

Title	Borde Hill Estate, Haywards Heath	Job No:	E9459
Description :	Surface Water Storage Calculations	By:	JWM
Rev: A		Date:	Mar-23
		Sheet No:	1

Design Data

M5-60(mm) = 20.000

Ratio R = 0.329

CV Value 1.0

Design Criteria

Design Storm = 100Yr + 45% Climate Change

Point of Discharge - Running Stream to West of development Site

Discharge Rate = Restricted to 0.8l/s Qbar equivalent for contributing areas (for all storms up to and including the 1:100yr event = 45% climate change allowance) using an orifice flow restriction device

Total Contributing Area = 1,290m² or 0.129Ha

Results

Provide attenuation basin.

Total basin depth 1.00m including 347mm freeboard.

Maximum water depth 653mm

Side slope graded at 1:3

Surface area at base of 120m²

Surface area at max' water level 221.00m²

Design storage volume 111.35m³

Freeboard volume 87.3m³

Please refer to attached sheets

Calculated by:	James Maddin
Site name:	Borde Hill
Site location:	Borde Hill Lane

This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance "Rainfall runoff management for developments", SC030219 (2013) , the SuDS Manual C753 (Ciria, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Site Details

Latitude:	51.02801° N
Longitude:	0.12974° W
Reference:	1156839717
Date:	Dec 09 2024 11:45

Runoff estimation approach

IH124

Site characteristics

Total site area (ha):	.129
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Methodology

Q_{BAR} estimation method:	Calculate from SPR and SAAR
SPR estimation method:	Calculate from SOIL type

Notes

(1) Is $Q_{BAR} < 2.0$ l/s/ha?

When Q_{BAR} is < 2.0 l/s/ha then limiting discharge rates are set at 2.0 l/s/ha.

Soil characteristics

	Default	Edited
SOIL type:	4	4
HOST class:	N/A	N/A
SPR/SPRHOST:	0.47	0.47

(2) Are flow rates < 5.0 l/s?

Where flow rates are less than 5.0 l/s consent for discharge is usually set at 5.0 l/s if blockage from vegetation and other materials is possible.

Hydrological characteristics

Default	Edited
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SAAR (mm):	840	840
Hydrological region:	7	7
Growth curve factor 1 year:	0.85	0.85
Growth curve factor 30 years:	2.3	2.3
Growth curve factor 100 years:	3.19	3.19
Growth curve factor 200 years:	3.74	3.74

Lower consent flow rates may be set where the blockage risk is addressed by using appropriate drainage elements.

(3) Is $SPR/SPRHOST \leq 0.3$?

Where groundwater levels are low enough the use of soakaways to avoid discharge offsite would normally be preferred for disposal of surface water runoff.

Greenfield runoff rates

	Default	Edited
Q_{BAR} (l/s):	0.77	0.77
1 in 1 year (l/s):	0.66	0.66
1 in 30 years (l/s):	1.77	1.77
1 in 100 year (l/s):	2.46	2.46
1 in 200 years (l/s):	2.88	2.88

This report was produced using the greenfield runoff tool developed by HR Wallingford and available at www.uksuds.com. The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at www.uksuds.com/terms-and-conditions.htm. The outputs from this tool are estimates of greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, CEH, Hydrosolutions or any other organisation for the use of this data in the design or operational characteristics of any drainage scheme.

