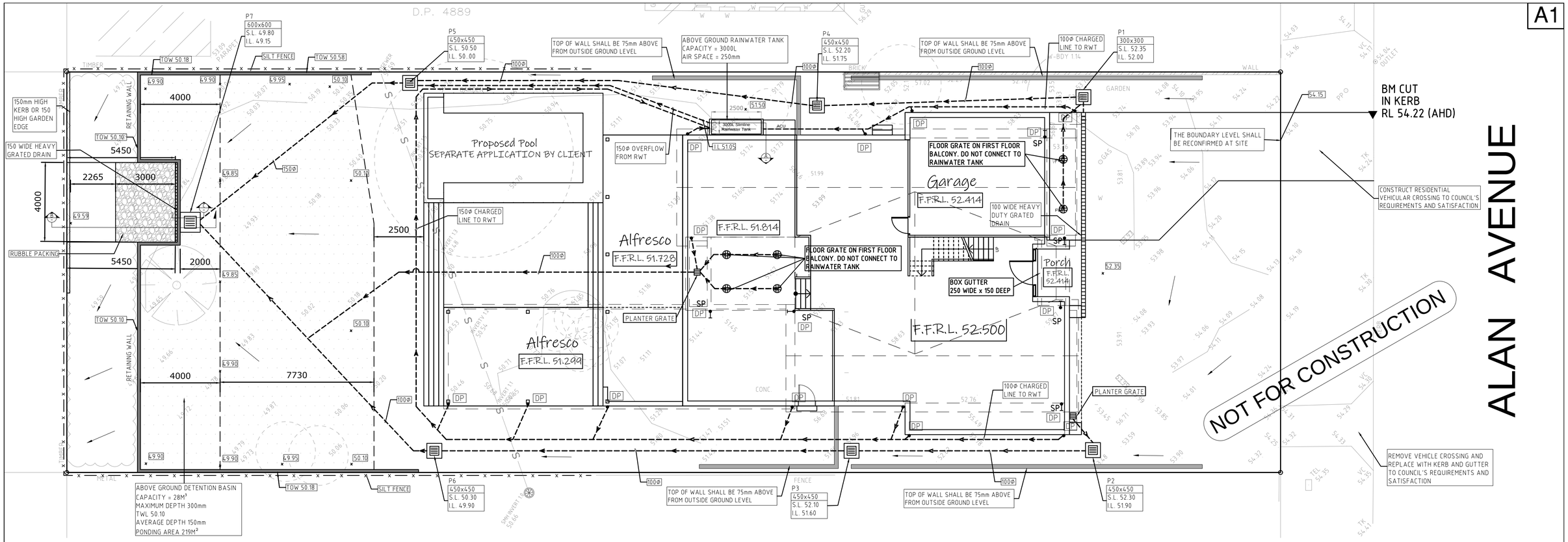
A1



STORMWATER DRAINAGE LAYOUT PLAN

SCALE:– 1:100 @ A1

OSD CALCULATION

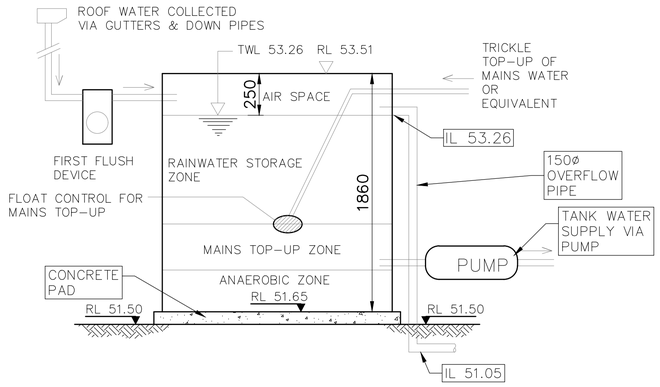
THE DRAINS MODEL HAS BEEN USED TO CALCULATE THE PSD AND THE OSD VOLUME.

