

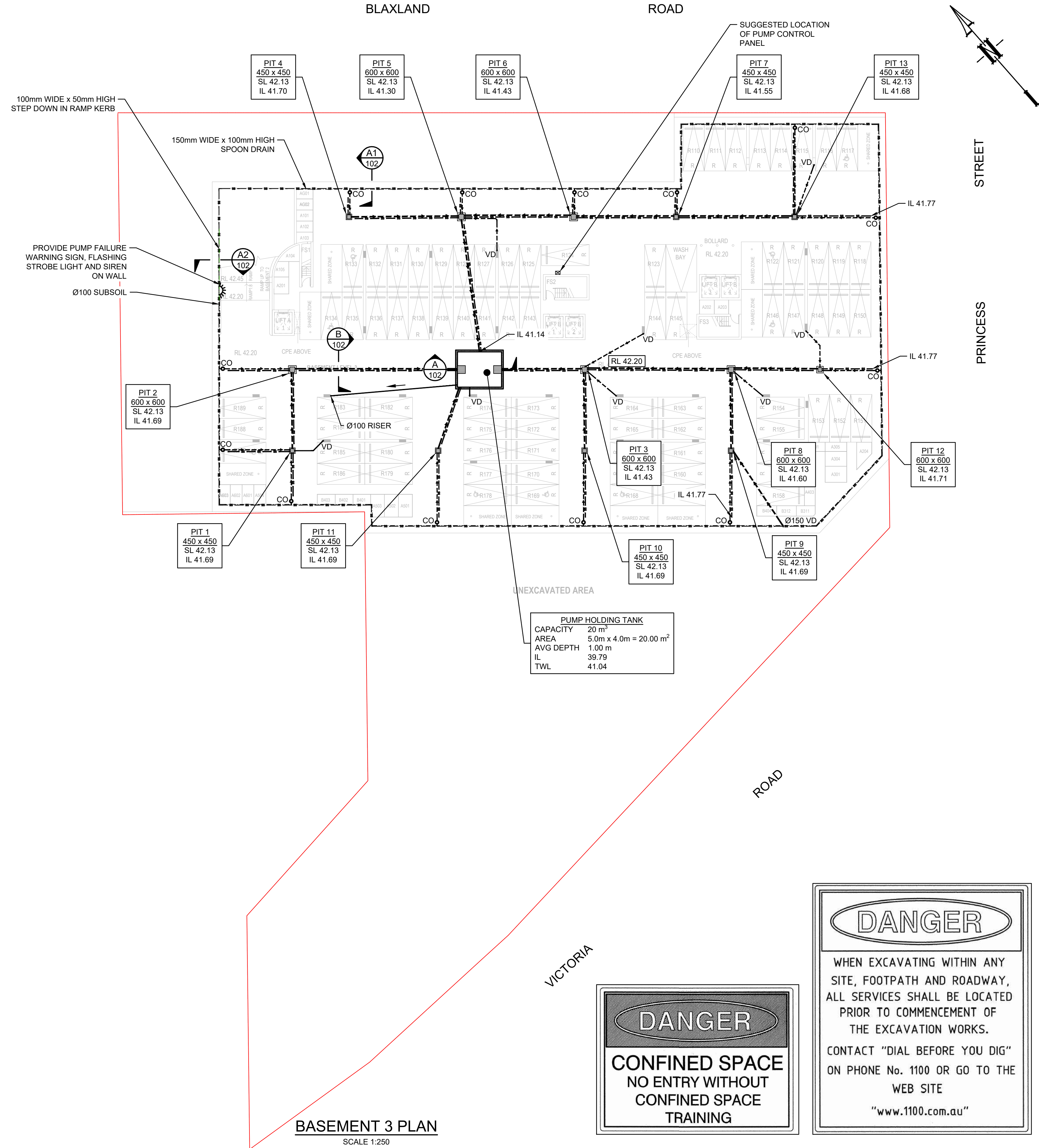
LEGEND

	PROPOSED STORMWATER PIPE
	PROPOSED GRATED STORMWATER PIT
	PROPOSED STORMWATER PIT FITTED WITH GAS TIGHT SEALED LID
	Ø100mm VERTICAL DROP
	SURFACE FLOW DIRECTION
	Ø100mm SUBSOIL DRAINAGE TO BE WRAPPED IN GEOTEXTILE BIDIMA34 @MIN 1.0% SLOPE
	CLEANING EYE (OR INSPECTION EYE)
	INSPECTION OPENING
	FINISHED SURFACE LEVEL
	GRATED DRAIN (HD)
	Ø150mm FLOOR GRATE
	(HD) (HEAVY DUTY)

STANDARD PUMP OUT DESIGN NOTES

THE PUMP OUT SYSTEM SHALL BE DESIGN TO BE OPERATED IN THE FOLLOWING MANNER:

- 1 - THE PUMP SHALL BE PROGRAMMED TO WORK ALTERNATELY TO ALLOW BOTH PUMPS TO HAVE AN EQUAL OPERATION LOAD AND PUMP LIFE.
- 2 - A FLOAT SHALL BE PROVIDED TO ENSURE OF THE MINIMUM REQUIRED WATER LEVEL IS MAINTAINED WITHIN THE SUMP AREA OF THE BELOW GROUND TANK. IN THIS REGARD THIS FLOAT WILL FUNCTION AS AN OFF SWITCH FOR THE PUMPS AT THE MINIMUM WATER LEVEL. THE SAME FLOAT SHALL BE SET TO TURN ONE OF THE PUMPS ON UPON THE WATER LEVEL IN THE TANK RISING TO APPROXIMATELY 300mm ABOVE THE MINIMUM WATER LEVEL. THE PUMP SHALL OPERATE UNTIL THE TANK IS DRAINED TO THE MINIMUM WATER LEVEL.
- 3 - A SECOND FLOAT SHALL BE PROVIDE AT A HIGH LEVEL, WHICH IS APPROXIMATELY THE ROOF LEVEL OF THE BELOW GROUND TANK. THIS FLOAT SHALL START THE OTHER PUMP THAT IS NOT OPERATING AND ACTIVATE THE ALARM.
- 4 - AN ALARM SYSTEM SHALL BE PROVIDE WITH A FLASHING STROBE LIGHT AND A PUMP FAILURE WARNING SIGN WHICH ARE TO BE LOCATED AT THE DRIVEWAY ENTRANCE TO THE BASEMENT LEVEL THE ALARM SYSTEM SHALL BE PROVIDED WITH A BATTERY BACK-UP IN CASE OF POWER FAILURE.
- 5 - A CONFINED SPACE DANGER SIGN SHALL BE PROVIDED AT ALL ACCESS POINT TO THE PUMP-OUT STORAGE TANK IN ACCORDANCE WITH THE UPPER PARRAMATA RIVER CATCHMENT TRUST OSD HANDBOOK.



WARNING
PUMP OUT SYSTEM
FAILURE IN BASEMENT
WHEN LIGHT IS FLASHING
AND SIREN SOUNDING

BASEMENT PUMP OUT FAILURE WARNING SIGN

SIGN SHALL BE PLACED IN A CLEAR AND VISIBLE LOCATION WHERE VEHICLES ENTER THE BASEMENT.

COLOURS:
"WARNING" = RED
BORDER AND OTHER LETTERING = BLACK

CONFINED SPACE DANGER SIGN

A) A CONFINED SPACE DANGER SIGN SHALL BE POSITIONED IN A LOCATION AT ALL ACCESS POINTS, SUCH THAT IT IS CLEARLY VISIBLE TO PERSONS PROPOSING TO ENTER THE BELOW GROUND TANK/S CONFINED SPACE.

B) MINIMUM DIMENSIONS OF THE SIGN - 300mm x 450mm (LARGE ENTRIES, SUCH AS DOORS) -250mm x 180mm (SMALL ENTRIES SUCH AS GRATES & MANHOLES).

C) THE SIGN SHALL BE MANUFACTURED FROM COLOUR BONDED ALUMINUM OR POLYPROPYLENE.

D) SIGN SHALL BE AFFIXED USING SCREWS AT EACH CORNER OF THE SIGN.

COLOURS:
"DANGER" & BACKGROUND = WHITE
ELLIPTICAL AREA = RED
RECTANGLE CONTAINING ELLIPSE = BLACK
BORDER AND OTHER LETTERING = BLACK

NOTE

PROVIDE 75mm DEEP LAYER OF 10mm BLUE METAL AGGREGATE UNDER THE SLAB ON GROUND IN BETWEEN FOOTINGS. REFER DETAIL ON DRAWING 102.

NOTE:

PIPES CAST IN CONCRETE BEAMS/SLABS MUST BE WRAPPED WITH 20mm ABLEFLEX.

NOTE:

ALL STORMWATER DRAINAGE PIPES ARE Ø100 uPVC AT MIN 1.0 SLOPE U.N.O.

NOTE:

CO HAVE BEEN SHOWN OUTSIDE SPOON DRAIN ON PLAN FOR CLARITY.

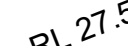
PIPES NOTE:

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

NOT FOR CONSTRUCTION

						Architect CDArchitects Level2, 60 Park Street, Sydney, NSW 2000	Council Ryde City Council	Scale 0 2 4 6 8 10 12 m SCALE 1:250 @ A1	 CIVIL & STORMWATER ENGINEERING SERVICES PTY LTD ABN: 27 644 422 506 Shop 1, 143-147 Parramatta Road, Concord, NSW 2137 P:(02) 8397 6500 E:info@esgconsult.com.au	Project 691-695 VICTORIA ROAD, RYDE PROPOSED MIXED USE DEVELOPMENT STORMWATER CONCEPT PLAN	Drawing Title STORMWATER CONCEPT PLAN BASEMENT LEVEL 3
C	ISSUE FOR DEVELOPMENT APPLICATION	19/05/2025	YRM	EH	OC						
B	ISSUE FOR DEVELOPMENT APPLICATION	27/09/2024	YRM	EH	OC						
A	ISSUE FOR DEVELOPMENT APPLICATION	27/09/2024	YRM	EH	OC						
Issue	Description	Date	Designed	Engineer	Checked	P: 02 9267 2000 W: www.cdarchitects.com.au					
Scale	1:250	A1	Project No.	230266	Dwg. No.	100	Issue	C			

LEGEND

-  PROPOSED STORMWATER
-  Ø100mm VERTICAL DROP
-  SURFACE FLOW DIRECTION
-  Ø100mm SUBSOIL DRAINAGE TO BE WRAPPED IN GEOTEXTILE BIDIMA34 @MIN 1.0% SLOPE
-  CLEANING EYE (OR INSPECTION EYE)
-  INSPECTION OPENING
-  FINISHED SURFACE LEVEL
-  GRATED DRAIN (HD)
-  Ø150mm FLOOR GRATE
-  (HD) (HEAVY DUTY)

100mm WIDE x 50mm HIGH
STEP DOWN IN RAMP KERB

100mm WIDE x 50mm HIGH
STEP DOWN IN RAMP KERB

BASEMENT BELOW OUTLINE

RAMP DOWN TO
BASEMENT 3

RAMP 1-4

RAMP 1-5

RL 45.55

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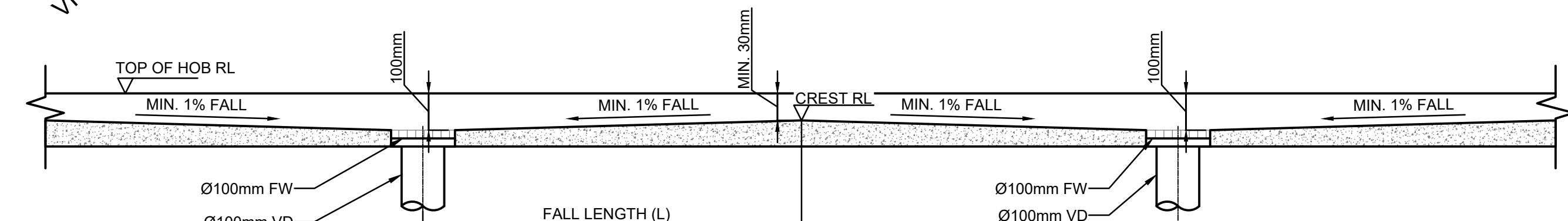
UNEXCAVATED AREA

ROAD

VICTORIA

BASEMENT 2 PLAN

SCALE 1:250



TYPICAL SPOON DRAIN FALL DETAILS

N.T.S.

NOTE
PROVIDE 75mm DEEP LAYER OF 10mm BLUE METAL AGGREGATE UNDER THE SLAB ON GROUND IN BETWEEN FOOTINGS. REFER DETAIL ON DRAWING 102.

