











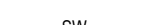

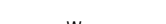
















GENERAL NOTES:

- | | | | |
|---|---------------------------------------|----------------|-----------------------------|
|  | Stormwater pipe | AG | Agricultural Line |
|  | Charged Line | AP | Aerial Pipe |
|  | Flush Line | BG | Box Gutter |
|  | Sub Soil / Agricultural Pipe | BO | Balcony Outlet |
|  | Pump Line | CO | Clearout |
|  | Existing stormwater Pipe | CL | Charged Line |
|  | Existing Pipe | DP | Downpipe |
|  | Disused / Redundant Pipe | EG | Eave Gutter |
|  | Sediment Fence | FW | Floor Waste |
|  | Site Fence | Galv. | Galvanised |
|  | Conduit by others | GD | Grated Drain |
|  | Electrical Wiring by others | HD | Heavy Duty |
|  | Existing Authority Stormwater Main | HP | High Point |
|  | Existing Authority Sewer Main | IL | Invert Level |
|  | Existing Authority Water Main | IO | Inspection Opening |
|  | Existing Authority Gas Main | L | Litres |
|  | Existing Authority Electrical Cabling | LS | Level Spreader |
|  | Existing Telstra Cabling | U/s | Litres Per Second |
|  | Stormwater pit (Grated / Solid Cover) | U/s/m | Litres Per Second Per Metre |
|  | | LD | Light Duty |
|  | Drainage Outlet | m | Meters |
|  | Downpipe / Riser | m ² | Square Meters |
|  | Dropper | m ³ | Cubic Meters |
|  | Direction of flow | mm/h | Millimetres per Hour |
|  | Pipe continuation | O/F | Overflow |
|  | Pipe continuation not shown | OLF | Overland Flow |
|  | Spreader | OSD | On Site Detention |
|  | Surface Fall | PDO | Planter Drain Outlet |
|  | Overland Flow | | |

1. All work is to be performed in accordance with AS3500.3 and council codes where applicable.
2. The Plumber/ Drainer shall inspect the site and confirm the existing site structures, services and conditions prior to proceeding. If any discrepancies found, contact the engineer for further instructions.
3. All underground pipes shall be P.V.C.U. laid at min. 1:100, unless noted otherwise.
4. All connections to P.V.C. pipes are to be solvent welded to manufacturers specification
5. All prefabricated pits, drains etc. are to be of heavy duty concrete construction unless noted other.
6. Precise location of down pipes shall be nominated by others. Locations shown are for hydraulic design purposes only.
7. Precise location of pits shall be nominated by others. Locations shown are for hydraulic design purposes only.
8. All eaves gutters shall be of minimum cross sectional area of 7800mm² unless noted otherwise.
9. This design covers the collection and disposal of rainwater from ROOF AREAS ONLY. Any paved areas not noted on the supplied architectural drawings are not included, unless shown.
10. This design does not cover sub surface hydraulic flows.
11. The installer is encouraged to use the 'Dial Before You Dig' service prior to excavation. No underground services have been noted or surveyed in this design. Dig at your own risk.
12. IF IN DOUBT ASK. Consult the design engineer for any changes, omissions and discrepancies.
13. System design has been produced to reflect reduced levels shown on architect supplied drawings.
14. Pipe cover for uPVC pipes:
 - a. Single dwellings, no vehicular loading - 100mm
 - b. Single dwellings, vehicular loading without pavement - 450mm
 - c. Single dwellings, heavy vehicular loading on concrete - 100mm below underside of concrete
 - d. Single dwellings, no vehicular loading on un-reinforced concrete/pavers - 50mm below underside of concrete/pavers
 - e. Single dwellings, light vehicular loading on un-reinforced concrete/pavers - 75mm below underside of concrete/pavers
15. Silt arrestor pit and rain guards must be regularly inspected and cleaned.

