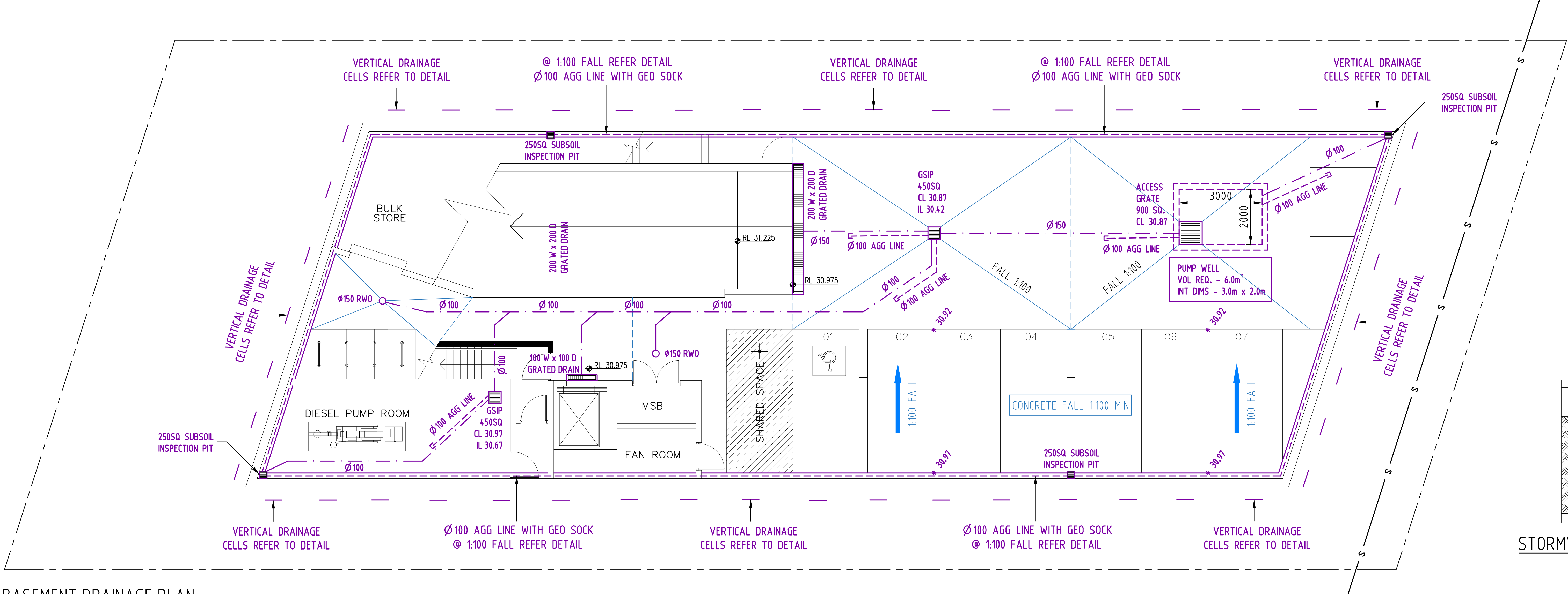
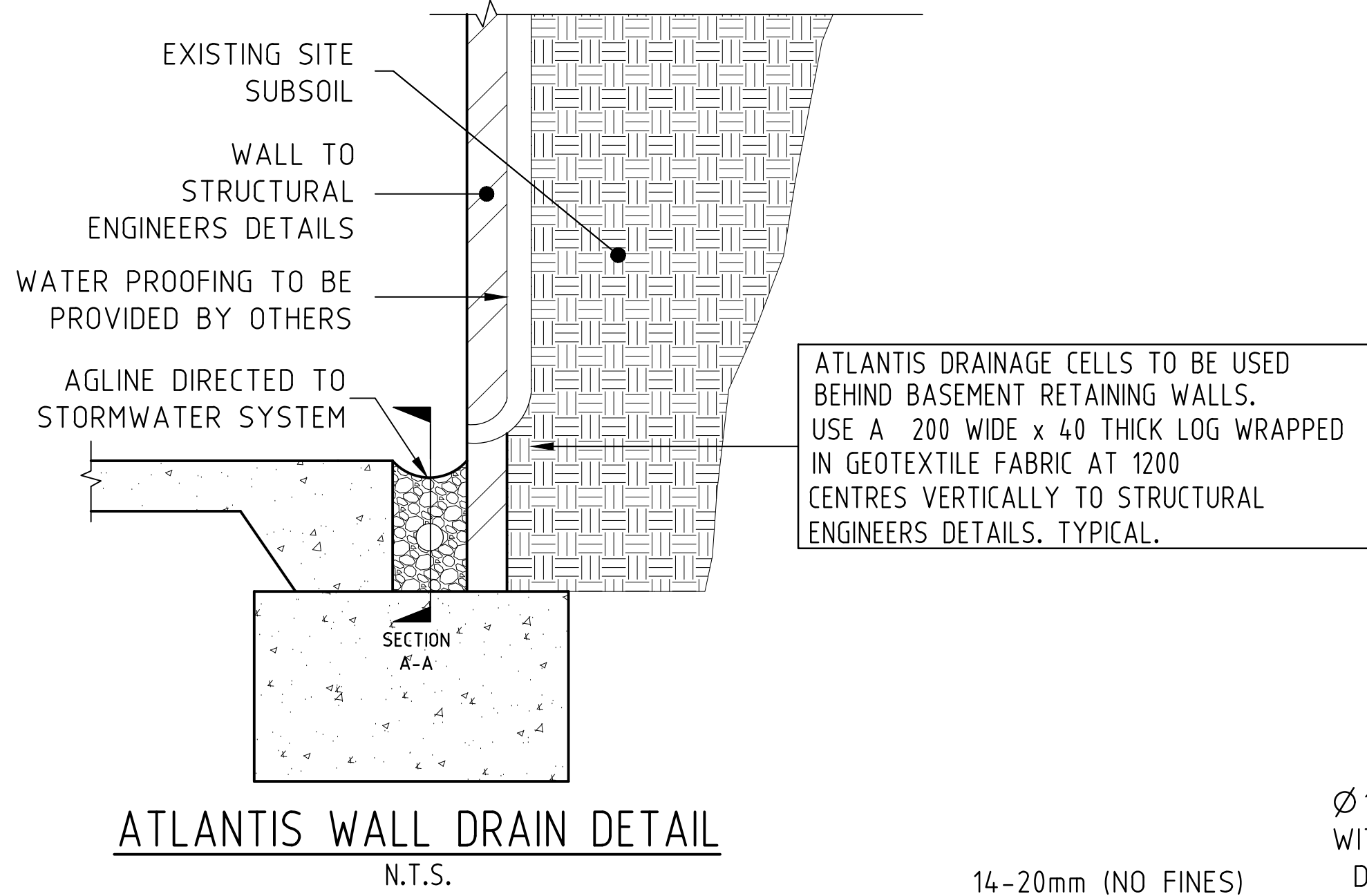


