A1

THESE PLANS ARE SCHEMATIC FOR CONSTRUCTION-MISSING INFORMATION IS TO BE FOUND IN THE NATIONAL CONSTRUCTION CODE

STORMWATER PLANS

FOR CC APPLICATION

PROPOSED GRANNY FLAT

10 HILLCREST STREET

WILEY PARK

SYMBOLS

F.F.L.	FINISHED FLOOR LEVEL
F.G.L.	FINISHED GARAGE LEVEL
T.K.	TOP OF KERB
* 11.00	FINISHED LEVEL (ALLOW FOR SURFACE COVERS)
+ 11.00	EXISTING LEVEL
SL	PIT SURFACE LEVEL
IL	INVERT LEVEL
20 R	ROOF CATCHMENT AREA (m^2)
20 I	IMPERVIOUS CATCHMENT AREA (m)
20 L	LANDSCAPED CATCHMENT AREA (m)
	DOWNPIPE AND STORMWATER PIPE
	SUSPENDED STORMWATER PIPE
	ø50 PUMP LINE
	ø100 SUBSOIL PIPE
DP	DOWN PIPE
SP	SPREADER
IO	INSPECTION OPENING
VD	VERTICAL DROP
VR	VERTICAL RISER
	RETAINING WALL
TW 81.20	TOP OF WALL LEVEL
	CONCRETE COVER JUNCTION PIT
	GRATED INLET PIT INTEGRATED INTO INTO SLAB
	GRATED INLET PIT
	300 WIDE GRATED DRAIN
	OVERLAND FLOW PATH
	DIRECTION OF SURFACE FALL
RWO	RAINWATER OUTLET 150ø

NOTE – LOCATION OF EXISTING SERVICES SHOWN ARE APPROXIMATE ONLY & SHOULD BE ACCURATELY LOCATED BEFORE COMMENCEMENT OF WORKS

WARNING!
UNDERGROUND SERVICE CABLES IN VICINITY. EXERCISE EXTREME CAUTION DURING EXCAVATION. CONTACT "DIAL BEFORE YOU DIG" PRIOR TO ANY CONSTRUCTION WORK

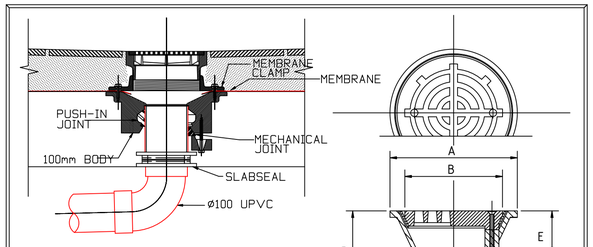
UTILITIES SHOWN ARE DIAGRAMMATIC ONLY, CONTRACTORS ARE RESPONSIBLE TO LOCATE AND AVOID DAMAGE TO THEM AS SPECIFIED BY EACH UTILITIES EXCAVATION GUIDE LINES & STANDARDS.
NOTE: UTILITIES SHOWN MAY NOT INCLUDE ALL SERVICES WITHIN THE LIMIT OF WORKS

