

RAINWATER SOAKAWAY

PERCOLATION TEST (AVERAGE)

$$\frac{\text{TIME TAKEN TO SOAKAWAY (SEC)}}{\text{DEPTH OF WATER (mm)}} [V_p], \therefore \frac{(27 \text{ mins})}{245} = V_p \frac{1620}{6.6122 \text{ SEC}}$$

$$\text{SOIL FILTRATION RATE (f)} = \frac{10^{-3}}{2 V_p} = \frac{0.01}{2 \times V_p} = \frac{0.01}{13.2244} = f = 0.000756177$$

ASSUME BASIC SOAKAWAY OF 1 m^3 CUBE BELOW INLET PIPE.

\therefore 50% EFFECTIVE DEPTH WALL AREA = 2 m^2 (a.s.s.o)

STORM DURATION = 5 mins (D)

$$\text{OUTFLOW VOLUME (O)} = a.s.s.o \times f \times D$$

$$\therefore 2.0 \times 0.000756177 \times 5 = (O) 0.00756177$$

LARGEST DRAINED (ROOF) AREA $37.24 \text{ m}^2 \times \text{Rainfall } 10 \text{ mm (0.01m)}$

$$\therefore 37.24 \text{ m}^2 \times 0.01$$

$$\text{INCOMING WATER VOLUME} = 0.3724 (X)$$

STANDARD RUBBLE FILLED SOAKAWAY HAS 20% VOIDS.

SO FOR 1 m^3 CUBE, AT 20% STORAGE CAPACITY, = 0.2 m^3

$$\text{CAPACITY REQ'D} = (X) 0.3724 - (O) 0.00756177 = 0.3648383 \text{ m}^3$$

ALTERNATIVE	0.6 cum AQUAVOID CRATE, MIN 5.0 FROM BUILDING, 4 PLACES - 1 FOR EACH ROOF SLOPE
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IF OVER 0.2 m^3 ,

$$\text{DIFFERENCE, } 0.1648383 \times 5 = 0.8241915 \text{ m}^3$$

ADD TO ORIGINAL 1.0 m^3 , = 1.8241915 m^3 (VOLUME OF SOAKAWAY HOLE REQ'D)

4 OFF, 1 FOR EACH ROOF SLOPE

GRANNY FLAT ANNEX / GARAGE EXT^N, HERONS REACH, THE GREEN LAIS SJH FOR MR PARK