# 30 DAVIDSON AVENUE, FORESTVILLE STORMWATER MANAGEMENT PLAN

DRAWING NUMBER	DRAWING TITLE
DR-000	LEGEND
DR-001	PIPE LAYOUT
DR-002	ROOF LAYOUT & DETAILS
DR-003	PROPOSED SITE AREAS AND LEVEL SPREADER DETAILS
DR-004	OSD & RAINWATER TANKS DETAILS

# NOTES:

- 1. ALL DIMENSIONS TO BE CONFIRMED ON SITE PRIOR TO CONSTRUCTION.
- 2. SITE LAYOUT BASED ON ARCHITECTURAL PLANS BY RAPID
  PLAN BUILDING DESIGN AND ARCHITECTURAL DRAFTING
  (MAY 28, 2020).
- 3. LOCATION OF ALL SERVICES MUST BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT OF EXCAVATION WORKS.
- 4. ALL STORMWATER DRAINAGE PIPES AND ASSOCIATED

  DEVICES ARE TO BE INSTALLED IN ACCORDANCE WITH THE

  RELEVANT STANDARDS, THE BUILDING CODE OF

  AUSTRALIA, MANUFACTURER'S RECOMMENDATIONS, SYDNEY

  CATCHMENT AUTHORITY RECOMMENDED PRACTICE, AND

  LOCAL COUNCIL, AS APPLICABLE.
- 5. ALL INVERT LEVELS PROVIDED ON THIS DRAWING ARE
  REDUCED TO AHD AND BASED ON INTERPOLATED SURFACE
  LEVELS AND SYSTEM REQUIREMENTS

- 6. WHERE POSSIBLE, PIPEWORK SHALL BE LOCATED EXTERNAL TO THE BUILDING.
- 7. DOWNPIPES AND STORMWATER LINES TO BE SEALED DN100 uPVC UNLESS OTHERWISE NOTED.
- 8. STORMWATER PIPES TO BE GRADED AT A MINIMUM 1% UNLESS NOTED OTHERWISE.
- 9. ALTERNATIVE GUTTER AND DOWNPIPE CONFIGURATION MAY BE INSTALLED PROVIDED IT COMPLIES WITH AS3500.
- 10. ALL PIPE AND CONDUITS TO BE MARKED IN ACCORDANCE WITH AS1345 1995.
- 11. TRENCHES AND SERVICE SEPARATIONS IN ACCORDANCE WITH AS/NZS 5601, AS/NZS 3500, AND AS/CA S009.