NOTES

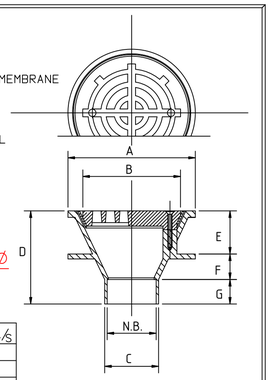
1. ALL LINES ARE TO BE MIN. 100ø U.P.V.C @ MIN 1.0% GRADE UNLESS NOTED OTHERWISE.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE & LEVEL ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY EARTHWORKS.
3. ALL PIPES TO HAVE MIN 150mm COVER IF LOCATED WITHIN PROPERTY.
4. ALL PITS IN DRIVEWAYS TO BE 600x600 INTERNAL AND ALL PITS IN LANDSCAPED AREAS TO BE 450x450 INTERNAL
5. ALL WORK DO BE DONE IN ACCORDANCE WITH AS/NZ 3500.3.2:1998 AND LOCAL GOVERNMENT AUTHORITY SPECIFICATIONS.
6. PITS DEEPER THAN 600mm TO BE 600 X 900 W, ELSE 450 SQ U.N.O.
7. RENDERED WITH CONCRETE HEAVY DUTY GRATES SIZED AS PITS PER PLAN.
8. NO SEWER VENTS, GULLY PITS OR SIMILAR TO BE LOCATED BELOW THE MAXIMUM WATER SURFACE LEVEL IN DETENTION BASINS.
9. PERSONS UTILISING THIS PLAN FOR ANY PURPOSES SHALL VERIFY THE DATUM & RESPECTIVE LEVELS PRIOR TO COMMENCING ANY WORKS & NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
10. 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.
11. END OF EXISTING DRAINAGE LINE TO BE EXPOSED & LEVELS CONFIRMED BY BUILDER PRIOR TO COMMENCEMENT OF WORKS.
12. BUILDERS TO ENSURE SERVICES CONNECTIONS TO HOUSE DO NOT CONFLICT WITH DRAINAGE DESIGN REQUIREMENTS.
13. ALL WORKS TO BE CONSTRUCTED TO GOOD BUILDING PRACTICE & MATERIALS TO MEET ACCEPTED SPECIFICATIONS.
14. ALL GUTTER TO BE PROVIDED WITH GUTTER GUARD.

NOTES

1. ALL MATERIALS, INSTALLATION AND LAYING OF DRAINAGE WORKS SHALL BE TO AS/NZS 3500.3.2 AND TO COUNCIL'S REQUIREMENTS.
2. COMPRESSIVE STRENGTH FOR CAST INSITU CONCRETE SHALL BE A MINIMUM OF 25 MPa AFTER 28 DAYS.
3. LEVELS ARE CRITICAL. ALL LEVELS HAVE TO BE CHECKED WITH THE ENGINEER AND ON SITE PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY DISCREPANCY MUST BE REFERRED TO THE ENGINEER FOR ADJUSTMENT.
4. GRATING SHALL BE MEDIUM DUTY UNDER TRAFFICABLE AREAS, LIGHT DUTY IN OTHERS UNLESS NOTED OTHERWISE (UNO).
5. PITS DEEPER THAN 900mm SHALL BE PROVIDED WITH ACCESS STEPS IRONS.
6. ALL PITS SHALL BE STREAM LINED.
7. CHECK LOCATIONS OF ALL EXISTING SERVICES PRIOR TO EXCAVATION.
8. EXACT LOCATION OF DOWN PIPES TO BE COORDINATED WITH THE ARCHITECT.
9. ALL PIPES TO BE UPVC CLASS STORMWATER PIPES TO AS 1254.
10. ALL GRATING COVERS TO BE PROVIDED WITH FRAMES.
11. PITS SHALL BE SURROUNDED WITH SAUSAGES OF COURSE FILTER CLOTH FILLED WITH 25mm BLUE METAL DURING CONSTRUCTION.
12. THE OSD's SHALL BE DESIGNED BY CHARTERED STRUCTURAL PROFESSIONAL ENGINEER.
13. ALL DIMENSIONS ARE IN MILLIMETERS.
14. PROVIDE A CONFINED SPACE DANGER SIGN TO COUNCIL APPROVAL.
15. PROVIDE 100ø AGG. DRAIN LINES (SUB SOIL DRAIN) FOR THE ABOVE GROUND DETENTION TANK AND CONNECT TO THE ADJACENT PIT IN DCP
16. FLOOR DRAIN TO BE PROVIDED IN BALCINIES AND CONNECTED TO THE DOWN PIPES.
17. THE PUMPWELL TO BE FITTED WITH 2XZENITH EDR1009B–LINE PUMPS) WITH CONTROL PANAL FOR ALTERATING CYCLE. EACH PUMP TO BE CAPABLE OF DELIVERING 3 l/SEC VIA ø65 mm UPVC PRESSURE PIPE CLASS 6



BALCONY OUTLET–100ø
N.T.S.



