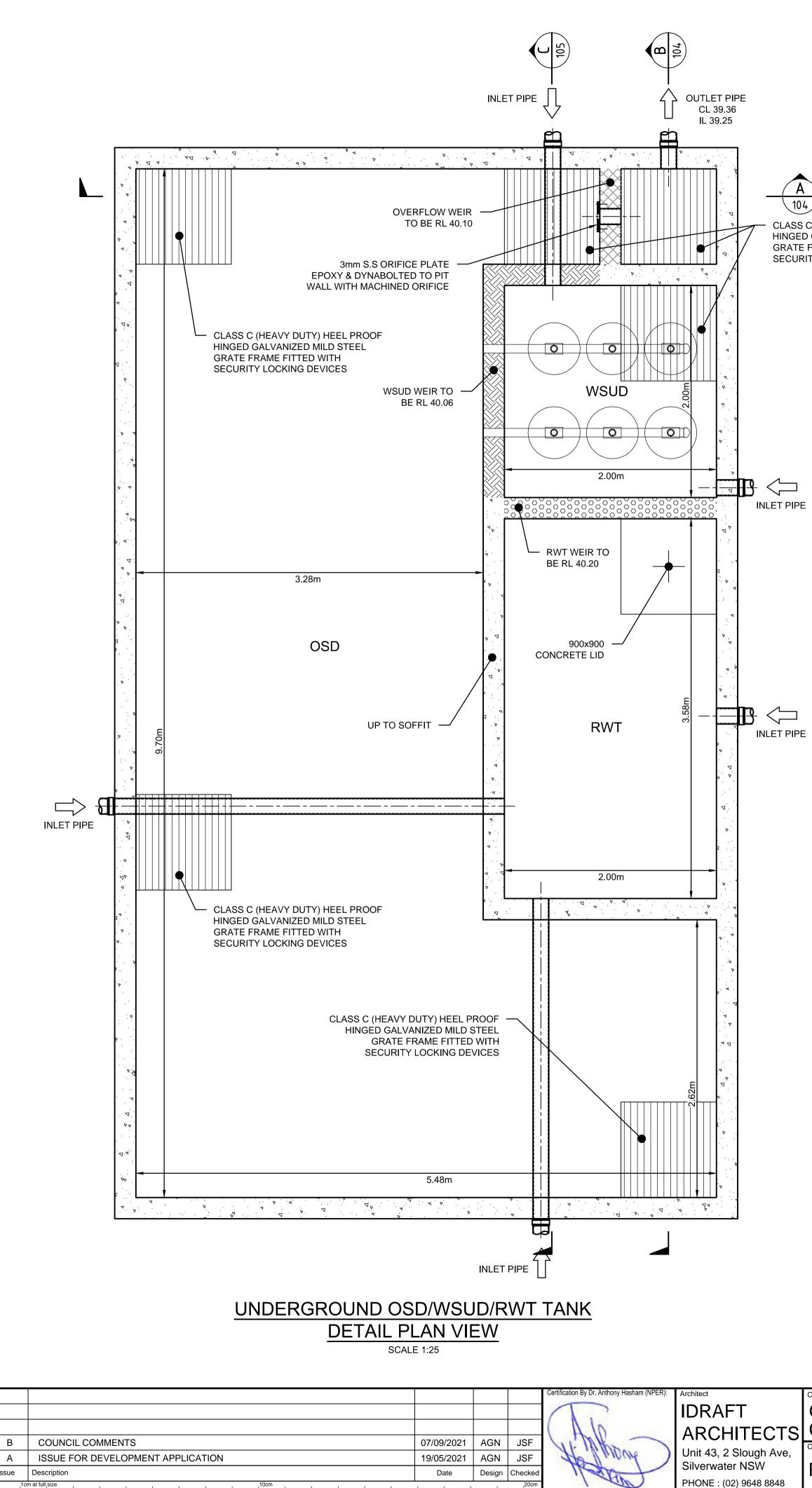


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76 HOBART S PROPOSED MUL STORMWATE DEVELOPM

