

Project WAYSIDE HAYWARDS HEATH ROAD BALCOMBE

Project No.

Subject STORM DRAINAGE

By N.K.R

Checked

Date 10-09-2025

Sheet No. 1

DATA

Area each house = 122 m^2

Soils: Cornistead Clay low permeability.

Stream/spring to south west of site, discharge storm run-off to stream via an attenuation tank. Limit peak discharge to 1 l/s.

100% Storm + 45% CC

Duration (h)	100% Rainfall (mm/h)	Enhanced rainfall (mm/h)	Q_{in} (m^3)	Q_{out} (m^3)	Q_s (m^3)	Provide
$\frac{1}{4}$	90	130	4.00	0.9	3.10	3.5 m^3 of
$\frac{1}{2}$	60	87	5.31	1.8	3.51	storage
1	39	56	6.83	3.6	3.23	
2	24	35	8.54	7.2	1.34	

ATTENUATION TANK

1 No 3.5 m^3 tanks for each house with flow restricted by a 21.5 mm dia orifice

For 1m head

$$Q = A C_d \sqrt{2gh} \quad \text{discharge from orifice}$$

$$\therefore \frac{1}{1000} = A \times 0.62 \sqrt{2 \times 9.81 \times 1}$$

$$\therefore D = 21.5 \text{ mm}$$

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Sheet No. 2

PERMEABLE DRIVE

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$$h_{max} = \frac{D}{n} (R_i - q) \quad \text{for drive } R = 1$$

Infiltration rate assume 1×10^{-7} m/s ie clay.

Allow for greenfield run-off of 10 l/s/ha or 4mm/h

100y Storm + 45% CC

Duration (h)	100y Rainfall (mm/h)	Enhanced Rainfall (mm/h)	h_{max} (m)
1	39	53	0.132
2	24		
6	12.9	14.7	0.215
12	7.8	7.3	0.205
24	4.1	1.85	0.09

$n = 0.40$ for single size stone.

Provide 0.25m thick sub-base of single size stone.

Drive Construction