DIMENSIONAL DATA

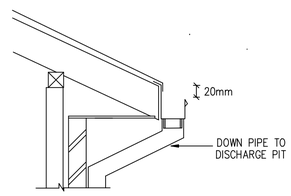
N.B.	A	B	C	D	E	F	G	FLOW RATE L/S
50	160	110	58	72	31	14	27	
80	200	150	85	80	33	22	25	
100	260	200	110	95	44	26	25	8.2
150	260	200	160	110	46	6	38	10.2
SUPERFLO	400	300	160	143	66	39	38	17

BASED ON 50mm HEAD OF WATER ABOVE SURFACE LEVEL.
FOR FURTHER DATA REFER TO FLOW RATE CHARTS.

USPS TRUFLO FLAT GRATE
N. T. S.

100mm DIA Upvc DOWNPIPE/Gutter secured to side of building
OR 100 x 75mm GUTTERS
EMERGENCY OVERFLOW MUST BE INSTALLED

GUTTER AND DOWNPIPES (AS 2180)
DESIGN STORM A.R.I 1:20 YEARS
MAX CATCHMENT AREA PER DOWNPIPE 45 SQM
DESIGN RAINFALL 75 mm/Hr
MAX DESIGN FLOW 4 L/S
MIN WIDTH OF GUTTER 120mm
MIN DEPTH OF GUTTER 100 mm
MIN GRADE 1/500
MIN DOWNPIPE ø150 OR 100X75
NOTE:
DOWNPIPE AND PROPPERS ARE NOT SHOWN, THE GENERAL LOCATION AND RUNS SHOULD FOLLOW OTHER SERVICES
BALCONY DRAINS WILL ACT AS SYSTEM BREATHERS



GUTTER DETAIL
N.T.S

DP ø100 150mm DIA Upvc DOWNPIPE/Gutter secured to side of building
OR 100 x 75mm GUTTERS

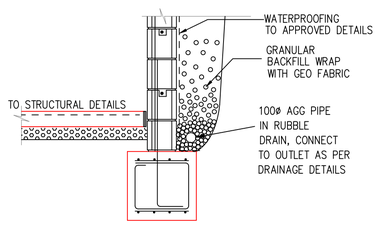
DOWNPIPES AND PIT NOTES:

1. TOP OF GRATE LEVELS HAVE BEEN DETERMINED FROM THE SURVEY DETAIL PROVIDED. FOLLOWING EARTHWORKS AND BENCHING, VALIDITY OF GRATE LEVELS SHOULD BE ASSESSED AND ADJUSTED AS REQUIRED TO MEET THE INTENT OF THE DESIGN. WHERE IN DOUBT CONTACT THE DESIGN ENGINEER.
2. THE LOCATIONS OF DOWNPIPES SHOWN ON THIS DRAWING ARE INDICATIVE AND WILL NEED TO BE SITE VERIFIED BY THE BUILDER. IF CHANGES ARE MADE TO THE NUMBER OR POSITION OF DOWNPIPES THE DESIGN ENGINEER SHALL BE CONTACTED FOR VERIFICATION.
3. FOR CHARGED/SEALED LINES PROVIDE APPROPRIATE CLEAN OUT FACILITY AT LOW POINTS OF SYSTEM, TYP.

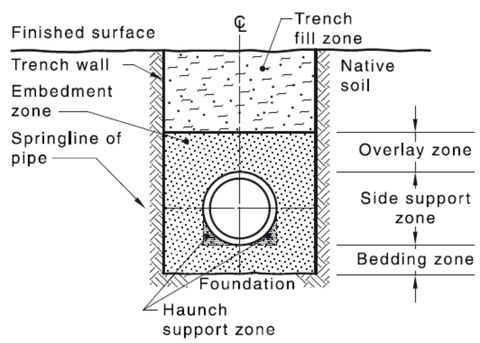
TABLE 3.3.4
AVERAGE RECURRENCE INTERVAL (ARI)