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99 South Street Eastbourne BN20 4LU		E9459 Borde Hill, Haywards Heath 1:100yr +45% Climate Change				
Date 04/03/2025 14:32 File E9459 Basin Volume Calc...		Designed by SWP Ltd Checked by SWP Ltd				
Micro Drainage		Source Control 2020.1.3				
Summary of Results for 100 year Return Period (+45%)						
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status	
15 min Summer	49.307	0.307	0.5	42.7	O K	
30 min Summer	49.399	0.399	0.6	57.7	O K	
60 min Summer	49.491	0.491	0.7	74.1	O K	
120 min Summer	49.579	0.579	0.7	90.9	O K	
180 min Summer	49.626	0.626	0.8	100.2	O K	
240 min Summer	49.655	0.655	0.8	106.2	O K	
360 min Summer	49.695	0.695	0.8	114.7	O K	
480 min Summer	49.719	0.719	0.8	120.0	Flood Risk	
600 min Summer	49.735	0.735	0.8	123.5	Flood Risk	
720 min Summer	49.746	0.746	0.8	125.8	Flood Risk	
960 min Summer	49.756	0.756	0.8	128.0	Flood Risk	
1440 min Summer	49.759	0.759	0.8	128.7	Flood Risk	
2160 min Summer	49.754	0.754	0.8	127.6	Flood Risk	
2880 min Summer	49.743	0.743	0.8	125.2	Flood Risk	
4320 min Summer	49.712	0.712	0.8	118.5	Flood Risk	
5760 min Summer	49.680	0.680	0.8	111.5	O K	
7200 min Summer	49.648	0.648	0.8	104.8	O K	
8640 min Summer	49.618	0.618	0.8	98.6	O K	
10080 min Summer	49.589	0.589	0.7	92.9	O K	
15 min Winter	49.307	0.307	0.5	42.7	O K	
30 min Winter	49.399	0.399	0.6	57.7	O K	
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)		
15 min Summer	133.635	0.0	33.9	23		
30 min Summer	90.718	0.0	41.3	38		
60 min Summer	58.739	0.0	72.5	68		
120 min Summer	36.620	0.0	86.3	126		
180 min Summer	27.295	0.0	93.4	186		
240 min Summer	22.033	0.0	97.9	246		
360 min Summer	16.301	0.0	104.0	364		
480 min Summer	13.139	0.0	107.8	484		
600 min Summer	11.105	0.0	110.2	602		
720 min Summer	9.673	0.0	111.9	722		
960 min Summer	7.772	0.0	113.5	960		
1440 min Summer	5.697	0.0	113.0	1216		
2160 min Summer	4.166	0.0	188.1	1584		
2880 min Summer	3.331	0.0	193.8	1992		
4320 min Summer	2.426	0.0	191.4	2812		
5760 min Summer	1.938	0.0	239.7	3632		
7200 min Summer	1.629	0.0	251.8	4464		
8640 min Summer	1.414	0.0	262.0	5272		
10080 min Summer	1.254	0.0	270.4	6048		
15 min Winter	133.635	0.0	33.9	23		
30 min Winter	90.718	0.0	41.3	37		
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Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status	
60 min Winter	49.491	0.491	0.7	74.1	O K	
120 min Winter	49.580	0.580	0.7	91.0	O K	
180 min Winter	49.626	0.626	0.8	100.3	O K	
240 min Winter	49.656	0.656	0.8	106.4	O K	
360 min Winter	49.696	0.696	0.8	114.9	O K	
480 min Winter	49.721	0.721	0.8	120.3	Flood Risk	
600 min Winter	49.737	0.737	0.8	123.9	Flood Risk	
720 min Winter	49.748	0.748	0.8	126.3	Flood Risk	
960 min Winter	49.760	0.760	0.8	128.9	Flood Risk	
1440 min Winter	49.761	0.761	0.8	129.2	Flood Risk	
2160 min Winter	49.751	0.751	0.8	127.0	Flood Risk	
2880 min Winter	49.734	0.734	0.8	123.3	Flood Risk	
4320 min Winter	49.690	0.690	0.8	113.6	O K	
5760 min Winter	49.643	0.643	0.8	103.8	O K	
7200 min Winter	49.598	0.598	0.7	94.7	O K	
8640 min Winter	49.556	0.556	0.7	86.4	O K	
10080 min Winter	49.518	0.518	0.7	79.1	O K	
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)		
60 min Winter	58.739	0.0	72.5	66		
120 min Winter	36.620	0.0	86.3	124		
180 min Winter	27.295	0.0	93.4	182		
240 min Winter	22.033	0.0	97.9	242		
360 min Winter	16.301	0.0	104.0	358		
480 min Winter	13.139	0.0	107.8	474		
600 min Winter	11.105	0.0	110.3	588		
720 min Winter	9.673	0.0	111.9	702		
960 min Winter	7.772	0.0	113.6	924		
1440 min Winter	5.697	0.0	113.1	1338		
2160 min Winter	4.166	0.0	188.1	1664		
2880 min Winter	3.331	0.0	193.9	2132		
4320 min Winter	2.426	0.0	191.8	3028		
5760 min Winter	1.938	0.0	239.7	3872		
7200 min Winter	1.629	0.0	251.8	4752		
8640 min Winter	1.414	0.0	262.0	5536		
10080 min Winter	1.254	0.0	270.5	6352		
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Micro Drainage		Source Control 2020.1.3