		NOT FOR CONS	FRUCTION	
STREET, ST. MARY'S LTI-UNIT DEVELOPMENT ER CONCEPT PLANS	Drawing Title	CATCHMENT F	PLAN	
MENT APPLICATION	Scale A1 1:100	Project No. 201191	Dwg. No. 102	lssue B



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OSD CALCULATIONS:

	= 0.077	36 ha		
 FOLLOWING COUNCIL'S STORMWATER DRAINAGE SPECIFICATION IN SECTION 3 FOR PERMISSIBLE OSD DISCHARGE AND REQUIRED STORAGE 				
		= 4.56 l/s		
	AREA BYPA FOLLOWIN DRAINAGE IN SECTION DISCHARG PSD = 5 SSR = 3 THEREFOR	= 0.077 AREA BYPASSING OSD FOLLOWING COUNCIL'S DRAINAGE SPECIFICAT IN SECTION 3 FOR PERI DISCHARGE AND REQU PSD = 59 l/s/ha SSR = 360 m ³ /ha THEREFORE:		

= 360 x 0.07736

 $= 27.85 \text{ m}^3$

SSR

UNDERGROUND OSD TANK STAGED STORAGE CALCULATIONS

DEPTH (mm)	AREA (m²)	CUMULATIVE VOLUME (m³)
0	45.95	0
100	45.95	2.2975
200	45.95	6.8925
300	45.95	11.4875
400	45.95	16.0825
500	45.95	20.6775
600	45.95	25.2725
700	45.95	29.8675
740	45.95	31.7055

ORIFICE CALCULATIONS:

- $Q = C x A x (2 x g x h)^{0.5}$
- SO: $A = Q / (C \times sqrt(2 \times g \times h))$ = 0.00456 / (0.61 x sqrt(2 x 9.81 x 0.74)) $= 0.00196 \text{ m}^2$
- THEREFORE:

d

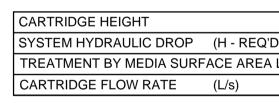
- = sqrt(4 x A / pi)
- = sqrt(4 x 0.00196 / 3.14159) = 50 mm

GENERAL NOTES

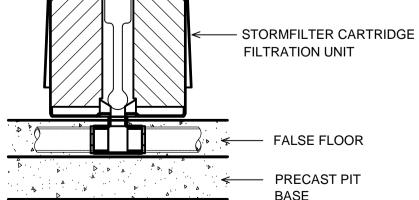
- 1. INLET AND OUTLET PIPING SHALL BE SPECIFIED BY SITE CIVIL ENGINEER (SEE PLANS) AND PROVIDED BY CONTRACTOR. STORMFILTER IS PROVIDED WITH OPENINGS AT INLET AND OUTLET LOCATIONS.
- 2. IF THE PEAK FLOW RATE, AS DETERMINED BY THE SITE CIVIL ENGINEER, EXCEEDS THE PEAK HYDRAULIC CAPACITY OF THE PRODUCT, AN UPSTREAM BYPASS STRUCTURE IS REQUIRED. PLEASE CONTACT STORMWATER360 FOR OPTIONS.
- 3. THE FILTER CARTRIDGE(S) ARE SIPHON-ACTUATED AND SELF-CLEANING. THE STANDARD DETAIL DRAWING SHOWS THE MAXIMUM NUMBER OF CARTRIDGES. THE ACTUAL NUMBER SHALL BE SPECIFIED BY THE SITE CIVIL ENGINEER ON SITE PLANS OR IN DATA TABLE BELOW. PRECAST STRUCTURE TO BE CONSTRUCTED IN ACCORDANCE WITH AS3600.
- 4. FOR SHALLOW, LOW DROP OR SPECIAL DESIGN CONSTRAINTS, CONTACT STORMWATER360 FOR DESIGN OPTIONS. 5. ALL WATER QUALITY PRODUCTS REQUIRE PERIODIC MAINTENANCE
- AS OUTLINED IN THE O&M GUIDELINES. PROVIDE MINIMUM CLEARANCE FOR MAINTENANCE ACCESS. 6. STRUCTURE AND ACCESS COVERS DESIGNED TO MEET
- AUSTROADS T44 LOAD RATING WITH 0-2m FILL MAXIMUM. 7. THE STRUCTURE THICKNESSES SHOWN ARE FOR
- REPRESENTATIONAL PURPOSES AND VARY REGIONALLY 8. ANY BACKFILL DEPTH, SUB-BASE, AND OR ANTI-FLOTATION PROVISIONS ARE SITE-SPECIFIC DESIGN CONSIDERATIONS AND
- SHALL BE SPECIFIED BY SITE CIVIL ENGINEER. 9.. STORMFILTER BY STORMWATER360: SYDNEY (AU) PHONE: (02) 9525 5833,
- BRISBANE (AU) PHONE: (07) 3272 1872.

