

37-41 OXFORD STREET, EPPING

PROPOSED MIXED-USE DEVELOPMENT

STORMWATER CONCEPT PLAN

LEGEND

- PROPOSED STORMWATER
-
- EXISTING SEWER MAIN
(FROM RECORDS)

EXISTING OPTIC FIBER MAIN
(FROM RECORDS)EXISTING GAS
(FROM RECORDS)EXISTING TELSTRA
(FROM RECORDS)

PLANTER GRATE

FLOOR GRATE

RAINWATER OUTLET

SURFACE FLOW ARROWS

DESIGN SURFACE LEVEL

EXISTING SURFACE LEVEL

INVERT LEVEL OF PIPE JUNCTION

FENCE WITH 50mm GAP
BENEATH FOR OVERLAND FLOWS

CLOSED STYLE FENCING

POOL TYPE SAFETY FENCE

MASONRY RETAINING WALL TO
STRUCTURAL ENGINEER'S DETAILS

PROPOSED OSD STORAGE

AREA BYPASSING OSD

PROPOSED WSUD / BIO-RETENTION
AREA / POND

TILED AREA

TREES TO BE RETAINED

TREES TO BE REMOVED

RAISED CONCRETE EDGING



LOCALITY PLAN
N.T.S.

BUILDING NOTE:

- 1- ALL PIPES IN BALCONIES TO BE Ø65 uPVC CAST IN CONCRETE SLAB.
- 2- CONTRACTOR TO PROVIDE A BREAK / OPEN VOID IN RAIL / BALLUSTRADE FOR STORMWATER EMERGENCY OVERFLOW.
- 3- ALL ENCLOSED AREAS/PLANTER BOXES TO BE FITTED WITH FLOOR WASTES & DRAINED TO OSD.
- 4- DOWNPIPES TO BE CHECKED BY ARCHITECT & PLUMBER PRIOR TO CONSTRUCTION.

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ACE170411.SW.DA - 110	MISCELLANEOUS DETAILS SHEET

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

GENERAL NOTES

1. ALL THE CLEANING EYES (OR INSPECTION EYES) FOR THE UNDERGROUND PIPES HAVE TO BE TAKEN UP TO THE FINISHED GROUND LEVEL FOR EASY IDENTIFICATION AND MAINTENANCE PURPOSES
2. ALL LEVELS SHALL RELATE TO THE ESTABLISHED BENCH MARK.
3. THE BUILDER SHALL ENSURE THAT THE STORMWATER ENGINEERS DRAWINGS CORRESPOND TO THE ARCHITECTURAL, STRUCTURAL AND LANDSCAPING DRAWINGS. IF THERE EXISTS AND DISCREPANCIES BETWEEN THE DRAWINGS, THE BUILDER SHALL REPORT THE DISCREPANCIES TO THE ENGINEER PRIOR TO COMMENCEMENT OF ANY WORKS
4. ALL MULCHING TO BE USED WITHIN THE AREA DESIGNATED AS ONS-SITE DETENTION STORAGE SHALL BE OF A NON-FLOATABLE MATERIAL SUCH AS DECORATIVE RIVER GRAVEL. PINE BARK MULCHING SHALL NOT BE USED WITHIN THE DETENTION STORAGE AREA.
5. ALL RETAINING WALLS SHALL BE CONSTRUCTED COMPLETELY WITHIN THE PROPERTY BOUNDARY LIMITS TO DETAILS PREPARED BY THE STRUCTURAL ENGINEER. WALLS FORMING THE ON-SITE DETENTION SYSTEM SHALL BE OF MASONARY/BRICK CONSTRUCTION AND WATER TIGHT.
6. ALL SUB-SOIL DRAINAGE SHALL BE A MINIMUM OF 65MM DIA AND SHALL BE PROVIDED WITH A FILTER SOCK. THE SUBSOIL DRAINAGE SHALL BE INSTALLED IN ACCORDANCE WITH DETAILS TO BE PROVIDED BY THE LANDSCAPE ARCHITECT.
7. PRIOR TO COMMENCING ANY WORKS, THE BUILDER SHALL ENSURE THAT THE INVERT LEVELS OF WHERE THE SITE STORMWATER SYSTEM CONNECTS INTO THE COUNCILS KERB/DRAINAGE SYSTEM MATCHED THE DESIGN LEVELS. ANY DISCREPANCIES SHALL BE REPORTED TO THE DESIGN ENGINEER IMMEDIATELY.
8. ALL LINES ARE TO BE Ø90 uPVC 1.0% GRADE UNLESS NOTED OTHERWISE. CHARGED LINES TO BE SEWERGRADE & SEALED.
9. EXISTING SERVICES LOCATIONS SHOWN INDICATIVE ONLY.
10. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE & LEVEL ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS.
11. ALL PIPES TO HAVE MIN 150mm COVER IF LOCATED WITHIN PROPERTY.
12. ALL PITS IN DRIVEWAYS TO BE 450x450 CONCRETE AND ALL PITS IN LANDSCAPED AREAS TO BE 450x450PLASTIC.
13. PITS LESS THAN 450 DEEP MAY BE BRICK, PRECAST OR CONCRETE.
14. ALL BALCONIES AND ROOFS TO BE DRAINED AND TO HAVE SAFETY OVERFLOWS IN ACCORDANCE WITH RELEVANT AUSTRALIAN STANDARDS.
15. ALL EXTERNAL SLABS TO BE WATERPROOFED.
16. ALL GRATES TO HAVE CHILD PROOF LOCKS.
17. ALL DRAINAGE WORKS TO AVOID TREE ROOTS.
18. ALL DP'S TO HAVE LEAF GUARDS.
19. ALL EXISTING LEVELS TO BE CONFIRMED BY BUILDER PRIOR TO CONSTRUCTION.
20. ALL WORK WITHIN COUNCIL RESERVE TO BE INSPECTED BY COUNCIL PRIOR TO CONSTRUCTION.
21. COUNCIL'S ISSUED FOOTWAY DESIGN LEVELS TO BE INCORPORATED INTO THE FINISHED LEVELS ONCE ISSUED BY COUNCIL.
22. ALL WORK SHALL BE IN ACCORDANCE WITH B.C.A. AND A.S.3500.3.
23. REFER TO LANDSCAPE ARCHITECT'S DRAWINGS FOR LANDSCAPING.
24. ALL WALLS FORMING THE DETENTION BASINS SHALL BE CONSTRUCTED WHOLLY WITHIN THE PROPERTY BOUNDARIES OF THE SITE BEING DEVELOPED.
25. OSD WARNING SIGN AND SAFETY FENCING SHALL BE PROVIDED TO ABOVE GROUND OSD STORAGE AREA IN ACCORDANCE WITH COUNCIL'S REQUIREMENTS.
26. ENSURE THAT NON FLOATABLE MULCH IS USED IN DETENTION BASINS, ie, USE DECORATIVE ROCK MULCH OR EQUIVALENT.
27. 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.

NOT FOR CONSTRUCTION

D	ARCHITECTURAL AMENDMENTS	15/02/2018	JAI	WSS	MBR
C	ARCHITECTURAL AMENDMENTS	27/11/2017	CAM	WSS	MBR
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A	ISSUE FOR DEVELOPMENT APPLICATION	03/08/2017	SSA	WSS	MBR
Issue	Description	Date	Drawn	Design	Checked
1	0	1cm at full size			20cm

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Project
**37-41 OXFORD STREET, EPPING
PROPOSED MIXED-USE DEVELOPMENT
STORMWATER CONCEPT PLAN
DEVELOPMENT APPLICATION**

Drawing Title
**COVER SHEET,
NOTES & LEGEND**

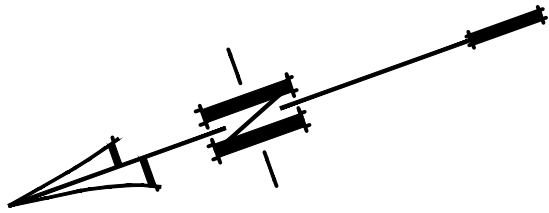
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LEGEND

- > PROPOSED STORMWATER
--> SURFACE FLOW ARROWS
--- SS --- SUBSOIL DRAINAGE
--- CLEANING EYE (OR INSPECTION EYE)
--- PROPOSED STORAGE AREA
x RL 21.56
--- FINISHED SURFACE LEVEL
--- GRATED DRAIN
--- FG FLOOR GRATE

STANDARD PUMP OUT DESIGN NOTES

- THE PUMP OUT SYSTEM SHALL BE DESIGNED 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 PROVIDED 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 PROVIDED 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.



DANGER

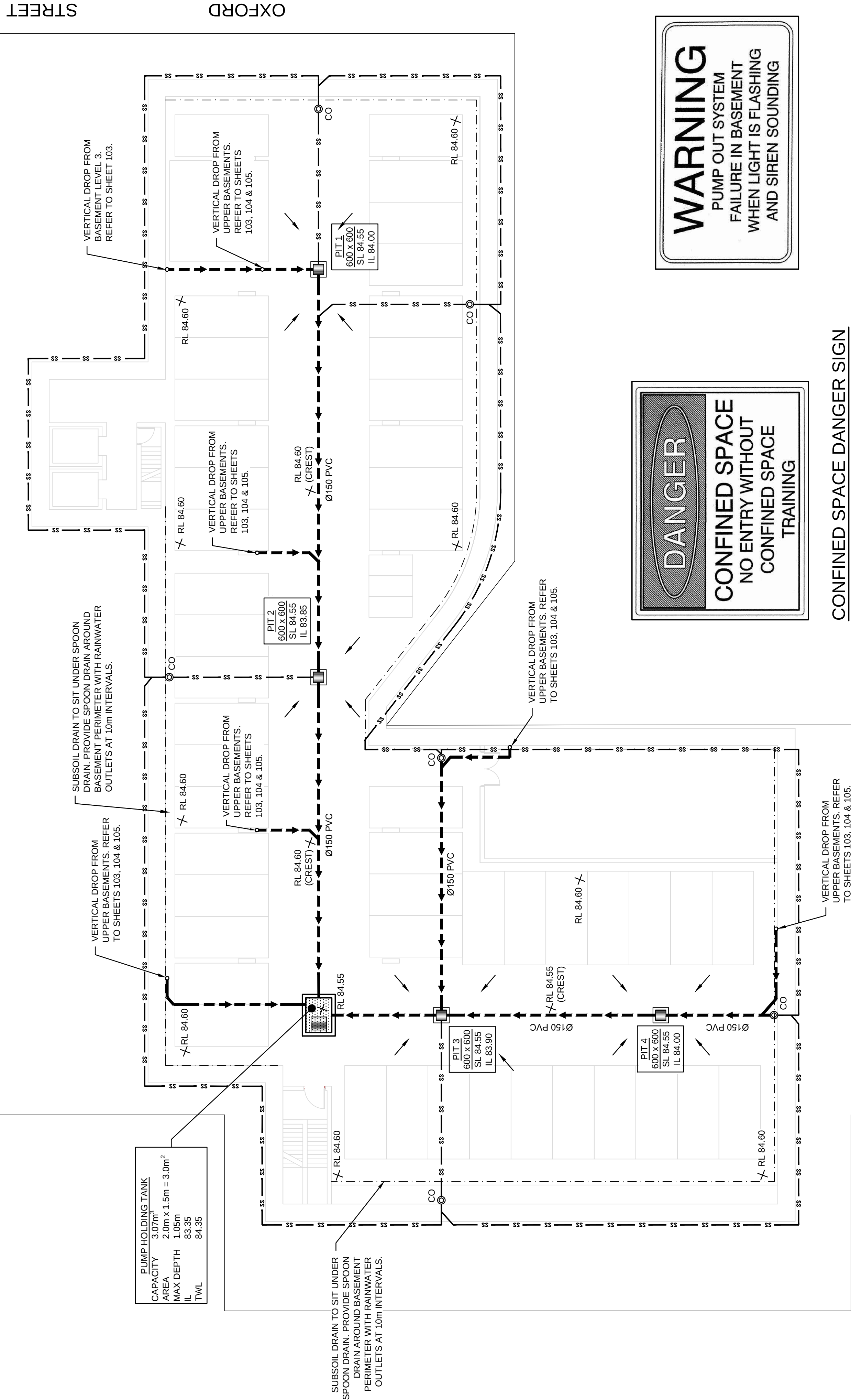
WHEN EXCAVATING WITHIN ANY SITE, FOOTPATH AND ROADWAY, ALL SERVICES SHALL BE LOCATED PRIOR TO COMMENCEMENT OF THE EXCAVATION WORKS.