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	1.000
Region	England and Wales	Cv (Winter)	1.000
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.329	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+45

Time Area Diagram

Total Area (ha) 0.129

Time (mins)	Area	Time (mins)	Area
From: To:	(ha)	From: To:	(ha)
0 4	0.065	4 8	0.064

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Micro Drainage Source Control 2020.1.3		

Model Details

Storage is Online Cover Level (m) 50.000

Tank or Pond Structure

Invert Level (m) 49.000

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	120.0	0.700	215.4	1.400	0.0	2.100	0.0
0.100	131.9	0.800	231.3	1.500	0.0	2.200	0.0
0.200	144.4	0.900	247.8	1.600	0.0	2.300	0.0
0.300	157.5	1.000	264.8	1.700	0.0	2.400	0.0
0.400	171.1	1.001	0.0	1.800	0.0	2.500	0.0
0.500	185.3	1.200	0.0	1.900	0.0		
0.600	200.1	1.300	0.0	2.000	0.0		

Orifice Outflow Control

Diameter (m) 0.020 Discharge Coefficient 0.700 Invert Level (m) 49.000

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<table><thead><tr><th>Storm Event</th><th>Rain (mm/hr)</th><th>Flooded Volume (m³)</th><th>Discharge Volume (m³)</th><th>Time-Peak (mins)</th></tr></thead><tbody><tr><td>15 min Summer</td><td>92.162</td><td>0.0</td><td>25.8</td><td>23</td></tr><tr><td>30 min Summer</td><td>62.564</td><td>0.0</td><td>32.3</td><td>37</td></tr><tr><td>60 min Summer</td><td>40.510</td><td>0.0</td><td>51.1</td><td>68</td></tr><tr><td>120 min Summer</td><td>25.255</td><td>0.0</td><td>63.2</td><td>126</td></tr><tr><td>180 min Summer</td><td>18.824</td><td>0.0</td><td>69.8</td><td>186</td></tr><tr><td>240 min Summer</td><td>15.195</td><td>0.0</td><td>74.0</td><td>244</td></tr><tr><td>360 min Summer</td><td>11.242</td><td>0.0</td><td>79.9</td><td>364</td></tr><tr><td>480 min Summer</td><td>9.062</td><td>0.0</td><td>83.7</td><td>482</td></tr><tr><td>600 min Summer</td><td>7.659</td><td>0.0</td><td>86.4</td><td>602</td></tr><tr><td>720 min Summer</td><td>6.671</td><td>0.0</td><td>88.2</td><td>720</td></tr><tr><td>960 min Summer</td><td>5.360</td><td>0.0</td><td>90.4</td><td>864</td></tr><tr><td>1440 min Summer</td><td>3.929</td><td>0.0</td><td>91.2</td><td>1110</td></tr><tr><td>2160 min Summer</td><td>2.873</td><td>0.0</td><td>132.5</td><td>1500</td></tr><tr><td>2880 min Summer</td><td>2.297</td><td>0.0</td><td>140.5</td><td>1908</td></tr><tr><td>4320 min Summer</td><td>1.673</td><td>0.0</td><td>145.8</td><td>2728</td></tr><tr><td>5760 min Summer</td><td>1.336</td><td>0.0</td><td>165.3</td><td>3528</td></tr><tr><td>7200 min Summer</td><td>1.123</td><td>0.0</td><td>173.6</td><td>4328</td></tr><tr><td>8640 min Summer</td><td>0.975</td><td>0.0</td><td>180.7</td><td>5104</td></tr><tr><td>10080 min Summer</td><td>0.865</td><td>0.0</td><td>186.8</td><td>5856</td></tr><tr><td>15 