# LEGEND:

DOWNPIPE

— sw

STORMWATER PIPE

— RW —

RAINWATER PIPE



DRAINAGE PIT



INSPECTION OPENING

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SUB SOIL PIPE

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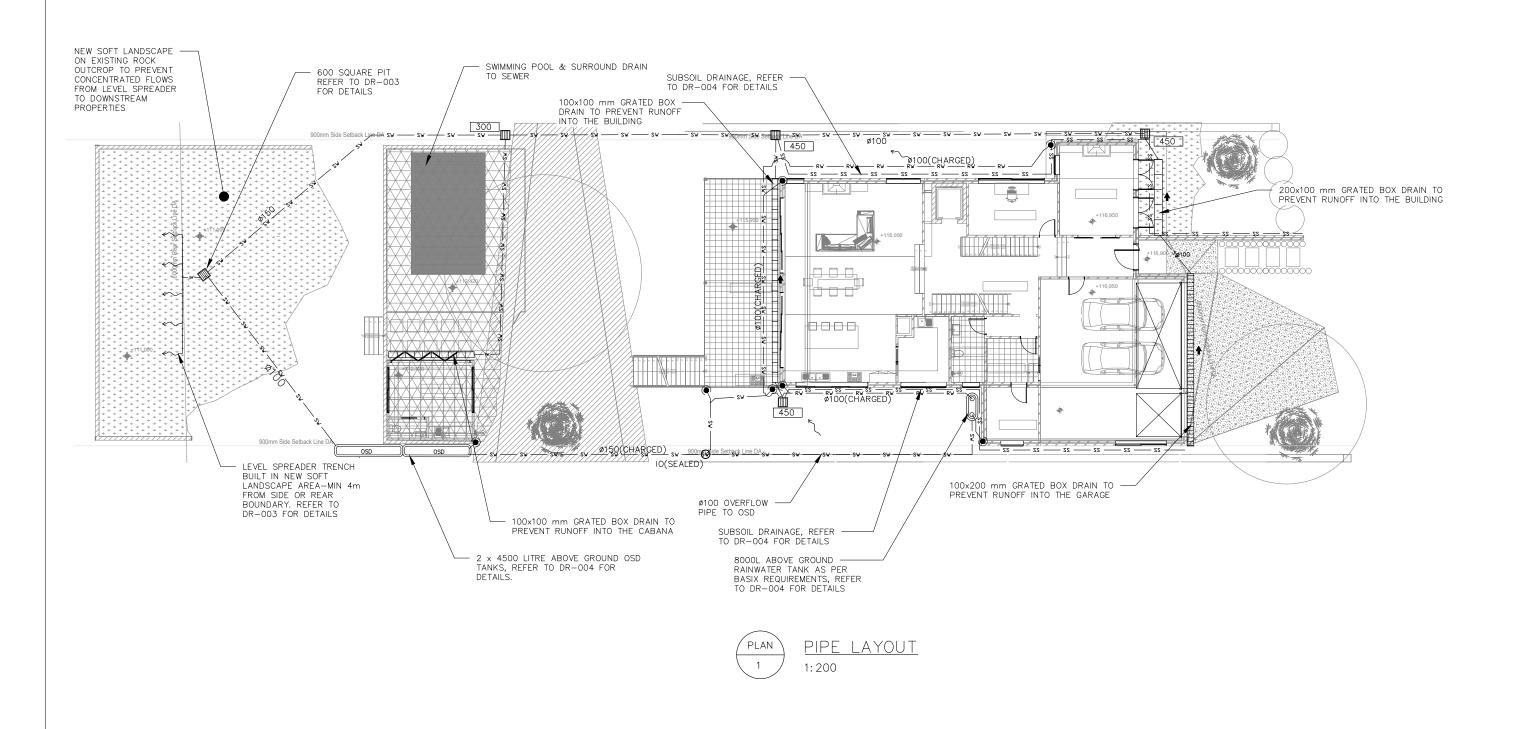
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This design complies with: AS3500.3:2018

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30 DAVIDSON AVENUE, FORESTVILLE	
PIPE LAYOUT & DETAILS	
Size Status DR-001 Rev. DR-001	

NOMENCLATURE
DP - DOWNPIPE
EG - EAVES GUTTER
BG - BOX GUTTER
Q20 - 20YR 5 MINUTE ARI FLOW RATE
Q100 - 100YR 5 MINUTE ARI FLOW RATE

GUTTER SIZING
EAVES GUTTER DESIGNED TO ARI (20YR:202 mm/hr)
EG1 - MIN CSA 19,325 mm<sup>2</sup>
EG2 - MIN CSA 6,006 mm<sup>2</sup>

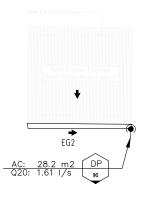
BOX GUTTER DESIGNED TO ARI (100YR:275 mm/hr)