CONTACT "DIAL BEFORE YOU DIG"
ON PHONE No. 1100 OR GO TO THE WEB SITE
"www.1100.com.au"

PUMP HOLDING TANK NOTE:

THE PUMP HOLDING 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.

PUMP HOLDING TANK
CAPACITY 3.07m³
AREA 2.0m x 1.5m = 3.0m²
MAX DEPTH 1.06m
IL 83.35
TWL 84.35



DANGER
CONFINED SPACE
NO ENTRY WITHOUT
CONFINED SPACE
TRAINING

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

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 TANKS 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
RECTANGULAR CONFINING ELLIPSE = BLACK
BORDER AND OTHER LETTERING = BLACK

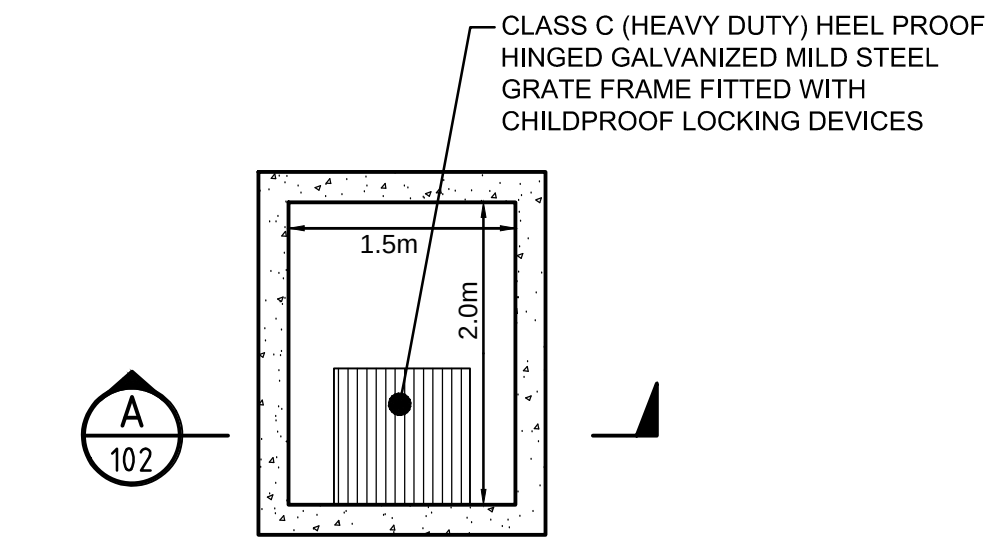
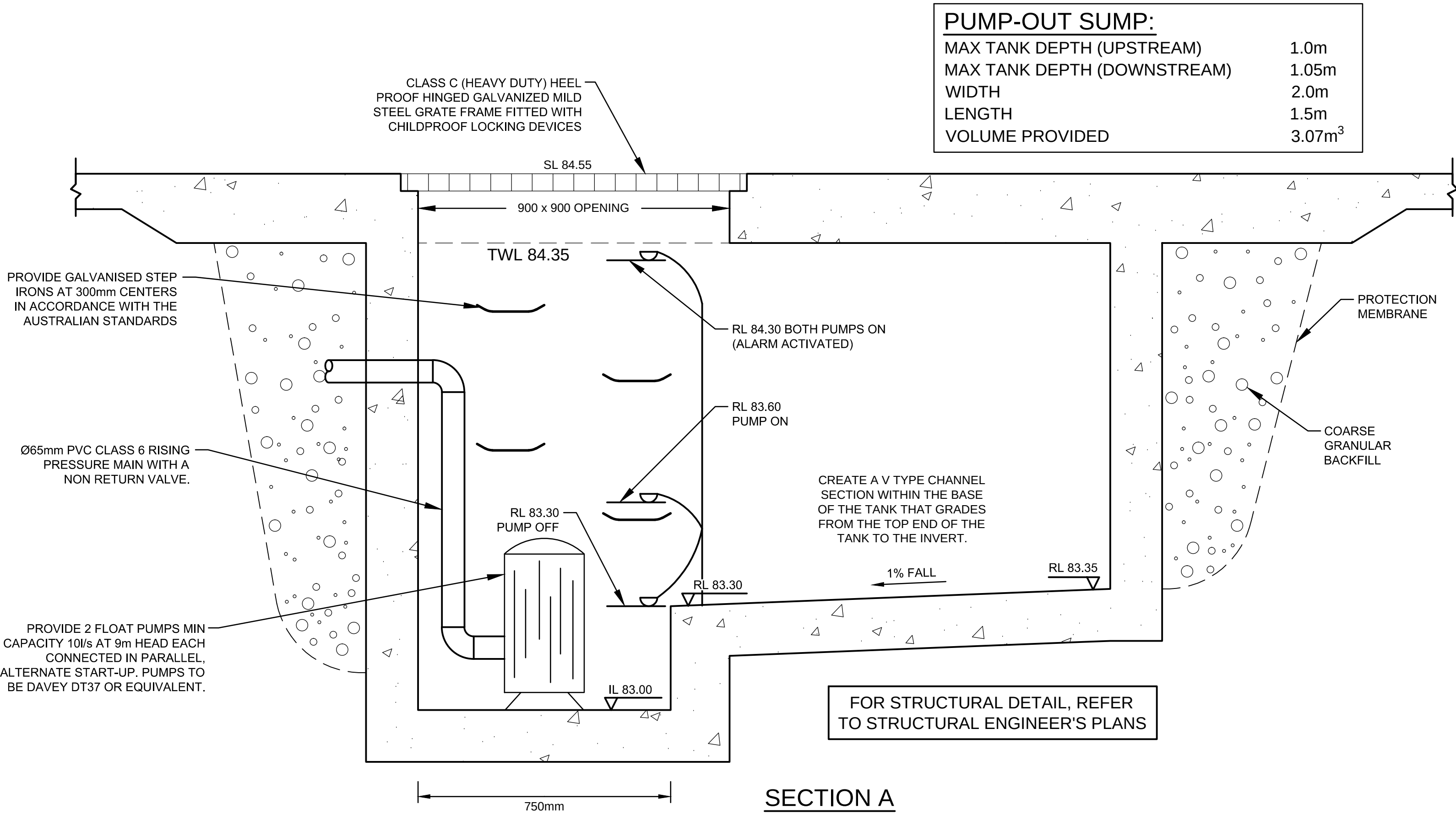
BASEMENT PUMP OUT
FAILURE WARNING SIGN

- SIGN SHALL BE PLACED IN A CLEAR AND VISIBLE LOCATION WHERE VEHICLES ENTER THE BASEMENT
- COLOURS:
WARNING = RED
BORDER AND OTHER LETTERING = BLACK



NOT FOR CONSTRUCTION

																				BSE BUILDING SERVICES ENGINEERS									
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101										101										101									
Issue										Issue										Issue									
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- NOTE:**
- 1- FOR ALL THE STRUCTURAL DETAILS, REFER TO STRUCTURAL ENGINEER'S PLAN.
 - 2- ALL THE AG LINES BEHIND BASEMENT WALLS TO BE CONNECTED TO PUMP-OUT SUMP.

**PUMP-OUT SUMP DETAIL
PLAN VIEW**
SCALE 1:50

**BASEMENT PUMP OUT
FAILURE WARNING SIGN**

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STANDARD PUMP OUT DESIGN NOTES

