



Project.

RMA Sandhurst - Football pitch

By.

MOH

Checked.

ND

Revision.

A - 16.04.2024

Consider Area to be drained = 8127 m<sup>2</sup>

Discharge through entire pitch sub-base

30 year + 35% climate change

**Flow**

Time (min)	M5-D 20mm x Z1	Z2 factor	M100-D (mm)	Inflow M <sup>3</sup>	Outflow M <sup>3</sup>	Storage M <sup>3</sup>
5	7.6	1.465	11.1	122.1	3.9	118.27
10	10.8	1.497	16.2	177.4	7.7	169.70
15	12.6	1.512	19.1	209.0	11.6	197.44
30	16.0	1.530	24.5	268.6	23.2	245.43
60	20.0	1.543	30.9	338.7	46.3	292.34
120	24.0	1.535	36.8	404.3	92.6	311.66
240	29.2	1.517	44.3	486.1	185.2	300.86
360	32.0	1.504	48.1	528.0	277.9	250.17
600	36.6	1.481	54.2	594.6	463.1	131.47
1440	45.6	1.439	65.6	719.8	1111.4	0

Ratio  $r = 0.4$  (For locality)

Climate change allowance = 35%

**Outflow** Infiltration through pitch sub-base

Infiltration rate: 0.0001206 m/min

Soakaway details: 64 m wide 100 m length 0.38 m deep  
Assume void ratio 0.4 ∴ 972.80 m<sup>3</sup>

Available storage under pitch (based on 1:200 fall): 802.00 m<sup>3</sup>

Available storage within drainage system: 70.00 m<sup>3</sup>

Available storage area = 872.00 m<sup>3</sup>

Surface area: 6400 m<sup>2</sup>

Eff volume: 872.00 m<sup>3</sup> > 311.66 m<sup>3</sup> OK

Additional storage volume required: -560.34 m<sup>3</sup>

Half drain down time 24226.9 secs 6.7297 hours  
(soakaway only):

Total Storage required = approx. 312m<sup>3</sup>. Storage currently provided = 512m<sup>3</sup>. No additional storage required.

This volume will accommodate flows from all modelled 1 in 30 year + 35% climate change events.

In order to meet building regulation standards, a half drain-down time of 24 hours should be achieved. This requirement is met at the site.