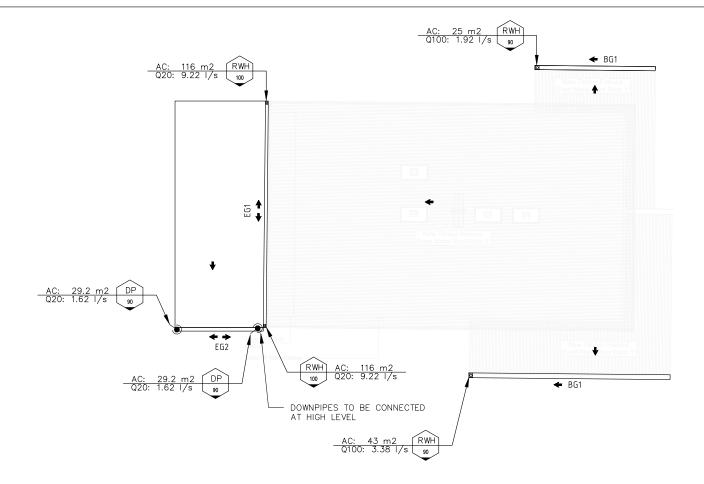
# <u>LEGEND</u>



DOWNPIPE TYPE AND DIAMETER

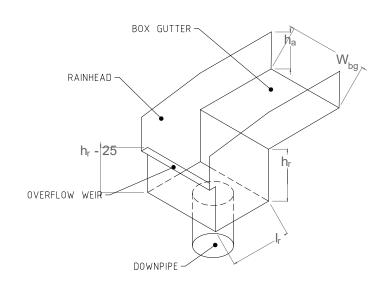
DIRECTION OF FALL







ROOF LAYOUT



<u>Table 1 — Rainwate</u> (100 year ari, 1		
ROOF SERVICE AREA	_	43m²
DOWNPIPE DIAMETER	DP	90mm
BOX GUTTER WIDTH (MIN)	W <sub>bg</sub>	200mm
BOX GUTTER DEPTH (MIN)	ha	100mm
LENGTH OF RAINWATER HEAD	Lr	110mm
RAINWATER HEAD DEPTH	hr	115mm
RAINWATER HEAD WIDTH (MIN)	W <sub>rh</sub>	200mm

NOTES:

1. TOP OF RAINWATER HEAD TO BE SET MIN 25mm LOWER THAN INVERT OF BOX GUTTER.

2. RAINWATER HEAD OVERFLOW WEIR TO BE SET 25mm BELOW SOLE OF BOX GUTTER.

3. BOX GUTTER SOLE TO HAVE MINIMUM 1: 200 FALL

4. BOX GUTTER AND RAINHEAD TO BE DESIGNED TO ARCHITECTURAL SPECIFICATION PROVIDED IT COMPLIES WITH THE MINIMUM DIMENSIONS IN TABLE 1.



BOX GUTTER / RAINHEAD

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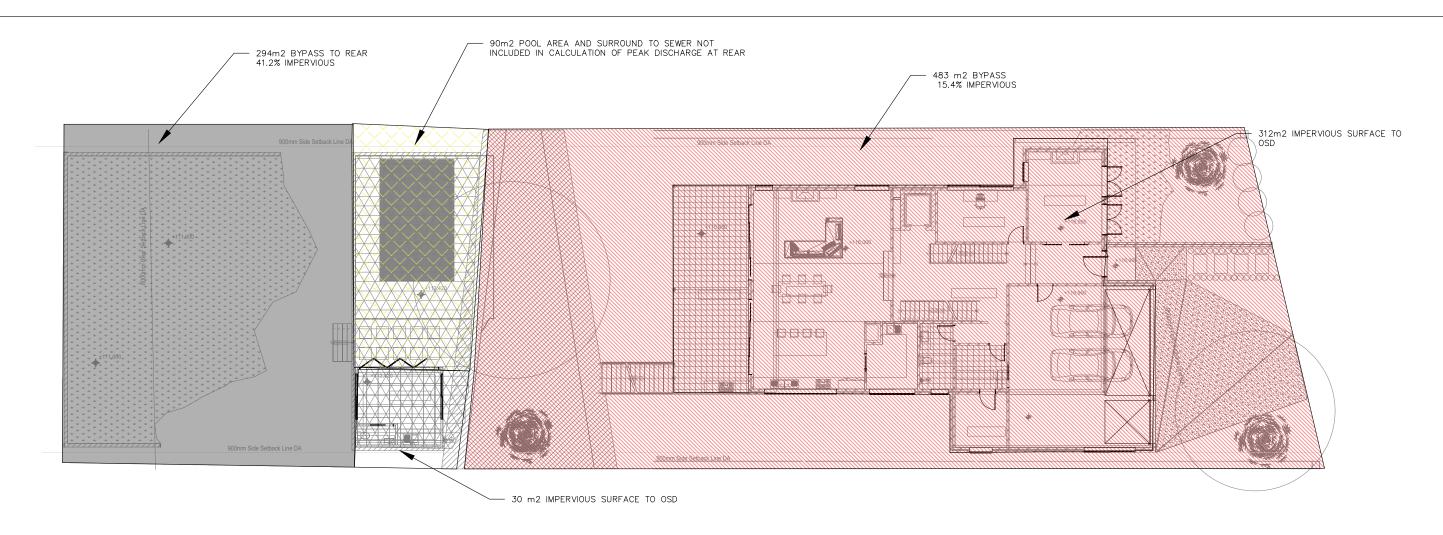
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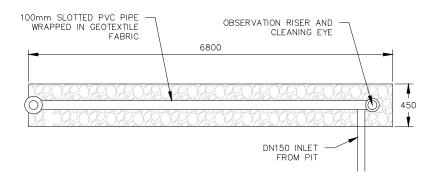
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AS3500.3:2018		ROOF LAYOUT & DI	ETAILS	
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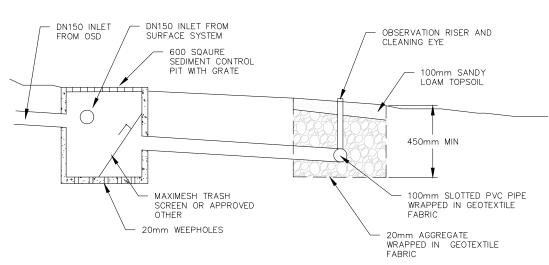
ARFAS - PROPOSED 1:200