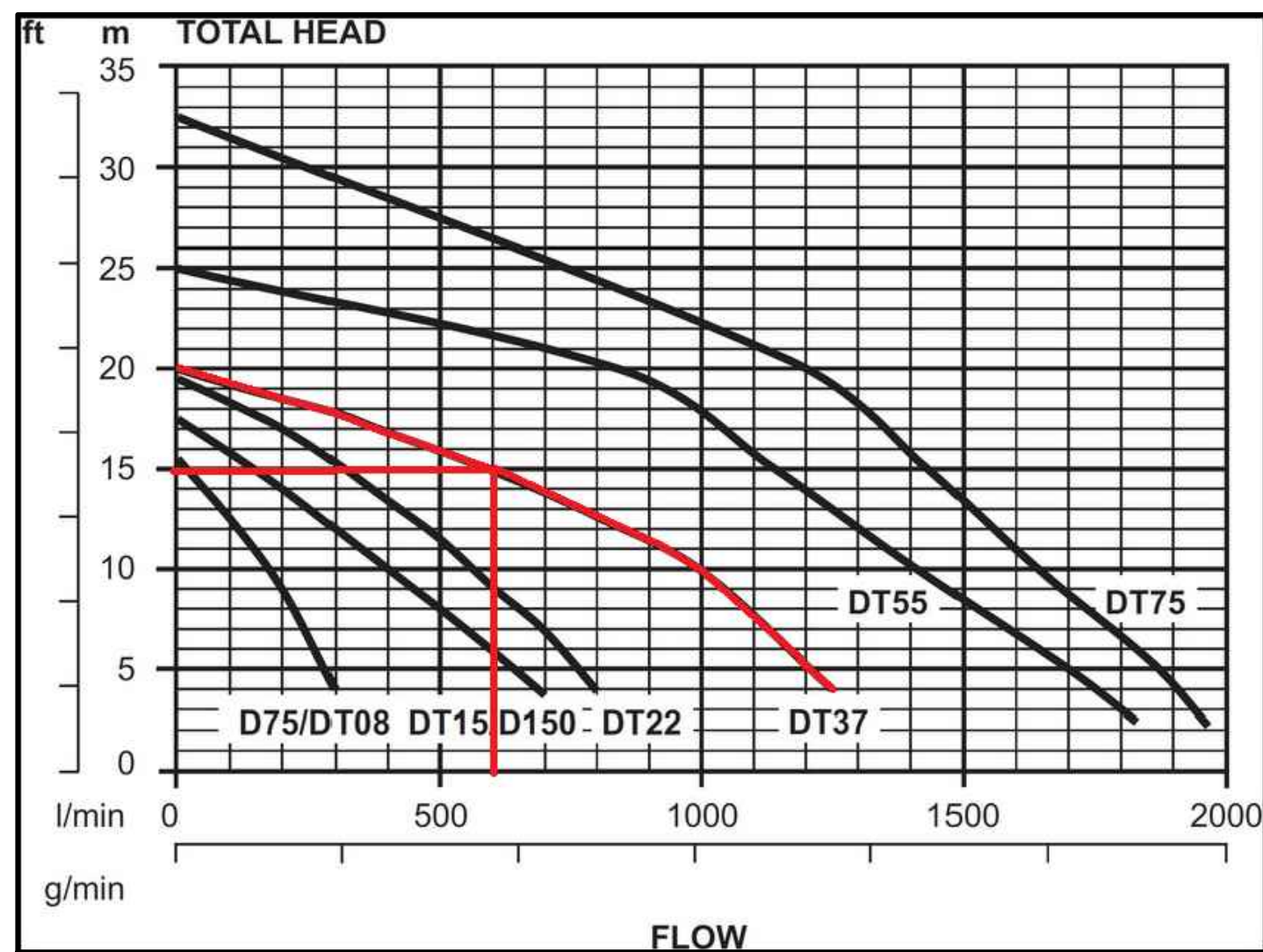
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 - 5- A CONFINED SPACE DANGER SIGN SHALL BE PROVIDED AT ALL ACCESS POINT TO THE PUMP-OUT STORAGE TANK IN ACCORDANCE WITH THE UPPER PARRAMATTA RIVER CATCHMENT TRUST OSD HANDBOOK.

SINCE THE BUILDING OCCUPIES THE ENTIRE DRIVEWAY AREA, NO FLOWS ARE ASSUMED TO ENTER THE BASEMENT. IN THE UNLIKELY CASE OF EMERGENCY, A 3.0m³ PUMP OUT TANK IS PROVIDED.

PUMP HOLDING TANK NOTE:

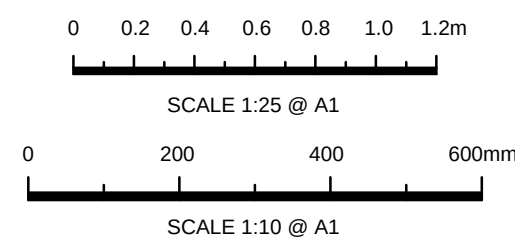
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PUMP CALCULATIONS												
Project Address:	37 - 41 Oxford Street, Epping											
HL=[3.35x10e6xQ/(d^2.63xC)]^1.852	h1=kv^2/2g											
HL(m/100m), Q(L/s), d(mm)	k(cum), v(m/s), g=9.8(m											
	v(m/s)= 0.00											
	Bend Losses, Kb= 3.06											
	Valve Losses, Kv= 2.13											
	Entry/Exit Losses, Ke= 5.00											
	Cum Losses, K= 10.19											
	Start Flow= 0											
	Increment= 1											
	Elevation Head(m)= 15											
	Pipe Length(m)= 60											
	Hazen - Williams C= 145											
	Hazen-Williams Constant											
	125-140 Commercial steel pipe											
	135-140 Bitumen Lined Cast iron pipe											
	140-145 Copper Tube											
	145-150 PVC											
Q(L/s)	0	1	2	3	4	5	6	7	8	9	10	
HL(m/100m)	0.00	0.18	0.64	1.36	2.32	3.51	4.92	6.55	8.39	10.44	12.68	
Hf(m)	HL x pipe Length/100	0.00	0.11	0.39	0.82	1.39	2.11	2.95	3.93	5.03	6.26	7.61
v(m/s)	Q(L/s) / area of pipe crossing section	0.00	0.30	0.60	0.90	1.21	1.51	1.81	2.11	2.41	2.71	3.01
h1(m)	k(cum) x v(m/s)^2/2xg	0.00	0.05	0.19	0.42	0.76	1.18	1.70	2.31	3.02	3.82	4.72
H(m)	=Hf+H1+Elevation Head	15.00	15.15	15.58	16.24	17.15	18.29	19.65	21.24	23.06	25.09	27.33



**UNDERGROUND PUMP - OUT SUMP
STAGED STORAGE CALCULATIONS**

DEPTH (mm)	AREA (m²)	CUMULATIVE VOLUME (m³)
0	3.0	0
100	3.0	0.225
200	3.0	0.525
300	3.0	0.825
400	3.0	1.125
500	3.0	1.425
600	3.0	1.725
700	3.0	2.025
800	3.0	2.325
900	3.0	2.625
1000	3.0	2.925
1050	3.0	3.075



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City Council**



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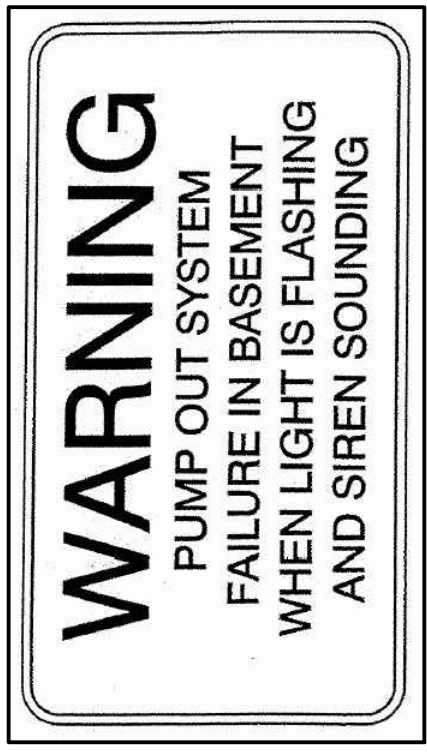
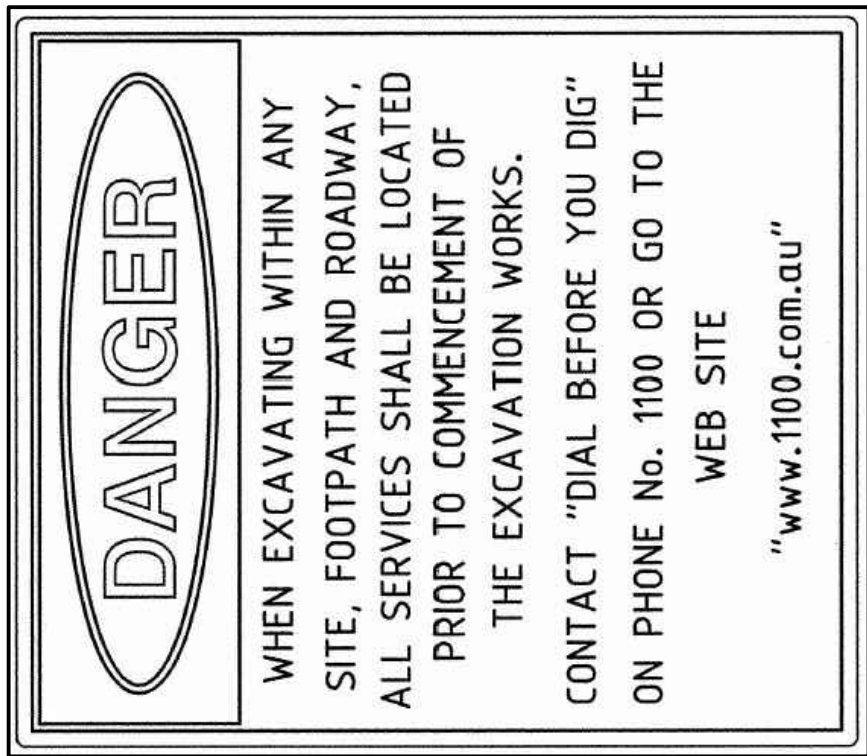
Drawing Title	STORMWATER CONCEPT PLAN BASEMENT LEVEL 4 SHEET 2 OF 2			
Scale	A1 As Shown	Project No.	ACE170411.SW.DA	Dwg. No. 102
Issue	D			

LEGEND

- PROPOSED STORMWATER
SURFACE FLOW ARROWS
SUBSOIL DRAINAGE
CLEANING EYE
(OR INSPECTION EYE)
PROPOSED STORAGE AREA
FINISHED SURFACE LEVEL
GRATED DRAIN
FLOOR GRATE

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
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2 - A FLOAT SHALL BE PROVIDED TO ENSURE OF THE MINIMUM REQUIRED WATER LEVEL IS
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4 - AN ALARM SYSTEM SHALL BE PROVIDED WITH A FLASHING STROBE LIGHT AND A PUMP
FAILURE WARNING SIGN WHICH ARE TO BE LOCATED AT THE DRIVEWAY ENTRANCE TO
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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 PARRAMATTA RIVER
CATCHMENT TRUST OSD HANDBOOK.