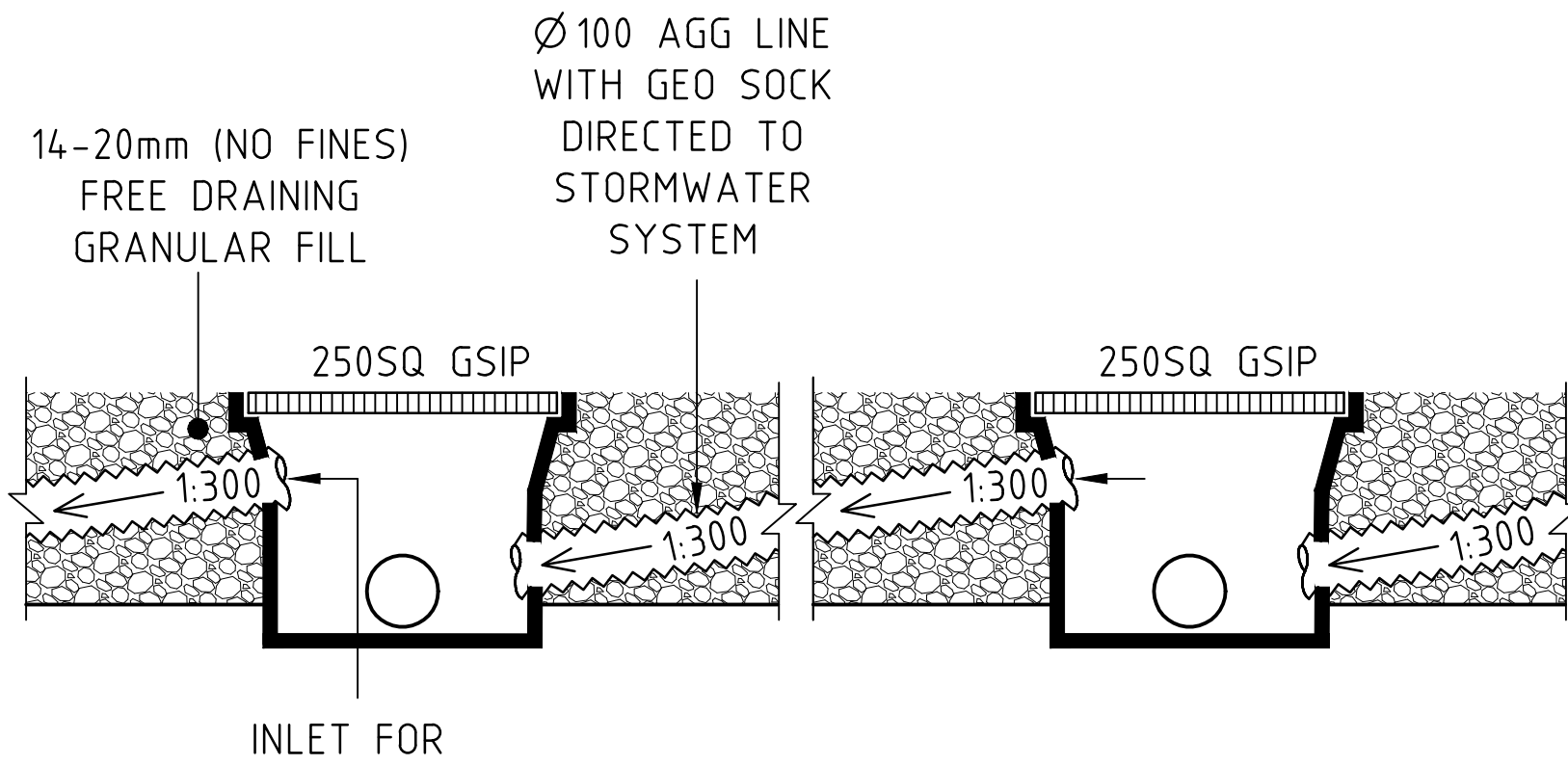


BASEMENT DRAINAGE PLAN SCALE - 1:100

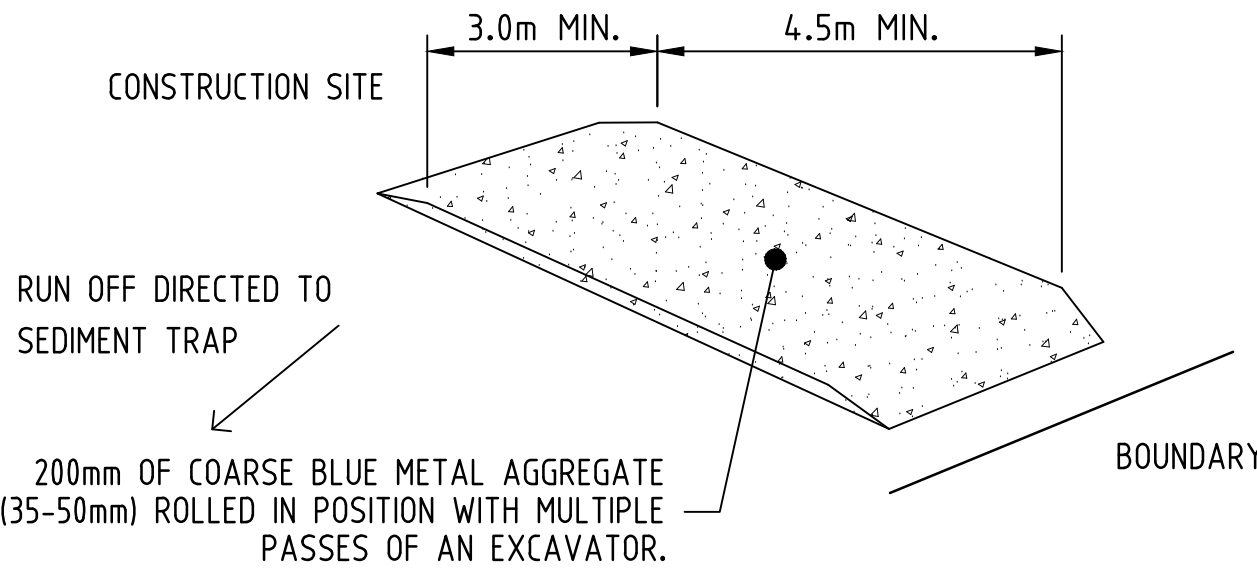
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- PROVIDE AG. LINES BEHIND ALL RETAINING WALLS AND SUBSOIL DRAINAGE AS PER STRUCTURAL