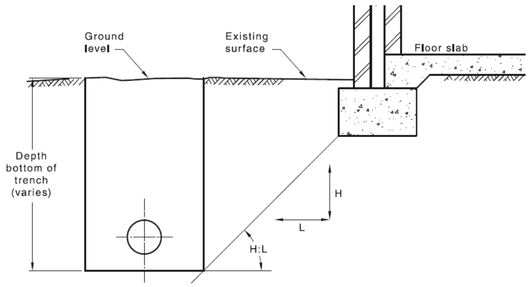
Effect of overtopping	ARI, years	
	Australia	New Zealand
(a) Eaves gutters, external	≥20	≥10
(b) Box gutters and valley gutters	≥100	≥50

NOTES:
1 For Australia, this Table should be used in conjunction with the NCC, which includes requirements to prevent rain and stormwater from roof drainage from entering certain buildings.
2 1% AEP is equivalent to 100 ARI and 5% AEP is equivalent to 20 years ARI.



TYPICAL RETAINING WALL DETAIL
SCALE N.T.S





Soil type	Slope H:L	
	Compacted fill	Undisturbed ground
Stable rock*	2:3	8:1
Sand*	1:2	1:2
Silt†	1:4	1:4
Firm clay	1:2	1:1
Soft clay	Not suitable	2:3
Soft soils†	Not suitable	Not suitable

* Most sand and rock sites with little or no ground movement from moisture changes.

† Sites include soft soils, such as soft clay or silt or loose sands, landslip, mine subsidence, collapsing soils, soils subject to erosion, reactive sites subject to abnormal moisture conditions, or sites that cannot be classified otherwise.