- 1. THE BASE OF THE BED MUST BE LEVEL TO ENSURE EVEN DISTRIBUTION OF STORMWATER. IT MUST ALSO BE SCARIFIED TO OVERCOME ANY SMEARING DURING EXCAVATION. BASE LEVELS SHOULD BE CHECKED WITH A DUMPY / LASER LEVEL.
- 2. ABSORPTION/DISPERSION TRENCH TO BE CONSTRUCTED PARALLEL TO THE NATURAL CONTOURS.



LEVEL SPREADER PLAN VIEW NΑ





LEVEL SPREADER CROSS-SECTION

# **EXISTING**

1186.75m<sup>2</sup> SITE AREA: PERVIOUS: 961.90m<sup>2</sup> (81.1%) IMPERVIOUS: 224.85m<sup>2</sup> (18.9%)

	TABLE 2 -	- POST DEVELOPMENT	FLOWS_	
<u>STORM</u>	STATE OF NATURE (1/s)	OSD FLOW TO LEVEL SPREADER (I/s)	BYPASS FLOW (I/s)	TOTAL
EVENT	19.9% IMPERVIOUS 1186 m <sup>2</sup>	100% IMPERVIOUS 342 m <sup>2</sup>	25.16% IMPERVIOUS 777 m <sup>2</sup>	(I/s)
20% AEP	29	7	19	26
5% AEP	49	9	33	42
1% AEP	68	11	45	56

# OSD TECHNICAL REQUIREMENTS FOR FLOWS

- 1. PSD CALCULATED FROM THE "STATE OF NATURE" (19.9% IMPERVIOUS SITE)
- 2. POOL AND SURROUNDING AREA (90m2) IS ASSUMED TO DISCHARGE TO THE SEWER AND IS NOT INCLUDED IN PEAK FLOW CALCULATIONS.
- 2. REFER TO PLAN 3 ON THIS DRAWING FOR CATCHMENT PLAN