ENGINEERING DETAILS. ALL LINES TO DRAIN TO PITS.
- * DENOTES PROPOSED LEVEL
 - × DENOTES EXISTING LEVEL
 - DENOTES DOWNPIPE
- PROPOSED RAINWATER PIPE
- PROPOSED STORMWATER PIPE



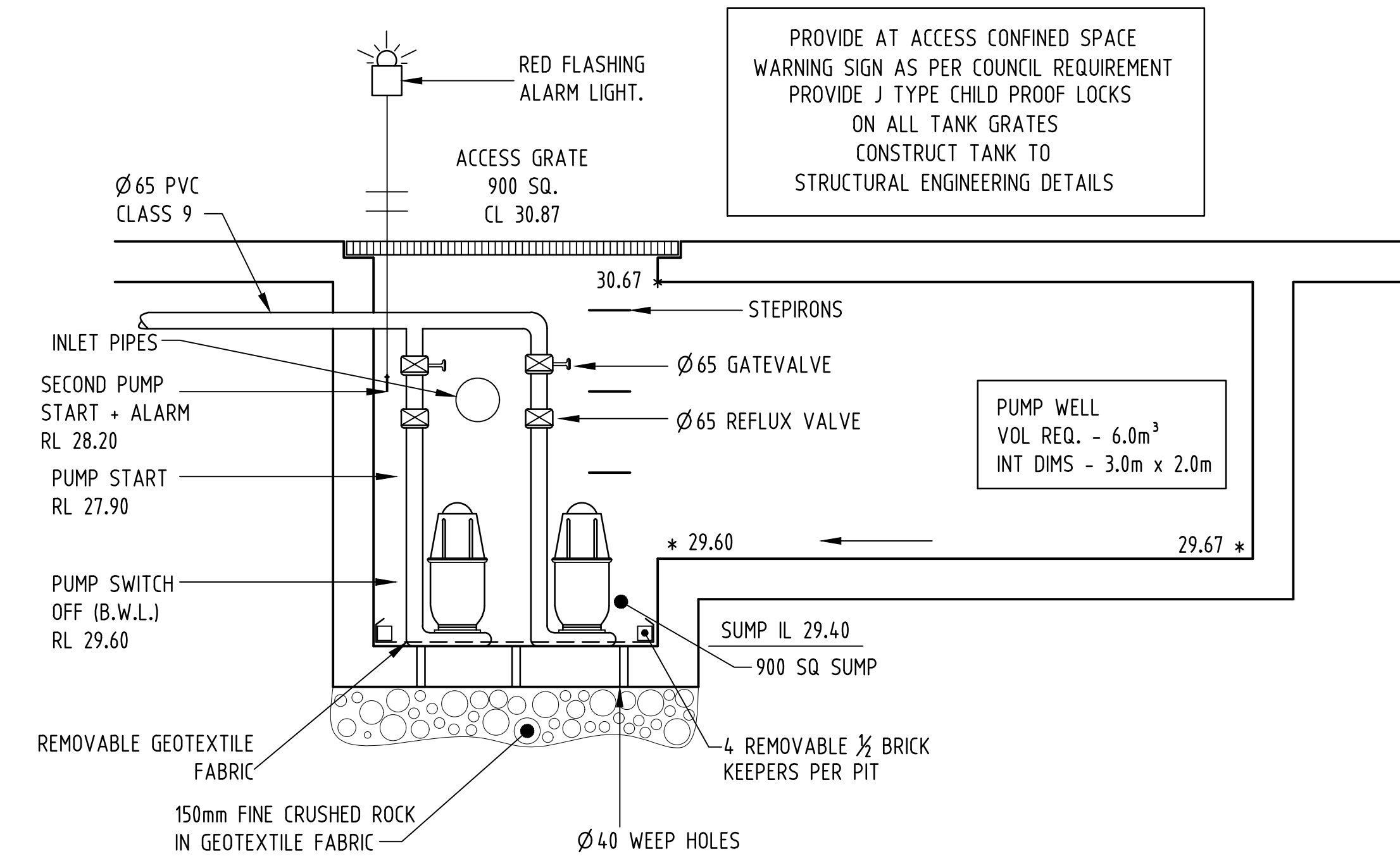
ATLANTIS WALL DRAIN DETAIL N.T.S.



