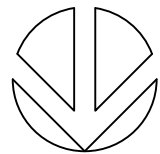


DESCRIPTION	GRADE	MATERIAL	SIZE	TAG
REGULAR GRAVITY PIPE	1% MIN	P.V.C	100 Ø	'A'
REGULAR GRAVITY PIPE	1% MIN	P.V.C	150 Ø	'B'
TO FEED RAINWATER TANK	CHARGED	P.V.C	100 Ø	'X'
FLUSHING LINE - CAPPED END	1% MIN	P.V.C	100 Ø	'F'



# SITE STORMWATER MANAGEMENT LAYOUT

SCALE 1:200/A3

## STORMWATER LAYOUT NOTES

- PITS DEEPER THAN 600mm TO BE 600 X 900 W, ELSE 375 SQ U.N.O.
- ALL PIPES TO HAVE 1% MIN. GRADE U.N.O.
- ALL DOWNPIPES TO BE 100 X 50 BOX OR 90 Ø.
- PIPES TO BE U.P.V.C. OR STORMWATER PIPE TO A.S.1254.
- PITS TO BE STANDARD PRECAST CONCRETE PITS OR BRICK RENDERED WITH CONCRETE HEAVY DUTY GRATES SIZED AS PITS PER PLAN.
- NO SEWER VENTS, GULLY PITS OR SIMILAR TO BE LOCATED BELOW THE MAXIMUM WATER SURFACE LEVEL IN DETENTION BASINS.
- PERSONS UTILISING THIS PLAN FOR ANY PURPOSES SHALL VERIFY THE DATUM & RESPECTIVE LEVELS PRIOR TO

- COMMENCING ANY WORKS & NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- DRIVEWAY LEVELS PROVIDED FOR DRAINAGE DESIGN PURPOSES ONLY. LEVELS MAY BE ADJUSTED TO SUIT FINAL HOUSE CUT/FILL CONDITIONS BUT NEED TO MAINTAIN INTENT OF DRAINAGE SYSTEM. ENGINEER TO BE CONSULTED PRIOR TO CONSTRUCTION TO ENSURE INTENT MAINTAINED.
- END OF EXISTING DRAINAGE LINE TO BE EXPOSED & LEVELS CONFIRMED BY BUILDER PRIOR TO COMMENCEMENT OF WORKS.
- BUILDERS TO ENSURE SERVICES CONNECTIONS TO HOUSE DO NOT CONFLICT WITH DRAINAGE DESIGN REQUIREMENTS.
- ALL WORKS TO BE CONSTRUCTED TO GOOD BUILDING PRACTICE & MATERIALS TO MEET ACCEPTED SPECIFICATIONS.

## LEGEND

P1	PIT LABEL	G.F.L.	GARAGE FLOOR LEVEL
	SUMP PIT - PIT SIZE REFERS TO GRATE DIMENSIONS	• 0.00	EXISTING REDUCED LEVEL
	300x300 FLOOR GULLY	• R.L. 157.00	PROPOSED REDUCED LEVEL
	100/150 Ø GARDEN GULLY	■ DP	DOWNPIPE
	DRAINAGE PIPE	■ SP	SPITTER/SPREADER
	AERIAL PIPE	○	CLEANING EYE
S.L.	SURFACE LEVEL		SEDIMENT FENCE
I.L.	INVERT LEVEL	— — —	AG LINE
F.F.L.	FINISHED FLOOR LEVEL	→	OVERLAND FLOW

**alwdesign**  
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JOB NUMBER:  
SW23273  
DRAWING NUMBER:  
SW23273 - S1