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

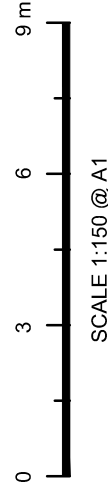
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ENTRIES, SUCH AS DOORS) 250mm x 180mm (SMALL ENTRIES
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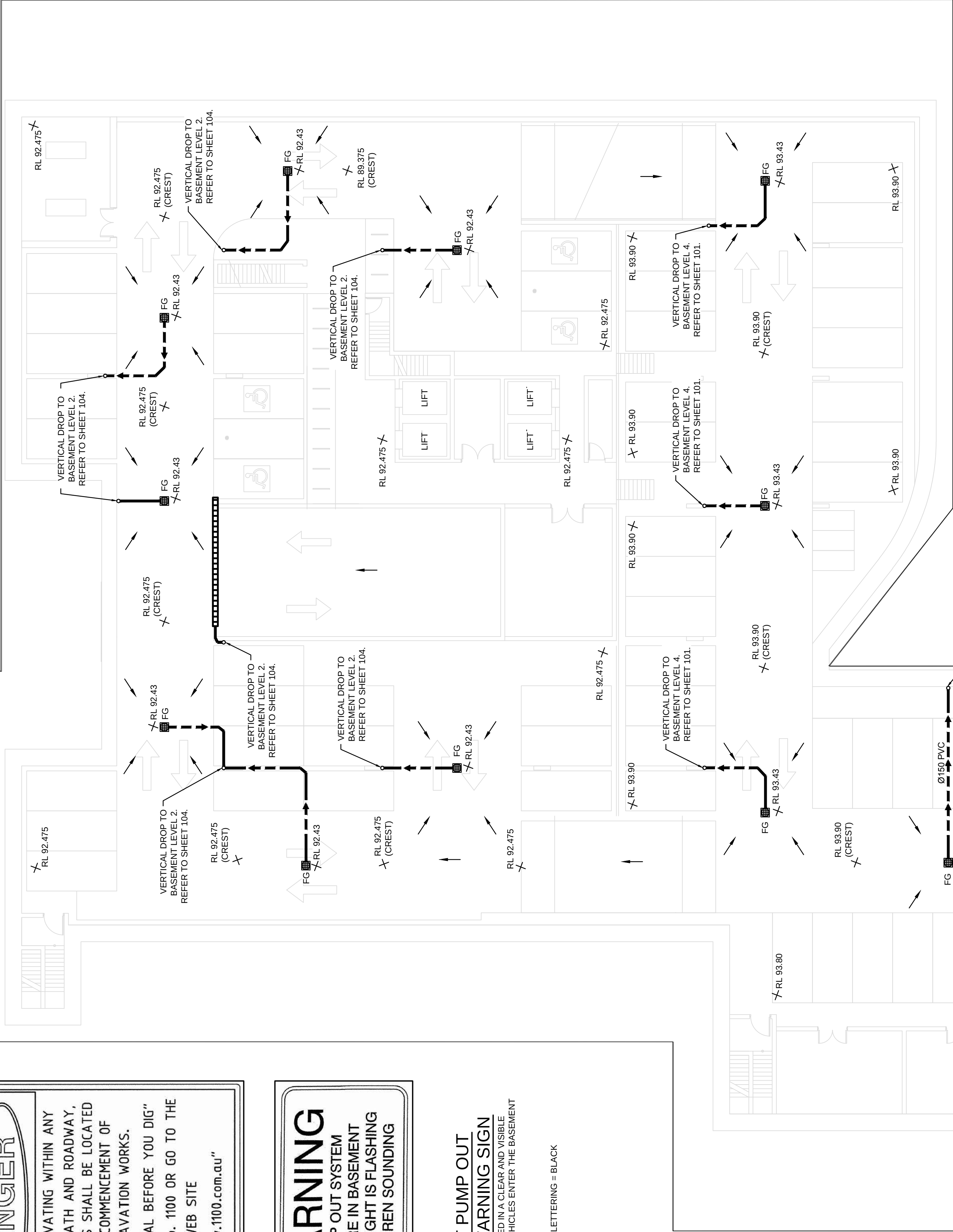
C) THE SIGN SHALL BE MANUFACTURED FROM COLOUR BONDED
ALUMINUM OR POLYPROPYLENE

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

COLOURS:
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ELLIPTICAL AREA = RED
RECTANGLE CONTAINING ELLIPSE = BLACK
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NOT FOR CONSTRUCTION



PUMP HOLDING TANK NOTE:
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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.

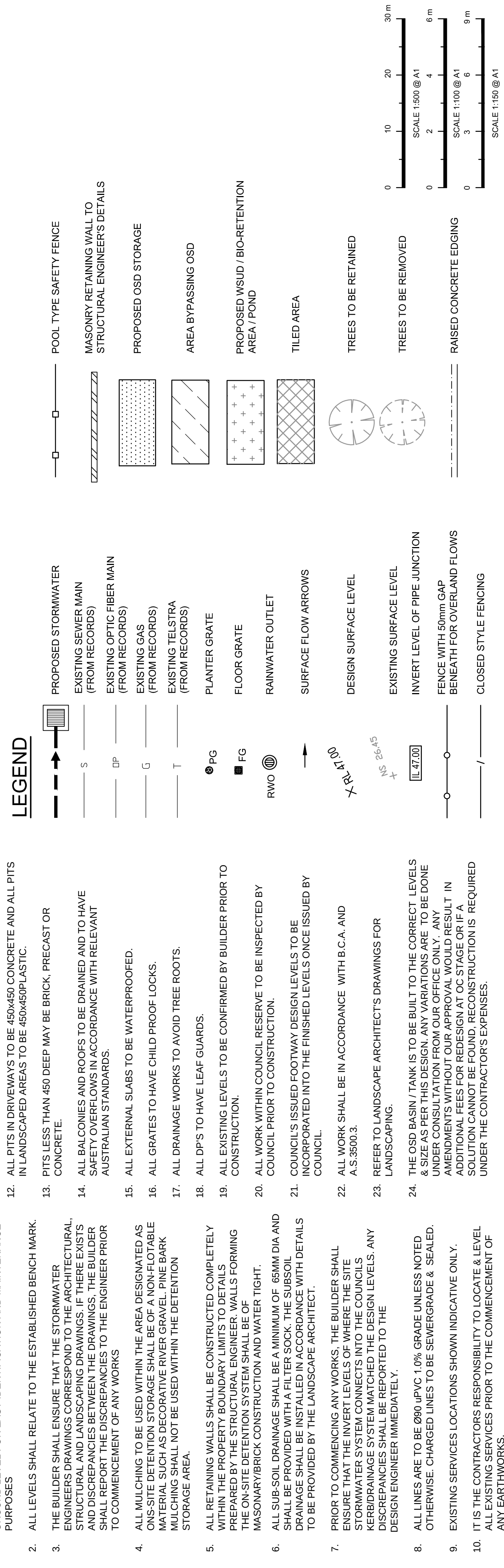
D	ARCHITECTURAL AMENDMENTS	15/02/2018	JAI	WSS	MBR
C	ARCHITECTURAL AMENDMENTS	27/11/2017	CAM	WSS	MBR
B	ARCHITECTURAL AMENDMENTS	07/08/2017	EVE	WSS	MBR
A	ISSUE FOR DEVELOPMENT APPLICATION	03/08/2017	SSA	WSS	MBR
Issue	Description	Date	Drawn	Design	Checked
1	Issue	15/02/2018	JAI	WSS	MBR



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Project
37-41 OXFORD STREET, EPPING
PROPOSED MIXED-USE DEVELOPMENT
STORMWATER CONCEPT PLAN
DEVELOPMENT APPLICATION

Drawing Title	Stormwater Concept Plan Basement Level 1
Scale	A1
Project No.	ACE170411-SW/DA
Draw No.	105
Issue	D

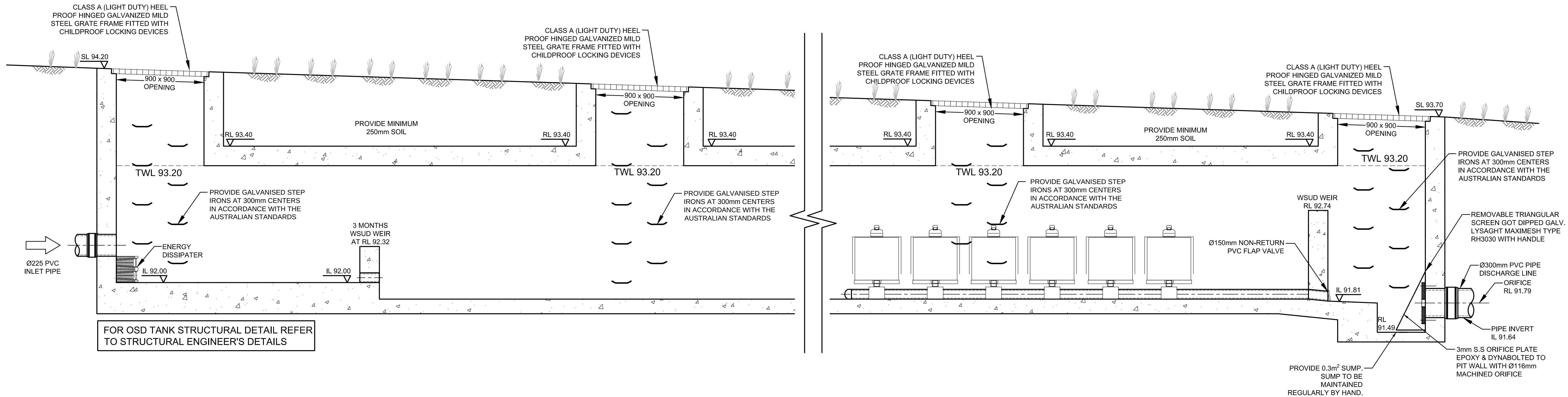
[illegible]

SUBMERGED ORIFICE:

THE 100yr ARI LEVEL IN THE
ADJACENT ROAD IS ASSUMED
TO BE AT RL 90.778 MAKING
THIS ORIFICE NON-SUBMERGED.

DETENTION TANK :

MAX TANK DEPTH	1.71m
MIN TANK DEPTH	1.52m
AREA	171.0m ²
VOLUME PROVIDED	274.45m ³



SECTION B
UNDERGROUND COMBINED OSD/WSUD TANK DETAILS
SCALE 1:20

SITE SPECIFIC DATA REQUIREMENTS				
STRUCTURE ID			1	
WATER QUALITY FLOW RATE (L/S)			-	
PEAK FLOW RATE (L/S)			-	
RETURN PERIOD OF PEAK FLOW (yrs)			-	
# OF CARTRIDGES REQUIRED (8-22)			12	
CARTRIDGE HEIGHT (310, 460 or 690mm)			690	
MEDIA TYPE (PERLITE, PERLITE/ZEOLITE OR ZPG)			ZPG	
PRECAST VAULT WEIGHT			2524 kg	
PRECAST LID WEIGHT			547 kg	
PIPE DATA:		I.L.	MATERIAL	DIAMETER
INLET PIPE #1		92.50	PVC	225
INLET PIPE #2		92.50	PVC	225
OUTLET PIPE		91.81	PVC	150
PIPE ORIENTATION				
UPSTREAM FLOW → 180° 90° 0° 270° DOWNSTREAM FLOW →				
LADDER			YES/NO	
ANTI-FLOTATION BALLAST			N/A	N/A
			N/A	N/A

STORMFILTER TABLE
N.T.S.