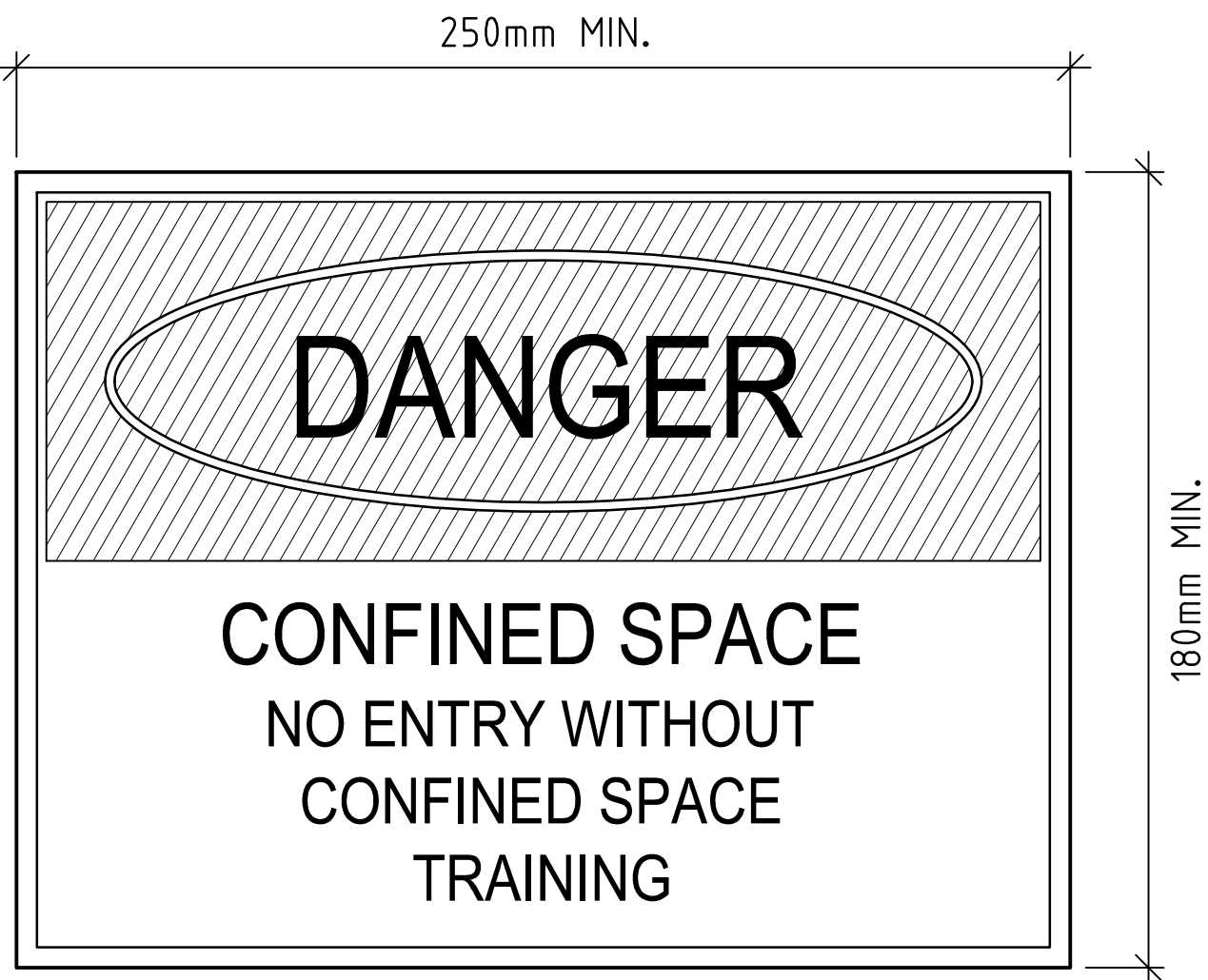
SECTION A-A ATLANTIS WALL DRAIN DETAIL N.T.S.



CONSTRUCTION ENTRY/EXIT DETAIL N.T.S.



BASEMENT PUMPING SYSTEM N.T.S.



- COLOURS:
- 'DANGER' AND BACKGROUND - WHITE
 - ELLIPTICLE AREA - RED
 - RECTANGLE CONTAINING ELLIPSE - BLACK
 - OTHER LETTERING AND BORDER - BLACK

CONFINED SPACE DANGER SIGN N.T.S.