STORMFILTER DESIGN TABLE

• STORMFILTER TREATMENT CAPACITY VARIES BY NUMBER OF FILTER CARTRIDGES INSTALLED AND BY REGION SPECIFIC INTERNAL FLOW CONTROLS. CONVEYANCE CAPACITY IS RATED AT 80L/S. ALL PARTS PROVIDED AND INTERNAL ASSEMBLY BY STORMWATER360 AUSTRALIA UNLESS OTHERWISE NOTED.



SYSTEM HYDRAULIC DROP CARTRIDGE FLOW RATE

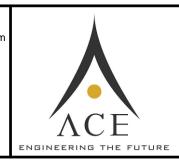


— Ø10mm x 100mm 'DYNABOLTS' - Ø150mm DISCHARGE LINE - Ø50mm ORIFICE DIAMETER - 3mm STAINLESS STEEL PLATE



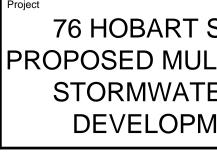
600mr

GPS 200 400 ARCHITECTS Constructions Pty Ltd SCALE 1:10 @ A1 0 0.2 0.4 0.6 0.8 1.0 1.2m Penrith City Council SCALE 1:25 @ A1



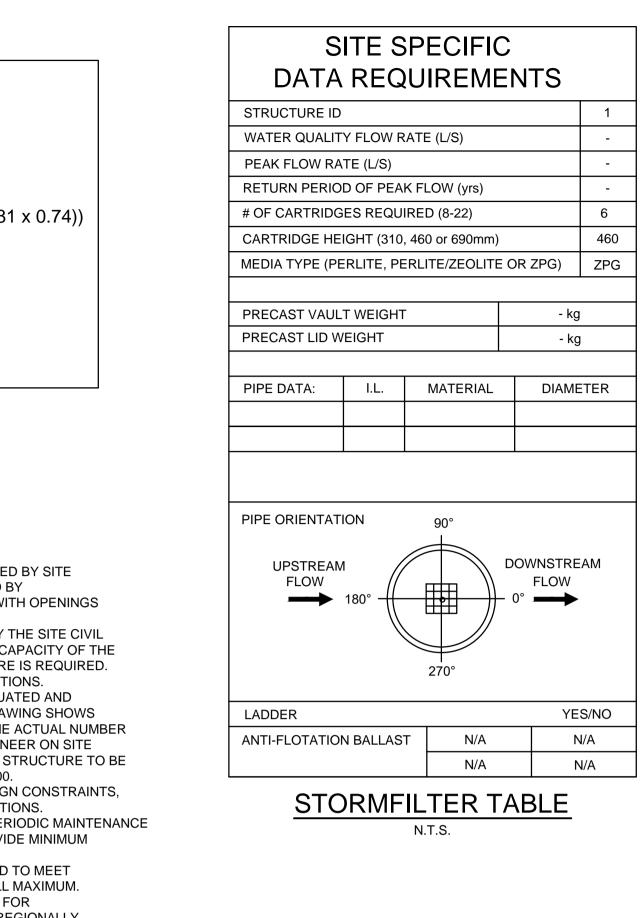
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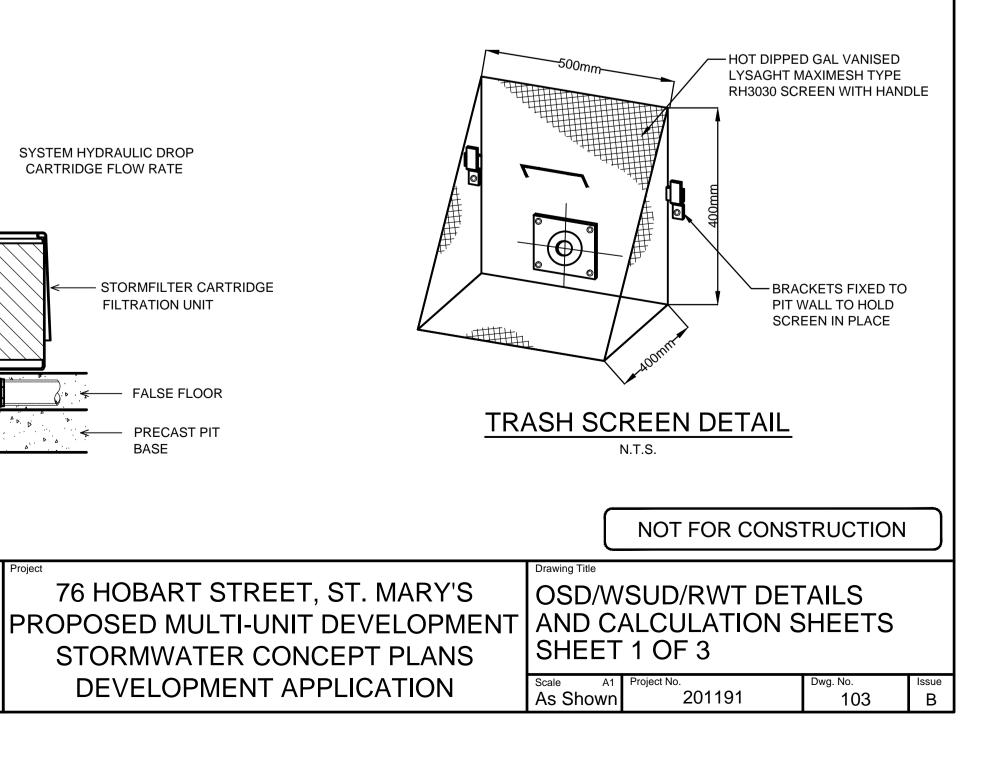


