



LOT 1  
DP 331137

SP 89265

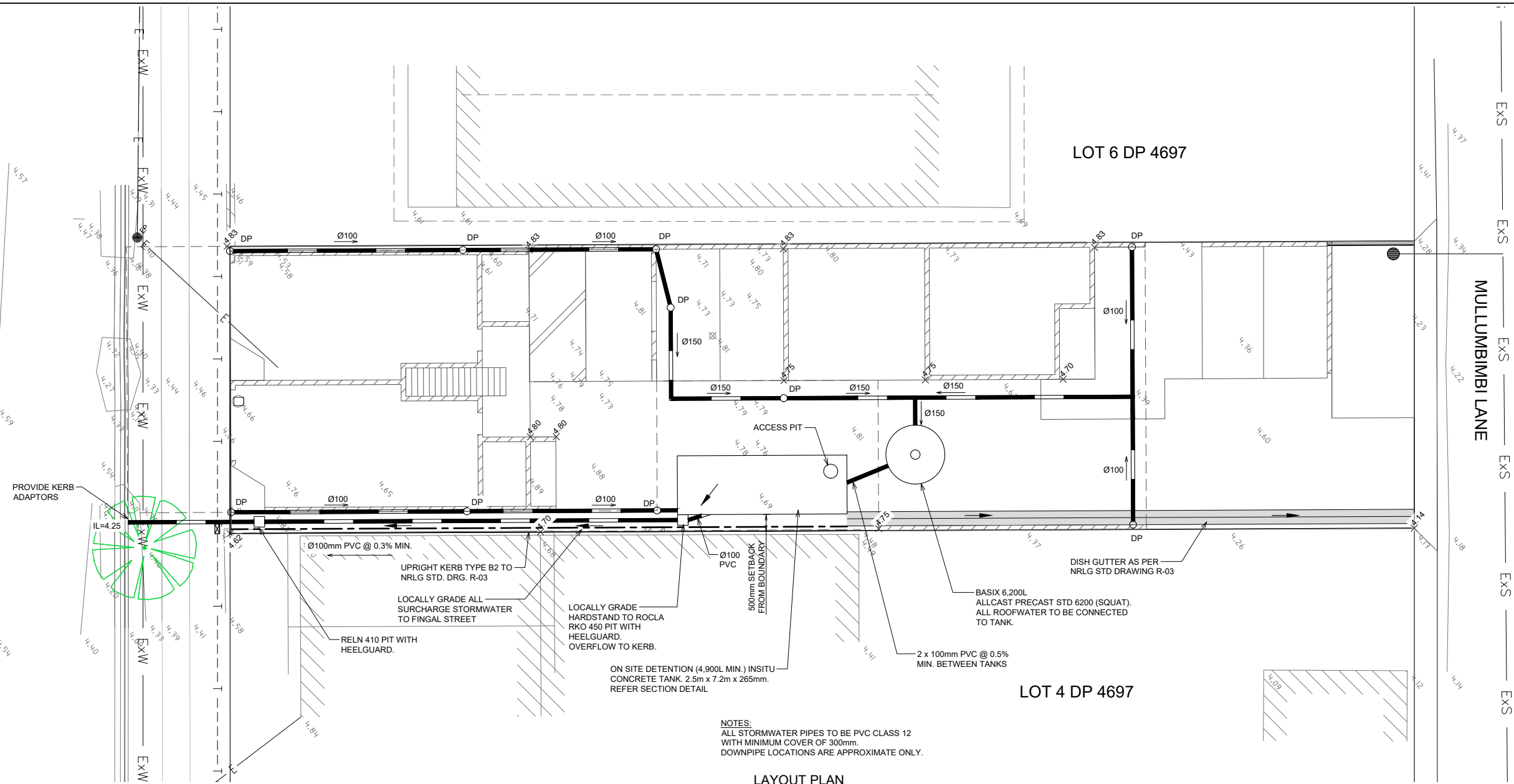
LOT 1  
DP 779838

LOT 6 DP 4697

LOT 4 DP 4697

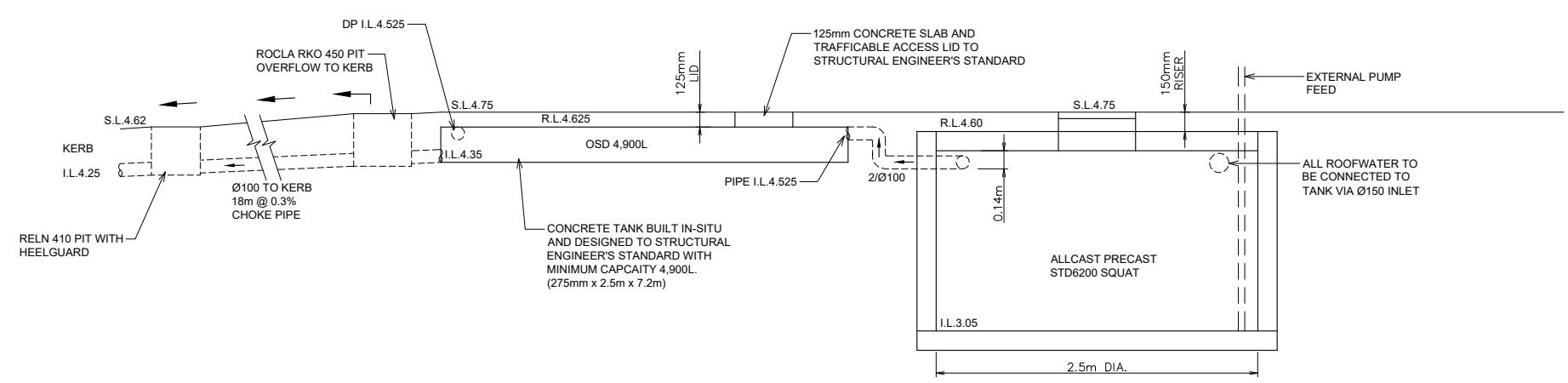
FINGAL STREET

MULLUMBIMBI LANE

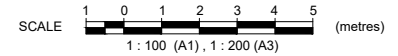


NOTES:  
ALL STORMWATER PIPES TO BE PVC CLASS 12  