PROJECT:	PROPOSED RESIDENTIAL DWELLING AT LOT B, # 11B HILL STREET, WARRIEWOOD NSW		
DRAWING:	SITE STORMWATER MANAGEMENT LAYOUT		
DESIGNED	DRAWN	CHECKED:	ANDREW L WAHBE - BE (CIVIL) MIEAUST PENG
A.W	N.W	DRAWINGS NOT TO BE USED FOR CONSTRUCTION UNLESS SIGNED BY DESIGNING ENGINEER	
C	ISSUED FOR \$4.55 APPLICATION		20/05/24
ISSUE	REVISION DESCRIPTION		APPR. DATE

PROVIDE 420 MODULES OF ATLANTIS CELL  
CONFIGURE IN 2 LAYERS OF 200 SINGLE MODULES  
1 SINGLE MODULE = 0.1197m<sup>3</sup>

NOTE, THE REQUEST FOR AN EASEMENT THROUGH DOWNSTREAM PROPERTIES HAS NOT BEEN SUCCESSFUL. PLEASE REFER TO THE DOCUMENTED STATUTORY DECLARATION PRODUCED FOR THE FOLLOWING PROPERTIES: - 13-15 HILL ROAD (DATED 17 APRIL 2024)

## EXTRACT FROM IN-SITU PERMEABILITY REPORT PREPARED BY IDEAL GEOTECH (REF: 69279-IDF; MARCH 2024)

### RE: Permeability Testing at 11B Hill Street, Warriewood

This letter presents the observations and recommendations for permeability testing at 11B Hill Street, Warriewood.

Permeability testing was undertaken on 7 March 2024 at two locations, at depths of 1.5m below existing ground level. Results show rates of 0.023 L/m<sup>2</sup>/s with the results attached. A borehole was drilled to a depth of 3.0m with the soil profile consisting of clayey sandy silt overlying clays up to this depth with no rock or groundwater encountered up to at least 3.0m depth. Absorption pits should be located a minimum of 3.0m from property boundaries and any structures to prevent seepage problems. A long term infiltration rate of 0.015 L/ m<sup>2</sup>/s should be adopted for the design of absorption pits, provided ongoing maintenance is undertaken.

## ABSORPTION PIT DESIGN PITWATER CATCHMENT

SW23273

### ATLANTIS CELL STYLE ABSORPTION

# of Cell Modules proposed	420	Storage per Module =	0.1197
Area of Single Module	0.279		
Base Area	117.18	Tank Storage=	50.274

Available Storage (m<sup>3</sup>) = 50.28

### Calculating Inflows, Outflows and Storages

	Contributing Area (m^2)=			510	F <sub>R</sub> =		0.9
Nominal Absorption Rate (l/s/m^2) =				0.015			
Design Absorption Rate (l/s/m^2) =				0.0135	Outflow (l/s) =		1.58193
Time (min)	Intensity (mm/hr)	Inflow (l/s)	Inflow Vol (m^3)	Outflow Vol (m^3)	Required Vol (m^3)	Avail-Require (m^3)	
5	262	37.12	11.14	0.47	10.66	39.62	
6	246	34.85	12.55	0.57	11.98	38.30	
20	156	22.10	26.52	1.90	24.62	25.66	
30	130	18.42	33.15	2.85	30.30	19.98	
60	90.4	12.81	46.10	5.69	40.41	9.87	
120	60	8.50	61.20	11.39	49.81	0.47	
						0.47	