16. Location of Stormwater Systems, including downpipes, pipes, pits and rainwater take are indicative only. Exact locations shall be determined on site to suit site conditions.
17. Sub-soil drains for retaining walls shall be installed by the builder and connected to Stormwater Lines. All AG Lines shall be 100mm DIA, unless noted otherwise.
18. Levels are approximate only. The plumber/drainer shall confirm the levels prior to proceeding. If any discrepancies found, contact the engineer for further instructions.
19. Inspection and certification, if required, shall be done prior to backfilling, allow 48 hour notice for the engineer to carry out the inspection.
20. Any damage to services during construction shall be repaired immediately at the plumber/drainers own expense.
21. Areas & Geometry calculated are approximate and dependent on Surveyors & Architects drawings.
22. It is essential that areas calculated are within plus/minus 5% range.
23. Provide adequate access and overland flow routes out of property and not into adjoining properties
24. Provide minimum 75mm clearance under all gates and operable external doors as to not impede overland flow
25. Water entry and backflow into buildings should be prevented at all times
26. All finished ground surfaces should fall away from structures
27. Charged lines are to be flushed regularly and flush/arrestor pits are to be regularly inspected and cleaned
28. All pipes entering a water tank shall have a first flush device installed. First flush device is to be sized as per document "BASIX Interim Rainwater Harvesting Systems Guidelines".
29. All water tanks will be insect proofed by others
30. If tanked water is being reused for drinking or sanitary purposes, appropriate disinfecting by others should be considered.
31. Schedule of calculations is based on plan areas
32. Plumber to provide 'leaf guard' or similar over all gutter, rainheads & sumps
33. Atlantis Blockade or similar recommended to be installed in all underground pipes to prevent blockages forming in the pipes during the construction phases



LOCALITY PLAN
Not to scale

DRAFT

Rev.	Date	Amendment Description	By	App.
01	08.11.2024	Amended as per revised architectural	SM	BM
02	12.05.2025	Amended as per revised architectural	SM	BM



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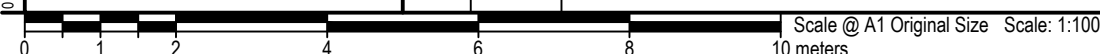
	Job Description
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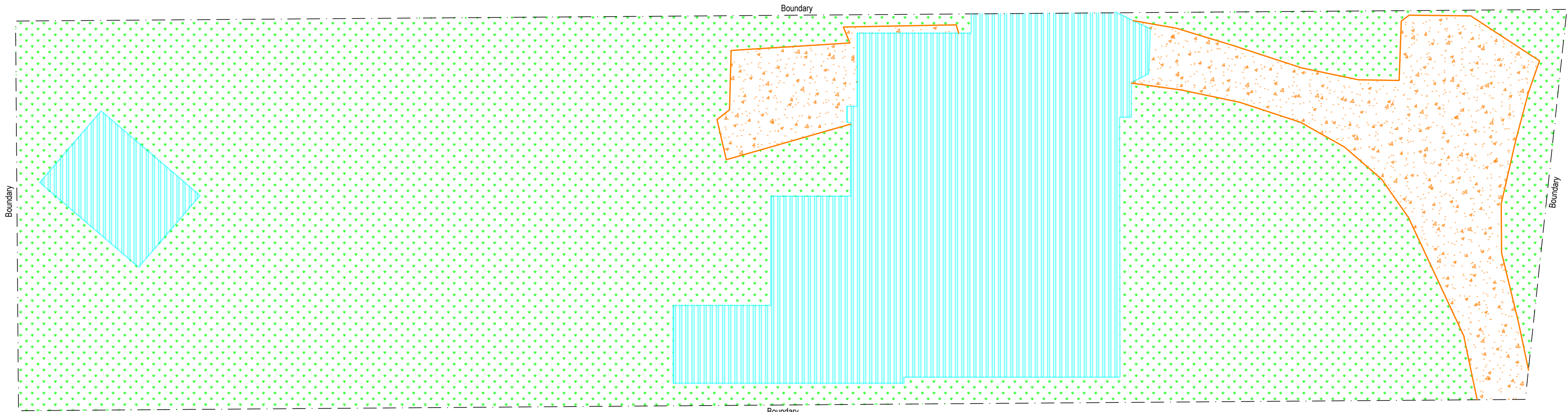
Proposed Additions & Alterations To Residence

Stormwater Engineering Title:

Concept Stormwater Drainage Project Information Sheet

Original Sheet Size: A1	Scale: 1:100, 1:20, 1:5	Drawn: NL	Design: SM
Date: October 2024	Job No. 2425-054	Sheet No. 01 of 04	Rev: 02