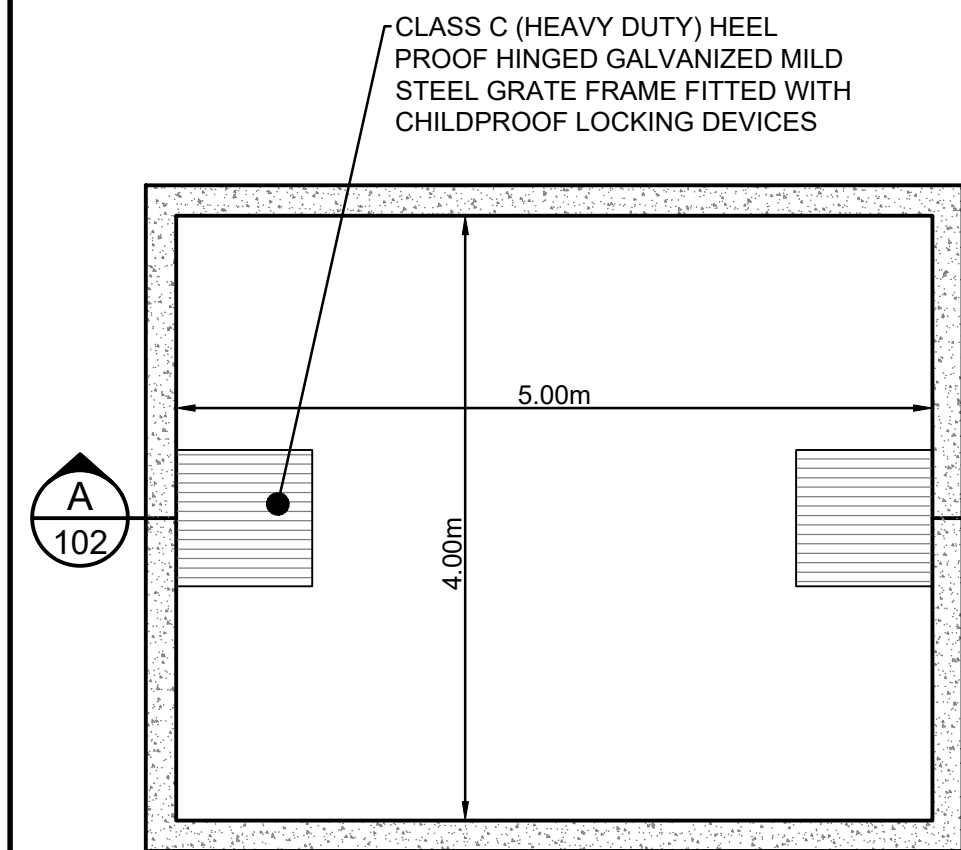
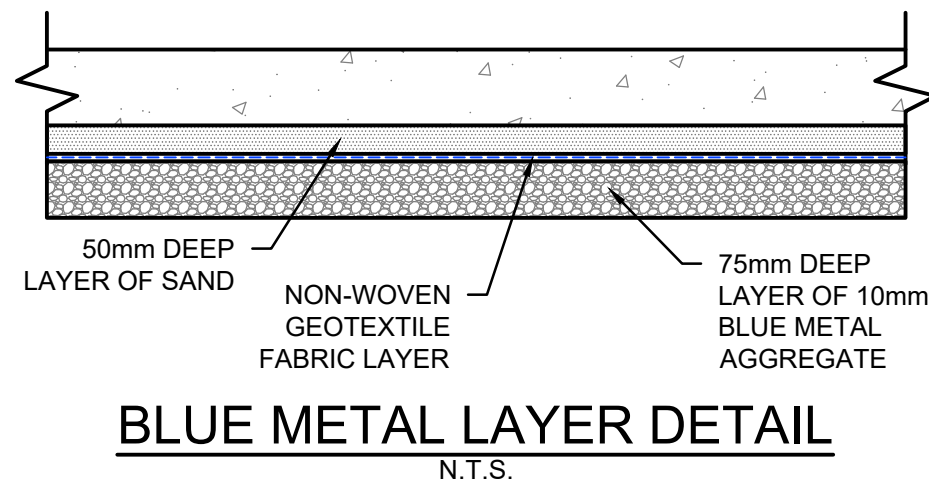
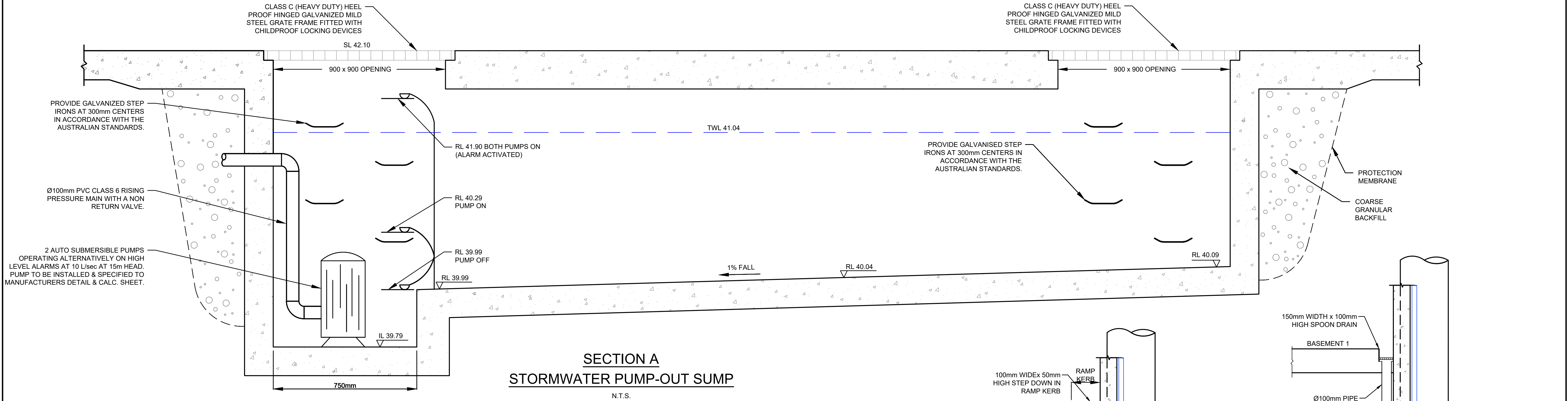
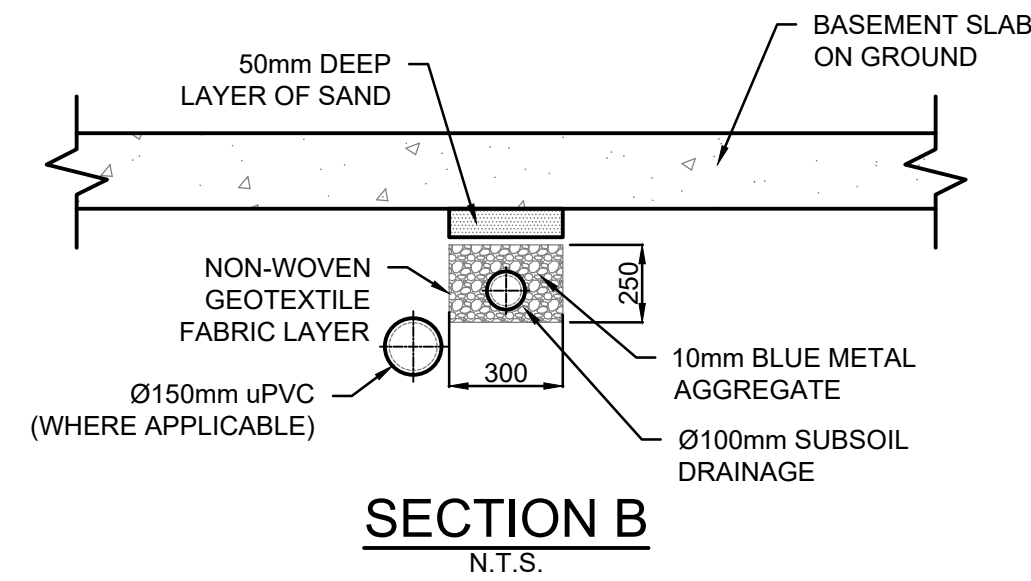
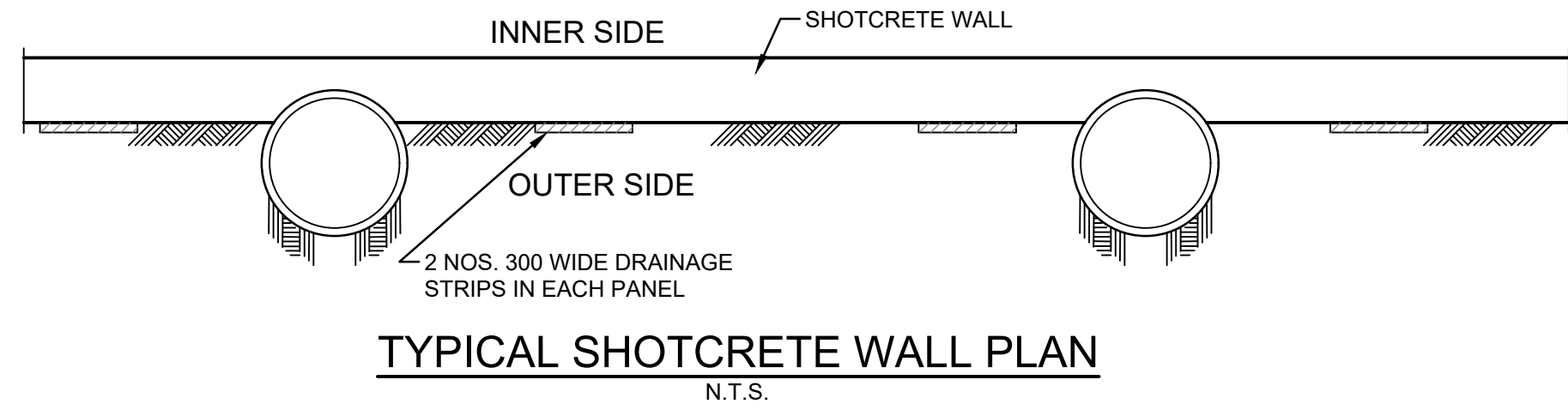
NOTE:
PIPES CAST IN CONCRETE BEAMS/SLABS MUST BE WRAPPED WITH 20mm ABLEFLEX.

NOTE:
ALL STORMWATER DRAINAGE PIPES ARE Ø100 uPVC AT MIN 1.0 SLOPE U.N.O.

PIPES NOTE:
Ø65 PVC @ MIN 1.0%
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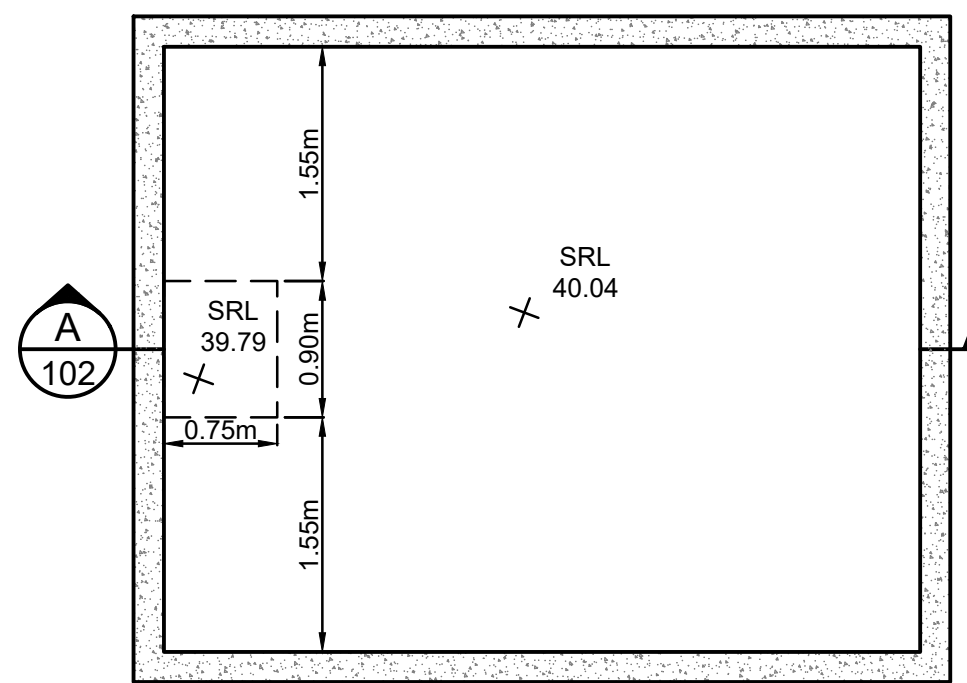
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D				ISSUE FOR DEVELOPMENT APPLICATION				19/05/2025		YRM		EH		OC		Architect CDArchitects Level2, 60 Park Street, Sydney, NSW 2000 P: 02 9267 2000 W: www.cdarchitects.com.au										Council Ryde City Council										Scale 024681012m SCALE 1:250 @ A1										CIVIL & STORMWATER ENGINEERING SERVICES PTY LTD ABN: 27 644 422 506 Shop 1, 143-147 Parramatta Road, Concord, NSW 2137 P:(02) 8397 6500 E:info@esgconsult.com.au										Project 691-695 VICTORIA ROAD, RYDE PROPOSED MIXED USE DEVELOPMENT STORMWATER CONCEPT PLAN										Drawing Title STORMWATER CONCEPT PLAN BASEMENT LEVEL 2 SHEET 1 OF 2									
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Project No.		230266																																																																									
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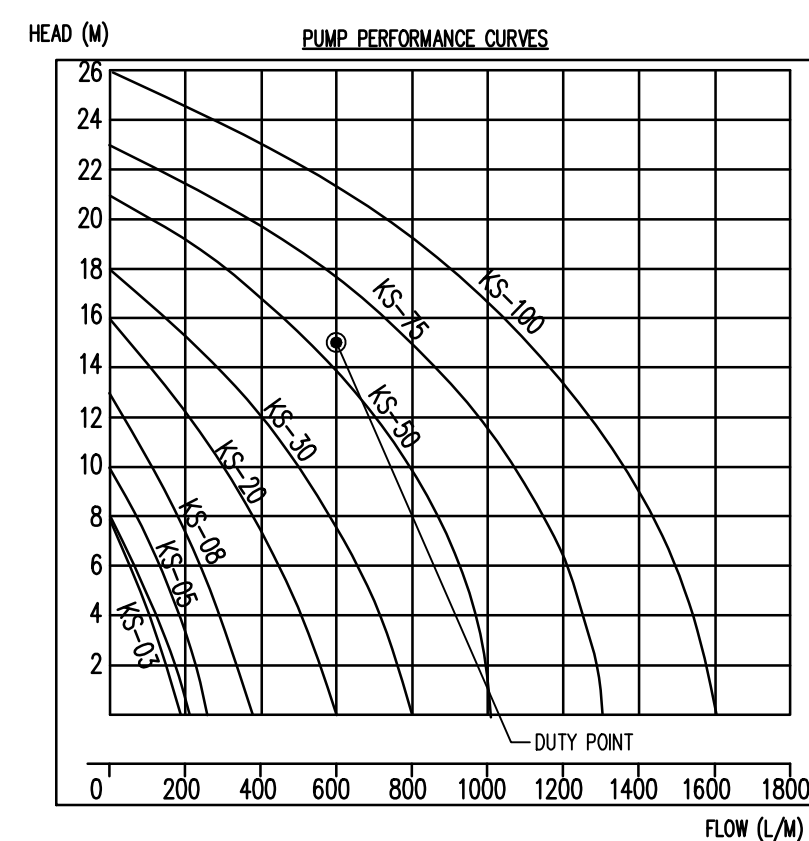


NOTE:
ALL THE AGG LINES BEHIND BASEMENT WALLS TO BE CONNECTED TO PUMP-OUT SUMP.