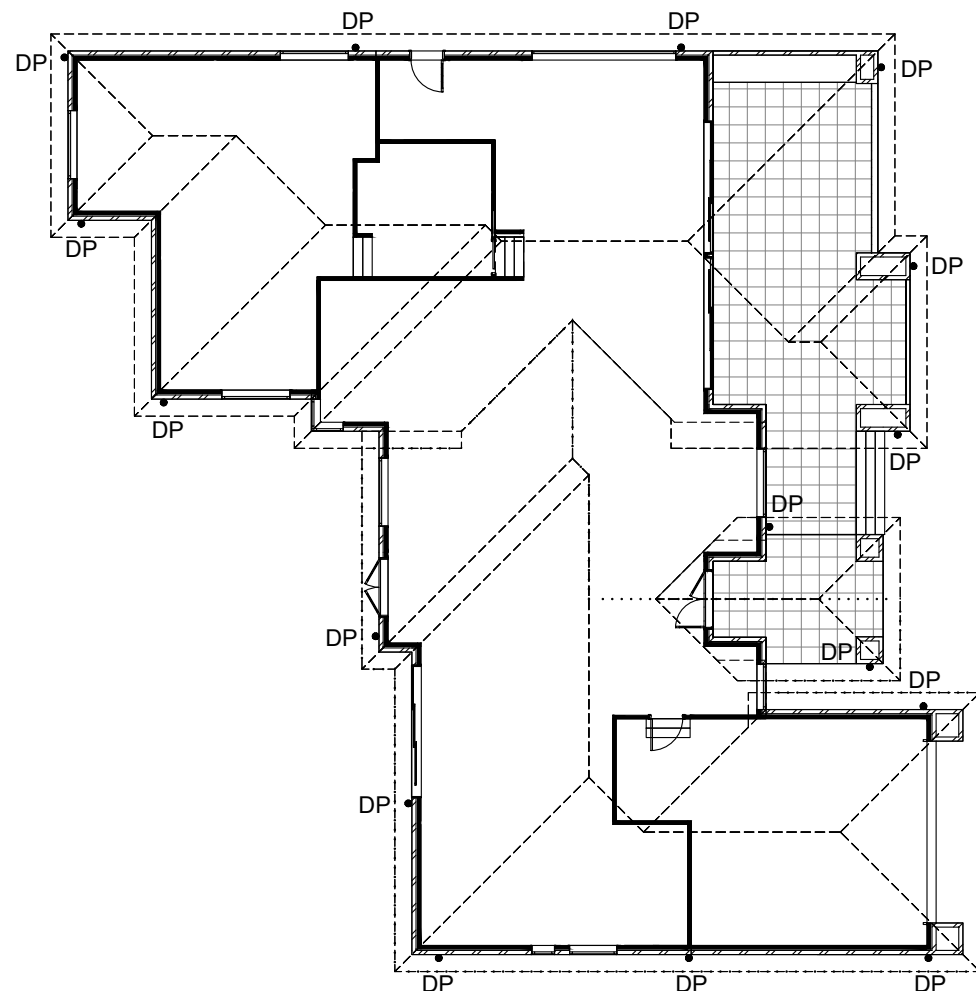
Rainwater Tank

PROVIDE A RAINWATER TANK 3000L IN CAPACITY TO SUIT ALL BASIX REQUIREMENTS. TANK TO BE CONNECTED AS SPECIFIED IN BASIX REPORT.