BUILDING CIVIL STRUCTURAL HYDRAULIC CONSTRUCTION

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PROJECT ADDRESS
PROPOSED GRANNY FLAT
10 HILLCREST AVE.
WILEY PARK

PAGE TITLE
COVER PAGE

PROJ No. 22–22MOON

DRAWING No. 24–10HILL–H
SHEET No. 100
REV. A

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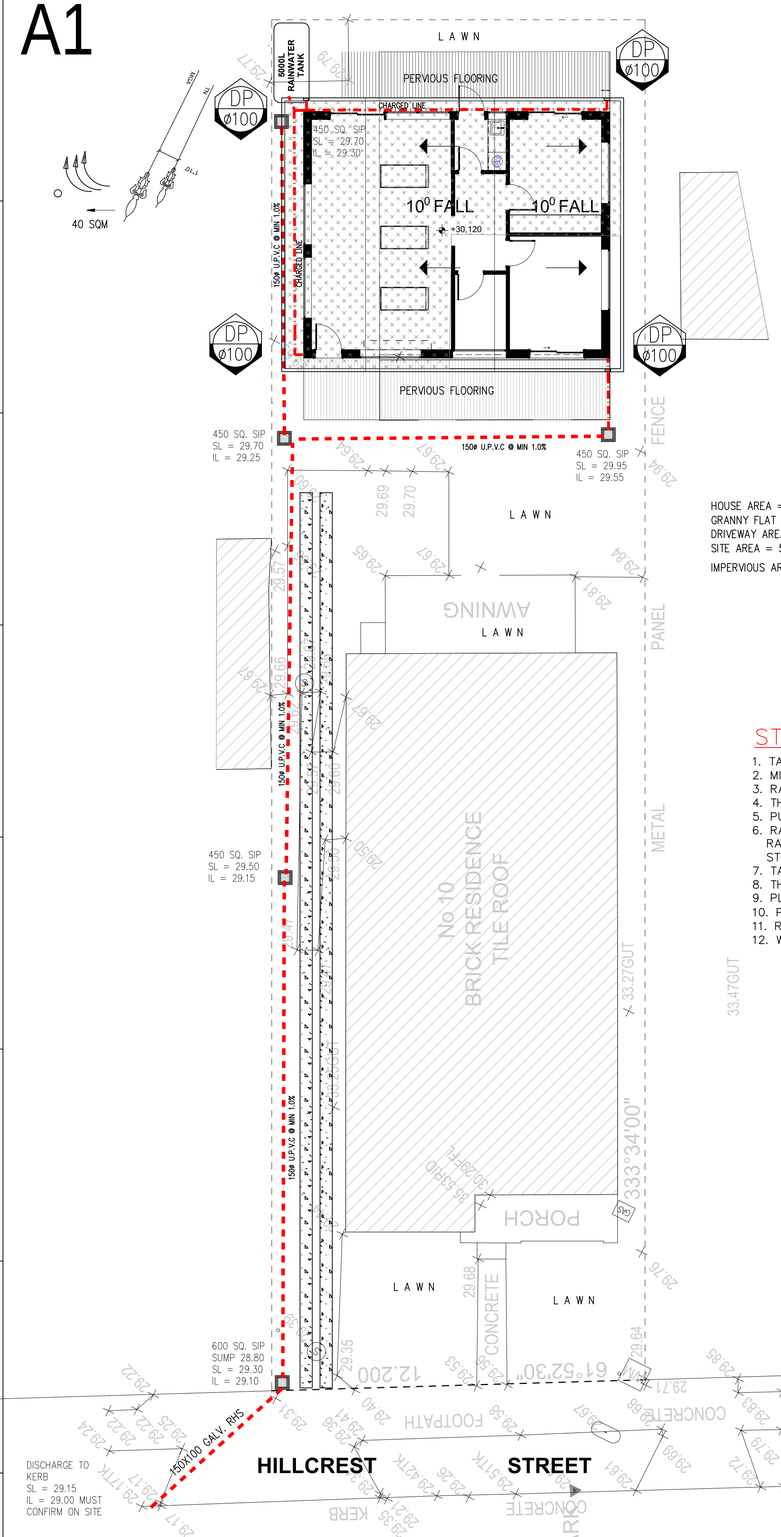
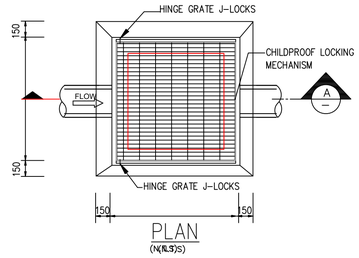
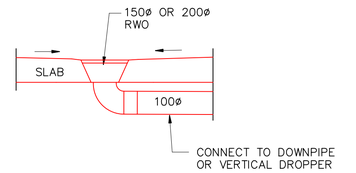


HOUSE AREA = 140
GRANNY FLAT AREA = 98
DRIVEWAY AREA = 38
SITE AREA = 543

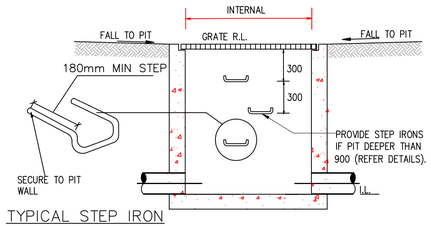
IMPERVIOUS AREA 50%



PLAN
(N.T.S)



TYPICAL RAIN WATER OUTLET DETAIL FOR BALCONIES
SCALE 1:20
(NOTE – PROVIDE FLOOR WASTES TO ALL BALCONIES & CONNECT INTO CLOSEST DOWNPIPE)



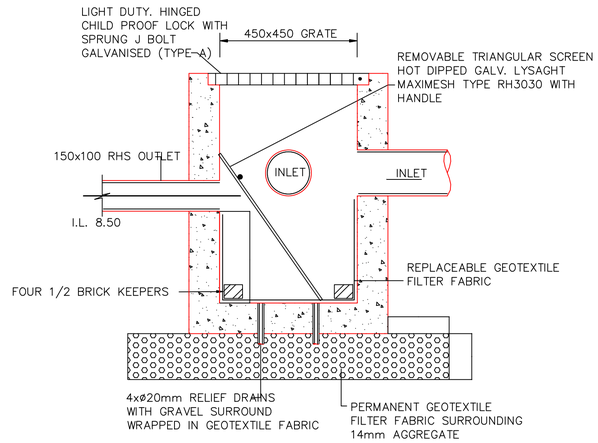
TYPICAL STEP IRON

SECTION 1a
(N.T.S)