PUMP-OUT SUMP DETAIL
PLAN VIEW
SCALE 1:50



PUMP-OUT SUMP DETAIL
SRL
SCALE 1:50



PUMP STORAGE VOLUME CALCULATION

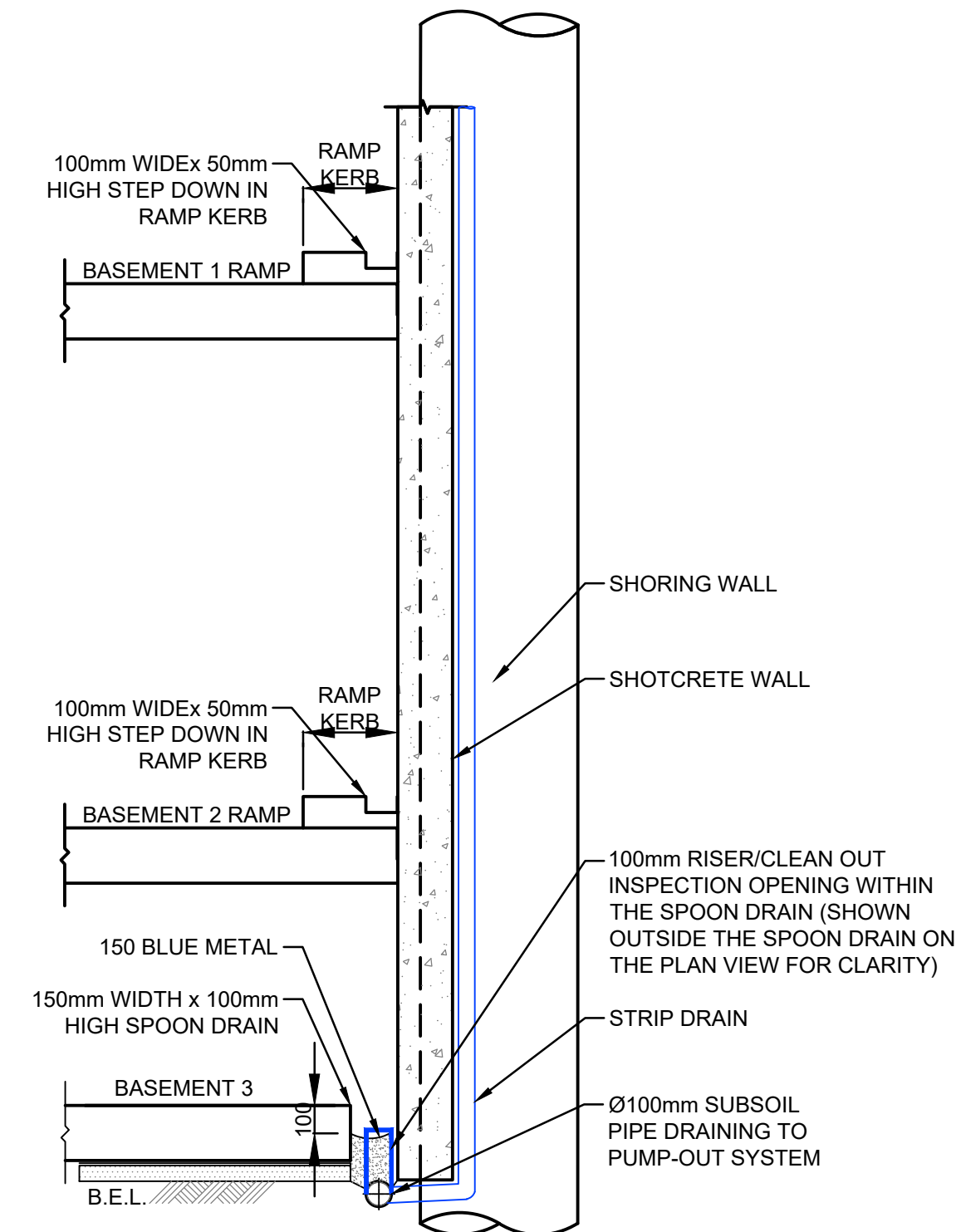
AREA DRAINING TO SUMP = 0.00 m²

SUMP SIZE BASED ON 100 YEAR 3 HR STORM, I = 41.1 mm/hr,
Q=CIA/3600= 1 x 41.1 x 0 / 3600 = 0 L/sec
VOLUME REQUIRED= 0 x (3x60x60) = 0 L = 0 m³
STORAGE PROVIDED 5.0 x 4.0 x 1.0 = 20.00m³

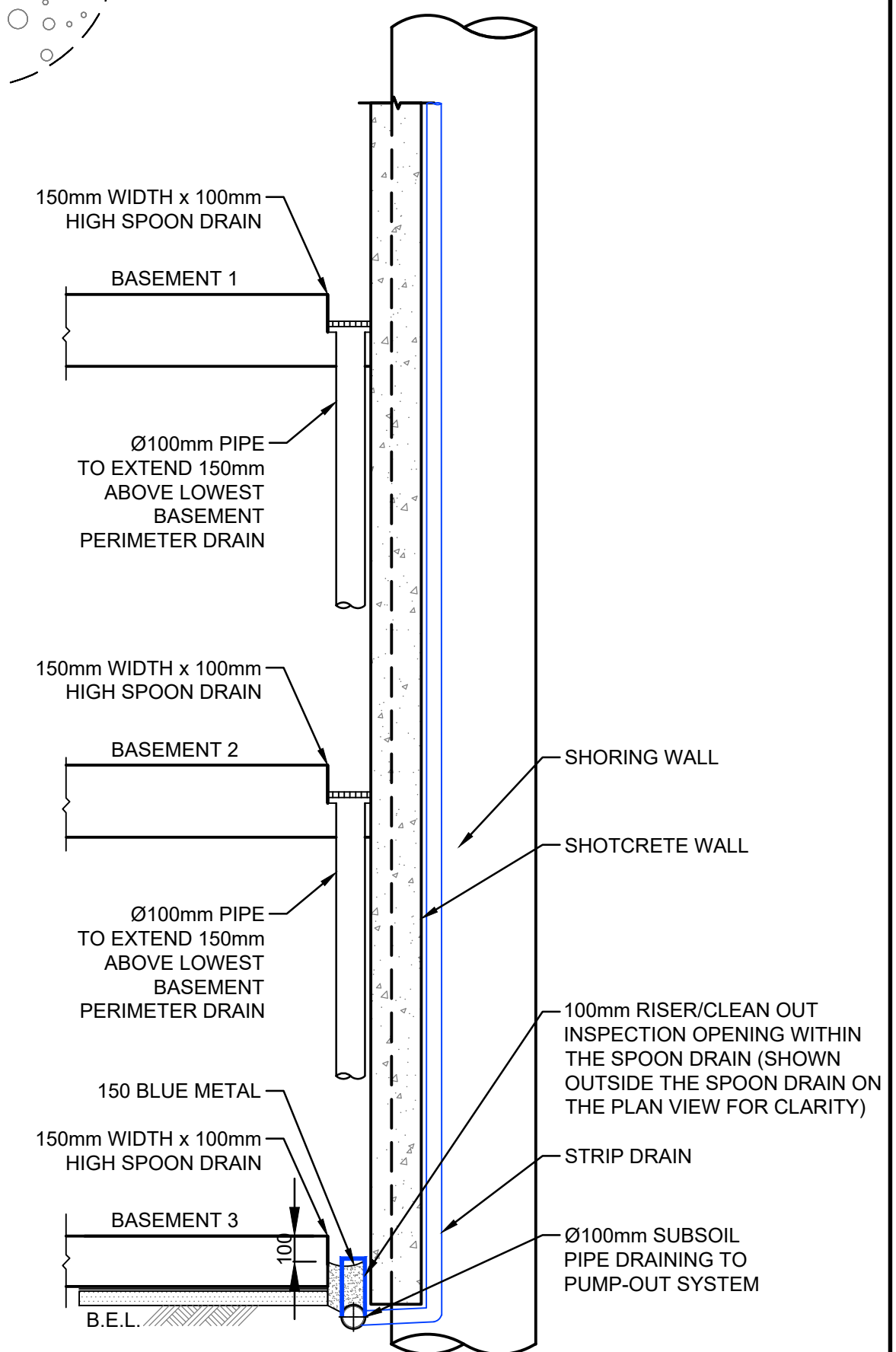
PUMP OUT RATE BASED ON 100YR 5MIN STORM, I = 238 mm/hr
(MIN RATE REQUIRED AS PER AS3500.3 IS 10 L/sec)
Q=CIA/3600= 1 x 238 x 0 / 3600 = 0 L/sec

DUAL KS-75 PUMP OR EQUIVALENT TO BE INSTALLED IN SUMP AND CONNECTED TO CONTROL PANEL WHICH WILL ALLOW FOR THE PUMP TO OPERATE ALTERNATIVELY ON HIGH LEVEL WITH ALARM AT 10 L/sec AT 15m HEAD

Type	Output		Outlet		Rated Head Capacity		Maximum Head Capacity		Weigh	Dimension		
	HP	kW	mm	Inch	M	LPM	M	LPM		L(mm)	W(mm)	H(mm)
KS-03	1/3	0.25	40	1 1/2"	3	130	8	180	9	188	141	305
KS-04	1/2	0.4	50	2"	5	150	8	220	11	208	140	359
KS-05	1/2	0.4	50	2"	5	160	10	260	14	230	156	375
KS-08	1	0.75	50	2"	6	240	13	380	21	290	180	425
KS-20	2	1.5	80	3"	10	300	16	600	31	278	182	475
KS-30	3	2.2	80	3"	10	500	18	800	42	390	250	450
KS-50	5	3.7	100	4"	10	800	21	1100	48	450	240	530
KS-75	7 1/2	5.6	100	4"	15	800	23	1300	60	550	310	590
KS-100	10	7.5	150	6"	18	900	25	1600	70	550	310	610



TYPICAL SPOON DRAIN DETAILS AT
BASEMENT RAMP
SECTION A2
N.T.S.



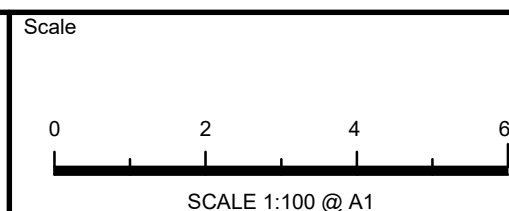
TYPICAL SPOON DRAIN DETAILS
SECTION A1
N.T.S.

NOT FOR CONSTRUCTION

Issue	Description	Date	Designed	Engineer	Checked
C	ISSUE FOR DEVELOPMENT APPLICATION	19/05/2025	YRM	EH	OC
B	ISSUE FOR DEVELOPMENT APPLICATION	27/09/2024	YRM	EH	OC
A	ISSUE FOR DEVELOPMENT APPLICATION	10/11/2023	YRM	EH	OC

Architect
CDArchitects
Level 2, 60 Park Street,
Sydney, NSW 2000
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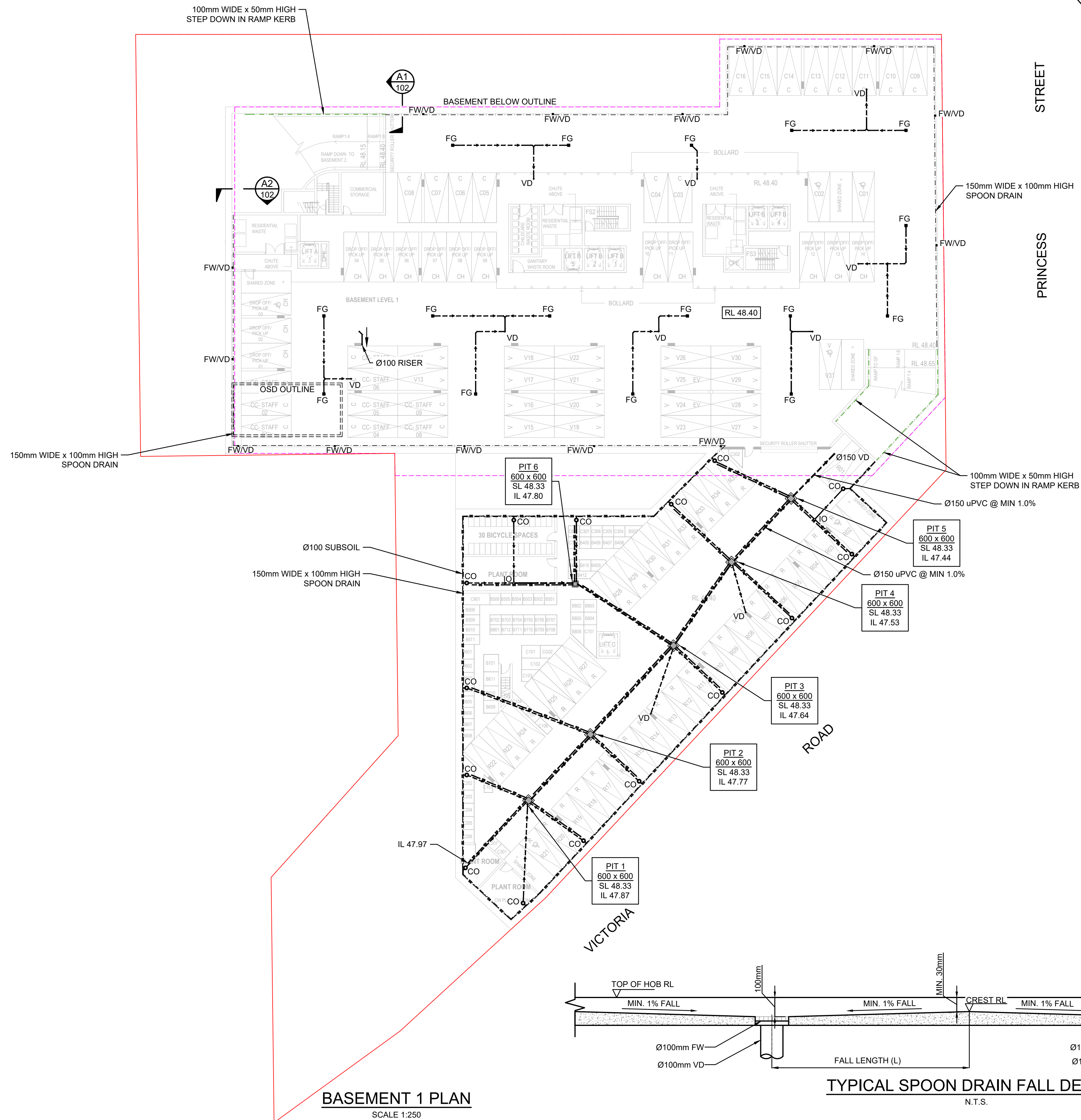
Council
Ryde City Council



CIVIL & STORMWATER ENGINEERING
SERVICES PTY LTD
ABN: 27 644 422 506
Shop 1, 143-147 Parramatta Road, Concord, NSW
2137
P:(02) 8397 6500
E:info@esgconsult.com.au

Project
691-695 VICTORIA ROAD, RYDE
PROPOSED MIXED USE DEVELOPMENT
STORMWATER CONCEPT PLAN

Drawing Title	Project No.	Dwg No.	Issue
STORMWATER CONCEPT PLAN BASEMENT LEVEL 2 SHEET 2 OF 2	230266	102	C



NOTE:
ALLOW BENCHING WITHIN SPOON DRAIN
TO ACHIEVE MIN 1.0% FALL TO FLOOR
WASTES.

TYPICAL SPOON DRAIN FALL DETAILS
N.T.S.