min Winter</td><td>92.162</td><td>0.0</td><td>25.8</td><td>23</td></tr><tr><td>30 min Winter</td><td>62.564</td><td>0.0</td><td>32.3</td><td>37</td></tr></tbody></table>							Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	15 min Summer	92.162	0.0	25.8	23	30 min Summer	62.564	0.0	32.3	37	60 min Summer	40.510	0.0	51.1	68	120 min Summer	25.255	0.0	63.2	126	180 min Summer	18.824	0.0	69.8	186	240 min Summer	15.195	0.0	74.0	244	360 min Summer	11.242	0.0	79.9	364	480 min Summer	9.062	0.0	83.7	482	600 min Summer	7.659	0.0	86.4	602	720 min Summer	6.671	0.0	88.2	720	960 min Summer	5.360	0.0	90.4	864	1440 min Summer	3.929	0.0	91.2	1110	2160 min Summer	2.873	0.0	132.5	1500	2880 min Summer	2.297	0.0	140.5	1908	4320 min Summer	1.673	0.0	145.8	2728	5760 min Summer	1.336	0.0	165.3	3528	7200 min Summer	1.123	0.0	173.6	4328	8640 min Summer	0.975	0.0	180.7	5104	10080 min Summer	0.865	0.0	186.8	5856	15 min Winter	92.162	0.0	25.8	23	30 min Winter	62.564	0.0	32.3	37																						
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99 South Street Eastbourne BN20 4LU		E9459 Borde Hill, Haywards Heath 1:100yr			
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Micro Drainage		Source Control 2020.1.3			
<u>Summary of Results for 100 year Return Period</u>					
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
60 min Winter	49.358	0.358	0.6	50.9	O K
120 min Winter	49.425	0.425	0.6	62.2	O K
180 min Winter	49.459	0.459	0.7	68.4	O K
240 min Winter	49.481	0.481	0.7	72.3	O K
360 min Winter	49.510	0.510	0.7	77.6	O K
480 min Winter	49.526	0.526	0.7	80.7	O K
600 min Winter	49.536	0.536	0.7	82.6	O K
720 min Winter	49.542	0.542	0.7	83.7	O K
960 min Winter	49.546	0.546	0.7	84.4	O K
1440 min Winter	49.542	0.542	0.7	83.7	O K
2160 min Winter	49.529	0.529	0.7	81.2	O K
2880 min Winter	49.510	0.510	0.7	77.6	O K
4320 min Winter	49.465	0.465	0.7	69.4	O K
5760 min Winter	49.423	0.423	0.6	61.8	O K
7200 min Winter	49.384	0.384	0.6	55.2	O K
8640 min Winter	49.349	0.349	0.6	49.4	O K
10080 min Winter	49.319	0.319	0.5	44.5	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	
60 min Winter	40.510	0.0	51.1	66	
120 min Winter	25.255	0.0	63.2	124	
180 min Winter	18.824	0.0	69.8	182	
240 min Winter	15.195	0.0	74.1	240	
360 min Winter	11.242	0.0	79.9	356	
480 min Winter	9.062	0.0	83.7	472	
600 min Winter	7.659	0.0	86.4	584	
720 min Winter	6.671	0.0	88.2	696	
960 min Winter	5.360	0.0	90.5	908	
1440 min Winter	3.929	0.0	91.3	1140	
2160 min Winter	2.873	0.0	132.5	1600	
2880 min Winter	2.297	0.0	140.6	2052	
4320 min Winter	1.673	0.0	146.0	2940	
5760 min Winter	1.336	0.0	165.3	3752	
7200 min Winter	1.123	0.0	173.6	4608	
8640 min Winter	0.975	0.0	180.7	5360	
10080 min Winter	0.865	0.0	186.8	6152	
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Micro Drainage		Source Control 2020.1.3