1. 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.
2. MINIMUM DIMENSIONS OF THE SIGN
 - 300mm x 450mm (LARGE ENTRIES, SUCH AS DOORS)
 - 250mm x 180mm (SMALL ENTRIES SUCH AS GRATES & MANHOLES)
3. THE SIGN SHALL BE MANUFACTURED FROM COLOUR BONDED ALUMINUM OR POLYPROPYLENE.
4. SIGN SHALL BE AFIXED USING SCREWS AT EACH CORNER OF THE SIGN.

BASEMENT PUMPING WELL CALCULATIONS

Provide two centrifugal drainage SUMP pumps with single phase electric motor capable of discharging 2.8L/s each against a total head of (5.0m) with 10 starts per hour maximum.

Class 1 Zone 2 certified pumps for hazardous areas is required

Switching shall provide for alternative operation of the pumps, high level switch ON/OFF, 2nd pump, and a red light alarm placed prominently in the basement area activated by high level switch ON.

Garage Holding Tank

Area draining to the garage pumping well is the driveway to the basement (50m²)

Storage must be provided for a blackout of at least 2hrs, the 100yrs ARI 2hr storm runoff is:

$$Q = F \times C \times I \times A$$
$$= 1/3600 \times 1 \times 60 \times 50$$
$$= 0.83 \text{ L/s}$$

Volume accumulated:

$$V = (0.83 \text{ L/s} \times 2\text{hrs} \times 3600\text{s})/1000$$
$$= 6.00 \text{ m}^3$$

Let the maximum discharge be for the 10 min 100yrs ARI storm. In the event of a stronger storm such as a 5min 100yrs ARI. The standby pump will operate with the duty pump to discharge the extra runoff. In case of a break down, storage is provided in the basement for the excess runoff.

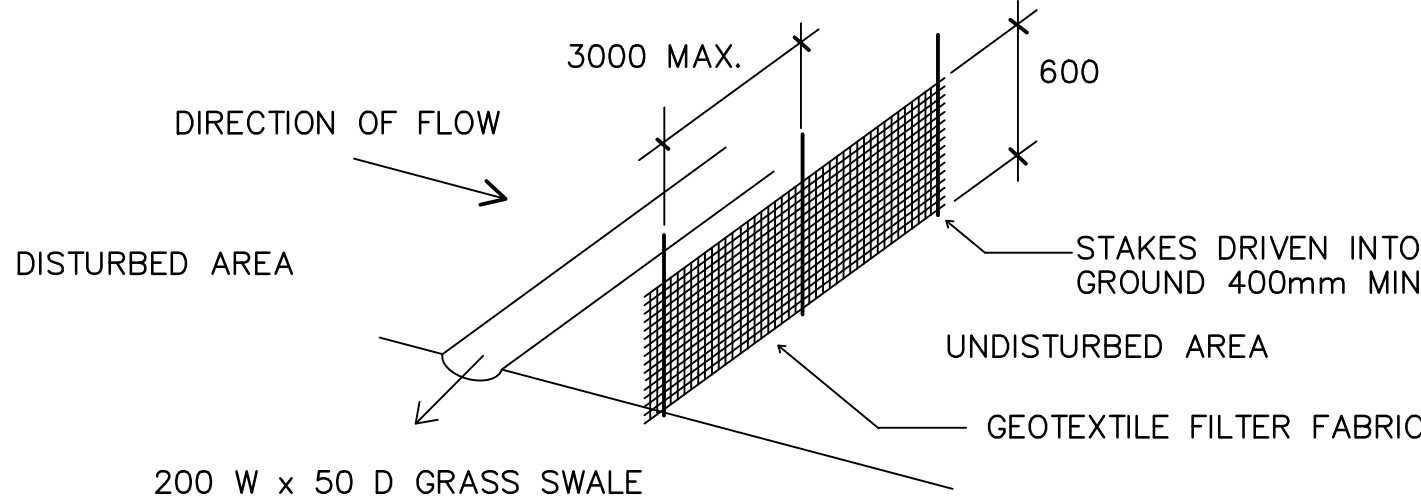
$$Q = F \times C \times I \times A$$
$$= 1/3600 \times 1 \times 207 \times 50$$
$$= 2.8 \text{ L/s}$$

A Control volume is required to prevent the pump from starting too often (< 10/hr)

$$CV = 900 \times Q_p/n$$
$$= (900 \times 2.8) / (10 \times 1000)$$
$$= 0.25 \text{ m}^3$$

Garage Pumping Duty Calculation.(Q = 2.8 L/s)

ITEM	HEAD
Static Adjustment	5.0m
65mm Pump Fittings EL 25m (1.2m/100)	0.3m
65mm PVC Class 9 EL 30m (1.2m/100)	0.4m
Sundries(about 10%)	0.4m
Total	6.5m



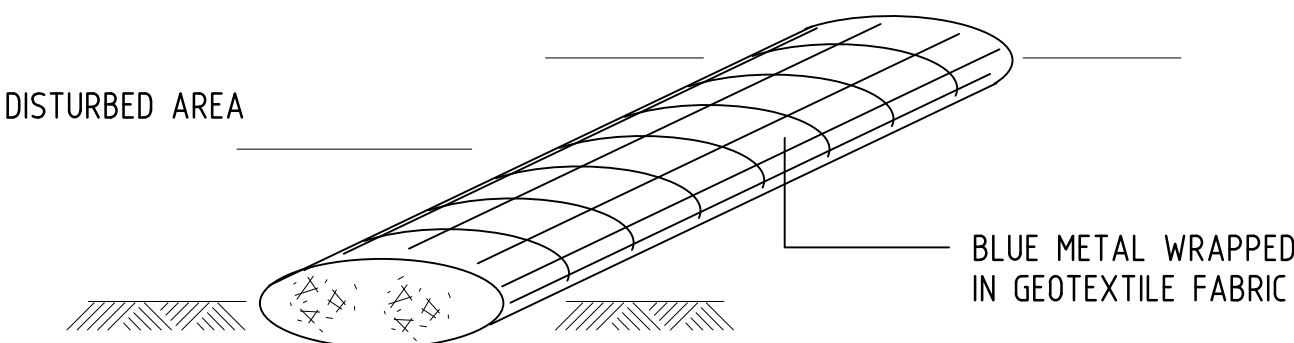
SEDIMENT FENCE DETAIL N.T.S.