Drawing Title

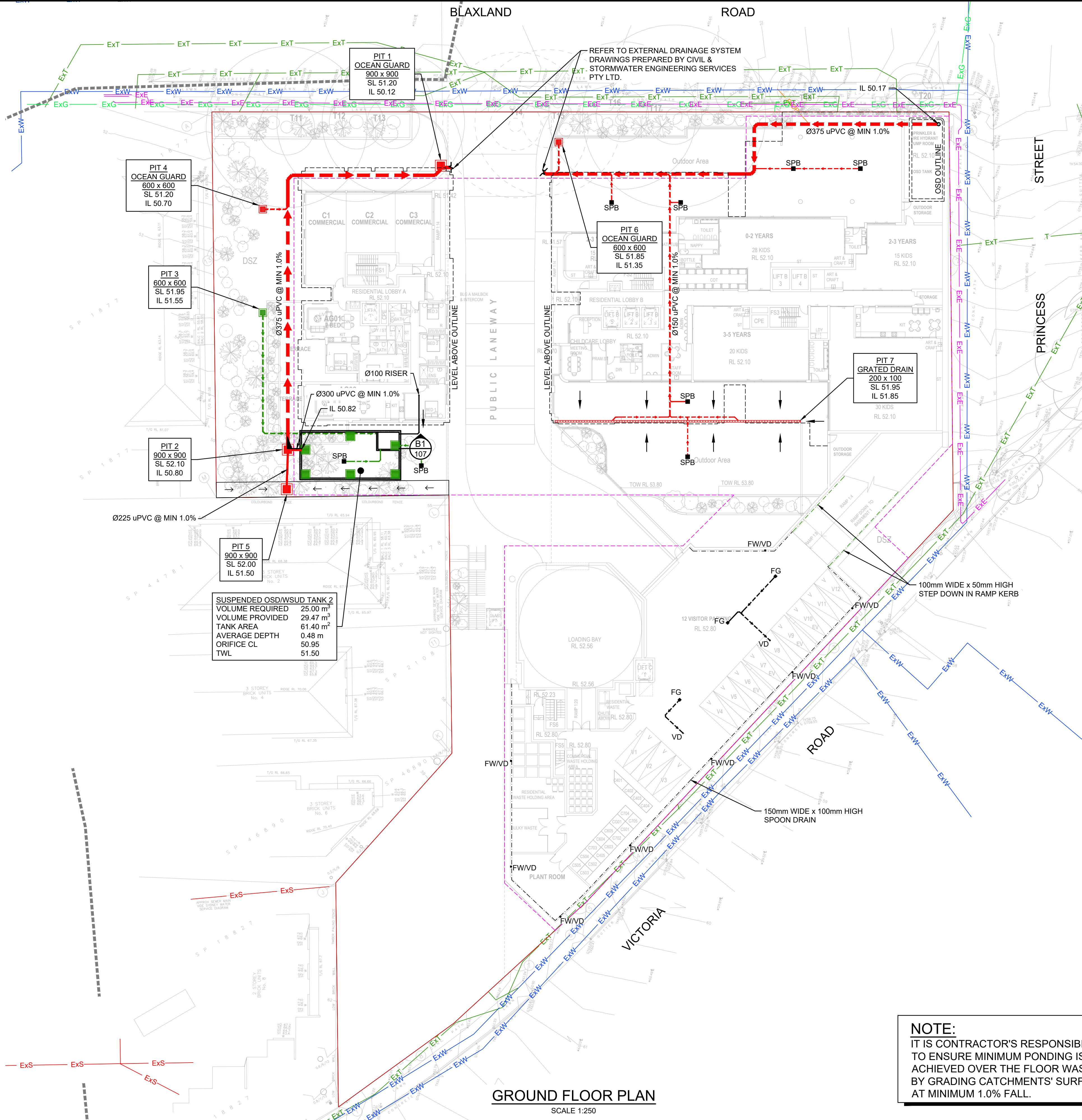
**STORMWATER CONCEPT PLAN
BASEMENT LEVEL 1**

<table><tr><td>D</td><td>ISSUE FOR DEVELOPMENT APPLICATION</td><td>19/05/2025</td><td>YRM</td><td>EH</td><td>OC</td></tr><tr><td>C</td><td>ISSUE FOR DEVELOPMENT APPLICATION</td><td>27/09/2024</td><td>YRM</td><td>EH</td><td>OC</td></tr><tr><td>B</td><td>ISSUE FOR DEVELOPMENT APPLICATION</td><td>27/09/2024</td><td>YRM</td><td>EH</td><td>OC</td></tr><tr><td>A</td><td>ISSUE FOR DEVELOPMENT APPLICATION</td><td>10/11/2023</td><td>YRM</td><td>EH</td><td>OC</td></tr></table>						D	ISSUE FOR DEVELOPMENT APPLICATION	19/05/2025	YRM	EH	OC	C	ISSUE FOR DEVELOPMENT APPLICATION	27/09/2024	YRM	EH	OC	B	ISSUE FOR DEVELOPMENT APPLICATION	27/09/2024	YRM	EH	OC	A	ISSUE FOR DEVELOPMENT APPLICATION	10/11/2023	YRM	EH	OC	Architect CDArchitects Level2, 60 Park Street, Sydney, NSW 2000 P: 02 9267 2000 W: www.cdarchitects.com.au		Council Ryde City Council		Scale  SCALE 1:250 @ A1		 CIVIL & STORMWATER ENGINEERING SERVICES PTY LTD ABN: 27 644 422 506 Shop 1, 143-147 Parramatta Road, Concord, NSW 2137 P:(02) 8397 6500 E:info@esqconsult.com.au		Project 691-695 VICTORIA ROAD, RYDE PROPOSED MIXED USE DEVELOPMENT STORMWATER CONCEPT PLAN		Drawing Title STORMWATER CONCEPT PLAN BASEMENT LEVEL 1			
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<table><tr><th>Issue</th><th>Description</th><th>Date</th><th>Designed</th><th>Engineer</th><th>Checked</th></tr><tr><td>1</td><td>Issue of RPA</td><td></td><td></td><td></td><td></td></tr></table>						Issue	Description	Date	Designed	Engineer	Checked	1	Issue of RPA							Scale 1:250		A1		Project No. 230266		Dwg. No. 103		Issue D															
Issue	Description	Date	Designed	Engineer	Checked																																						
1	Issue of RPA																																										

LEGEND

- PROPOSED STORMWATER DRAINAGE PIPE
- PROPOSED STORMWATER DRAINING TO OSD
- PROPOSED STORMWATER BYPASSING OSD
- Ø100 PVC WRAPPED IN 20mm ABLEFLEX STORMWATER DRAINAGE PIPE CAST IN SLAB
- 65 Ø65 PVC WRAPPED IN 20mm ABLEFLEX STORMWATER DRAINAGE PIPE CAST IN SLAB
- 50 Ø50mm PVC WRAPPED IN 20mm ABLEFLEX CAST IN SLAB
- RWT PROPOSED STORMWATER PIPE TO RAINWATER TANK
- SS Ø100mm SUBSOIL DRAINAGE TO BE WRAPPED IN GEOTEXTILE BIDIMA34 RISER PIPE
- Ø300 CLEANING EYE
- RWT RAINWATER TANK
- DP DOWNPIPE Ø100
- VD VERTICAL DROP Ø100
- PG PLANTER GRATE Ø150
- FG FLOOR GRATE Ø150
- FG FLOOR GRATE 200x200 (ALLOW MINIMUM 1.0% FALL TO FG)
- FW FLOOR GRATE 300x300 (ALLOW MINIMUM 1.0% FALL TO FW)
- RWO RAINWATER OUTLET Ø260 SPS (ALLOW MINIMUM 1.0% FALL TO RWO)
- SPB SUSPENDED PLANTER BOX RAINWATER OUTLET
- XRL 47.00 DESIGN SURFACE LEVEL
- + NS 26.45 EXISTING SURFACE LEVEL
- IL 47.00 INVERT LEVEL
- TD AC CONDENSER TUNDISH TO MANUFACTURER'S DETAILS
- OF Ø50mm EMERGENCY OVERFLOW SPITTERS/PIPES
- EXISTING STORMWATER
- ExW EXISTING WATER MAIN
- ExS EXISTING SEWER MAIN
- ExT EXISTING TELSTRA
- ExE EXISTING ELECTRICAL
- ExG EXISTING GAS
- ExOP EXISTING OPTIC FIBER
- OVERLAND FLOW PATH DIRECTION

- NOTES:
- 1- CONTRACTOR IS TO PROVIDE OVERFLOW OUTLETS & EMERGENCY OVERFLOW SPITTERS TO ALL TRAPPED AREAS.
- 2- DP/VD ARE Ø100mm PIPES U.N.O.
- 3- ALL TRANSFERRING PIPES ARE SUSPENDED U.N.O.
- 4- BALCONIES PIPES ARE Ø50mm PVC WRAPPED IN 20mm ABLEFLEX CAST IN SLAB AT MIN 1.0% SLOPE.



GENERAL NOTES

- ALL LINES ARE TO BE Ø100 uPVC 1.0% GRADE UNLESS NOTED OTHERWISE. CHARGED LINES TO BE SEWERGRADE & SEALED.
- 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.
- ALL PIPES TO HAVE MIN 150mm COVER IF LOCATED WITHIN PROPERTY.
- ALL PITS IN DRIVEWAYS TO BE 450x450 CONCRETE AND ALL PITS IN LANDSCAPED AREAS TO BE 450x450 PLASTIC.
- PITS LESS THAN 600mm DEEP MAY BE BRICK, PRECAST OR CONCRETE.
- ALL BALCONIES AND ROOFS TO BE DRAINED AND TO HAVE SAFETY OVERFLOWS IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS.
- ALL EXTERNAL SLABS TO BE WATERPROOFED.
- ALL GRATES TO HAVE CHILD PROOF LOCKS.
- ALL DRAINAGE WORKS TO AVOID TREE ROOTS.
- ALL DPs TO HAVE LEAF GUARDS.
- ALL EXISTING LEVELS TO BE CONFIRMED BY BUILDER PRIOR TO CONSTRUCTION.
- ALL WORK WITHIN COUNCIL RESERVE TO BE INSPECTED BY COUNCIL PRIOR TO CONSTRUCTION.
- COUNCIL'S ISSUED FOOTWAY DESIGN LEVELS TO BE INCORPORATED INTO THE FINISHED LEVELS ONCE ISSUED BY COUNCIL.
- ALL WORK SHALL BE IN ACCORDANCE WITH B.C.A. AND A.S. 3500.3.
- REFER TO LANDSCAPE ARCHITECT'S DRAWINGS FOR LANDSCAPING.
- CARE TO BE TAKEN AROUND EXISTING SEWER. STRUCTURAL ADVICE IS REQUIRED FOR SEWER PROTECTION AGAINST ADDITIONAL LOADING FROM NEW PITS, PIPES, RETAINING WALLS AND OSD BASIN WATER LEVELS.
- ALL PIPES IN BALCONIES TO BE Ø50mm PVC WRAPPED IN 20mm ABLEFLEX CAST IN SLAB AT MIN 1.0% SLOPE. 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.
- 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.

NOTE:

ALL GRATES WITHIN FOOTWAY AREAS TO BE HEEL GUARD & BIKE SAFE.

NOTE:

PITS DEEPER THAN 1.0m TO BE FITTED WITH STEP IRONS.

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

NOTE:

ALL REDUNDANT PIPELINES WITHIN FOOTPATH AREA MUST BE REMOVED AND FOOTPATH/KERB REINSTATED.

NOTE:

IT IS CONTRACTOR'S RESPONSIBILITY TO ENSURE MINIMUM PONDING IS ACHIEVED OVER THE FLOOR WASTES BY GRADING CATCHMENTS' SURFACES AT MINIMUM 1.0% FALL.

NOTE:

ALL STORMWATER DRAINAGE PIPES ARE Ø100 PVC AT MIN 1.0% SLOPE U.N.O

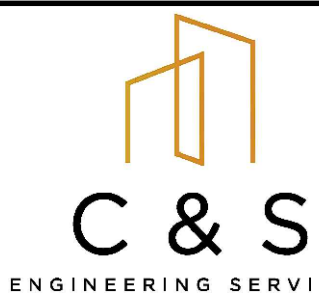
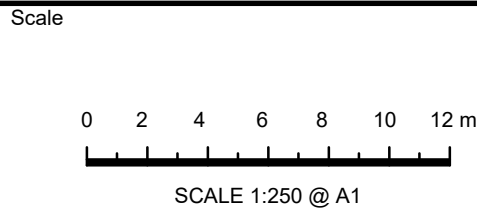
NOT FOR CONSTRUCTION

E	ISSUE FOR DEVELOPMENT APPLICATION	19/05/2025	YRM	EH	OC
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Issue	Description	Date	Designed	Engineer	Checked

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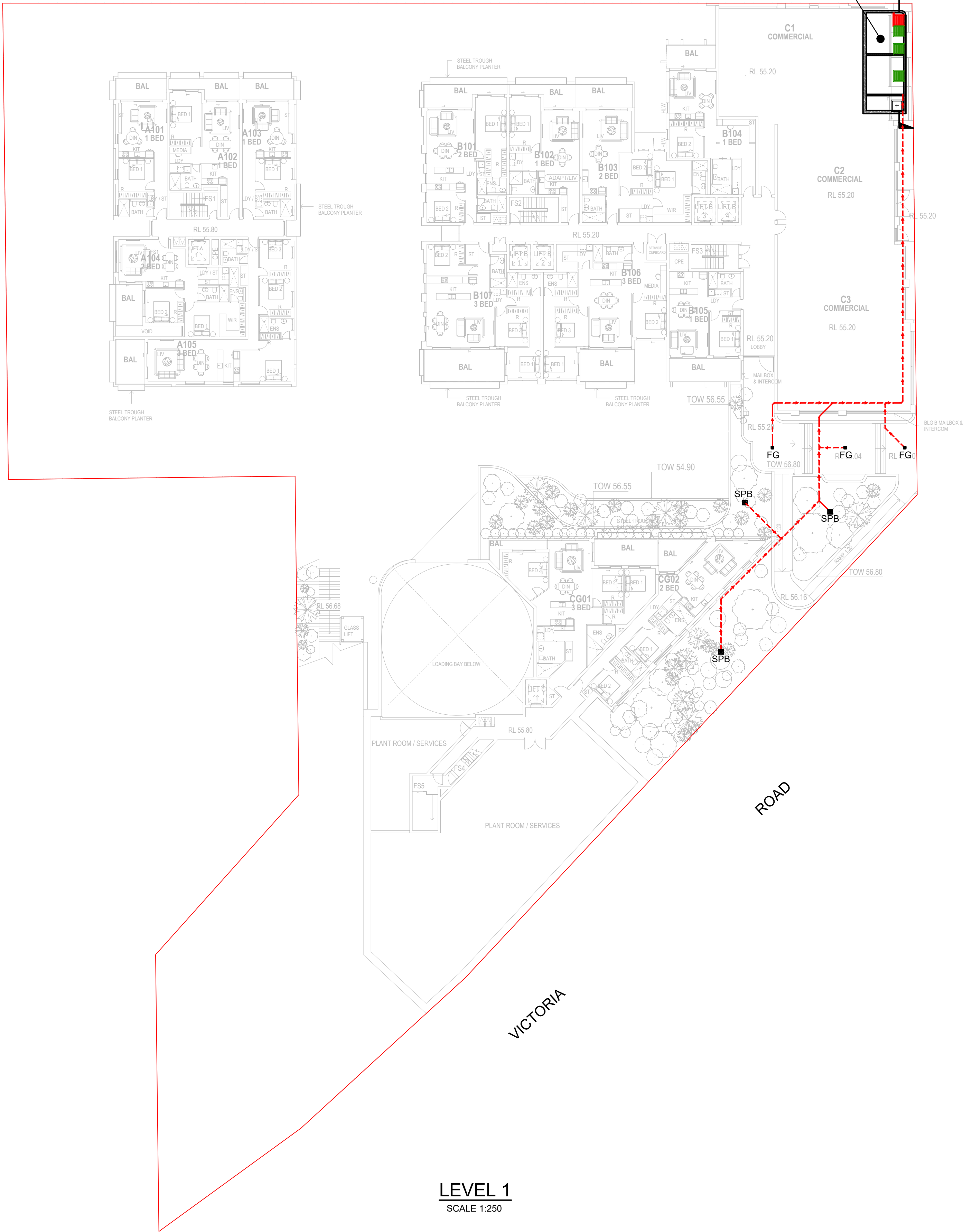
CIVIL & STORMWATER ENGINEERING
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Project
**691-695 VICTORIA ROAD, RYDE
PROPOSED MIXED USE DEVELOPMENT
STORMWATER CONCEPT PLAN**

