



NOTES

1. REFER TO DESIGN CALCULATIONS ON DRAWING OSD3 FOR CHOKE PIPE DETAILS.
2. PARAMETERS ARE INDICATIVE ONLY BASED ON ASSUMED CHOKE HEAD TO CHOKE PIPE. CHOKE PIPE SIZE AND LOCATION MAY NEED TO BE RECALCULATED DEPENDING ON CHOSEN TANK SIZE, CONTACT ENGINEER IF REQUIRED.

TYPICAL ABOVE GROUND RAINWATER DETENTION TANK "RDT" DETAIL

REVISIONS				© COPYRIGHT - LUCENA ENGINEERS PTY. LTD. AS DATE OF ISSUE	 <p>t 02 6687 8182 www.lucena.com.au office@lucena.com.au</p>	PROJECT PROPOSED ONSITE STORMWATER DETENTION SYSTEM AT 11 ARGYLE STREET, MULLUMBIMBY NSW 2482 FOR J. LAWLISS AND L. JEFFERY	DRAWING TITLE DETAILS AND SECTIONS			
				THIS DRAWING IS THE PROPERTY OF LUCENA ENGINEERS PTY. LTD. AND MUST NOT BE RETAINED, COPIED OR USED WITHOUT THE CONSENT OF THE COMPANY.			DESIGN EC	DRAWN EC	DRAWING SCALE NOT TO SCALE	SHEET SIZE A3
	A	FOR CONSTRUCTION	19.04.24	PRINCIPAL ENGINEERS SIGNATURE 			PROJECT REF No 240302.1	DRAWING No OSD2	REVISION A	
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**ON-SITE STORMWATER DETENTION (OSD)
DESIGN SUMMARY SHEET FOR SITES UNDER 2,500m²
LOCATED WITHIN THE BYRON SHIRE**

PRE DEVELOPMENT

ROOFED AREA (A _r)	0.0 m ²	1.00	COEFFICIENT OF RUN OFF (C _r)
PAVED/IMPERVIOUS AREA (A _p)	0.0 m ²	0.90	COEFFICIENT OF RUN OFF (C _p)
VEGETATED/PERVIOUS AREA (A _v)	328.4 m ²	0.66	COEFFICIENT OF RUN OFF (C _v)
TOTAL AREA	328.4 m²		
STORMWATER FLOWS (5 YEAR STORM EVENT):			
DURATION	5 min		
RAINFALL INTENSITY (5i ₅)	190 mm/hr	AS PER SECTION 6.3 - BYRON SHIRE COUNCILS "COMPREHENSIVE GUIDELINES FOR STORMWATER MANAGEMENT"	
STORMWATER FLOW (Q ₅)	11.44 L/s	Q ₅ = PERMISSIBLE SITE DISCHARGE ('PSD')	

POST DEVELOPMENT

ROOFED AREA (A _r)	167.5 m ²	1.00	COEFFICIENT OF RUN OFF (C _r)
PAVED/IMPERVIOUS AREA (A _p)	14.5 m ²	0.90	COEFFICIENT OF RUN OFF (C _p)
VEGETATED/PERVIOUS AREA (A _v)	146.4 m ²	0.73	COEFFICIENT OF RUN OFF (C _v)
TOTAL AREA	328.4 m²		
STORMWATER FLOWS (20 YEAR STORM EVENT):			
DURATION	5 min		
RAINFALL INTENSITY (20i ₅)	240 mm/hr	AS PER SECTION 6.3 - BYRON SHIRE COUNCILS "COMPREHENSIVE GUIDELINES FOR STORMWATER MANAGEMENT"	
ROOF FLOW	11.17 L/s	CONTROLLED	
PAVED FLOW	0.87 L/s	UNCONTROLLED	
VEGETATED FLOW	7.12 L/s	UNCONTROLLED	
STORMWATER FLOW (Q ₂₀)	19.16 L/s		

CHOKE PIPE CALCULATIONS

HEAD (H)	0.80 m	MAX. WATER LEVEL TO TAILWATER LEVEL
LENGTH (L)	0.50 m	
INTERNAL DIAMETER (D)	0.065 m	
FRICTION LOSSES (Kf)	0.15 mm	
COMPONENT HEAD LOSSES (Kp)	1.50 mm	PIPE ENTRY: 0.5mm + PIPE EXIT: 1.0mm
TOTAL PIPE LOSSES (Kt)	1.65 mm	COLEBROOK-WHITE ROUGHNESS COEFFICIENT
MAX. FLOW RATE (Q _d)	10.22 L/s	MUST BE LESS THAN PSD
TANK INLET FLOW	8.94 L/s	Q ₂₀ TOTAL FLOW - Q _d MAX. FLOW RATE
DETENTION VOLUME REQUIRED	2.32 m ³	(Q ₂₀ -Q ₅)x5x60/1000

USE 65φ I.D. CHOKE PIPE / 0.50m L DETENTION TANK

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PROJECT
PROPOSED ONSITE STORMWATER DETENTION SYSTEM
AT
11 ARGYLE STREET, MULLUMBIMBY NSW 2482
FOR
J. LAWLISS AND L. JEFFERY

DRAWING TITLE DESIGN CALCULATIONS			
DESIGN EC	DRAWN EC	DRAWING SCALE NOT TO SCALE	SHEET SIZE A3
PROJECT REF No 240302.1		DRAWING No OSD3	REVISION A