1. TOTAL SITE AREA = 1226.30m²
2. PRE DEVELOPMENT IMPERVIOUS AREA = 0m²(ASSUMED AS 0)
3. POST DEVELOPMENT IMPERVIOUS AREA = 635m²
4. % POST DEVELOPMENT IMPERVIOUS AREA = 52
5. PSD (FOR ALL THE STORM EVENTS UP TO 1 IN 100 YEAR ARI) SHALL BE 1 IN 5 YEAR ARI STORM EVENT FLOW AT THE "STATE OF NATURE".
6. PSD = 45 L/S
7. THE OSD HAS BEEN DESIGNED AS ABOVE GROUND DETENTION BASIN
8. TOTAL BYPASS AREA FROM THE OSD SYSTEMS IS 70m²(100% PERVIOUS)
9. TOTAL AREA TO THE ABOVE GROUND OSD BASIN IS 1156 m² (% IMPERVIOUS AREA IS 55)

THE RESULTS FROM THE DRAINS MODEL ARE AS FOLLOWS :

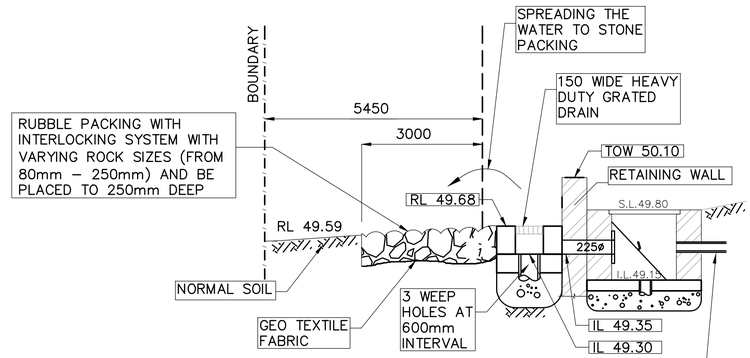
ARI (YEAR)	OSD FLOW(L/S) FROM OSD BASIN	BY PASS FLOW (L/S)	TOTAL FLOW (L/S)
5	25	3	28
20	27	4	31
50	28	4	32
100	40	5	45

10. TOTAL OSD VOLUME REQUIRED TO CONTROL ALL STORM EVENTS UP TO AND INCLUDING 1 IN 100 YEAR ARI STORM EVENT FOR THE PSD OF 45 L/S = 28m³
11. OSD VOLUME REQUIRED = 28m³
12. OSD PROVIDED IN THE ABOVE GROUND BASIN = 28m³
13. ORIFICE DIAMETER (ABOVE GROUND BASIN) = 130mm



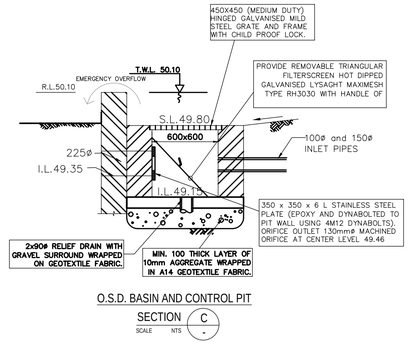
RAINWATER TANK DETAIL (SECTION A)

NOT TO SCALE



SECTION B

SCALE NTS



O.S.D. BASIN AND CONTROL PIT

SECTION C

SCALE NTS

Issue	Date	Description	BY
B	18.05.2023	RE–ISSUED FOR DA APPROVAL	INO
A	29.11.2022	ISSUED FOR DA APPROVAL	INO

DESIGN BY: VNK CONSULTING PTY LTD
PO BOX 9118 HARRIS PARK NSW 2150
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PRINCIPAL ENGINEER: LOGAN N LOGESWARAN
QUALIFICATIONS: BscEng, MEng, MEngStud, M.ASCE, MIEAust, CPEng, NER