Drawing Title STORMWATER CONCEPT PLAN GROUND LEVEL	Scale 1:250	Project No. 230266	Dwg. No. 104	Issue E
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LEGEND

- > [Symbol] PROPOSED STORMWATER DRAINAGE PIPE
- > [Symbol] PROPOSED STORMWATER DRAINING TO OSD
- > [Symbol] PROPOSED STORMWATER BYPASSING OSD
- > [Symbol] Ø100 PVC WRAPPED IN 20mm ABLEFLEX STORMWATER DRAINAGE PIPE CAST IN SLAB
- 65 --- Ø65 PVC WRAPPED IN 20mm ABLEFLEX STORMWATER DRAINAGE PIPE CAST IN SLAB
- 50 --- Ø50mm PVC WRAPPED IN 20mm ABLEFLEX CAST IN SLAB
- RWT --- PROPOSED STORMWATER PIPE TO RAINWATER TANK
- SS --- Ø100mm SUBSOIL DRAINAGE TO BE WRAPPED IN GEOTEXTILE BIDIMA34 RISER PIPE
- [Symbol] Ø300 CLEANING EYE
- [Symbol] RWT RAINWATER TANK
- DP DOWNPIPE Ø100
- VD VERTICAL DROP Ø100
- PG PLANTER GRATE Ø150
- FG FLOOR GRATE Ø150
- FG FLOOR GRATE 200x200 (ALLOW MINIMUM 1.0% FALL TO FG)
- ▣ FW FLOOR GRATE 300x300 (ALLOW MINIMUM 1.0% FALL TO FW)
- ⓘ RWO RAINWATER OUTLET Ø260 SPS (ALLOW MINIMUM 1.0% FALL TO RWO)
- ▣ SPB SUSPENDED PLANTER BOX RAINWATER OUTLET
- XRL 47.00 DESIGN SURFACE LEVEL
- +NS 26.45 EXISTING SURFACE LEVEL
- IL 47.00 INVERT LEVEL
- TD AC CONDENSER TUNDISH TO MANUFACTURER'S DETAILS
- OF Ø50mm EMERGENCY OVERFLOW SPITTERS/PIPES
- EXISTING STORMWATER
- ExW --- EXISTING WATER MAIN
- ExS --- EXISTING SEWER MAIN
- ExT --- EXISTING TELSTRA
- ExE --- EXISTING ELECTRICAL
- ExG --- EXISTING GAS
- ExOP --- EXISTING OPTIC FIBER



SUSPENDED OSD/MSUD/RWT TANK 3	
VOLUME REQUIRED	45.10 m³
VOLUME PROVIDED	50.73 m³
TANK AREA	26.15 m²
AVERAGE DEPTH	1.94 m
ORIFICE CL	52.30
TWL	54.35

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

NOTE:

ALL LINEAR GRATED DRAINS TO BE MIN. 100mm DEEP.

NOTE:

ALL STORMWATER DRAINAGE PIPES ARE Ø100 PVC AT MIN 1.0% SLOPE U.N.O.

NOTE:

IT IS CONTRACTOR'S RESPONSIBILITY TO ENSURE MINIMUM PONDING IS ACHIEVED OVER THE FLOOR WASTES BY GRADING CATCHMENTS' SURFACES AT MINIMUM 1.0% FALL.

NOTES:

- CONTRACTOR IS TO PROVIDE OVERFLOW OUTLETS & EMERGENCY OVERFLOW SPITTERS TO ALL TRAPPED AREAS.
- DP/VD ARE Ø100mm PIPES U.N.O.
- ALL TRANSFERRING PIPES ARE SUSPENDED U.N.O.
- BALCONIES PIPES ARE Ø50mm PVC WRAPPED IN 20mm ABLEFLEX CAST IN SLAB AT MIN 1.0% SLOPE.

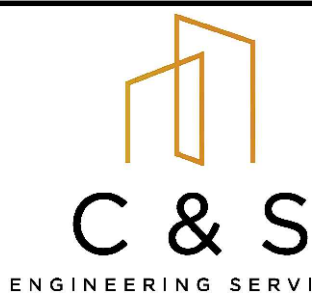
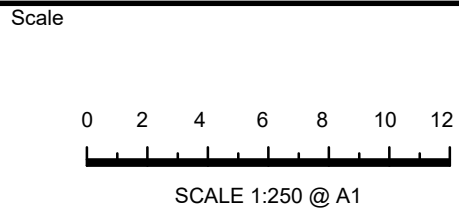
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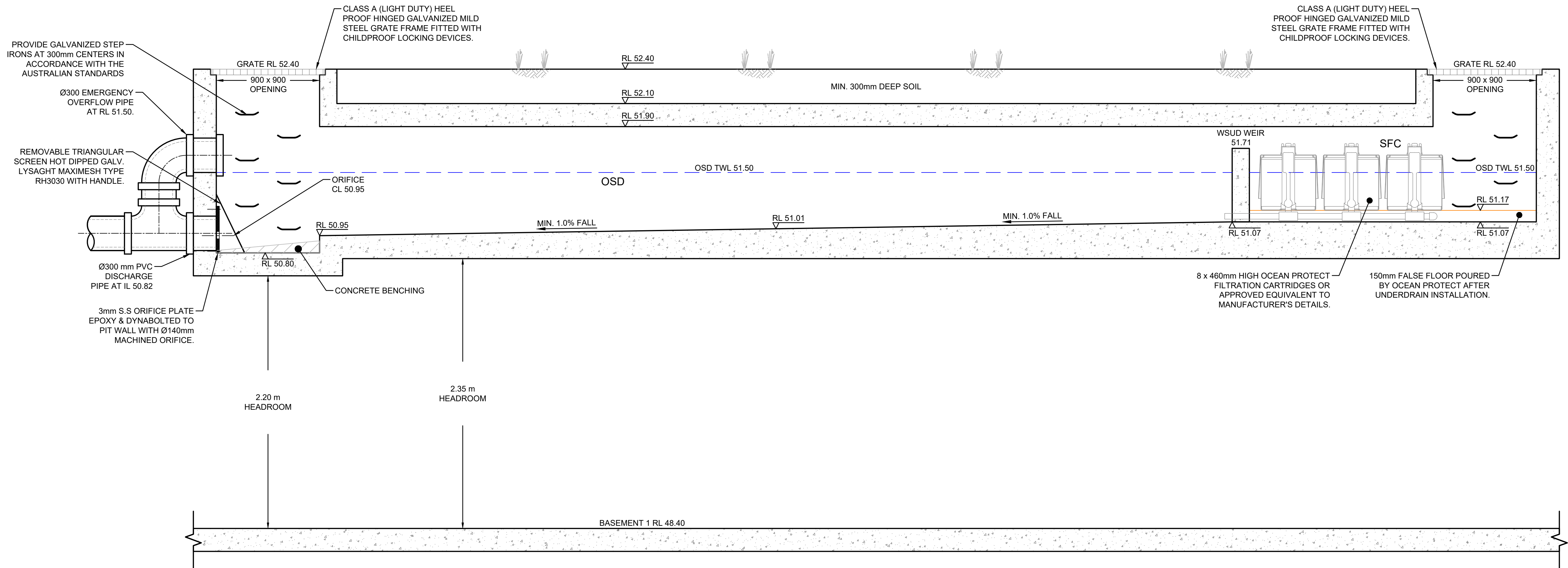
Council
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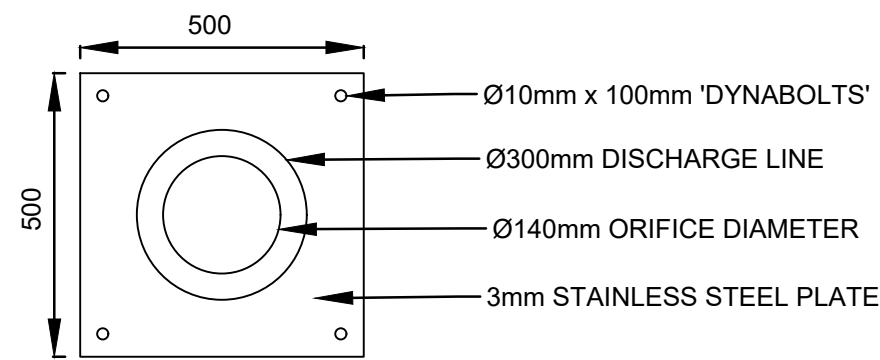
Project
**691-695 VICTORIA ROAD, RYDE
PROPOSED MIXED USE DEVELOPMENT
STORMWATER CONCEPT PLAN**

Drawing Title STORMWATER LAYOUT PLAN LEVEL 1		Project No. 230266	Dwg. No. 105	Issue E
Scale 1:250	A1			

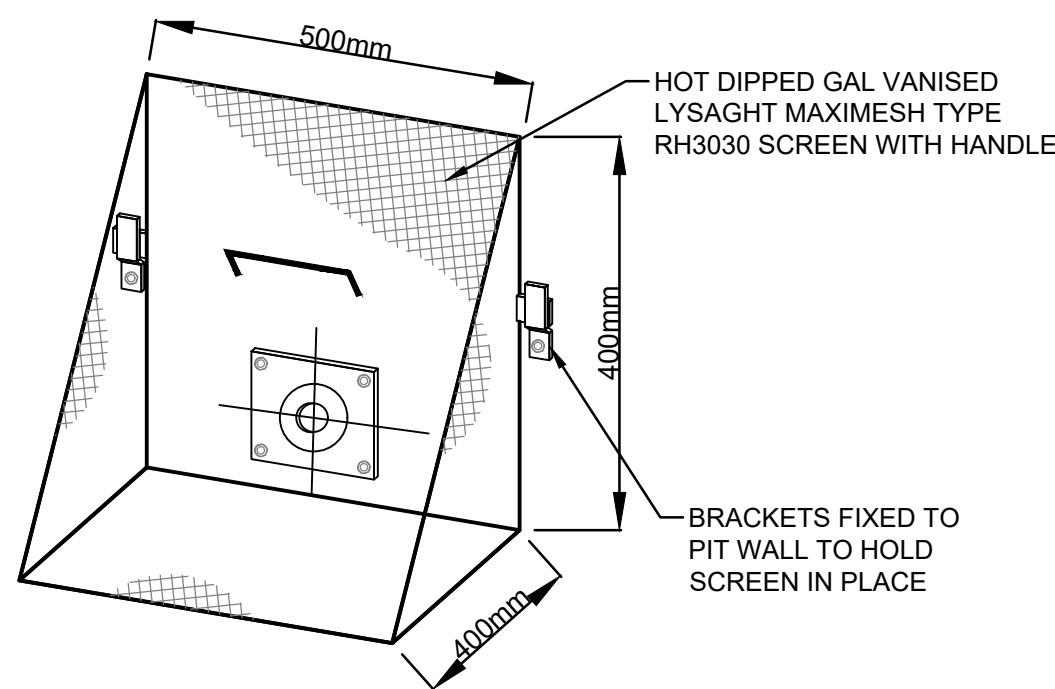


SECTION B1
SUSPENDED OSD/WSUD TANK 2 DETAIL
N.T.S.

NOTE:
POST DEVELOPMENT UNCONTROLLED 5 YEAR FLOW = 191 L/s.
POST DEVELOPMENT CONTROLLED 100 YEAR FLOW = 188 L/s < 191 L/s



ORIFICE PLATE DETAIL
OSD 2
N.T.S.



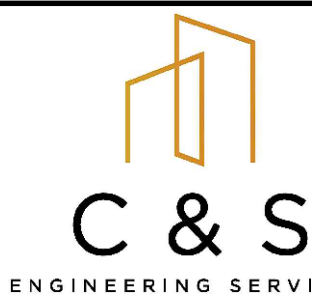
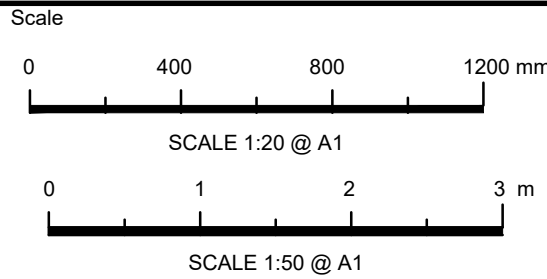
TRASH SCREEN DETAIL
N.T.S.