LEGEND

- RL REDUCED LEVEL
- CL COVER LEVEL
- IL INVERT LEVEL
- GSIP GRATED SURFACE INLET PIT
- OSD ON-SITE DETENTION
- TWL TOP WATER LEVEL
- BWL BOTTOM WATER LEVEL
- TW TOP OF WALL
- IO INSPECTION OPENING
- ARI AVERAGE RECURRENCE INTERVAL
- FW FLOOR WASTE
- AHD AUSTRALIAN HEIGHT DATUM
- PSD PERMISSIBLE SITE DISCHARGE
- HED HIGH EARLY DISCHARGE
- RHS RECTANGULAR HOLLOW SECTION
- SS STAINLESS STEEL
- FRC FIBER REINFORCED CONCRETE
- RCP REINFORCED CONCRETE PIPE
- RRJ RUBBER RING JOINT
- U/S UNDERSIDE OF SLAB
- O/S OVER THE SLAB
- O/F OVERFLOW
- DP DOWN PIPE
- DR DROPPER
- RWO RAIN WATER OUTLET
- RWH RAIN WATER HEAD
- FFL FINISHED FLOOR LEVEL
- EX EXISTING
- CI PIPE CAST IN SLAB

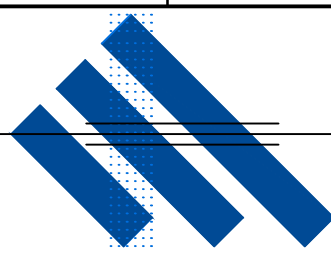
GENERAL NOTES:

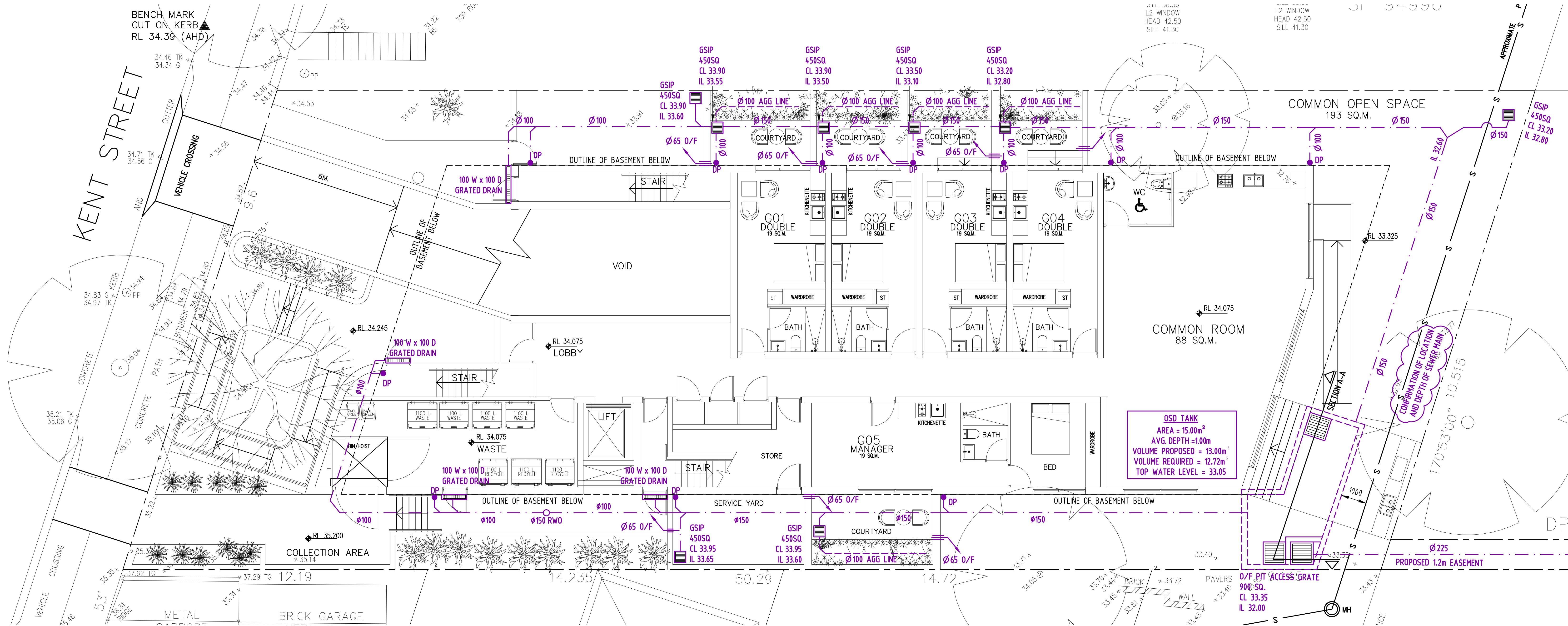
1. ALL SERVICES ARE TO BE LOCATED IN THE FIELD IN CONJUNCTION WITH A RESPONSIBLE OFFICER OF EACH RELEVANT AUTHORITY PRIOR TO COMMENCEMENT OF CONSTRUCTION.
2. DRAINAGE PITS ARE TO BE A 450mm SQUARE OR LARGER AS SHOWN, AND FITTED WITH A GALVANIZED GRATE.
3. ALL PITS ARE TO HAVE A GALVANISED GRATE AND FRAME. FRAME TO BE CAST INTEGRALLY WITH THE PIT.
4. ALL PITS ARE TO BE BENCH TO HALF PIPE LEVEL.
5. PROVIDE STEP IRONS WHERE PIT IS DEEPER THAN 1m. AT 450mm CENTERS.
6. DRAINAGE PIPES SHALL BE SEWER GRADE UPVC UNLESS OTHERWISE NOTED.
7. DRAINAGE PIPE SIZES ARE 100mm DIAMETER UNLESS OTHERWISE NOTED.
8. ALL BARE SOIL AREAS ARE TO BE PROTECTED FROM EROSION BY TEMPORARY MEASURES AND REVEGETATED AT THE CESSATION OF CONSTRUCTION.
9. THE DOWNHILL BOUNDARY OF THE SITE IS TO BE PROTECTED BY HAY BALES OR A FILTER FABRIC DURING CONSTRUCTION AS SHOWN IN THE ATTACHED DETAILS.
10. THE STREET DRAINAGE PIT LOCATED DOWNHILL OF THE SITE SHALL BE PROTECTED FROM SEDIMENT WITH SEDIMENT BARRIER.
11. A SINGLE CONSTRUCTION ENTRANCE SHALL BE ESTABLISHED IN THE MANNER SHOWN IN THE ATTACHED DETAILS.
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14. IF IN DOUBT, ASK THE SUPERINTENDENT WHO SHALL CONSULT THE DESIGNER.