Drawing Title: STORMWATER DRAINAGE LAYOUT PLAN - 1

DESIGNED	NL
DRAWN	INO
DATUM	AHD
DATE	29.11.2022

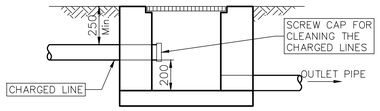
Project: PROPOSED DWELLING
24 ALAN AVENUE
SEAFORTH NSW 2092

Ref No. 291122–01

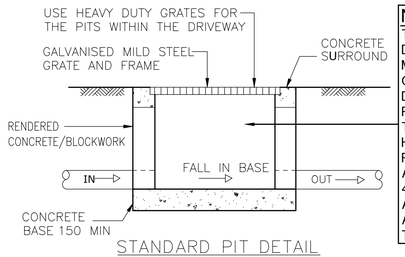
Issue: B

SHEET 1 of 2

A1

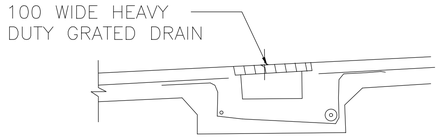


TYPICAL CHARGED LINE
CLEAN OUT CONNECTION TO A PIT
NOT TO SCALE

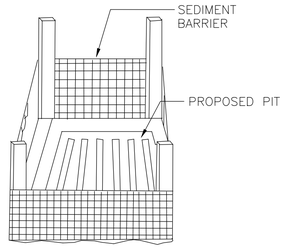


STANDARD PIT DETAIL
(PROVIDE STEP IRONS @ 300 CENTRES FOR PITS WHERE THE DEPTH EXCEEDS 900mm)
NOT TO SCALE

NOTE:
THE STORM WATER DRAINAGE PITS TO BE MADE WITH CONCRETE OR BRICKS. IT IS THE DECISION AND RESPONSIBILITY OF THE BUILDER TO USE HEAVY DUTY PLASTIC PITS FOR 450x450 PITS AND NOT MORE THAN 450mm DEEP AS LONG AS THEY ARE DURABLE AND STABLE AT ALL THE TIMES

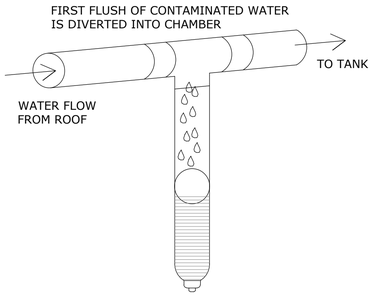


GRATED DRAIN DETAIL
NOT TO SCALE

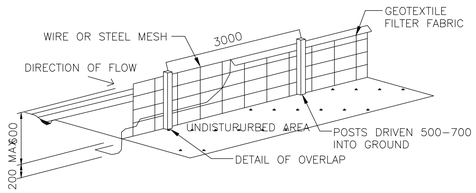


SEDIMENT BARRIER AROUND STORMWATER PIT (DURING CONSTRUCTION)
NOT TO SCALE

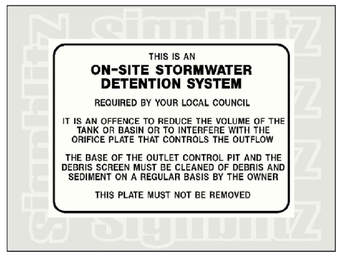
NOT FOR CONSTRUCTION



FIRST FLUSH WATER DIVERTER DETAIL
NOT TO SCALE



SILT FENCE DETAIL (TO BE WITHIN THE PROPERTY BOUNDARY –DURING CONSTRUCTION ONLY)
NOT TO SCALE



OSD SIGN
NOT TO SCALE

RAINWATER TANK NOTES:

CAPACITY:
RAINWATER TANK HAS A CAPACITY AS MARKED IN THE PLAN.