NOT FOR CONSTRUCTION

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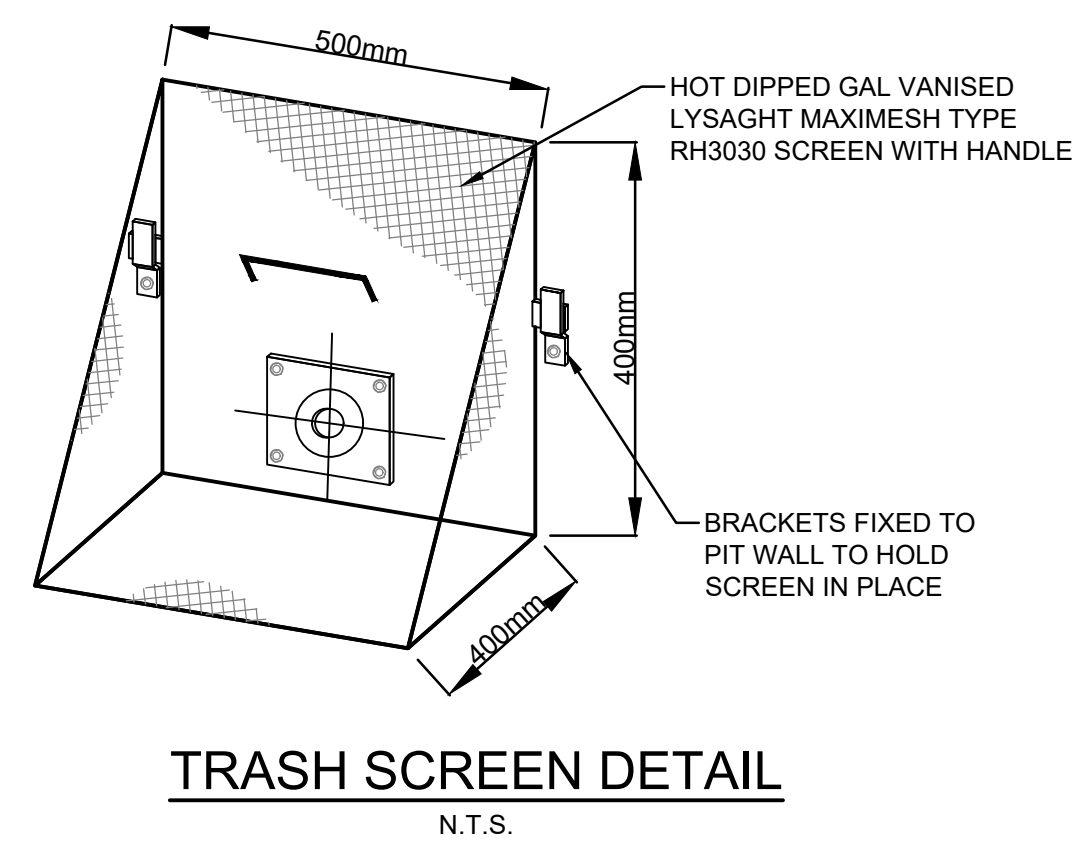
Council: Ryde City Council



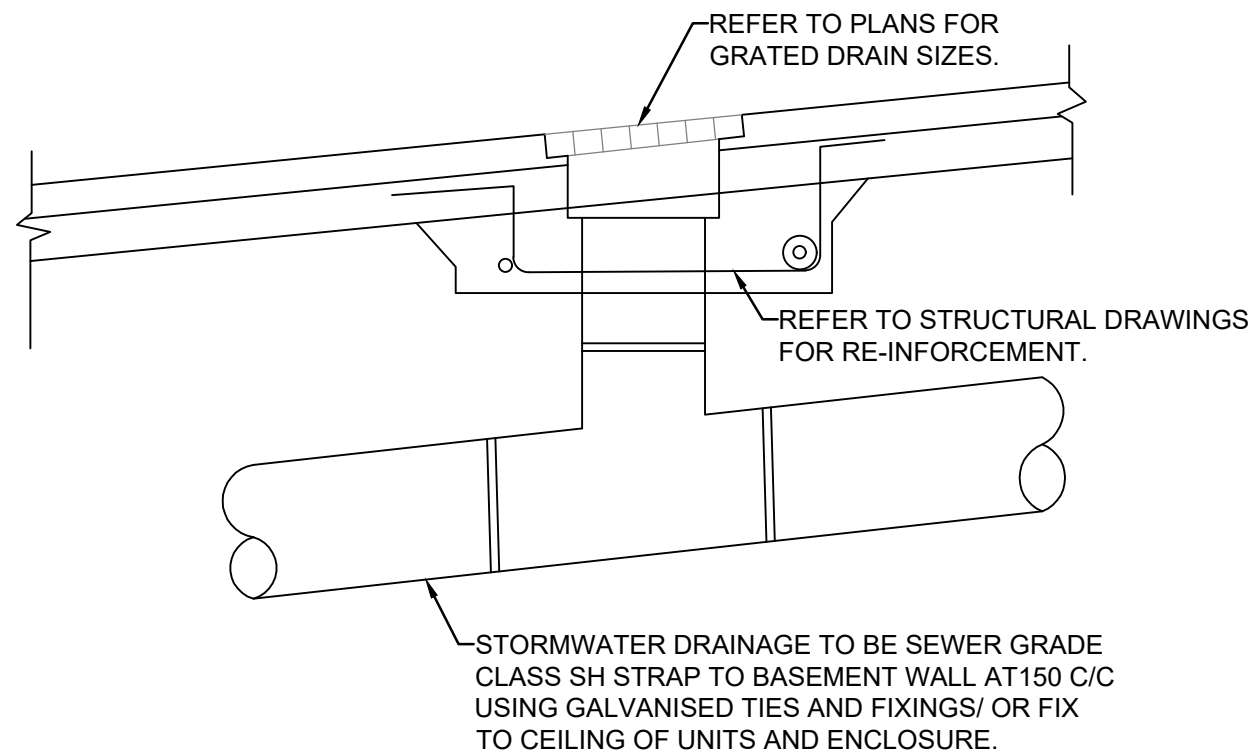
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Project: 691-695 VICTORIA ROAD, RYDE
PROPOSED MIXED USE DEVELOPMENT
STORMWATER CONCEPT PLAN

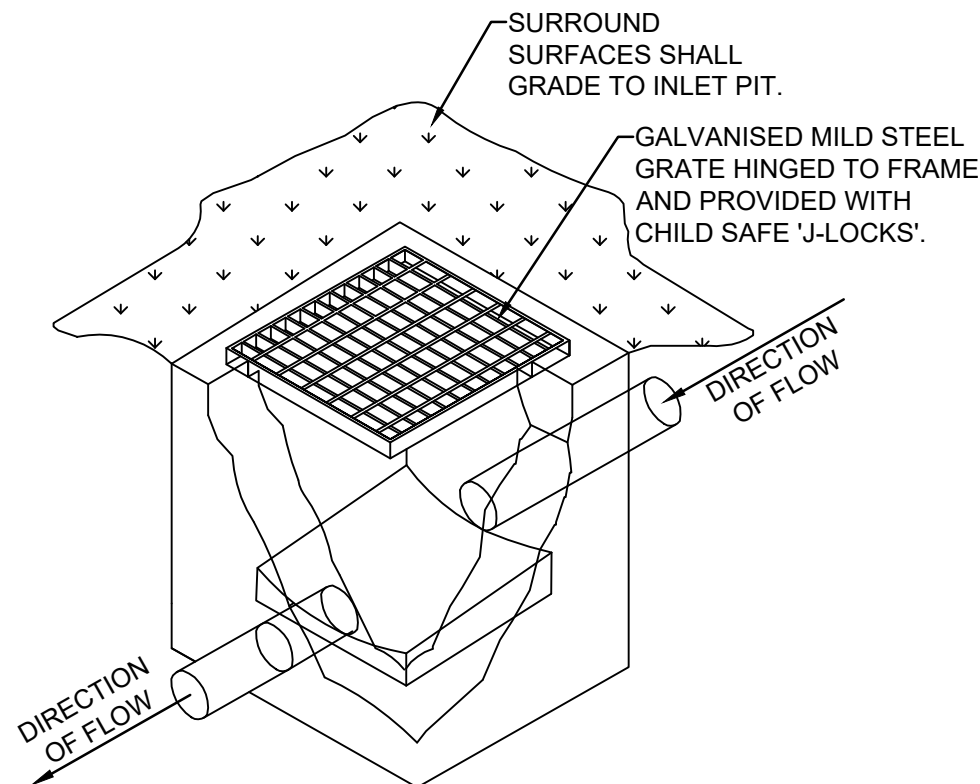
Drawing Title	ON-SITE DETENTION 2 DETAILS AND CALCULATION			
Scale	A1	Project No.	Dwg. No.	Issue
As Shown		230266	107	D



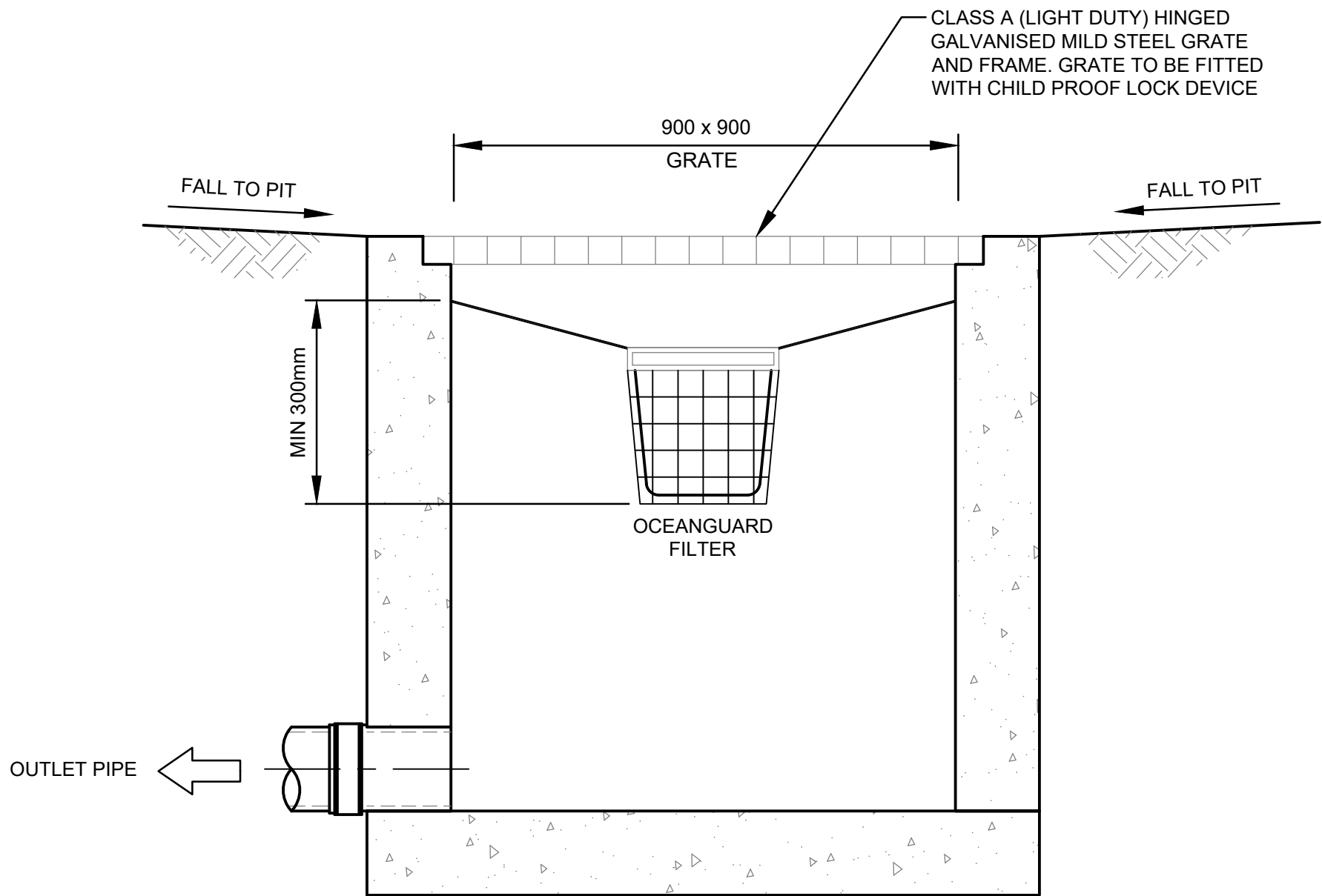
E	ISSUE FOR DEVELOPMENT APPLICATION	19/05/2025	YRM	EH	OC	CDArchitects Level2, 60 Park Street, Sydney, NSW 2000 P: 02 9267 2000 W: www.cdarchitects.com.au	Council Ryde City Council	Scale	CIVIL & STORMWATER ENGINEERING SERVICES PTY LTD ABN: 27 644 422 506 Shop 1, 143-147 Parramatta Road, Concord, NSW 2137 P:(02) 8397 6500 E:info@esqconsult.com.au	Project 691-695 VICTORIA ROAD, RYDE PROPOSED MIXED USE DEVELOPMENT STORMWATER CONCEPT PLAN	Drawing Title ON-SITE DETENTION 3 DETAILS AND CALCULATION			
D	ISSUE FOR DEVELOPMENT APPLICATION	27/09/2024	YRM	EH	OC									
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Issue	Description	Date	Designed	Engineer	Checked									
Version 1 As Shown Scale A1 Project No. 230266 Dwg. No. 108 Issue E														



GRATED DRAIN DETAIL
N.T.S.



TYPICAL GRATED
INLET PIT DETAIL
N.T.S.



PIT WITH OCEANGUARD
TYPICAL DETAILS
N.T.S.

Stormwater Drainage System Maintenance Schedule			
Maintenance Action	Frequency	Responsibility	Procedure
General			
Inspect roof drainage system of building and remove any debris/sludge	Six Monthly	Strata/Maintenance Contractor	Remove any leaves or debris and sludge from gutters of building and flush downpipes of building to remove any blockages. Pits downstream of downpipes to be cleaned of flushed debris.
Inspect pits and trench drains on site and remove debris/litter/sludge	Monthly or following Rain Period	Strata/Maintenance Contractor	Remove grate. Remove any debris/litter/sludge from within pits.
Inspect site for litter and floatable debris and remove	Fortnightly	Strata/Maintenance Contractor	Remove litter from site and sweep all driveway and pathways in order to remove leaves or sediments that may enter into the drainage system.
Basement Pump out			
Inspect and clean flap valve,	Six Monthly	Strata/Maintenance Contractor	Remove grate and check flap valve and pipe for blockages and clean. Check hinges for rust and test operation by moving flap to full extent.
Check hinge operation.	Annually	Strata/Maintenance Contractor	Inspect hinge and check its operation.
Check attachment of flap valve to wall pit.	Annually	Strata/Maintenance Contractor	Remove grate and ensure valve fixings are secure.
Check flap valve seal.	Six Monthly	Strata/Maintenance Contractor	Remove grate and fill pit with water, ensure flap seals against side of pit with minimal leakage.
Inspect walls for cracking or spalling.	Annually	Strata/Maintenance Contractor	Remove grate to inspect internal walls, remove vegetation to inspect external wall, repair as required.
Inspect sump and clean.	Six Monthly	Strata/Maintenance Contractor	Remove grate and clean sediment/sludge from sump.
Inspect grate for damage or blockage.	Six Monthly	Strata/Maintenance Contractor	Check both sides of grate for corrosion (particularly welds and corners); also check for damage and blockages
Inspect outlet pipe and remove blockages	Six Monthly	Strata/Maintenance Contractor	Remove grate and flush outlet pipe to ensure it drains freely. Check for debris on upstream side of return line.
Outlets			
Inspect & remove any blockage of orifices	Six monthly	Strata/Maintenance Contractor	Remove grate & screen to inspect orifice. See plan for location of outlets
Check attachment of orifice plates to wall of chamber and/or pit (gaps less than 5 mm)	Annually	Strata/Maintenance Contractor	Remove grate and screen. Ensure plates are mounted securely, tighten fixings if required. Seal gaps as required.
Check orifice diameters are correct and retain sharp edges	Five yearly	Strata/Maintenance Contractor	Compare diameter to design (see Work-as-Executed) and ensure edge is not pitted or damaged.
Inspect screen and clean	Six monthly	Strata/Maintenance Contractor	Remove grate(s) and screens if required to clean them.
Check attachment of screens to wall of chamber or pit	Annually	Strata/Maintenance Contractor	Remove grate(s) and screen(s). Ensure screen fixings are secure. Repair as required.
Check screen(s) for corrosion	Annually	Strata/Maintenance Contractor	Remove grate(s) and examine screen(s) for rust or corrosion, especially at corners or welds.
Inspect walls (internal and external, if appropriate) for cracks or spalling	Annually	Strata/Maintenance Contractor	Remove grate(s) to inspect internal walls. Repair as required. Clear vegetation from external walls if necessary and repair as required.
Inspect outlet sumps & remove any sediment/sludge	Six monthly	Strata/Maintenance Contractor	Remove grate(s) and screen(s). Remove sediment/sludge build-up and check orifices are clear.
Inspect grate(s) for damage or blockage	Six monthly	Strata/Maintenance Contractor	Check both sides of a grate for corrosion, (especially corners and welds) damage or blockage.
Inspect outlet pipe & remove any blockage	Six monthly	Strata/Maintenance Contractor	Remove grate(s) and screen(s). Ventilate underground storage if present. Check orifices and remove any blockages in outlet pipe. Flush outlet pipe to confirm it drains freely. Check for sludge/debris on upstream side of return line.
Check step irons for corrosion	Annually	Strata/Maintenance Contractor	Remove grate. Examine step irons and repair any corrosion or damage
Check fixing of step irons is secure	Six monthly	Strata/Maintenance Contractor	Remove grate(s) and ensure fixings are secure prior to placing weight on step iron.
Storage			
Inspect storage & remove any sediment/sludge in pit	Six monthly	Strata/Maintenance Contractor	Remove grate(s) and screen(s). Remove sediment/sludge build-up.
Inspect internal walls of storage (and external, if appropriate) for cracks or spalling	Annually	Strata/Maintenance Contractor	Remove grate(s) to inspect internal walls. Repair as required. Clear vegetation from external walls if necessary and repair as required.
Inspect & remove any debris/litter/mulch etc blocking grates	Six monthly	Strata/Maintenance Contractor	Remove blockages from grate(s) and check if storage is blocked.
Inspect areas draining to the storage(s) & remove debris/mulch/litter etc likely to block screens/grates	Six monthly	Strata/Maintenance Contractor	Remove debris and floatable material likely to be carried to grates.
Compare storage volume to volume approved. (Rectify if loss > 5%)	Annually	Strata/Maintenance Contractor	Compare actual storage available with Work-as Executed plans. If volume loss is greater than 5%, arrange for reconstruction to replace the volume lost. Council to be notified of the proposal.
Inspect storages for subsidence near pits	Annually	Strata/Maintenance Contractor	Check along drainage lines and at pits for subsidence likely to indicate leakages.