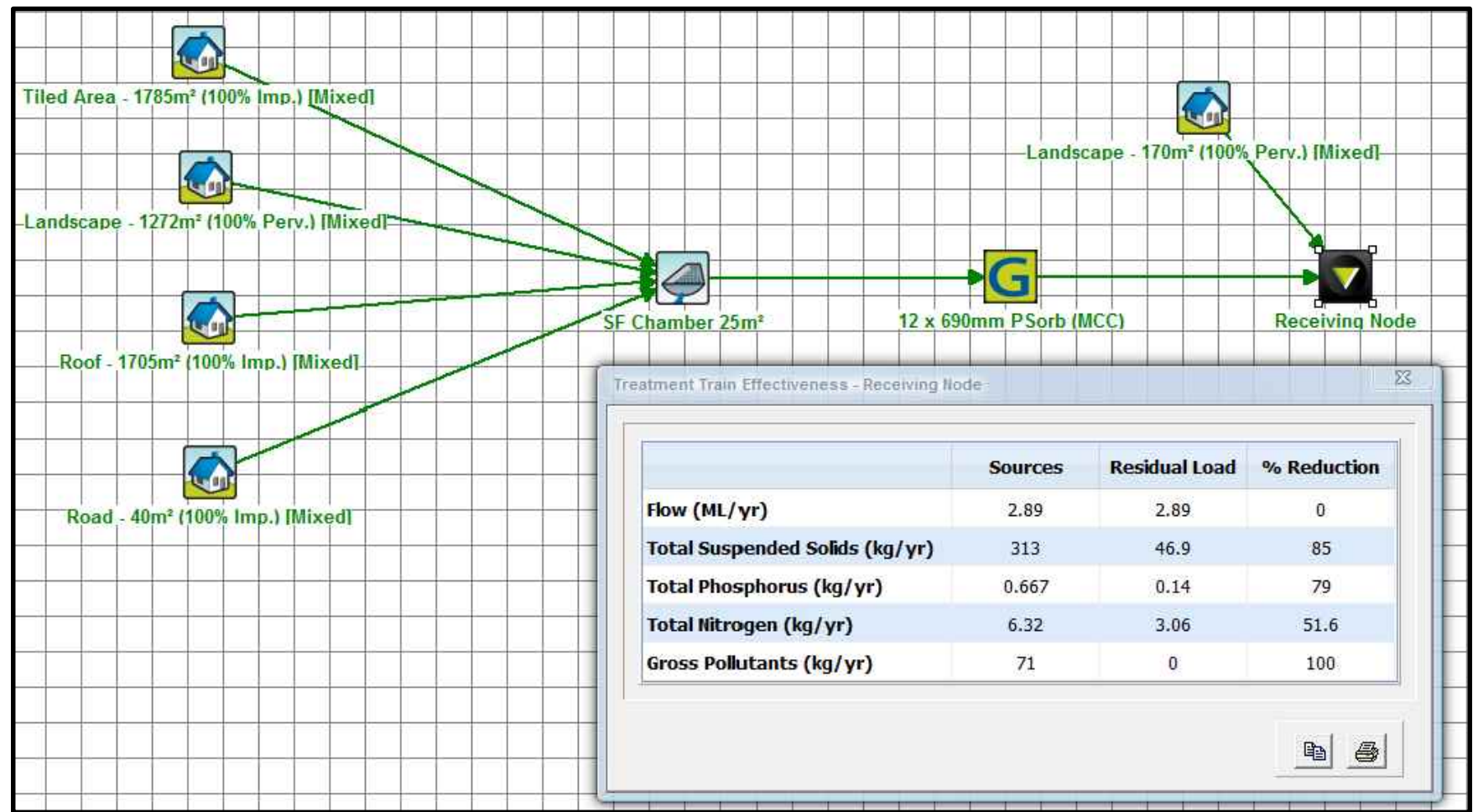
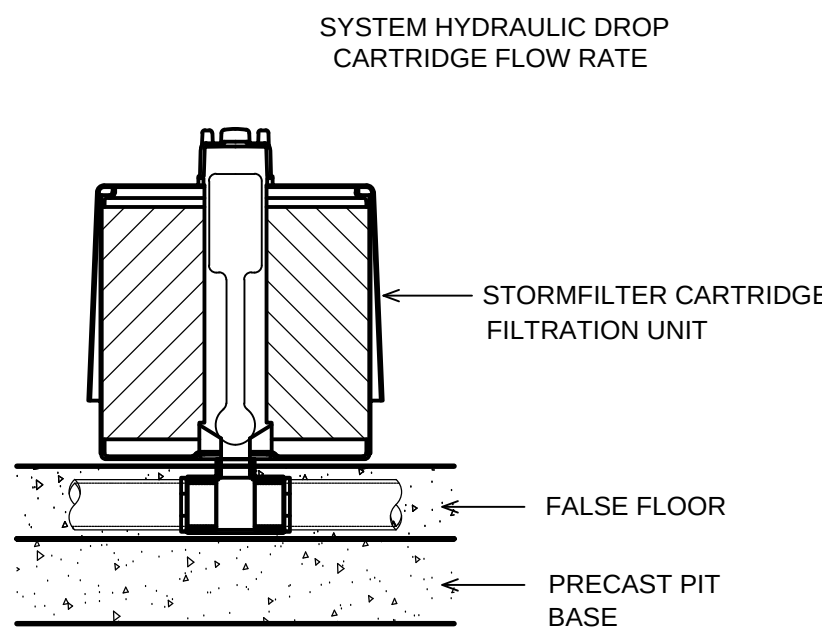
STORMFILTER DESIGN TABLE

- STORMFILTER TREATMENT CAPACITY VARIES BY NUMBER OF FILTER CARTRIDGES INSTALLED AND BY REGION SPECIFIC INTERNAL FLOW CONTROLS. CONVEYANCE CAPACITY IS RATED AT 80L/S.
- THE STANDARD CONFIGURATION IS SHOWN. ACTUAL CONFIGURATION OF THE SPECIFIED STRUCTURE(S) PER CIVIL ENGINEER WILL BE SHOWN ON SUBMITTAL DRAWING(S).
- ALL PARTS PROVIDED AND INTERNAL ASSEMBLY BY STORMWATER360 AUSTRALIA UNLESS OTHERWISE NOTED.

CARTRIDGE HEIGHT	690		460		310	
SYSTEM HYDRAULIC DROP (H - REQ'D. MIN.)	930		700		550	
TREATMENT BY MEDIA SURFACE AREA L/S/m ²	1.4	0.7	1.4	0.7	1.4	0.7
CARTRIDGE FLOW RATE (L/s)	1.42	0.71	0.95	0.47	0.63	0.32

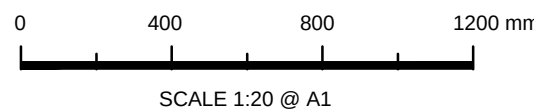
GENERAL NOTES

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 AUSTRROADS 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.



WSUD RESULTS

ON-SITE DETENTION NOTE:
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.



NOT FOR CONSTRUCTION

D	ARCHITECTURAL AMENDMENTS	15/02/2018	JAI	WSS	MBR
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B	ARCHITECTURAL AMENDMENTS	07/08/2017	SSA	WSS	MBR
A	ISSUE FOR DEVELOPMENT APPLICATION	03/08/2017	SSA	WSS	MBR
Issue	Description	Date	Drawn	Design	Checked
0	1cm at full size				20cm

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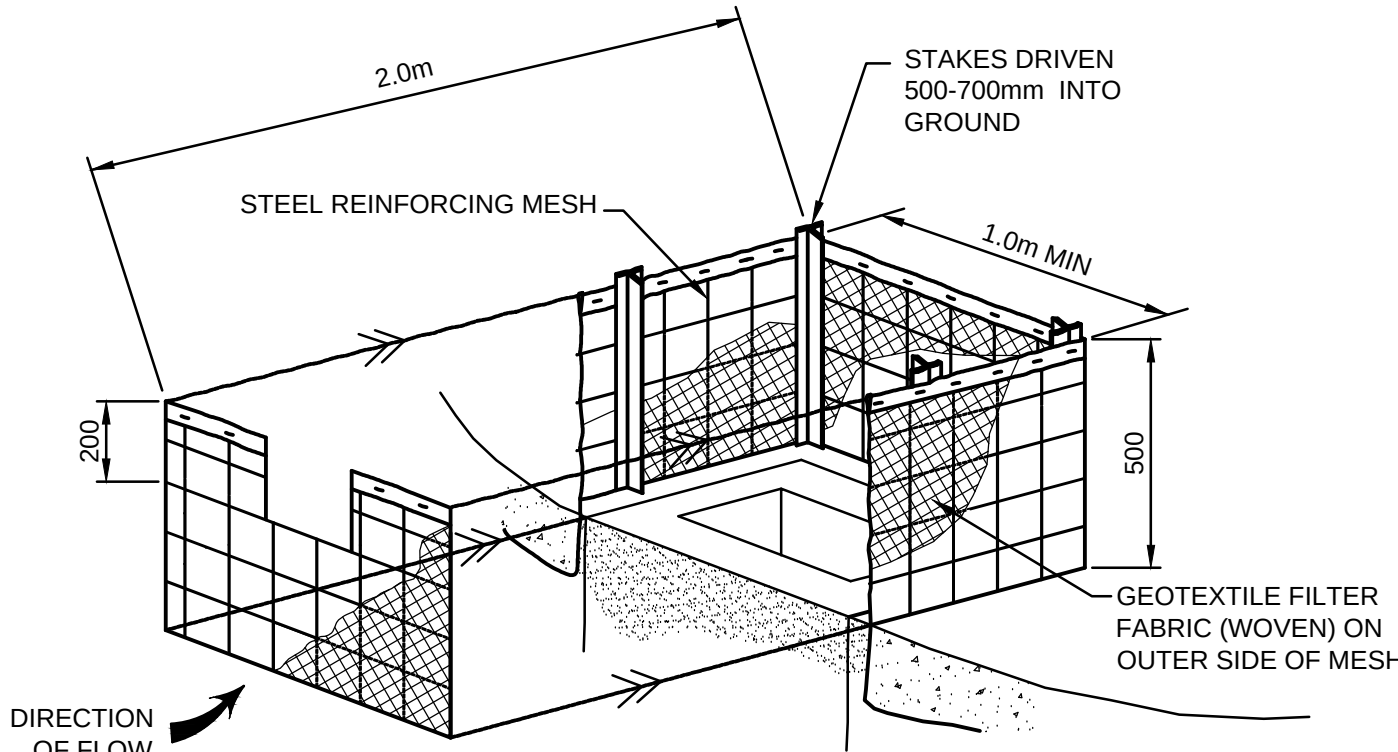
Project
**37-41 OXFORD STREET, EPPING
PROPOSED MIXED-USE DEVELOPMENT
STORMWATER CONCEPT PLAN
DEVELOPMENT APPLICATION**