RAINWATER CONNECTION:
TANK WATER WILL BE PLUMBED TO ALL OUTDOOR WATERING, TOILETS AND LAUNDRY AS PER BASIX REQUIREMENTS.

FIRST FLUSH:
'FIRST FLUSH' DEVICE WILL BE FITTED TO REMOVE SURFACE CONTAMINATION.

NON DRINKING:
TANK WATER WILL NOT BE CONNECTED TO DRINKING OR BATHING WATER OUTLETS.

FULLY ENCLOSED:
TANK WILL BE FULLY ENCLOSED AND SEALED TO PREVENT ACCESS BY MOSQUITOES.

NON REFLECTIVE FINISH:
TANK SURFACES WILL HAVE NON REFLECTIVE FINISH.

WARNING LABELS:
A LABEL WILL BE AFFIXED TO THE TANK WARNING THAT WATER IS NOT TO BE CONSUMED AND RAINWATER SIGNAGE WILL BE PLACED ABOVE ALL TANK WATER OUTLETS.

ROOFING MATERIALS:
THE ROOF SURFACE FROM WHICH RAINWATER IS BEING DRAWN WILL NOT CONTAIN LEAD,TAR,

ASBESTOS OR PAINTS BASE:
TANK WILL BE BUILT ON A SELF SUPPORTING BASE (ABOVE GROUND TANK ONLY)

WATER PRESSURE:
TANK WILL BE FITTED WITH SMALL MOTORISED PUMP TO PROVIDE ACCEPTABLE WATERPRESSURE.

PUMP NOISE:
PUMP WILL BE DESIGNED AND LOCATED NOT TO CAUSE A NOISE DISTURBANCE TO NEIGHBOURS (GENERALLY NOT 5 dBA ABOVE BACKGROUND NOISE)

INSTALLATION:
WILL BE INSTALLED BY A LICENSED PLUMBER IN ACCORDANCE WITH SYDNEY WATER REQUIREMENTS AND THE" NSW CODE OF PRACTICE:PLUMBING AND DRAINAGE

BACK FLOW PREVENTION:
A BACK FLOW PREVENTION DEVICE WILL BE PROVIDED AT THE MAINS WATER METER

DUAL SUPPLY:
A TRICKLE TOP–UP SYSTEM WILL BE PROVIDED AT THE MAINS WATER.

BACK UP SUPPLY:
A BACK UP SUPPLY OF MAINS WATER WILL BE PROVIDED IN EVENT OF FALIURE OR MAINTENANCE.

ANAEROBIC ZONE:
WATER WILL BE DRAWN FROM ABOVE THE ANAEROBIC ZONE OF TANK.

TANK CONSTRUCTION:
TANK WILL BE STRUCTURALLY SOUND AND CONSTRUCTED IN ACCORDANCE WITH AS/NZ3500.1.2–1998:NATIONAL PLUMBING AND DRAINAGE–WATER SUPPLY–ACCEPTABLE SOLUTIONS.

AIR GAP:
TANK WILL BE PROVIDED WITH AN AIR GAP IN ACCORDANCE WITH AS/NZ 3500.1.2 & AS2845.2

ON GOING MAINTENANCE:
TANK WILL BE WATERKEPT AND MAINTAINED BY THE OWNER.

NOTES:

1. ALL WORKS TO BE CONSTRUCTED TO THE REQUIREMENTS AND SATISFACTION OF THE NORTHERN BEACHES COUNCIL DCP.
2. THE DRAINAGE CONTRACTOR IS TO LOCATE AND RELOCATE AS NECESSARY ALL SERVICES ON SITE.
3. THE BUILDER IS TO VERIFY ALL LEVELS ON THE SITE PRIOR TO COMMENCING CONSTRUCTION.
4. SILT FENCE IS TO BE ERECTED PRIOR TO COMMENCING WORK. FENCE TO BE MAINTAINED IN WORKING ORDER DURING THE TIME OF CONSTRUCTION.
5. W.A.E. DRAWING BY A REGISTERED SURVEYOR IS REQUIRED PRIOR TO CERTIFIATION OF DRAINAGE.
6. U.N.O. ALL DOWN PIPES ARE TO BE 100ø.
7. U.N.O. ALL PIPES TO BE 100ø CLASS 'SH' WITH 1% MIN SLOPE.
8. ALL THE RETAINING WALLS TO STRUCTURAL ENGINEERS DETAIL AND SHOULD BE WITHIN THE SITE BOUNDARY.
9. ALL THE DOWN PIPES FROM THE ROOF GUTTER TO RAINWATER TANK SHALL BE CHARGED LINES AND SOLVENT WELD JOINTED.
10. PROVIDE OSD WARNING SIGN AS PER THE DETAIL

LEGEND

DRAINAGE LINE	--------	SURFACE INLET PIT	
AG. LINE	—— a —— a	JUNCTION PIT	■
SILT FENCE	—×—	DOWN PIPE	• DP
EXISTING LEVEL × 44.10	DESIGN LEVEL × 45.51	SPREADER PIPE	SP
SILT BARRIER AROUND PIT		PLANTER GRATE	PG
CLEANING EYE (OR INSEPECTION EYE)	CE	FLOOR GRATE	FG
SURFACE LEVEL SL 45.50		DROPPER	DR
INVERT LEVEL IL 45.00		STEP IN THE RETAINING WALL	
REMOVED TREE		FLUSHING POINT	• FP
RETAINING WALL			

CAUTION:
ALL THE LEVELS AND DIMENSIONS ARE CRITICAL. PLEASE FOLLOW THE SW PLAN FOR CONSTRUCTION TO AVOID FINAL CERTIFICATION DELAY. IF YOU SEE SOMETHING NOT CORRECT OR NOT SUITED FOR SITE PLEASE CONTACT THE STORMWATER ENGINEER FOR CLARIFICATION AND FURTHER DIRECTIONS.

NOTE:
THE SURFACE INLET PITS SHALL BE HEAVY DUTY PLASTIC PITS IF IT IS LESS THAN 400mm DEEP.

NOTE:
PRIOR TO CONSTRUCTION THE BUILDER IS TO COORDINATE ALL THE PLANS (ARCHITECTURE PLAN, LANDSCAPE PLAN, STRUCTURAL ENGINEER'S PLAN AND THE STORMWATER PLAN) TO MAKE SURE ALL THE DESIGN LEVELS, DOWNPIPE LOCATIONS AND THE FLOOR LEVELS ARE SAME IN ALL THE PLANS.

NOTE:
THE PIT SURFACE LEVELS AND THE TOP OF RETAINING WALLS SHALL BE RE-CONFIRMED AT SITE

NOTE:
CLEAN OUT LINES FROM THE CHARGED LINES TO BE CONNECTED TO THE NEAREST PITS WITH END CAP AT THE PIT END

NOTE:
PROVIDE FLOOR GRATES (100Ø) FOR THE FIRST FLOOR BALCONIES (DO NOT CONNECT TO THE RAINWATER TANK)

Issue	Date	Description	BY
B	18.05.2023	RE–ISSUED FOR DA APPROVAL	INO
A	29.11.2022	ISSUED FOR DA APPROVAL	INO

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PRINCIPAL ENGINEER: LOGAN N LOGESWARAN
QUALIFICATIONS: BscEng, MEng, MEngStud, M.ASCE, MIEAust, CPEng, NER

Drawing Title:
STORMWATER DRAINAGE LAYOUT PLAN - 2

DESIGNED	NL
DRAWN	INO
DATUM	AHD
DATE	29.11.2022

Project:
PROPOSED DWELLING
24 ALAN AVENUE
SEAFORTH NSW 2092

Ref No. 291122–02
Issue: B
SHEET 2 of 2