WITH MINIMUM COVER OF 300mm.  
DOWNPIPE LOCATIONS ARE APPROXIMATE ONLY.

LAYOUT PLAN  
SCALE 1 : 100 (A1)



TYPICAL SECTION  
NOT TO SCALE



== UPRIGHT KERB  
← OVERLAND FLOW

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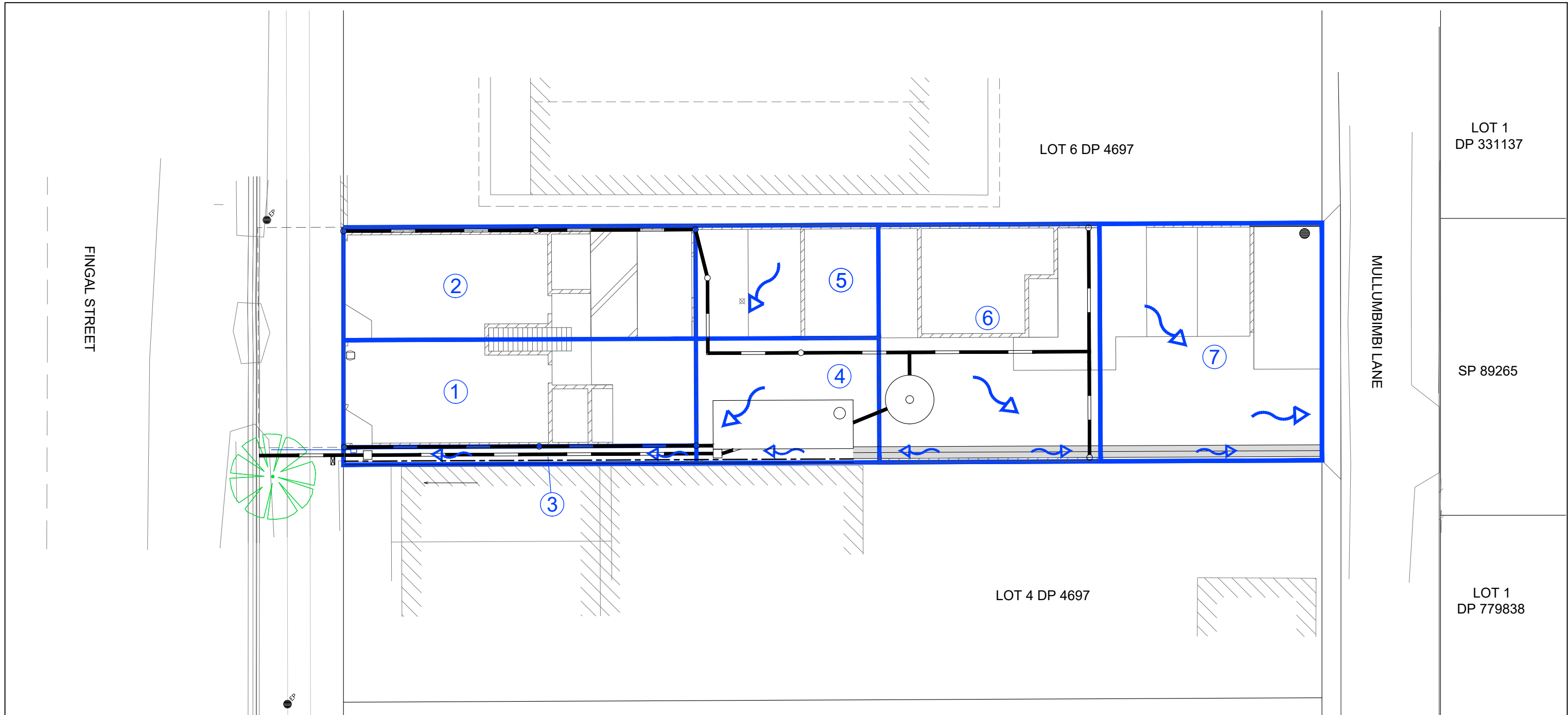
CLIENT:  
**NUVUE GROUP**