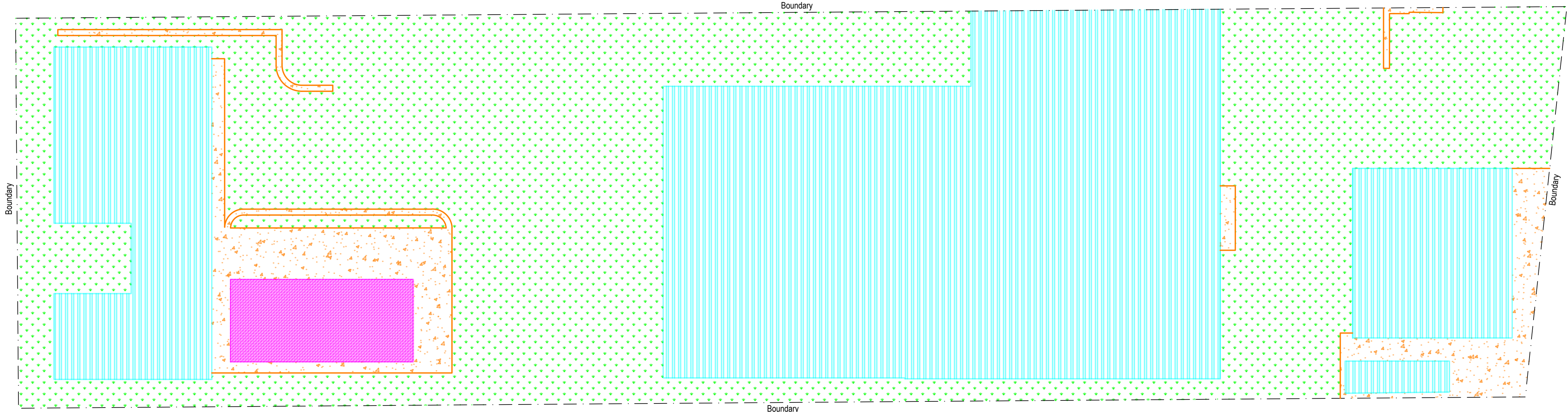




Existing Site Coverage

Scale 1:100

	Roof:	=	199.68
	Impervious:	=	97.93
	Pervious:	=	601.60
Total:		=	899.21



Proposed Site Coverage

Scale 1:100

	Roof:	=	390.59
	Impervious:	=	59.99
	Pervious:	=	425.91
	Pool:	=	22.72
Total:		=	899.21

SCHEDULE OF CALCULATIONS		
ITEM	VALUE	UNITS
CATCHMENT DATA		
10015 Rainfall intensity - BOM 09-09-24	287	mm/h
2015 Rainfall intensity - BOM 09-09-24	210	mm/h
515 Rainfall intensity - BOM 09-09-24	151	mm/h
Site Area	899.21	m ²
EXISTING		
Total Roof Area	199.68	m ²
Total Additional Impervious Area	97.93	m ²
Total Pervious Area	601.60	m ²
Total Pool Area	0.00	m ²
Total Runoff for Existing Catchment Q100	46.93	L/s
Total Runoff for Existing Catchment Q20	34.34	L/s
Total Runoff for Existing Catchment Q5	24.69	L/s
PROPOSED		
Total Roof Area	390.59	m ²
Total Additional Impervious Area	59.99	m ²
Total Pervious Area	425.91	m ²
Total Pool Area	22.72	m ²
Total Runoff for Proposed Catchment Q100	54.23	L/s
Total Runoff for Proposed Catchment Q20	39.68	L/s
Total Runoff for Proposed Catchment Q5	28.53	L/s
Site falls within Northern Beaches Council Region 1 (DCP). OSD has not been provided as site constraints prevent possible OSD locations being practical.		
SITE DISCHARGE DATA		
Total Existing discharge to Rear Q20	21.33	L/s
Total Proposed discharge to Rear Q20	11.83	L/s
Change in discharge to Rear Q20	-9.51	L/s
Total Existing discharge to Front Q20	13.00	L/s
Total Proposed discharge to Front Q20	27.85	L/s
Change in discharge to Front Q20	14.85	L/s
Note: Flow to the rear has been reduced by 9.51L/s.		

Plan - Coverage A1

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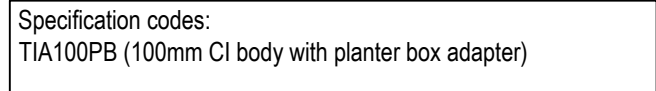
154 Plateau Road
Bilgola Plateau NSW 2107

Job Description:

Proposed Additions & Alterations
To Residence

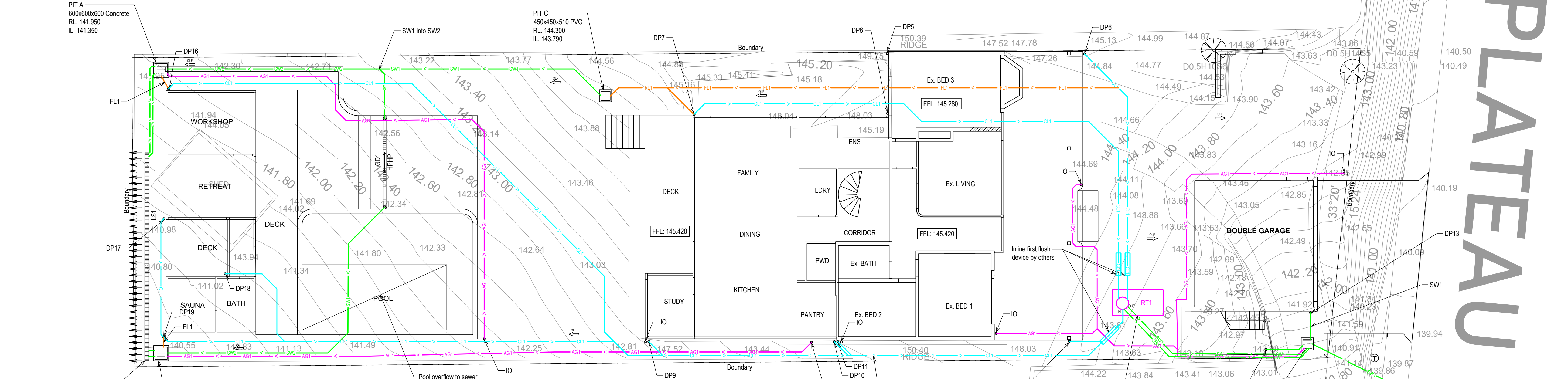
Stormwater Engineering Title: Existing & Proposed Site Coverage			
Original Sheet Size: A1	Scale: 1:100, 1:20, 1:5	Drawn: NL	Design: SM
Date: October 2024	Job No.: 2425-054	Sheet No.: 02 of 04	Rev.: 02

Scale @ A1 Original Size Scale: 1:100
0 1 2 4 6 8 10 meters



For General Notes, refer to Sheet 1

PLATEAU ROAD



Level spreader placed close to boundary as there are no other feasible locations. Government property behind is open grassway & is large enough to handle decreased volume of water

Site Drainage Plan

Scale 1:100

Downpipes:

Stormwater Pipe:

Charged Line:

Flush Line:

Agricultural Line:

Inspection Opening:

Grated Drain:

Stormwater Pit:

Rainwater Tank:

Level Spreader:

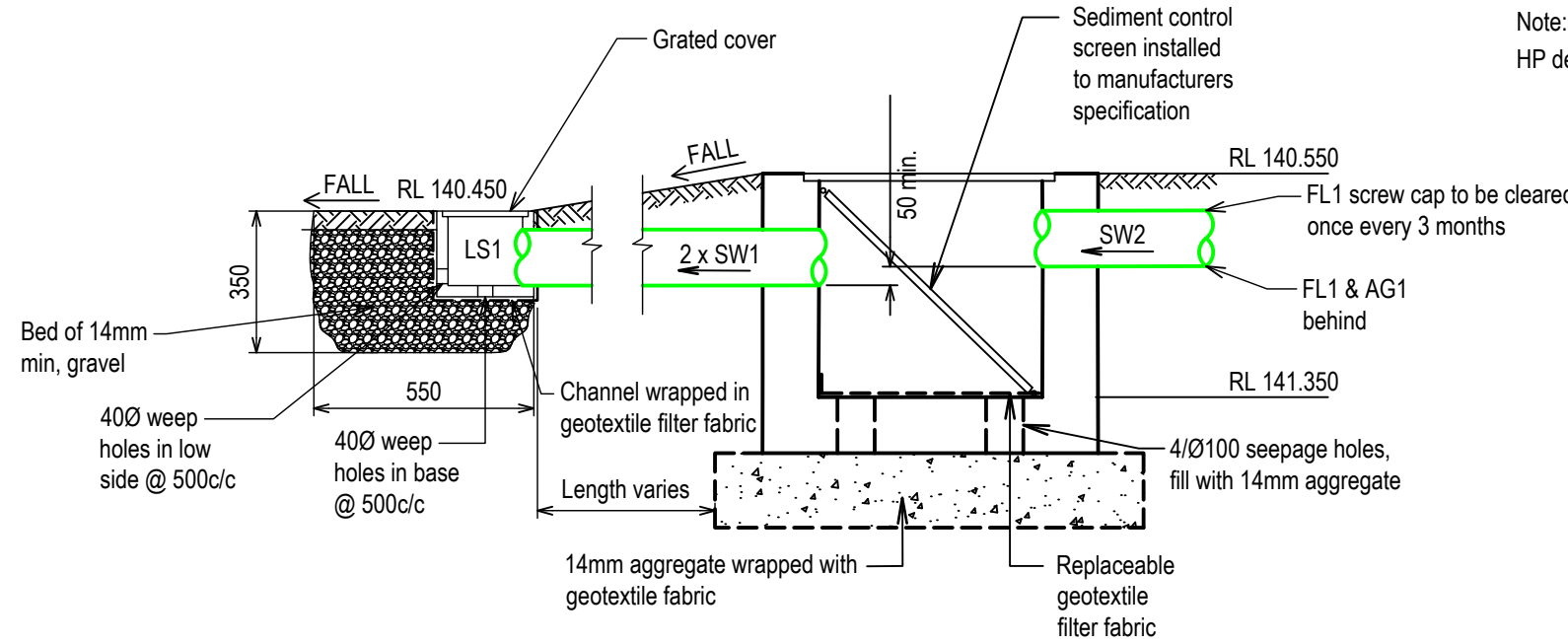
Note:
HP denotes high point of grated drain.