Drawing Title
**OSD & WSUD DETAILS
SHEET 2 OF 2**

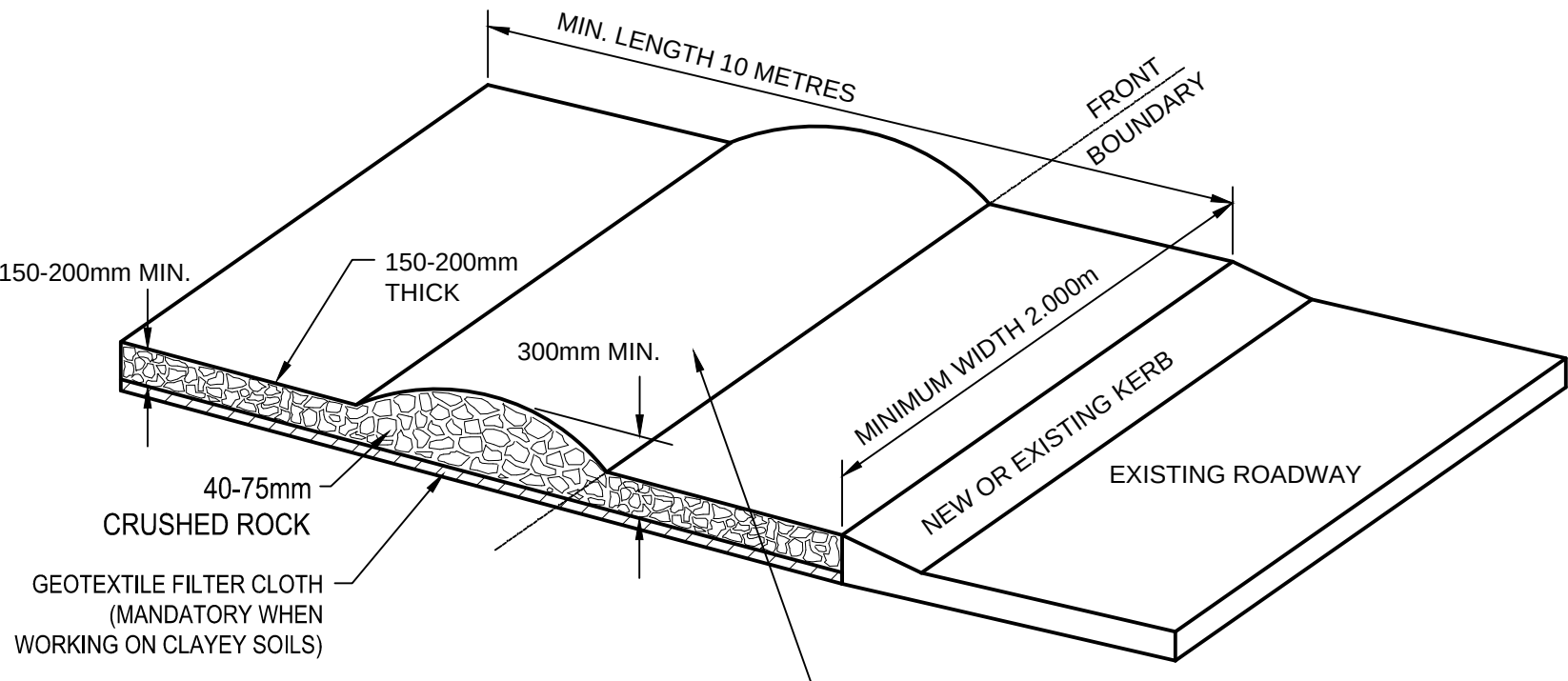
Scale	A1	Project No.	Dwg. No.	Issue
As Shown		ACE170411.SW.DA	109	D

SEDIMENT & EROSION NOTES

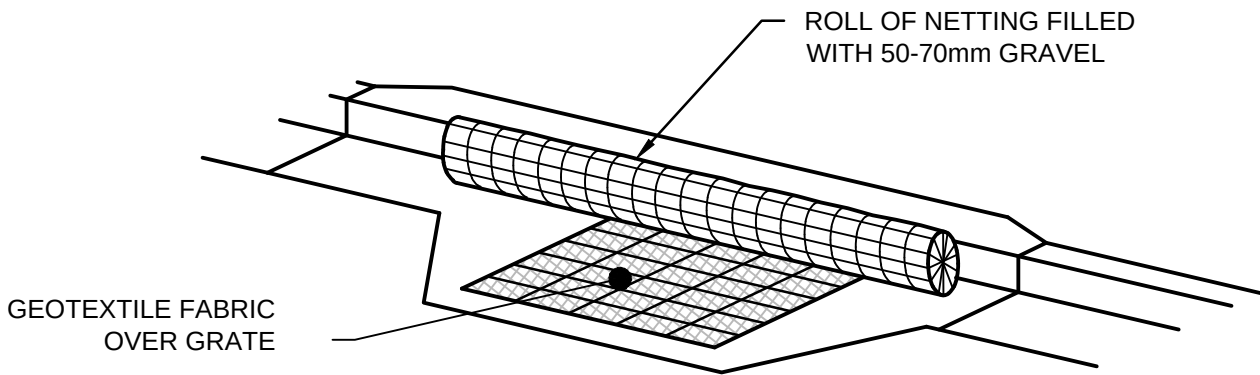
1. IMMEDIATELY FOLLOWING SETTING OUT OF THE WORKS, BUT PRIOR TO COMMENCEMENT OF ANY CLEARING OR EARTHWORKS, THE CONTRACTOR AND SUPERINTENDENT SHALL WALK THE SITE TO NOMINATE THE LOCATIONS AND TYPES OF SEDIMENT AND EROSION CONTROL MEASURES TO BE ADOPTED. THESE MEASURES SHALL BE IMPLEMENTED PRIOR TO ANY CLEARING OR EARTHWORKS AND MAINTAINED UNTIL THE WORKS ARE COMPLETED AND NO LONGER POSE AN EROSION HAZARD, UNLESS OTHERWISE APPROVED BY THE SUPERINTENDENT.
2. 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.
3. PROVIDE GULLY GRATE INLET SEDIMENT TRAPS AT ALL GULLY PITS.
4. PROVIDE SILT FENCING ALONG PROPERTY LINE AS DIRECTED BY SUPERINTENDENT.
5. ADDITIONAL CONTROL DEVICES TO BE PLACED WHERE DIRECTED BY THE PRINCIPLE.
6. ALTERNATIVE DESIGNS TO BE APPROVED BY SUPERINTENDENT PRIOR TO CONSTRUCTION.
7. WASH DOWN/RUMBLE AREA TO BE CONSTRUCTED WITH PROVISIONS RESTRICTING ALL SILT AND TRAFFICKED DEBRIS FROM ENTERING THE STORMWATER SYSTEM.
8. NO WORK OR STOCKPILING OF MATERIALS TO BE PLACED OUTSIDE OF SITE WORK BOUNDARY.
9. APPROPRIATE EROSION AND SEDIMENT CONTROLS TO BE USED TO PROTECT STOCKPILES AND MAINTAINED THROUGH OUT CONSTRUCTION.
10. IT IS THE CONTRACTORS RESPONSIBILITY TO TAKE DUE CARE OF NATURAL VEGETATION. NO CLEARING IS TO BE UNDERTAKEN WITHOUT PRIOR APPROVAL FROM THE SUPERINTENDENT.
11. TO AVOID DISTURBANCE TO EXISTING TREES, EARTHWORKS WILL BE MODIFIED AS DIRECTED ON-SITE BY THE SUPERINTENDENT.
12. THE LOCATION OF EROSION AND SEDIMENTATION CONTROLS WILL BE DETERMINED ON SITE BY THE SUPERINTENDENT.
13. ACCESS TRACKS THROUGH THE SITE WILL BE LIMITED TO THOSE DETERMINED BY THE SUPERINTENDENT AND THE CONTRACTOR PRIOR TO ANY WORK COMMENCING.
14. 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.
15. PLANS ARE MINIMUM REQUIREMENTS AND ARE TO BE USED AS A GUIDE ONLY. EXACT MEASURES USED SHALL BE DETERMINED ON SITE IN CONJUNCTION WITH PROGRAM OF CONTRACTORS WORKS etc.



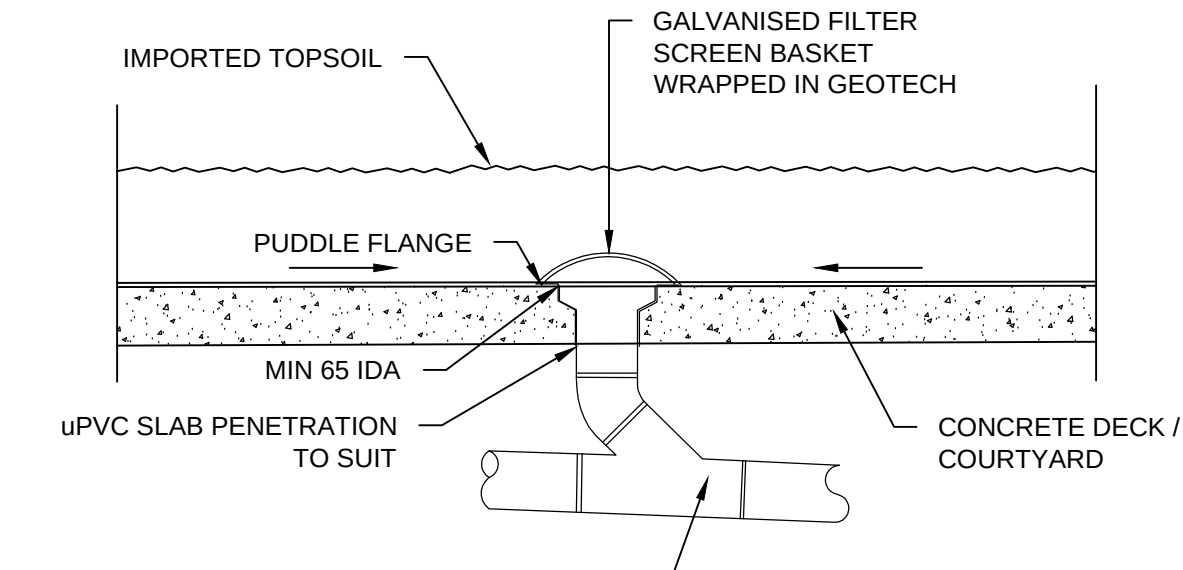
FIELD INLET SEDIMENT TRAP
N.T.S.