PROJECT:  
**LOT 5 DP 4694  
No. 25 FINGAL STREET,  
BRUNSWICK HEADS  
NSW 2483**

DRAWING TITLE:  
**STORMWATER DRAINAGE  
LAYOUT PLAN**

DEVEL APPLIC. No.:	DATE: 01/03/17	
PROJECT LEADER: DMcK	DESIGNER: DMcK	
DRAFTSPERSON: SBY	CHECKED: DMcK	
APPROVED FOR AND ON BEHALF OF ENGINEERING & ENVIRONMENTAL SERVICES.		
SCALE: AS SHOWN	DATUM: AHD	FULL SIZE: A1
PROJECT No.: 170127	DRAWING No.: SW1	VERSION: C

VER.	DESCRIPTION	APPR.	DATE
C	GENERAL AMENDMENTS BY COUNCIL	DMcK	23/03/17
B	ISSUE FOR APPROVAL	DMcK	01/03/17
A	PRELIMINARY ISSUE FOR REVIEW	DMcK	01/02/17



CATCHMENT	AREA (m <sup>2</sup> )
1	104
2	105
3	12
4	61
5	53
6	137
7	138
	610

= OVERLAND FLOW

SCALE (metres)  
1 : 100 (A1) , 1 : 200 (A3)

VER.	DESCRIPTION	APPR.	DATE
C	GENERAL AMENDMENTS BY COUNCIL	DMcK	23/03/17
B	ISSUE FOR APPROVAL	DMcK	01/03/17
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PROJECT:  
**LOT 5 DP 4694  
No. 25 FINGAL STREET,  
BRUNSWICK HEADS  
NSW 2483**

DRAWING TITLE:  
**STORMWATER DRAINAGE  
CATCHMENT PLAN**

DEVEL. APPLIC. No. :	DATE : 01/03/17
PROJECT LEADER : DMcK	DESIGNER : DMcK
DRAFTSPERSON : SBY	CHECKED : DMcK
APPROVED FOR AND ON BEHALF OF ENGINEERING & ENVIRONMENTAL SERVICES.	
SCALE : AS SHOWN	DATUM : AHD
PROJECT No. : 170127	FULL SIZE : A1
DRAWING No. : SW2	VERSION : C