SEDIMENT BARRIER N.T.S.

NOT FOR CONSTRUCTION

A	27.03.2025	ISSUED TO THE ARCHITECT		JDR
REV.	DATE	AMENDMENT DESCRIPTION		DRAWN
 JOHN ROMANOUS & ASSOCIATES CONSULTING CIVIL & STRUCTURAL ENGINEERS PTY. LTD. ACN 054 595 005 SUITE 2D / 322 KINGSGROVE RD. KINGSGROVE NSW 2208 Ph (02) 83 87 68 26				
PROPOSED DEVELOPMENT AT: 32 – 34 KENT STREET, BELMORE.				
STORMWATER DRAINAGE / SEDIMENT CONTROL DETAILS				
DRAWN	CHECKED	SCALE	DATUM	DRAWING No.
JDR	D.M.ROMANOUS ,B.E., M.I.E.AUST.	AS SHOWN @A1	A.H.D	2550 – S1/2
				REV.
				A



GROUND FLOOR DRAINAGE PLAN SCALE - 1:100

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- PROPOSED RAINWATER PIPE
- PROPOSED STORMWATER PIPE

DESIGN SUMMARY

QUANTITY	VALUE
SITE AREA FOR EACH PROPOSED LOT	936.22 m²
IMPERVIOUS PRE-DEVELOPMENT	70 %
IMPERVIOUS POST-DEVELOPMENT	70 %
AREA DRAINED TO THE CONTROL PIT (%)	100 %
PRE DEVELOPMENT PERMISSIBLE SITE DISCHARGE @ 5yr. ARI.	20.36 l/s
REQUIRED STORAGE @ 5yr. ARI.	8.65 m³
PRE DEVELOPMENT PERMISSIBLE SITE DISCHARGE @ 10yr. ARI.	25.45 l/s
REQUIRED STORAGE @ 10yr. ARI.	9.67 m³
PRE DEVELOPMENT PERMISSIBLE SITE DISCHARGE @ 20yr. ARI.	32.07 l/s
REQUIRED STORAGE @ 20yr. ARI.	10.69 m³
PRE DEVELOPMENT PERMISSIBLE SITE DISCHARGE @ 50yr. ARI.	37.67 l/s
REQUIRED STORAGE @ 50yr. ARI.	11.70 m³
PRE DEVELOPMENT PERMISSIBLE SITE DISCHARGE @ 100yr. ARI.	48.87 l/s
REQUIRED STORAGE @ 100yr. ARI.	12.72 m³
STORAGE PROVIDED	13.00 m³

The post and pre-development peak discharge from the subject site was determined for the 5, 10, 20, 50 & 100 yrs ARI, for storm duration from 10 minutes to 4.5 hours using ILSAX computer program and CITY OF CANTERBURY BANKSTOWN COUNCIL Rainfall Files.