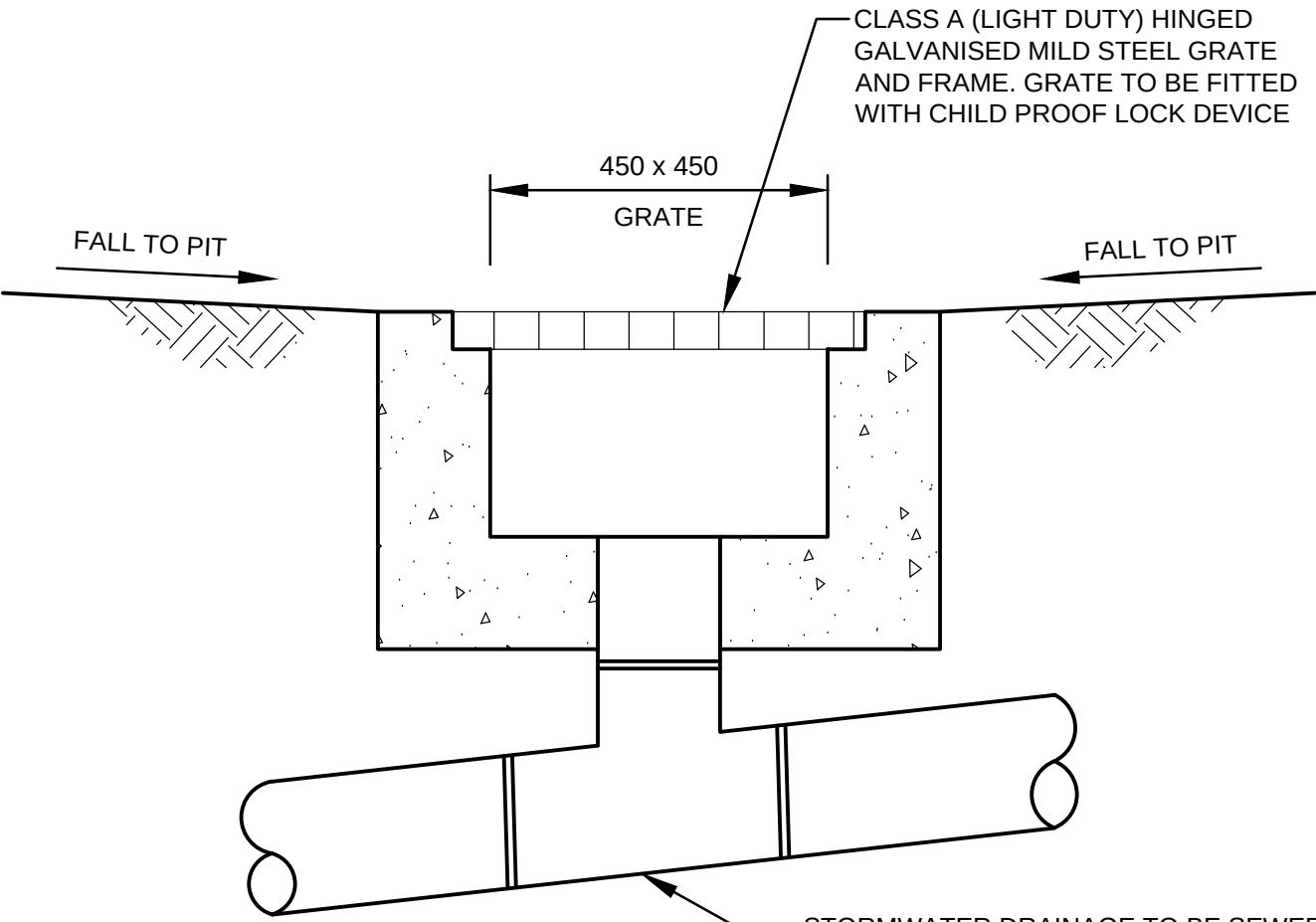
SHAKEDOWN DEVICE
N.T.S.



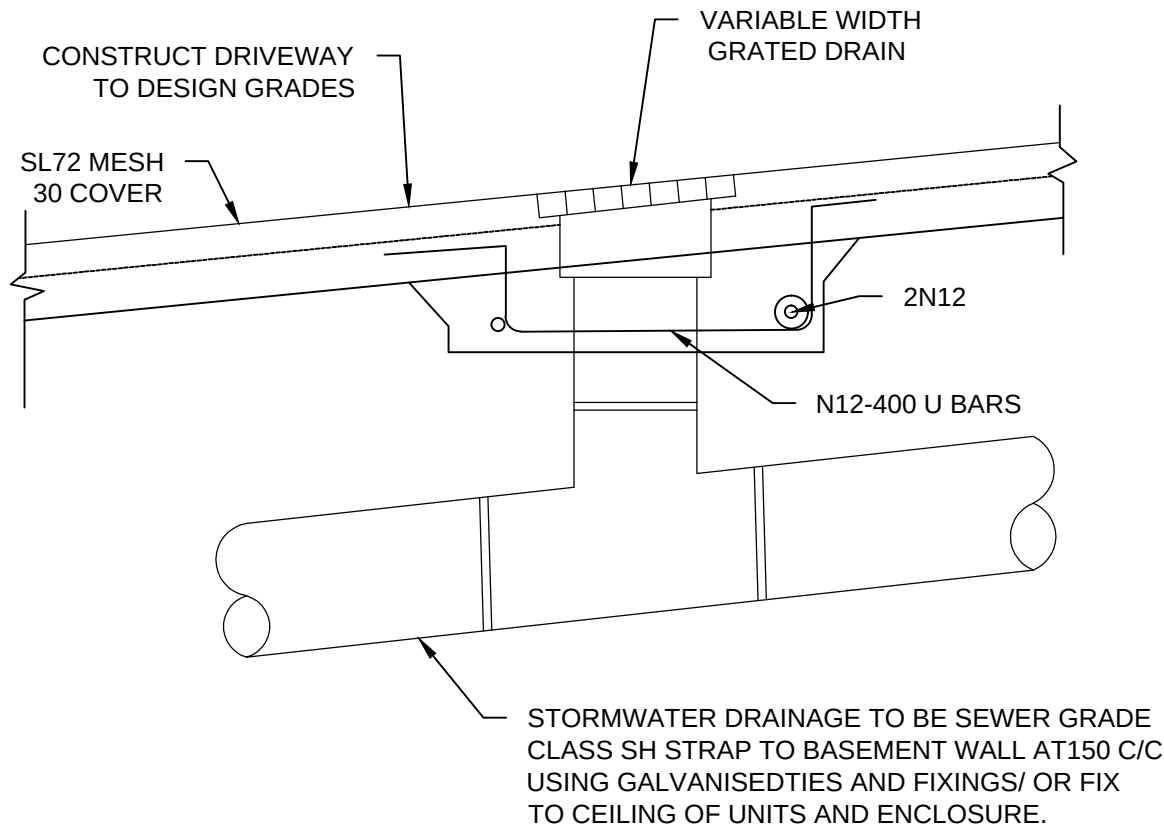
KERB INLET PROTECTION
SAG GULLIES
N.T.S.



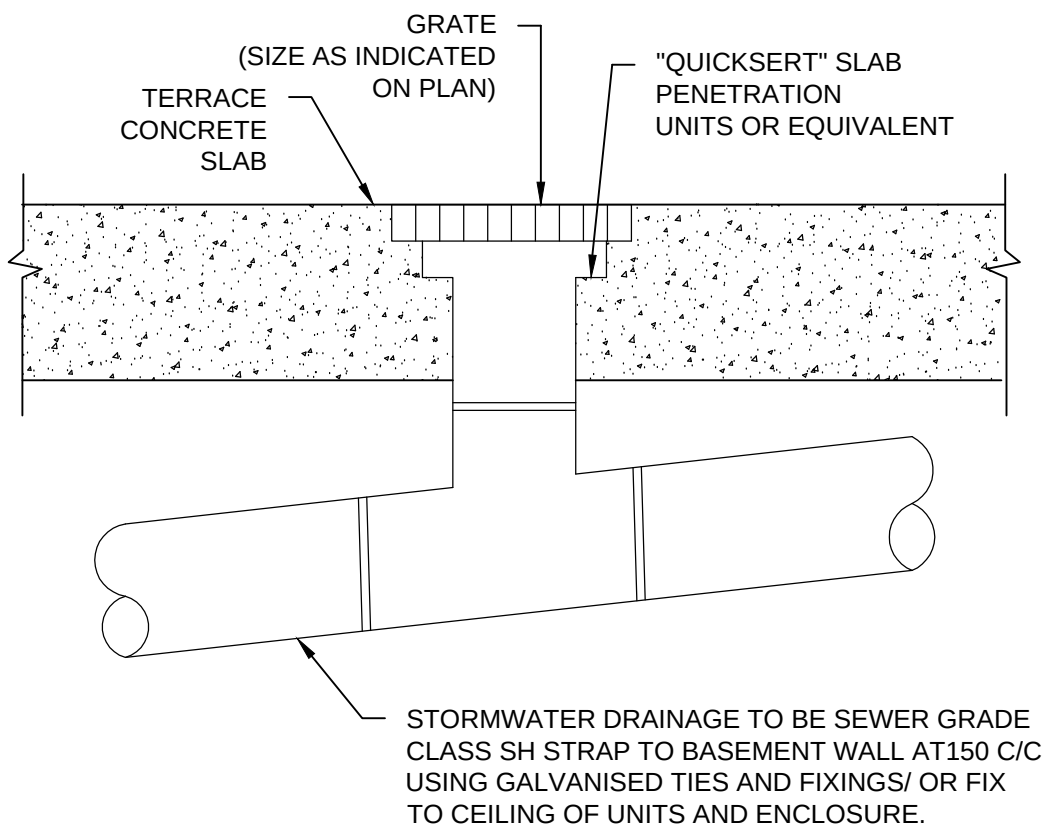
PLANTER GRATE DETAIL
N.T.S.