20 BYRON SHIRE COUNCIL COMPREHENSIVE GUIDELINES FOR STORMWATER MANAGEMENT CLAUSE 6.3.5:

"FOR BUILDING WORKS WITH CATCHMENT AREAS LESS THAN 2,500m<sup>2</sup>, COUNCIL MAY ACCEPT ON SITE STORMWATER DETENTION TO PROVIDE FOR THE TOTAL DEVELOPED 20 YEAR ARI FLOW FROM THE SITE TO BE CONTROLLED TO BE NO GREATER THAN THE UNDEVELOPED 5 YEAR ARI FLOW FROM THE SITE. THE 1 IN 100 YEAR ARI DEVELOPED FLOW FROM THE SITE SHALL BE CHECKED TO ENSURE IT DOES NOT EXCEED THE 1 IN 100 YEAR UNDEVELOPED FLOW FROM THE SITE. OSD CALCULATIONS ARE TO BE SUBMITTED IN ACCORDANCE WITH THE ON-SITE DETENTION DESIGN SUMMARY SHEET."

**ON SITE DETENTION SIZING TO QUDM 6.06.1**

Basha Method (1994)  $V_s/V_i = r(2+r)/3$   $r = (Q_i - Q_o)/Q_i$   
 $V_s = \text{storage (cub.m)}$   $V_i = 4tcQ_i/3$

Catch.t	Pre	Post	tc	Q <sub>20</sub> (l/s)	Q <sub>i</sub> -Q <sub>o</sub>	r	V <sub>s</sub> /V <sub>i</sub>	V <sub>i</sub> (l)	V <sub>s</sub> (l)
OSD	23.82	5	38.78	14.95	0.39	0.31	15511	4808	

Predeveloped Catchment ID (m2)	% Imp	tc (min)	I100 (mm/hr)	C	Q100 (L/s)	I50 (mm/hr)	C	Q50 (L/s)	I20 (mm/hr)	C	Q20 (L/s)	I10 (mm/hr)	C	Q10 (L/s)	I5 (mm/hr)	C	Q5 (L/s)	
Pre Dev Tr	610	0.2	5	305	0.89	2.63	285	0.85	41.10	245	0.78	32.26	220	0.74	27.59	200	0.70	23.82
<b>TOTAL</b>						2.63						32.26						23.82

Postdeveloped Catchment ID (m2)	% Imp	tc (min)	I100 (mm/hr)	C	Q100 (L/s)	I50 (mm/hr)	C	Q50 (L/s)	I20 (mm/hr)	C	Q20 (L/s)	I10 (mm/hr)	C	Q10 (L/s)	I5 (mm/hr)	C	Q5 (L/s)	
1	104	1	5	305	1.00	8.81	285	1.00	8.23	245	0.95	6.69	220	0.90	5.7	200	0.86	4.94
2	105	1	5	305	1.00	8.90	285	1.00	8.31	245	0.95	6.75	220	0.90	5.8	200	0.86	4.99
3	12	0	5	305	0.84	0.85	285	0.81	0.76	246	0.74	0.60	220	0.70	0.5	201	0.67	0.45
4	61	0.9	5	305	1.00	5.17	285	1.00	4.83	245	0.92	3.84	220	0.88	3.3	200	0.84	2.83
5	53	1	5	305	1.00	4.49	285	1.00	4.20	245	0.95	3.41	220	0.90	2.9	200	0.86	2.52
6	137	1	5	305	1.00	11.61	285	1.00	10.85	245	0.95	8.81	220	0.90	7.5	200	0.86	6.51
7	138	0.9	5	305	1.00	11.69	285	1.00	10.93	245	0.92	8.68	220	0.88	7.4	200	0.84	6.41
<b>TOTAL</b>	610					51.52						38.78						28.64

ON SITE STORAGE	
PSD = Q5 (l/s) - bypassed l/s	17 l/s
	23.8 (Q5Pre) - 0.4 (C3 post) - 6.4 (C7 post) = 17 l/s
HEAD (m)	0.275
ORIFICE DIAMETER (mm) =	1000 x sqrt[(0.464 x Q5 / 1000) / sqrt H]
=	100mm

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DRAWING TITLE:  
**STORMWATER DRAINAGE  
 CALCULATIONS**

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SCALE: AS SHOWN	DATUM: AHD
PROJECT No.: 170127	FULL SIZE: A1
DRAWING No.: SW3	VERSION: C