PIT CO1  
S.L. 28.20  
I.L. 27.80  
350x350

PIT P2  
S.L. 26.92  
I.L. 26.52  
350x350

LOT A  
DP 419338

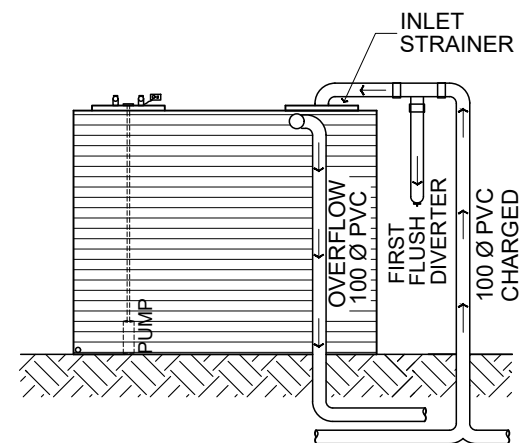


GUTTER SELECTED: LYSAGHT HALF ROUND 150 NSW UNSLOTTED; AREA = 7042 SQ.MM

ALL DOWNPIPES TO BE 90 Ø MIN

## ROOF & GROUND FLOOR LAYOUT

SCALE 1:200/A3

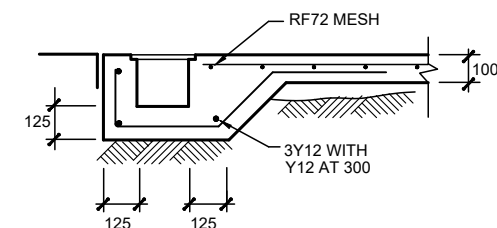


## EVOLUTION MkIII RAINWATER TANK CONFIGURATION BY KINGSPAN

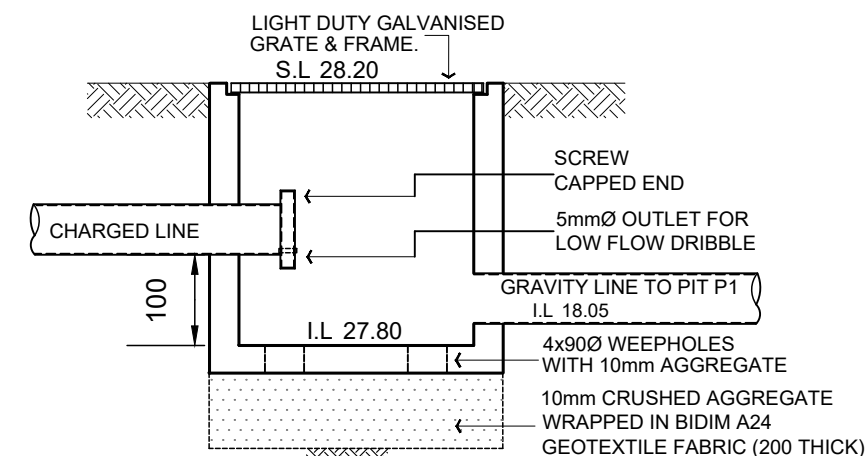
ENSURE ALL CONNECTIONS WITHIN CHARGED SYSTEM ARE SOLVENT WELDED

ALL DOWNPIPES ARE TO BE ENTIRELY PVC. PIPES ARE TO BE SEALED UP TO U/S OF ROOF GUTTERS

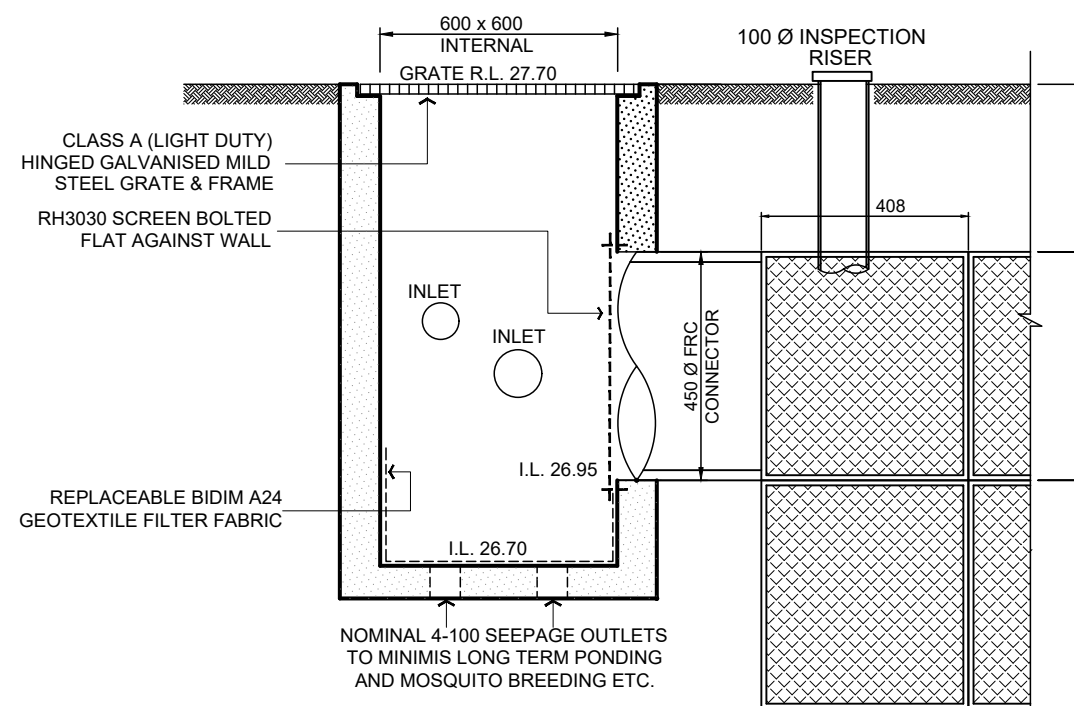
ROOF GUTTERS I.L. 31.82  
TANK INLET I.L. 30.32  
HEAD PRESSURE - 1500mm