NOT FOR CONSTRUCTION

					Architect	Council	Scale	 CIVIL & STORMWATER ENGINEERING SERVICES PTY LTD ABN: 27 644 422 506 Shop 1, 143-147 Parramatta Road, Concord, NSW 2137 P:(02) 8397 6500 E:info@esgconsult.com.au			Project		Drawing Title				
					CDArchitects	Ryde City Council					691-695 VICTORIA ROAD, RYDE PROPOSED MIXED USE DEVELOPMENT STORMWATER CONCEPT PLAN		MAINTENANCE SCHEDULE & MISCELLANEOUS DETAILS SHEET				
C	ISSUE FOR DEVELOPMENT APPLICATION		19/05/2025	YRM	EH	OC	Level2, 60 Park Street, Sydney, NSW 2000										
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Issue	Description		Date	Designed	Engineer	Checked	P: 02 9267 2000 W: www.cdarchitects.com.au					Scale	A1	Project No.	Dwg. No.	Issue	
												N.T.S.		230266	110	C	

LEGEND

- ExW EXISTING WATER MAIN
- ExS EXISTING SEWER MAIN
- ExT EXISTING TELSTRA
- ExE EXISTING ELECTRICAL
- ExG EXISTING GAS
- ExOP EXISTING OPTIC FIBER
- 26.45 EXISTING CONTOUR
- +NS 26.45 EXISTING SURFACE LEVEL
- EL. 47.00 EARTHWORKS LEVEL
- RL 47.00 DESIGN SURFACE LEVEL
- SILT FENCE
- STABILISED SITE ACCESS
- 1.8 HIGH CONSTRUCTION BARRIER FENCING
- TREES TO BE RETAINED
- TREES TO BE REMOVED
- INLET PROTECTION

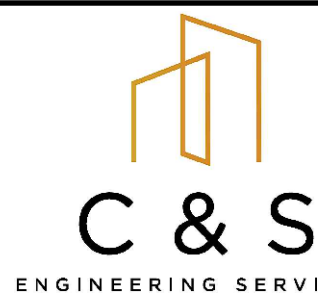
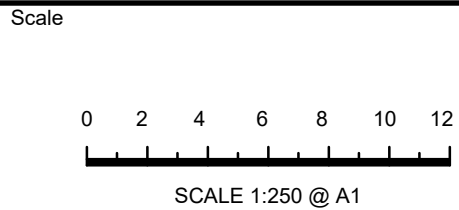
SEDIMENT & EROSION NOTES

- IMMEDIATELY FOLLOWING SETTING OUT OF THE WORKS, BUT PRIOR TO COMMENCEMENT OF ANY CLEARING OR EARTHWORKS, THE CONTRACTOR AND SUPERINTENDENT SHALL WALK THE SITE TO NOMINATE THE LOCATIONS AND TYPES OF SEDIMENT AND EROSION CONTROL MEASURES TO BE ADOPTED. THESE MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY CLEARING OR EARTHWORKS AND MAINTAINED UNTIL THE WORKS ARE COMPLETED AND NO LONGER POSE AN EROSION HAZARD, UNLESS OTHERWISE APPROVED BY THE SUPERINTENDENT.
- IMMEDIATELY FOLLOWING SETTING OUT OF THE WORKS, BUT PRIOR TO COMMENCEMENT OF ANY CLEARING OR EARTHWORKS, THE CONTRACTOR AND SUPERINTENDENT SHALL WALK THE SITE TO IDENTIFY AND MARK TREES WHICH ARE TO BE PRESERVED. NOTWITHSTANDING THE ABOVE, THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO MINIMISE DISTURBANCE TO EXISTING VEGETATION AND GROUND COVER OUTSIDE THE MINIMUM AREAS REQUIRED TO COMPLETE THE WORKS AND SHALL BE RESPONSIBLE FOR RECTIFICATION, AT ITS OWN COST, OF ANY DISTURBANCE BEYOND THOSE AREAS.
- PROVIDE GULLY GRATE INLET SEDIMENT TRAPS AT ALL GULLY PITS.
- PROVIDE SILT FENCING ALONG PROPERTY LINE AS DIRECTED BY SUPERINTENDENT.
- ADDITIONAL CONTROL DEVICES TO BE PLACED WHERE DIRECTED BY THE PRINCIPLE.
- ALTERNATIVE DESIGNS TO BE APPROVED BY SUPERINTENDENT PRIOR TO CONSTRUCTION.
- WASH DOWN/RUMBLE AREA TO BE CONSTRUCTED WITH PROVISIONS RESTRICTING ALL SILT AND TRAFFICKED DEBRIS FROM ENTERING THE STORMWATER SYSTEM.
- NO WORK OR STOCKPILING OF MATERIALS TO BE PLACED OUTSIDE OF SITE WORK BOUNDARY.
- APPROPRIATE EROSION AND SEDIMENT CONTROLS TO BE USED TO PROTECT STOCKPILES AND MAINTAINED THROUGH OUT CONSTRUCTION.
- IT IS THE CONTRACTORS RESPONSIBILITY TO TAKE DUE CARE OF NATURAL VEGETATION. NO CLEARING IS TO BE UNDERTAKEN WITHOUT PRIOR APPROVAL FROM THE SUPERINTENDENT.
- TO AVOID DISTURBANCE TO EXISTING TREES, EARTHWORKS WILL BE MODIFIED AS DIRECTED ON-SITE BY THE SUPERINTENDENT.
- THE LOCATION OF EROSION AND SEDIMENTATION CONTROLS WILL BE DETERMINED ON SITE BY THE SUPERINTENDENT.
- ACCESS TRACKS THROUGH THE SITE WILL BE LIMITED TO THOSE DETERMINED BY THE SUPERINTENDENT AND THE CONTRACTOR PRIOR TO ANY WORK COMMENCING.
- ALL SETTING OUT IS THE RESPONSIBILITY OF THE CONTRACTOR PRIOR TO WORKS COMMENCING ON SITE. THE SUPERINTENDENT'S SURVEYOR SHALL PEG ALL ALLOTMENT BOUNDARIES, PROVIDE COORDINATE INFORMATION TO THESE PEGS AND PLACE BENCH MARKS. THE CONTRACTOR SHALL SET OUT THE WORKS FROM AND MAINTAIN THESE PEGS.

B	ISSUE FOR DEVELOPMENT APPLICATION	19/05/2025	YRM	EH	OC
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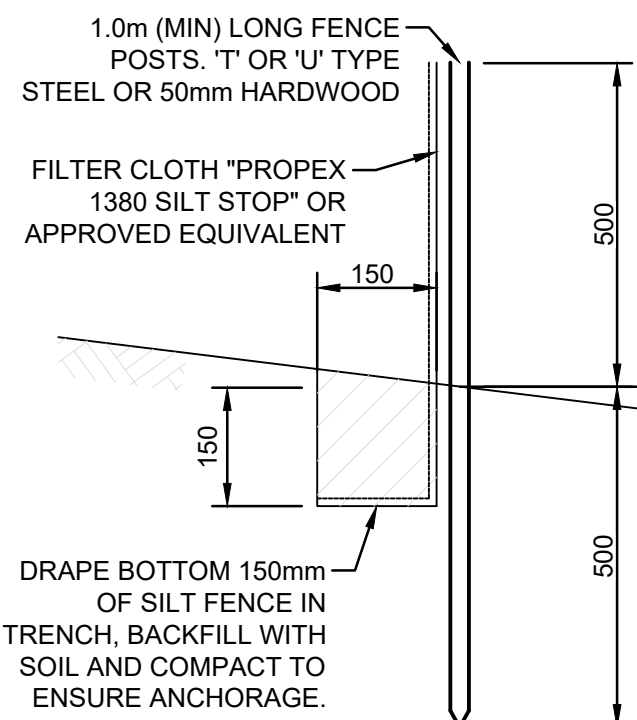
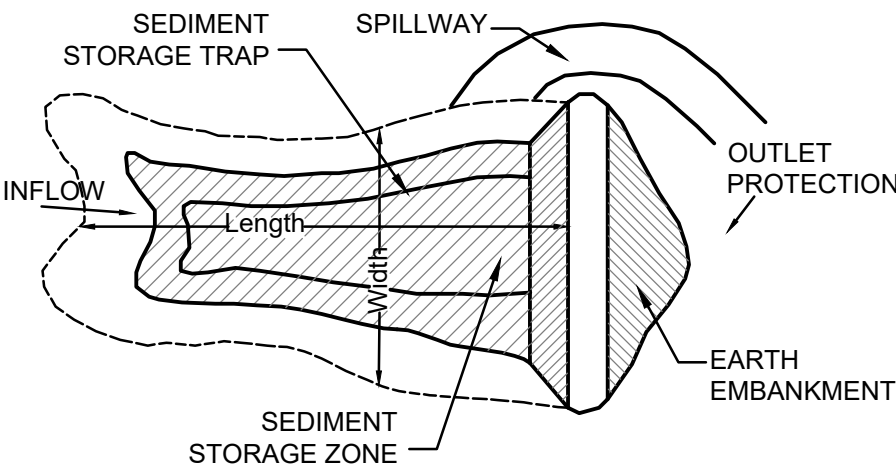
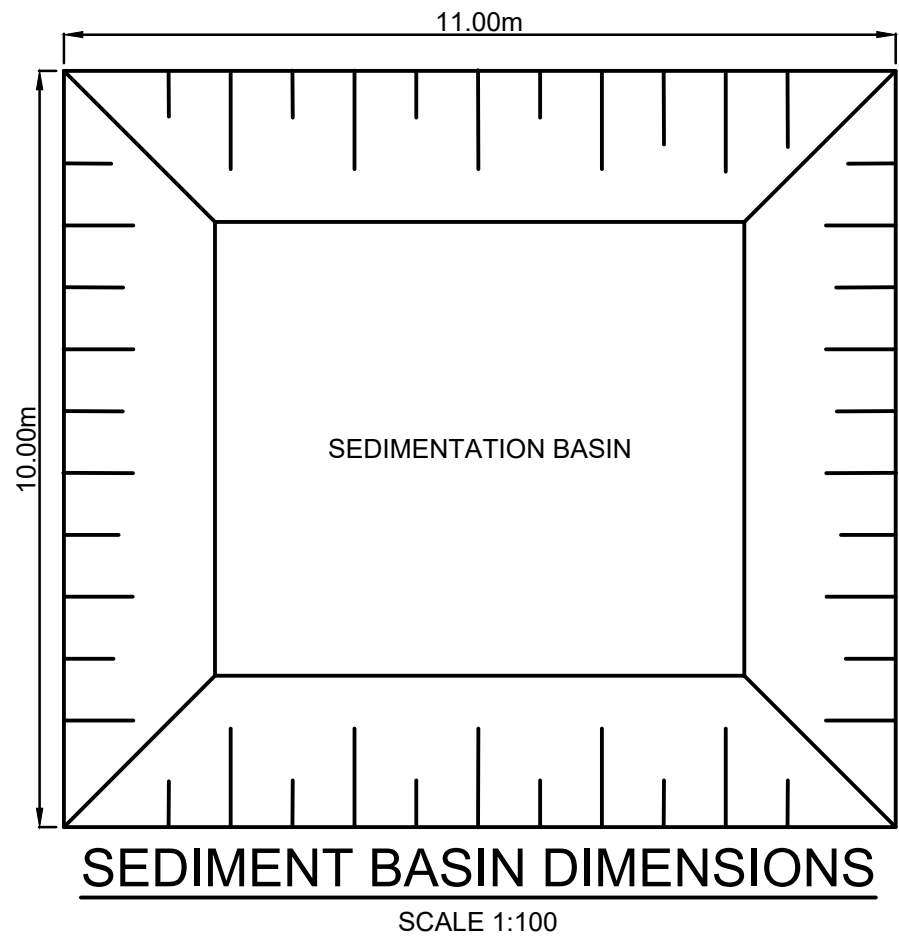
Council
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Project
691-695 VICTORIA ROAD, RYDE
PROPOSED MIXED USE DEVELOPMENT
STORMWATER CONCEPT PLAN