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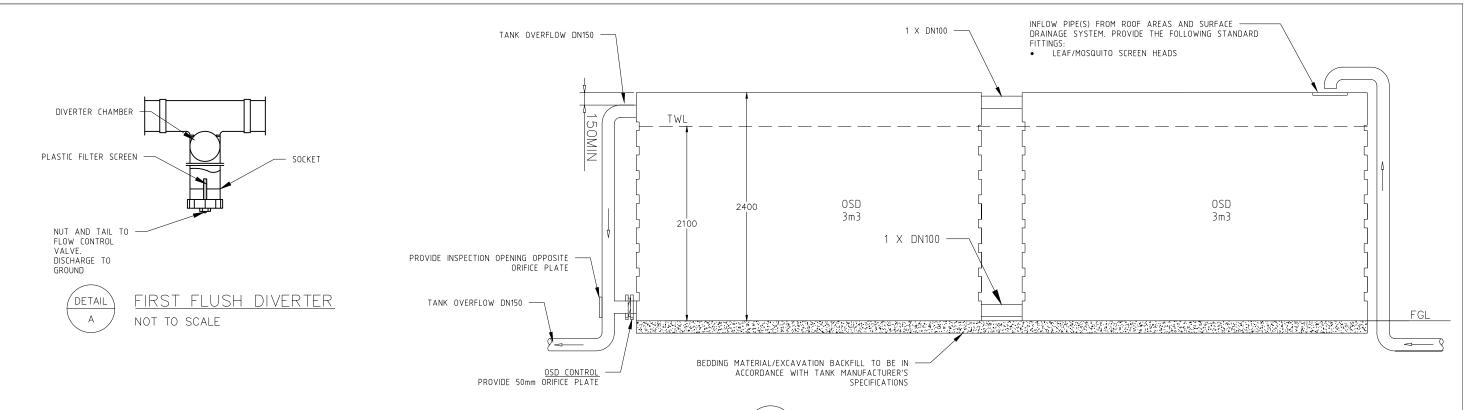
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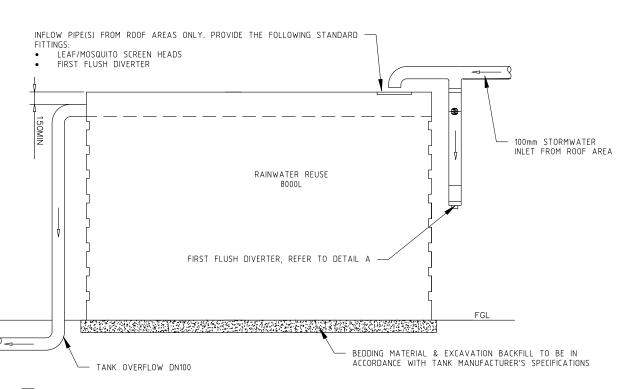
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30 DAVIDSON AVENUE, FORESTVILLE SITE AREAS AND LEVEL SPREADER DETAILS A3 DA SUBMISSION Rev. DR-003





RAINWATER REUSE SYSTEM (8000L) 4 NOT TO SCALE

NOTES:

MINIMUM EFFECTIVE STORAGE REQUIREMENT: 8000 LITRES (CALCULATED USING THE WORKING WATER DEPTH, NOT INLCUDING SLUDGE

- ZONE OR ANY FREEBOARD.

  2. RAINWATER TANK TO BE CONNECTED TO:
  2.1. AT LEAST ONE OUTDOOR TAP

  3. RAINWATER TANKS TO BE PROVIDED WITH:
  3.1. FIRST FLUSH DEVICE
  3.2. MAINS WATER SWITCHING.
  3.3. SUBMEDSILE PLIME OR APPROVED OTH
- 3.3. SUBMERSIBLE PUMP OR APPROVED OTHER.
- 4. RAINWATER TANK TO BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECCOMENDATIONS.

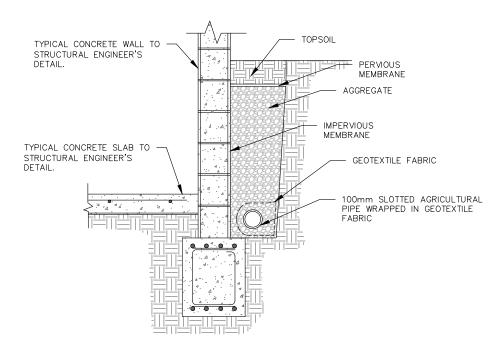


# ON SITE DETENTION ELEVATION (2 x 3m3 TANKS)

NOT TO SCALE

## NOTES:

- 1. REFER TO TABLE 2 ON DWG DR-003 FOR SITE DISCHARGE RATES.
- 2. POST DEVELOPMENT FLOWS EXPERIENCED BY DOWNSTREAM NEIGHBOURS ARE LESS THAN OR EQUAL TO THE STATE OF NATURE CASE FOR ALL STORMS UP TO AND INCLUDING THE 1% AEP EVENT.





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AS3500.3:2018		RWT AND OSD TANKS	DETAILS	
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