## GRATED DRAIN



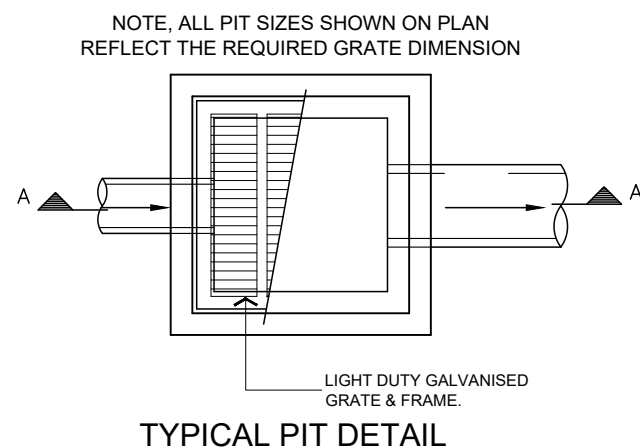
## PIT CO1 - 350x350 CLEAN-OUT PIT FOR CHARGED LINE SYSTEMS



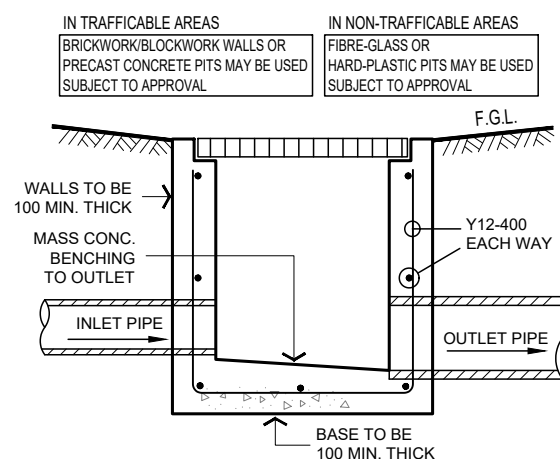
## PIT P1 & ATLANTIS CELL DETAIL

CONSTRUCT ATLANTIS CELL TANK IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS

PROVIDE 420 MODULES OF ATLANTIS CELL  
CONFIGURE IN 2 LAYERS OF 200 SINGLE MODULES  
1 SINGLE MODULE = 0.1197m3



## TYPICAL PIT DETAIL



## TYPICAL SECTION A

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JOB NUMBER:  
SW23273  
DRAWING NUMBER:  
SW23273 - S2

PROJECT: PROPOSED RESIDENTIAL DWELLING AT LOT B, # 11B HILL STREET, WARRIEWOOD NSW  
DRAWING: ROOF LAYOUT & GENERAL DETAILS  
DESIGNED: A.W. DRAWN: N.W. CHECKED: ANDREW L WAHBE - BE (CIVIL) MIEAUST PENG  
C ISSUED FOR S4.55 APPLICATION 20/05/24  
ISSUE REVISION DESCRIPTION APPR. DATE