- = Ø100 P.V.C-U
- = Ø65 P.V.C-U
- = Ø90 P.V.C-U
- = Ø100 P.V.C-U laid @ 1% fall min.
- = Ø150 P.V.C-U laid @ 1% fall min.
- = Ø100 P.V.C-U, fully sealed from gutter to discharge location
- = Ø100 P.V.C-U laid @ 1% fall min., screw capped to be cleared once every 3 months
- = Ø100 Slotted AG Line, min. 1% fall, Wrapped in geotech fabric, bedded in coarse gravel
- = Cap raised to finished ground level marked 'IO'
- = 200(W) x 200(D) @ 2% fall min.
- = 600 x 600 x 600 Concrete
- = 450 x 450 x 510 PVC
- = 2500L Underground Slim Nugget Rainwater Tank
- = 200(W) x 200(D) Level Spreader, refer to detail

2500L Underground Slim Nugget Rainwater Tank
2500(L) x 1100(H) x 1260(W)
Connected as per Basix requirements
Inlet RL: TBC onsite RL 143.6 maximum
Overflow RL: TBC onsite

PIT D
450x450x510 PVC
RL: 140.120
IL: 139.610

SW1 to connect to proposed kerb connection pending council approval.
IL: 139.600

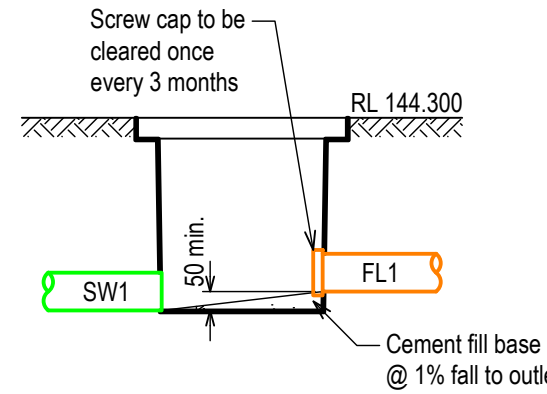


LEVEL SPREADER LS1 & PIT B DETAIL - 600x600x600 CONCRETE

PIT A SIMILAR

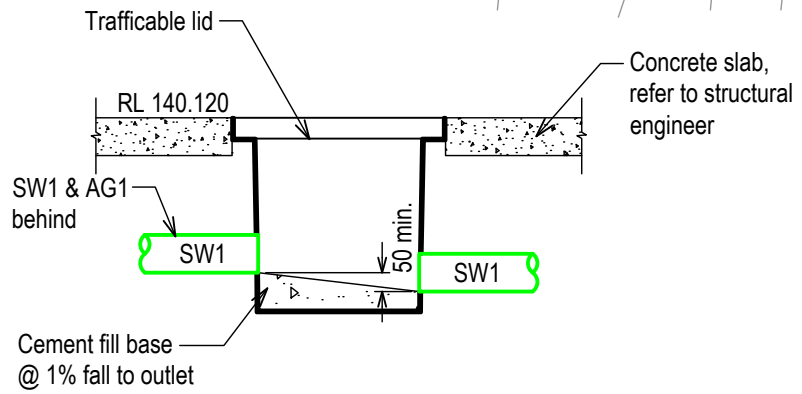
Scale 1:20

Note: Overflow weir of level spreader to be installed at continuous consistent level shown on detail.



PIT C DETAIL - 450x450x510 PVC

Scale 1:20



PIT D DETAIL - 450x450x510 PVC

Scale 1:20

BASIX DATA

Rainwater Tank Size required by BASIX	TBC	L
Rainwater Tank Size provided	2500	L
Roof Area required to Rainwater Tank	TBC	m²
Roof Area provided to Rainwater Tank	121.15	m²

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Site Drainage Plan

Original Sheet Size:	Scale:	Drawn:	Design:
A1	1:100, 1:20, 1:5	NL	SM
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October 2024	2425-054	04 of 04	02