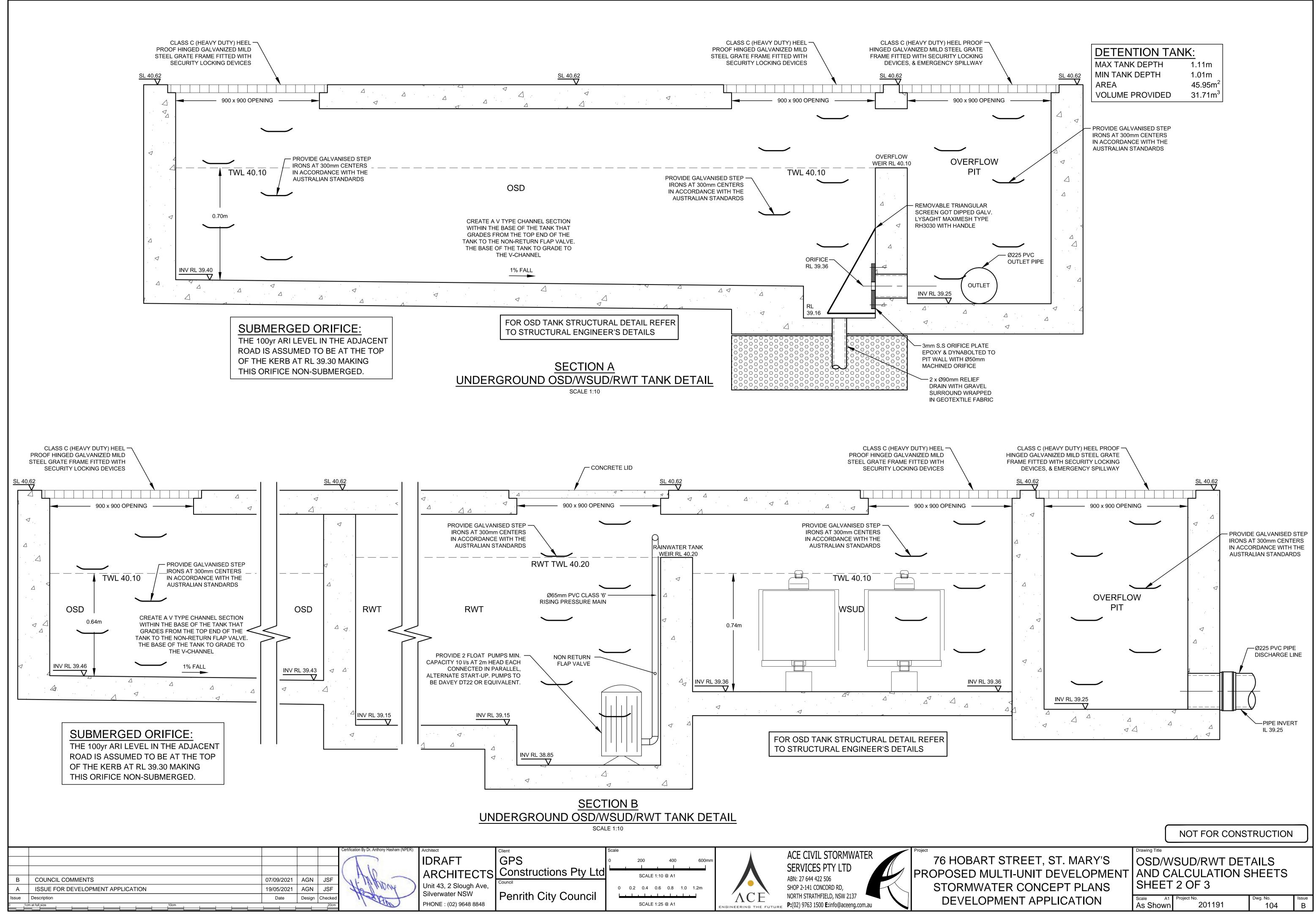
900 x 900 ACCESS COVER

CLASS C (HEAVY DUTY) HEEL PROOF HINGED GALVANIZED MILD STEEL GRATE FRAME FITTED WITH SECURITY LOCKING DEVICES

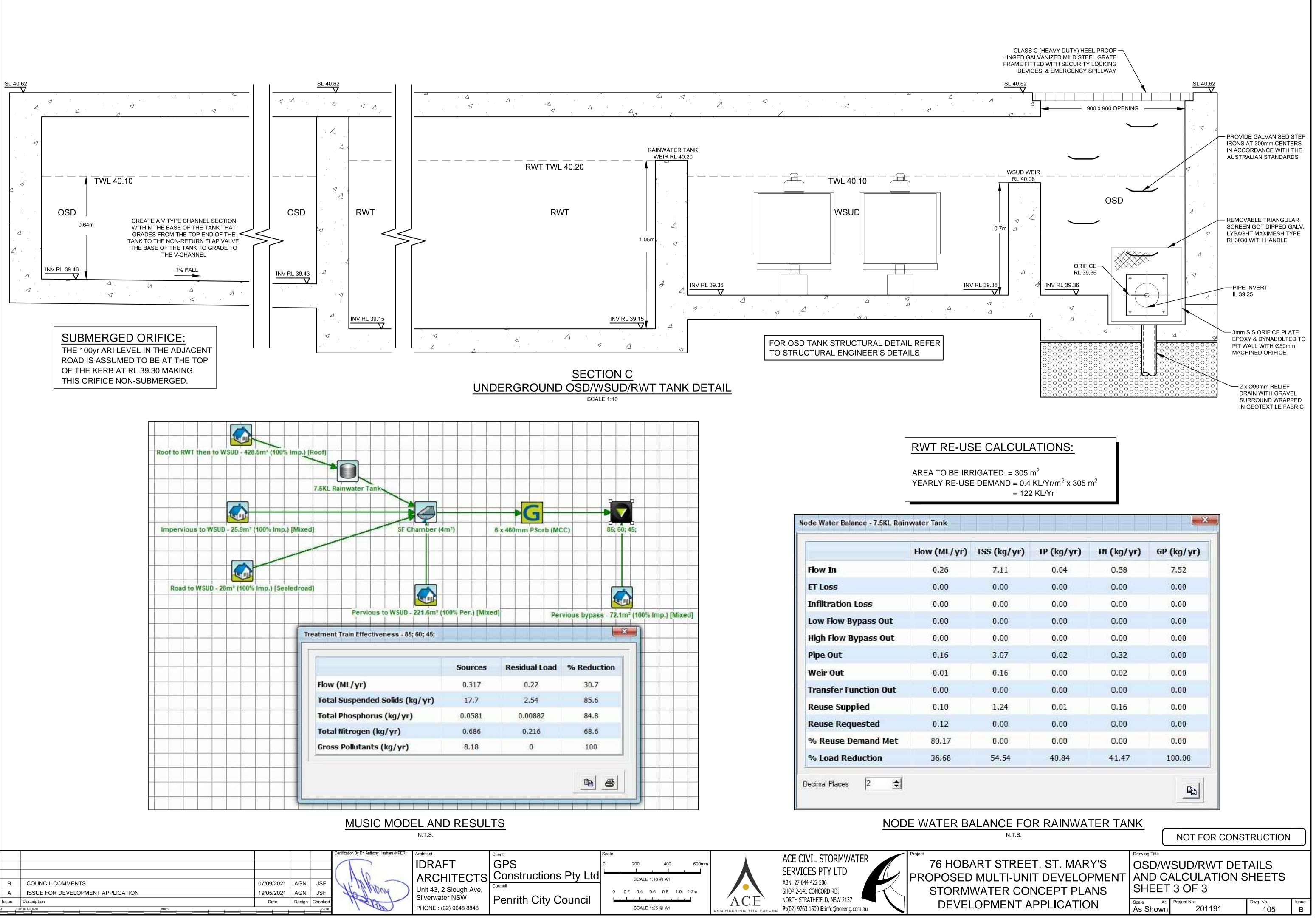


	690		46	60	310		
). MIN.)	930		700		550		
L/S/m2	1.4	0.7	1.4	0.7	1.4	0.7	
