

**The Old Piggery
Shepton Old Road**

Dinder

Wells

BA5 3FQ

Infiltration Surface Drainage Design

22nd February 2024

This report has been produced to enable the discharge of condition 10 for planning application 2022/2092/FUL

Site Description

The site is situated at Shepton Old Road, Dinder, BA5 3FQ. National Grid Reference ST 57731 44311



Location of Test hole and installation of proposed storm water drainage system



The tests were carried out following the guidelines of BRE Digest 365 Design of Soakaways.

Length of pit	2m
Depth of pit	1.5m
Width of pit	0.65m
Stone filled	No

TEST 1		TEST 2		TEST 3	
TIME (mins)	DEPTH (MM)	TIME (mins)	DEPTH (MM)	TIME (mins)	DEPTH (MM)
0	1500	0	1500	0	1500
60	1350	60	1350	60	1350
120	1200	120	1200	120	1200
180	1060	180	1060	180	1060
240	920	240	920	240	920
300	780	300	800	300	800
360	640	360	680	360	680
420	500	420	560	420	580
480	360	480	440	480	470
540	220	540	320	540	360
600	100	600	200	600	250
660	0	660	100	660	150
		720	0	720	50
				750	0

TEST 1	TEST 2	TEST 3
$V_{p75-25} = 0.975m^3$ $A_{p50} = 5.275m^2$ 75% Depth = 0.375m 25% Depth = 1.125m $T_{p75-25} = 330$ minutes $f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$ $f = \frac{0.975}{5.275 \times 330}$ Infiltration rate (f) = 0.0336 m/hr	$V_{p75-25} = 0.975m^3$ $A_{p50} = 5.275m^2$ 75% Depth = 0.375m 25% Depth = 1.125m $T_{p75-25} = 360$ minutes $f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$ $f = \frac{0.975}{5.275 \times 360}$ Infiltration rate (f) = 0.0308 m/hr	$V_{p75-25} = 0.975m^3$ $A_{p50} = 5.275m^2$ 75% Depth = 0.375m 25% Depth = 1.125m $T_{p75-25} = 375$ minutes $f = \frac{V_{p75-25}}{a_{p50} \times t_{p75-25}}$ $f = \frac{0.975}{5.275 \times 375}$ Infiltration rate (f) = 0.0296 m/hr

The test hole was filled before calculations/measurements were completed.

Photos showing dimensions







Soakaway Design - Wavin

Proposed soakaways consist of 30 AquaCell Eco (1m length x 500mm width x 400mm deep) crates installed to manufacturer recommendations, overall soakaway size to be 5m x 3m, covered with topsoil or gravel, plastic sheet over, top soil finish, all to WAVIN design & details. Soakaways are to be a minimum of 5m from the building.

See additional attachments

- WAVIN Stormwater Management Appendix A
- AquaCell PIM (WM424) Jan 2020 Appendix B