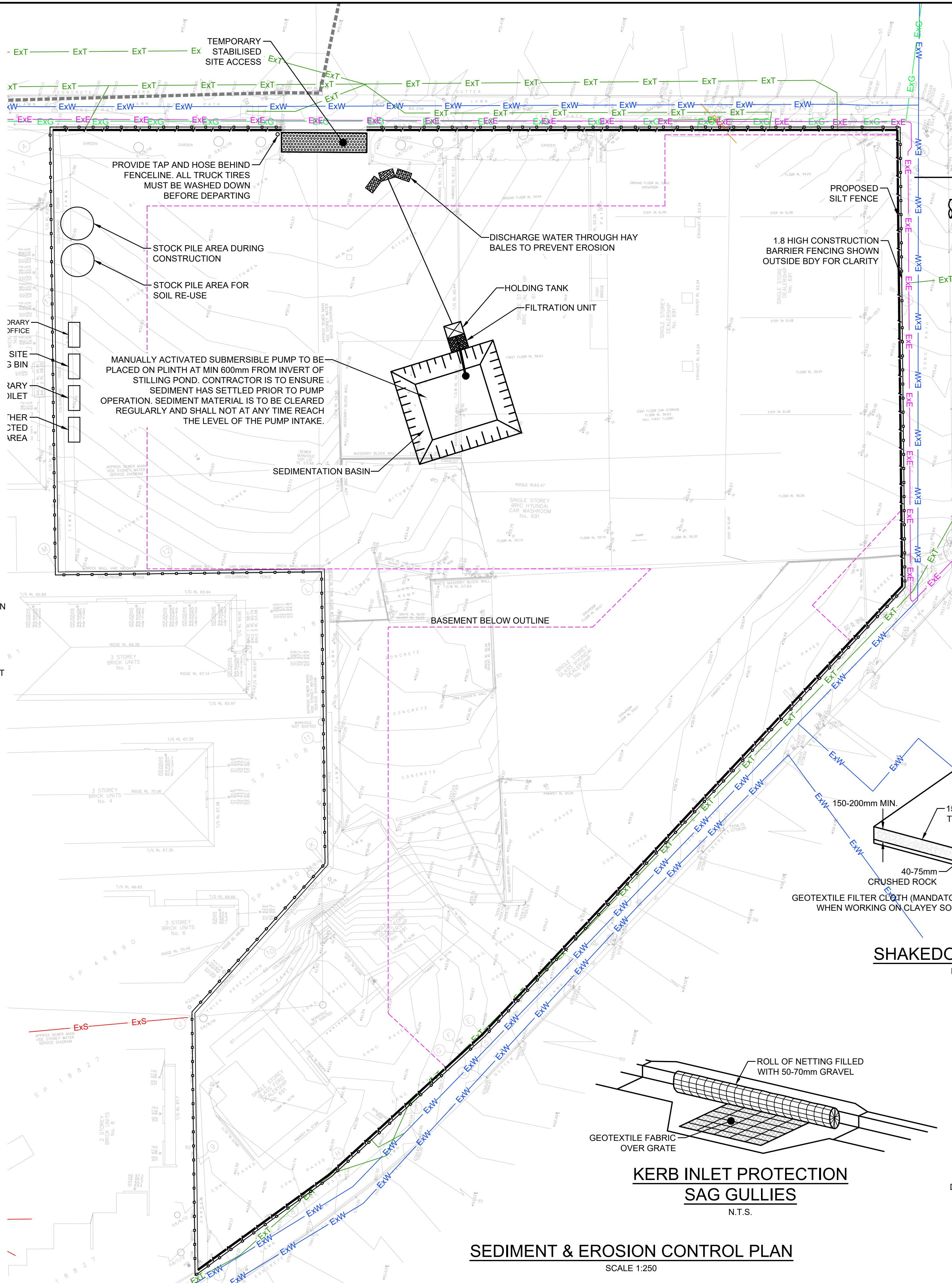
Drawing Title	SEDIMENT & EROSION CONTROL PLAN / SOIL & WATER MANAGEMENT PLAN			
Scale	A1	Project No.	Dwg No.	Issue
1:250		230266	111	B



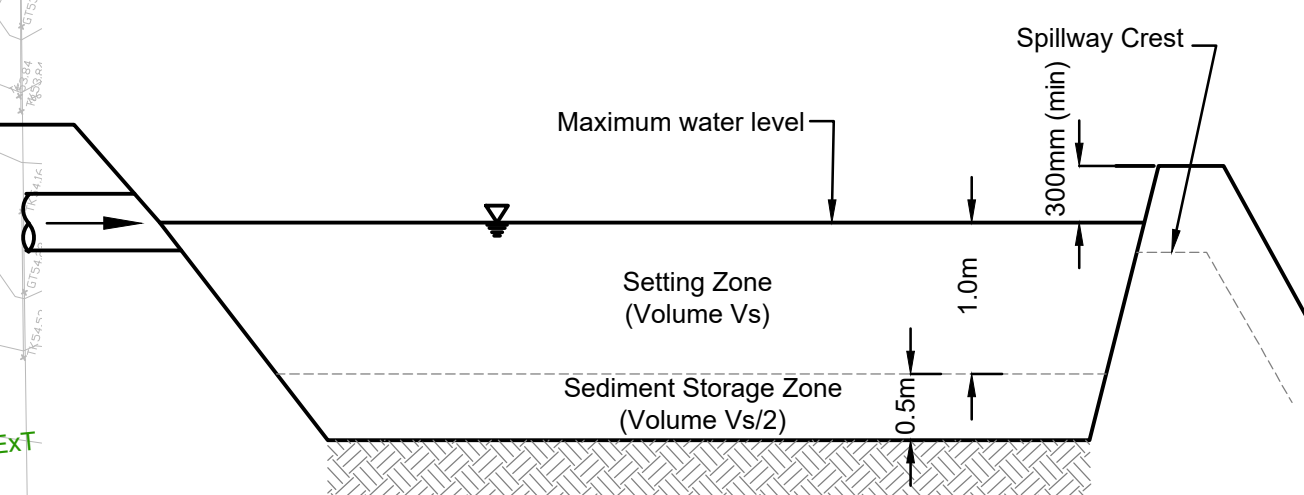
SILT FENCE DETAIL
N.T.S.

SILT FENCE NOTES:

- FILTER CLOTH TO BE FASTENED SECURELY TO POSTS WITH GALVANISED WIRE TIES, STAPLES OR ATTACHMENT BELTS.
- POSTS SHOULD NOT BE SPACED MORE THAN 3.0m APART.
- WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 150mm AND FOLDED.
- FOR EXTRA STRENGTH TO SILT FENCE, WOVEN WIRE (14mm GAUGE, 150mm MESH SPACING) TO BE FASTENED SECURELY BETWEEN FILTER CLOTH AND POSTS BY WIRE TIES OR STAPLES.
- INSPECTIONS SHALL BE PROVIDED ON A REGULAR BASIS, ESPECIALLY AFTER RAINFALL AND EXCESSIVE SILT DEPOSITS REMOVED WHEN "BULGES" DEVELOP IN SILT FENCE.
- SEDIMENT FENCES SHALL BE CONSTRUCTED WITH SEDIMENT TRAPS AND EMERGENCY SPILLWAYS AT SPACINGS NO GREATER THAN 40m ON FLAT TERRAIN DECREASING TO 20m SPACINGS ON STEEP TERRAIN.



SEDIMENT & EROSION CONTROL PLAN
SCALE 1:250



TYPICAL SEDIMENT BASIN DETAILS
N.T.S.

SEDIMENT BASIN CALCULATIONS:

THE MINIMUM VOLUME OF THE UPPER SETTING ZONE IS DEFINED BY EQUATION:

$$V_s = 10 \cdot R_{(y\%,5\text{-day})} \cdot C_v \cdot A$$

WHERE: V_s = VOLUME OF THE SETTING ZONE (m^3)
 $R_{(y\%,5\text{-day})}$ = Y%, 5-DAY RAINFALL DEPTH (mm)
 C_v = VOLUMETRIC RUNOFF COEFFICIENT
 A = EFFECTIVE CATCHMENT SURFACE AREA TO BE CONNECTED TO THE BASIN (ha)

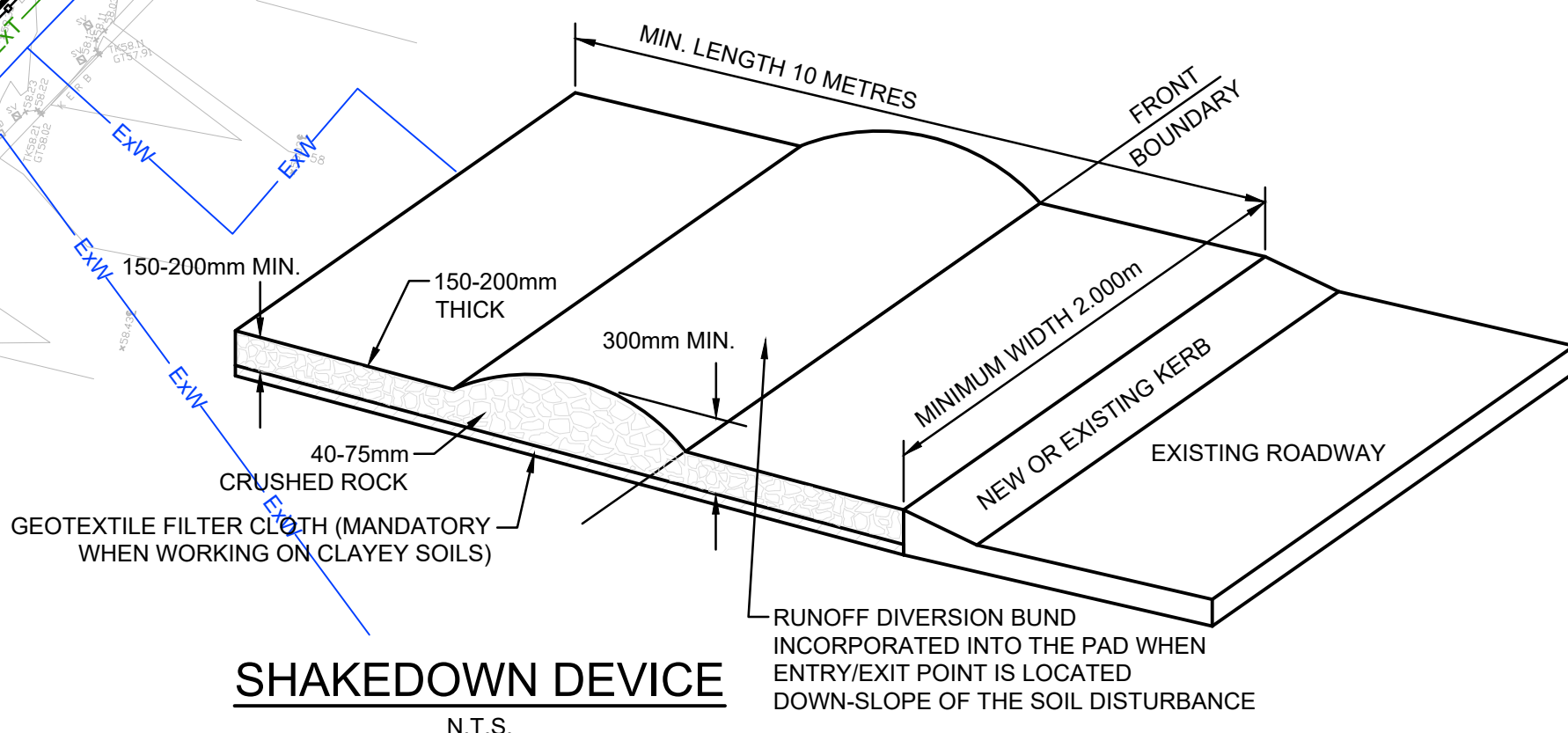
$$R_{(y\%,5\text{-day})} = K_1 \cdot I_{(1\text{yr},120\text{hr})} + K_2$$

WHERE: K_1 = CONSTANT = 17
 K_2 = CONSTANT = 11.2
 $I_{(1\text{yr},120\text{hr})}$ = AVERAGE RAINFALL INTENSITY FOR A 1 IN 1 YEAR ARI, 120 HR STORM (mm/hr) = 1.3
THEN: $R_{(y\%,5\text{-day})} = 17 \times 1.3 + 11.2 = 33.3$

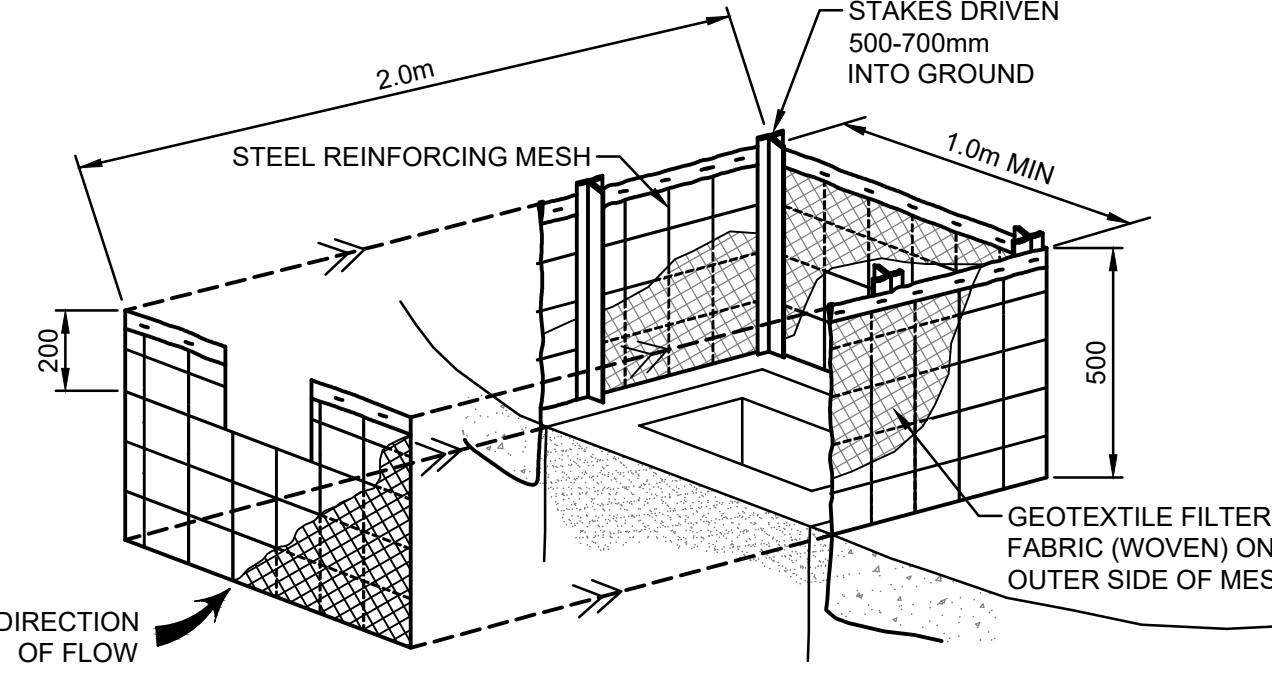
SEDIMENT BASIN :

$$R_{(y\%,5\text{-day})} = 33.3$$
$$C_v = 0.5$$
$$A = 6,296.80 \text{ m}^2 = 0.6296 \text{ ha}$$

THEN $V_s = 10 \times 33.3 \times 0.5 \times 0.6296 = 104.82 \text{ m}^3$



SHAKEDOWN DEVICE
N.T.S.



FIELD INLET SEDIMENT TRAP
N.T.S.

NOT FOR CONSTRUCTION