

KEVIN BURROWS ENGINEERS

P.O.BOX 97 550 S.A.M.C.

PH 262 4513 FX 262 4465

Description:	Stormwater Detention Tank Design	PAGE No	T
For:	S & K Fullan	JOB No	22-447
Address:	Lot 8, Longview Street, Mangawhai	DATE	4/05/2022
		DESIGN BY	aa

DATA

TIME OF CONCENTRATION

10 MIN

TOTAL SITE AREA

660 sqm

EXISTING SITE COVERAGE

Remainder garden etc

Total

CA max

TOTAL

Allow C max

PROPOSED RUNOFF AREA

Total new roof

Total new paved

Total reduced remainder garden etc

Total

REMAINING UNDRAINED AREA

Total remainder garden etc

Total not drained

AREA	COVERAGE	NETT
A	C	CA
660.0	0.35	231.00
660.0	0.35	231.00
0.35		

0.35

221.76	0.90	199.6
56.2	0.85	47.8
-277.96	0.35	-97.3
0		150.1

382.04	0.35	133.71
382.04	0.35	133.71

CONTROL DATA

Q = CIA.

Existing C

Developed CA

Additional areas

Inflow

Outflow

0.35 CA Extg/Site Area

247.4 CA Extg+CA Adds-CA Undrained

0 A Additional

CA Dev*depth

Qav*time

RUNOFF DATA

USE TABLE Longview St, Mangawhai. NIWA HIRS V3 data

Intensity

110.40 mm/hr

Allowable Qmax all

7.08 litres/sec

Reduced runoff volumes

4.10 litres/sec

Allowable Qmax From existing runoff

2.98

Allowable Qav From existing runoff

1.94

REQ'D STORAGE

All Storms

TIME	DEPTH	INFLOW	OUTFLOW	STORAGE
mins	mm	litres	litres	litres
10	18.4	4551.3136	1164	3388
20	26.6	6579.6164	2327	4253
30	32.7	8088.4758	3491	4598
60	45.5	11254.607	6981	4273
120	61.3	15162.8	13962	1200

Tank Size

AVAILABLE HEAD

0.26 metres

FLOW VELOCITY

2.24 m/sec

GROSS ORIFICE AREA

1445.7 sqmm

DIAMETER

43 mm

Available TANK SIZE

22.50 c.m

MAXIMUM DISCHARGE

2.98 l/sec

ORIFICE DIAMETER

41 mm

Use part of 22500 Litre Absolute Concrete water tank for detention with 41mm Dia orifice.

REFER SITE DETAILS

SQRT(2GH)

(VOL)/(VEL)

CALC