	1.42	0.71	0.95	0.47	0.63	0.32	





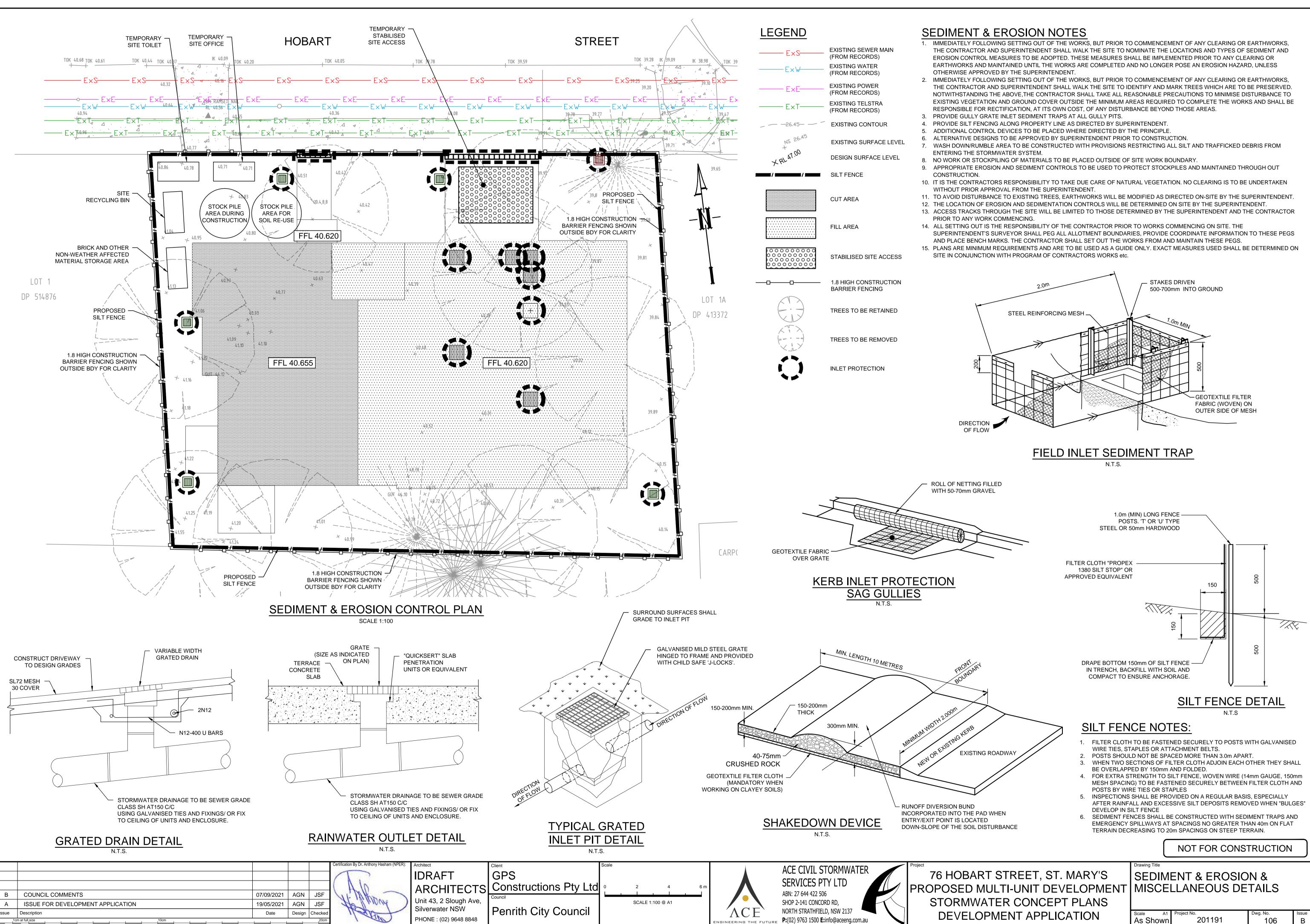
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Version: 1, Version Date: 14/09/2021

	GPS Constructions Pty Ltd	Scale 0 200 400 600mm SCALE 1:10 @ A1	Å	ACE CIVIL STORMWATER SERVICES PTY LTD ABN: 27 644 422 506	Project 76 HOB PROPOSEI
′е,	Penrith City Council	0 0.2 0.4 0.6 0.8 1.0 1.2m	ACE ENGINEERING THE FUTURE	SHOP 2-141 CONCORD RD, NORTH STRATHFIELD, NSW 2137 P:(02) 9763 1500 E:info@aceeng.com.au	STORM DEVE



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