PIT SIZES
INTERNAL

PITS 300 TO 600 DEEP, PROVIDE 450 x 450 GRATE
PITS 600 TO 1200 DEEP, PROVIDE 900 x 600 GRATE
PITS GREATER THAN 1200 DEEP, PROVIDE 900 x 900 GRATE

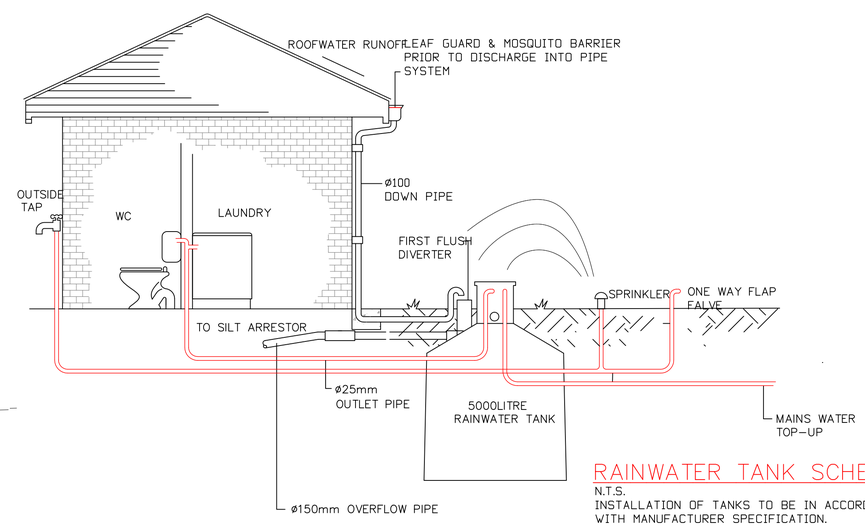
TYPICAL PIT DETAIL
(N.T.S)



SILT ARRESTOR PIT–SECTION
SCALE NTS

STORAGE TANK NOTES

1. TANK WATER TAPS SHALL BE MARKED "RAINWATER NOT TO BE USED FOR HUMAN CONSUMPTION"
2. MINIMUM TANK SIZE 2200 LITRES PER DWELLING
3. RAINWATER TANKS SHALL BE CONNECTED TO MAINS WATER SUPPLY AS BACKUP
4. THE PUMPS ARE TO BE INSULATED IN ACCORDANCE WITH COUNCIL POLICY
5. PUMPS SHALL PROVIDE MINIMUM 150 kPa PRESSURE
6. RAINWATER TANK TO BE CONNECTED TO ALL TOILETS FOR TOILET FLUSHING
   RAINWATER TANK TO BE CONNECTED TO THE COLD WATER TAP THAT SUPPLIES EACH WASHING MACHINE FOR CLOTHES WASHING
   STORMWATER TANK TO BE CONNECTED TO AN OUTDOOR TAP FOR IRRIGATION USE
7. TANKS TO BE CLEANED OUT EVERY 6 MONTHS
8. THE WATER TANK SHOULD BE LOCATED AT LEAST 900mm FROM ANY PROPERTY BOUNDARY
9. PLUMBING FROM THE WATER TANK IS TO BE KEPT SEPARATE FROM THE RETICULATED WATER SUPPLY SYSTEM
10. PROVIDE BACK–FLOW PREVENTION DEVICE AT MAINS WATER METER
11. ROOF DRAINING TO TANK MUST NOT CONTAIN LEAD, TAR BASED PAINTS OR ASBESTOS
12. WATER TO BE DRAWN FROM ANAEROBIC ZONE OF TANK



RAINWATER TANK SCHEMATIC
N.T.S.
INSTALLATION OF TANKS TO BE IN ACCORDANCE WITH MANUFACTURER SPECIFICATION.

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