ON SITE-DETENTION (CONTRIBUTING AREA 100 % OF SITE)

LOWER CONTROL ORIFICE ζ RL XXXX
LOWER CONTROL ORIFICE SIZE ϕ XXX
UPPER CONTROL IL RL XXXX
UPPER CONTROL WEIR XXX D x XXX W

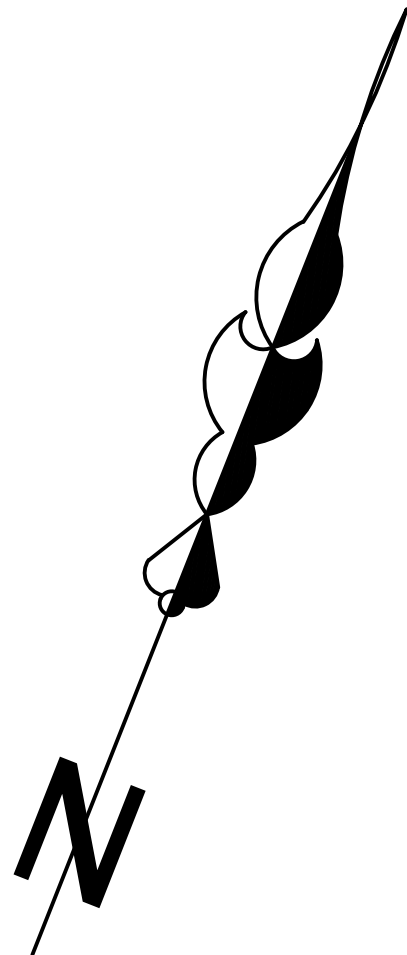
$Q_{max} = C_d \times A \times (2 \times g \times h)^{0.5}$ $C_d = 0.8$ PIPE

ARI	Required Discharge (L/s)	Required Volume (m³)	Top Water Level (RL)	ORIFICE Discharge (L/s)	Upper Control Discharge (L/s)	Total Discharge (L/s)
5	20.36	8.65				
10	25.45	9.67				
20	32.07	10.69				
50	37.67	11.70				
100	48.87	12.72				

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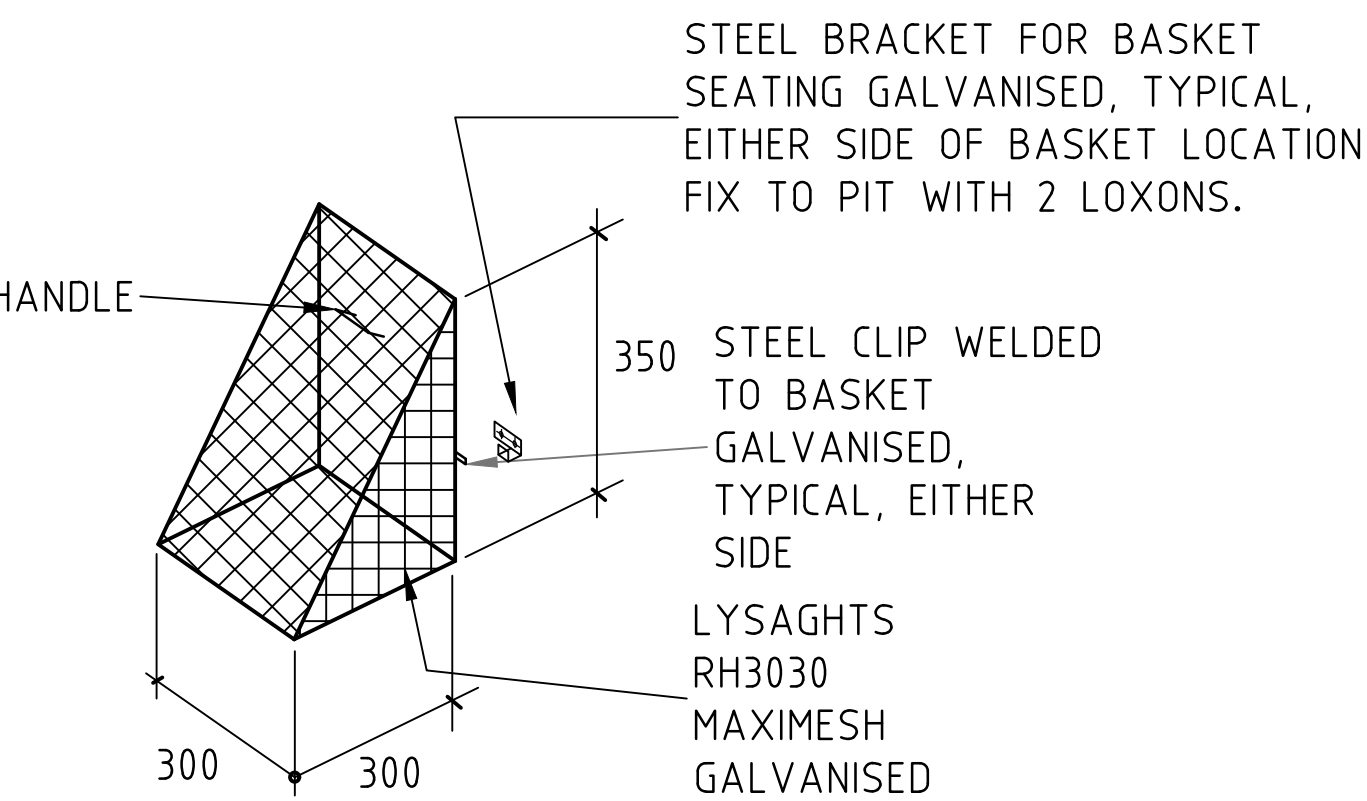
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TWL TOP WATER LEVEL
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ARI AVERAGE RECURRENCE INTERVAL
FW FLOOR WASTE
AHD AUSTRALIAN HEIGHT DATUM
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HED HIGH EARLY DISCHARGE
RHS RECTANGULAR HOLLOW SECTION
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FRC FIBER REINFORCED CONCRETE
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RRJ RUBBER RING JOINT
U/S UNDERSIDE OF SLAB
O/S OVER THE SLAB
O/F OVERFLOW
DP DOWN PIPE
DR DROPPER
RW RAIN WATER OUTLET
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EX EXISTING
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SCREEN DETAIL N.T.S

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