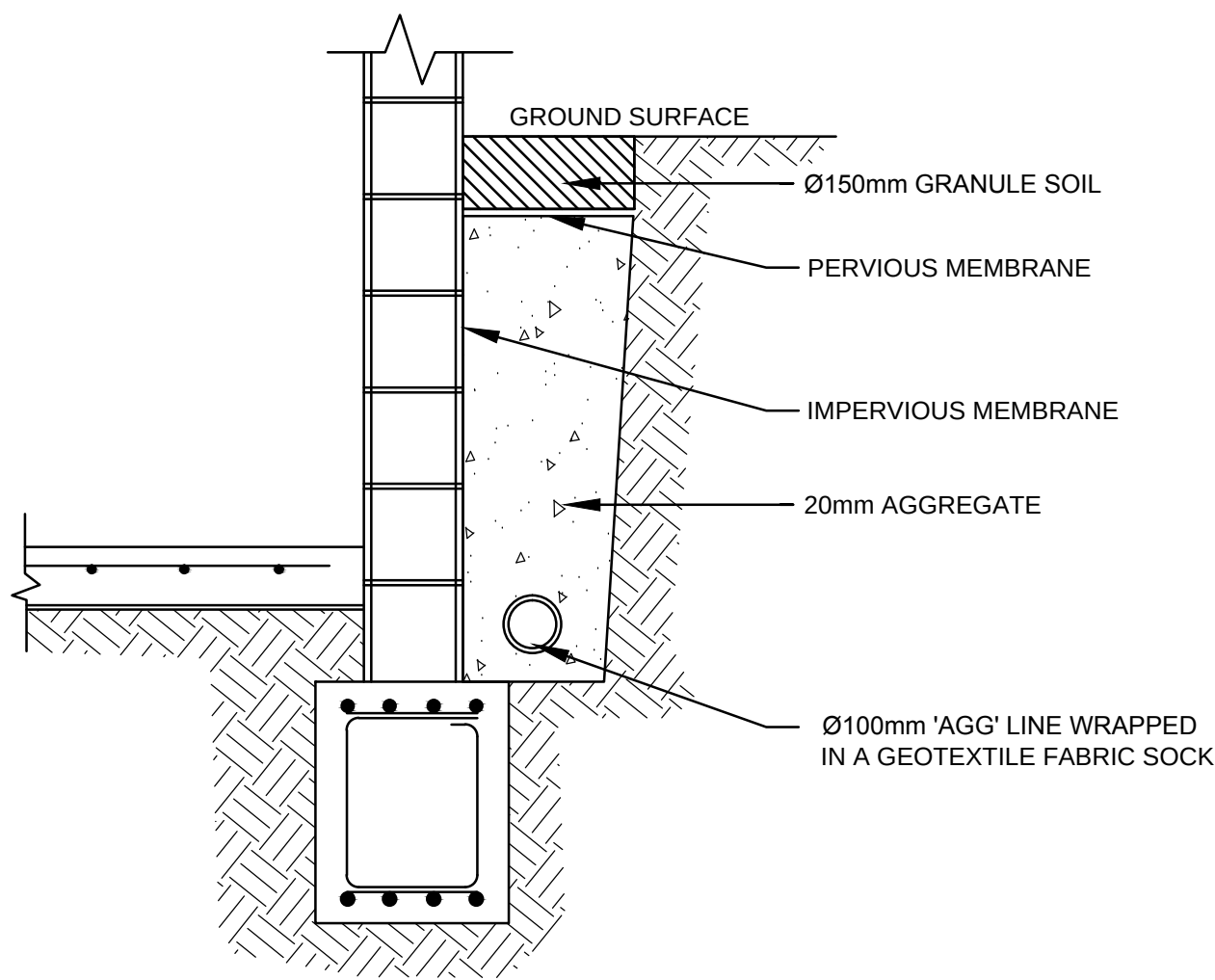
VERTICAL DROP PIT DETAIL
SCALE 1:10



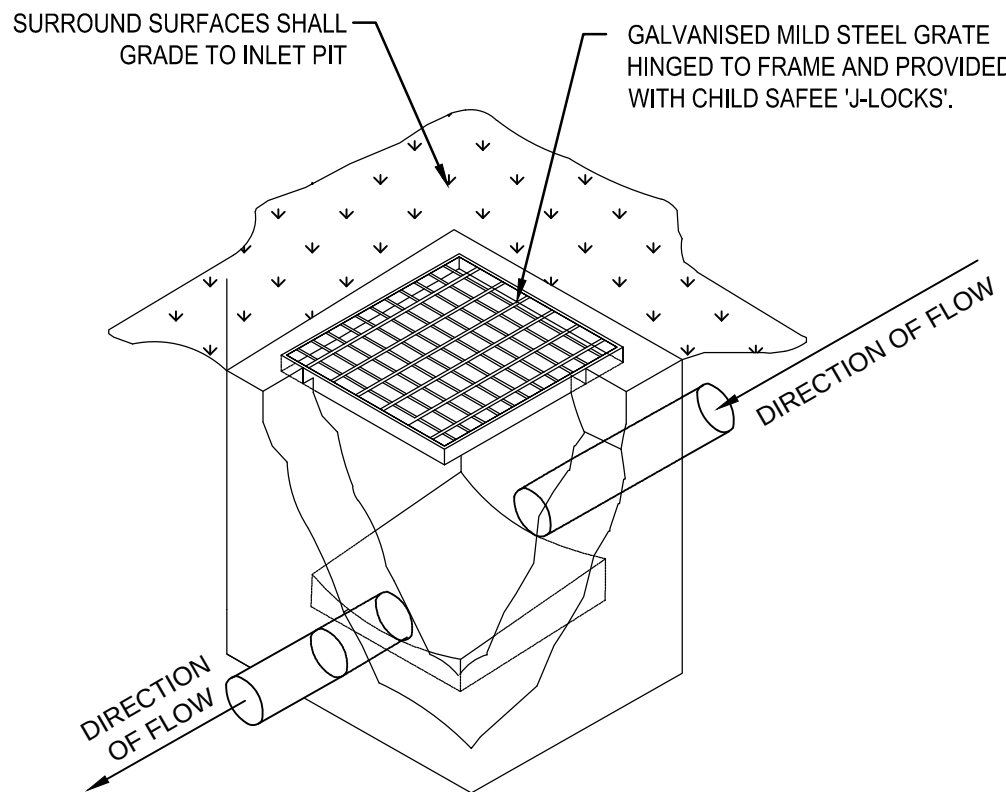
GRATED DRAIN DETAIL
N.T.S.



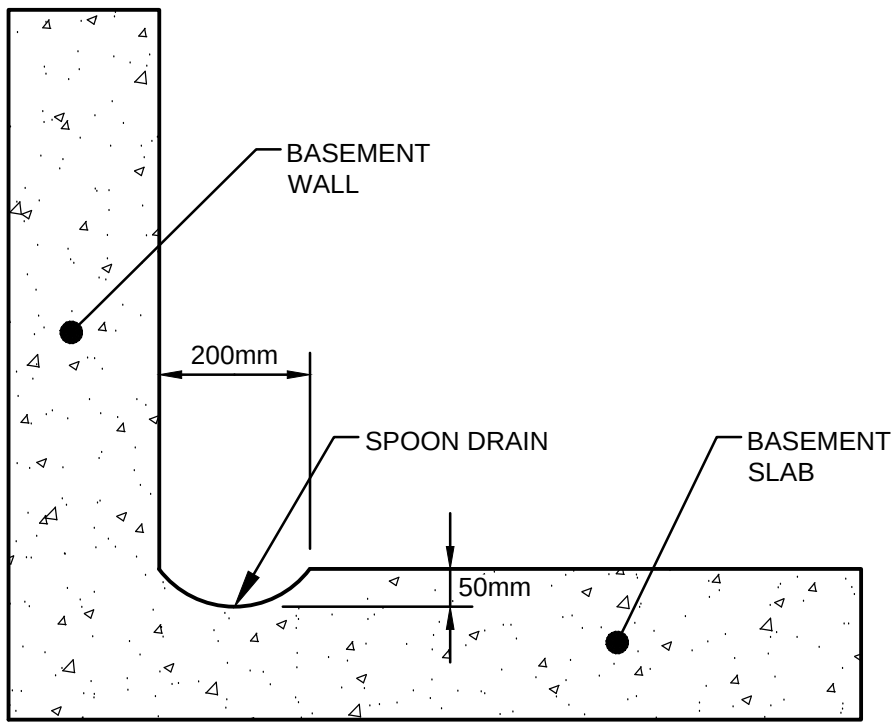
RAINWATER OUTLET DETAIL
N.T.S.



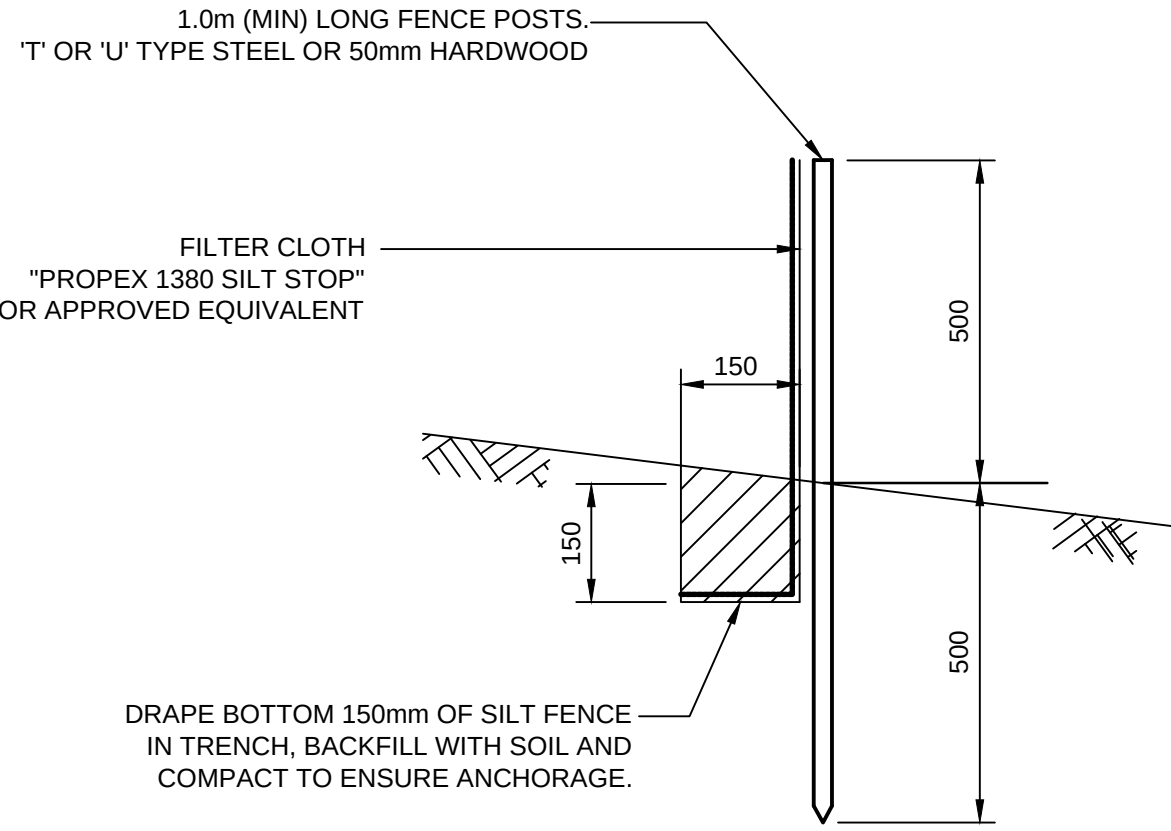
TYPICAL SUBSOIL DRAIN
N.T.S.



TYPICAL GRATED
INLET PIT DETAIL
N.T.S.



SPOON DRAIN SECTION DETAIL
SCALE 1:10



SILT FENCE DETAIL
N.T.S.

SILT FENCE NOTES:

1. FILTER CLOTH TO BE FASTENED SECURELY TO POSTS WITH GALVANISED WIRE TIES, STAPLES OR ATTACHMENT BELTS.
2. POSTS SHOULD NOT BE SPACED MORE THAN 3.0m APART.
3. WHEN TWO SECTIONS OF FILTER CLOTH ADJOIN EACH OTHER THEY SHALL BE OVERLAPPED BY 150mm AND FOLDED.
4. 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
5. INSPECTIONS SHALL BE PROVIDED ON A REGULAR BASIS, ESPECIALLY AFTER RAINFALL AND EXCESSIVE SILT DEPOSITS REMOVED WHEN "BULGES" DEVELOP IN SILT FENCE
6. 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.

0 200 400 600mm
SCALE 1:10 @ A1

NOT FOR CONSTRUCTION

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B	ARCHITECTURAL AMENDMENTS	07/08/2017	SSA	WSS	MBR
A	ISSUE FOR DEVELOPMENT APPLICATION	03/08/2017	SSA	WSS	MBR
Issue	Description	Date	Drawn	Design	Checked
1	0	10m at full size	100m	200m	

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Project
**37-41 OXFORD STREET, EPPING
PROPOSED MIXED-USE DEVELOPMENT
STORMWATER CONCEPT PLAN
DEVELOPMENT APPLICATION**

Drawing Title
**MISCELLANEOUS
DETAILS SHEET**

Scale	A1	Project No.	Dwg. No.	Issue
As Shown	ACE170411.SW.DA	110	D	