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	100	Cv (Summer)	1.000
Region	England and Wales	Cv (Winter)	1.000
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.329	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.129

Time (mins)	Area	Time (mins)	Area
From: To:	(ha)	From: To:	(ha)
0 4	0.065	4 8	0.064

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Micro Drainage Source Control 2020.1.3		

Model Details

Storage is Online Cover Level (m) 50.000

Tank or Pond Structure

Invert Level (m) 49.000

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	120.0	0.700	215.4	1.400	0.0	2.100	0.0
0.100	131.9	0.800	231.3	1.500	0.0	2.200	0.0
0.200	144.4	0.900	247.8	1.600	0.0	2.300	0.0
0.300	157.5	1.000	264.8	1.700	0.0	2.400	0.0
0.400	171.1	1.001	0.0	1.800	0.0	2.500	0.0
0.500	185.3	1.200	0.0	1.900	0.0		
0.600	200.1	1.300	0.0	2.000	0.0		

Orifice Outflow Control

Diameter (m) 0.020 Discharge Coefficient 0.700 Invert Level (m) 49.000

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Micro Drainage			Source Control 2020.1.3			
Summary of Results for 30 year Return Period						
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status	
15 min Summer	49.174	0.174	0.4	22.6	O K	
30 min Summer	49.226	0.226	0.5	30.3	O K	
60 min Summer	49.281	0.281	0.5	38.5	O K	
120 min Summer	49.335	0.335	0.6	47.0	O K	
180 min Summer	49.363	0.363	0.6	51.8	O K	
240 min Summer	49.382	0.382	0.6	54.9	O K	
360 min Summer	49.406	0.406	0.6	58.9	O K	
480 min Summer	49.419	0.419	0.6	61.3	O K	
600 min Summer	49.427	0.427	0.6	62.6	O K	
720 min Summer	49.431	0.431	0.6	63.3	O K	
960 min Summer	49.436	0.436	0.6	64.1	O K	
1440 min Summer	49.439	0.439	0.6	64.6	O K	
2160 min Summer	49.434	0.434	0.6	63.8	O K	
2880 min Summer	49.424	0.424	0.6	62.0	O K	
4320 min Summer	49.399	0.399	0.6	57.7	O K	
5760 min Summer	49.373	0.373	0.6	53.4	O K	
7200 min Summer	49.350	0.350	0.6	49.5	O K	
8640 min Summer	49.328	0.328	0.5	45.9	O K	
10080 min Summer	49.308	0.308	0.5	42.8	O K	
15 min Winter	49.174	0.174	0.4	22.6	O K	
30 min Winter	49.226	0.226	0.5	30.3	O K	
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)		
15 min Summer	71.178	0.0	20.7	23		
30 min Summer	47.845	0.0	26.6	37		
60 min Summer	30.811	0.0	38.9	66		
120 min Summer	19.234	0.0	48.5	126		
180 min Summer	14.414	0.0	54.4	186		
240 min Summer	11.698	0.0	58.6	244		
360 min Summer	8.714	0.0	64.8	364		
480 min Summer	7.061	0.0	68.9	482		
600 min Summer	5.993	0.0	71.8	600		
720 min Summer	5.240	0.0	74.0	702		
960 min Summer	4.236	0.0	76.8	808		
1440 min Summer	3.134	0.0	78.8	1056		
2160 min Summer	2.315	0.0	106.9	1472		
2880 min Summer	1.865	0.0	114.6	1876		
4320 min Summer	1.374	0.0	123.7	2688		
5760 min Summer	1.107	0.0	136.9	3512		
7200 min Summer	0.936	0.0	144.6	4320		
8640 min Summer	0.816	0.0	151.3	5096		
10080 min Summer	0.727	0.0	157.0	5848		
15 min Winter	71.178	0.0	20.7	22		
30 min Winter	47.845	0.0	26.6	37		
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99 South Street Eastbourne BN20 4LU		E9459 Borde Hill, Haywards Heath 1:30yr				
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Micro Drainage		Source Control 2020.1.3				
Summary of Results for 30 year Return Period						
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status	
60 min Winter	49.281	0.281	0.5	38.5	O K	
120 min Winter	49.335	0.335	0.6	47.1	O K	
180 min Winter	49.364	0.364	0.6	51.8	O K	
240 min Winter	49.383	0.383	0.6	55.0	O K	
360 min Winter	49.407	0.407	0.6	59.1	O K	
480 min Winter	49.421	0.421	0.6	61.5	O K	
600 min Winter	49.429	0.429	0.6	63.0	O K	
720 min Winter	49.434	0.434	0.6	63.8	O K	
960 min Winter	49.437	0.437	0.6	64.3	O K	
1440 min Winter	49.437	0.437	0.6	64.3	O K	
2160 min Winter	49.426	0.426	0.6	62.4	O K	
2880 min Winter	49.410	0.410	0.6	59.6	O K	
4320 min Winter	49.372	0.372	0.6	53.2	O K	
5760 min Winter	49.336	0.336	0.6	47.3	O K	
7200 min Winter	49.304	0.304	0.5	42.1	O K	
8640 min Winter	49.276	0.276	0.5	37.7	O K	
10080 min Winter	49.250	0.250	0.5	33.9	O K	
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)		
60 min Winter	30.811	0.0	38.9	66		
120 min Winter	19.234	0.0	48.5	124		
180 min Winter	14.414	0.0	54.4	182		
240 min Winter	11.698	0.0	58.6	240		
360 min Winter	8.714	0.0	64.8	356		
480 min Winter	7.061	0.0	68.9	468		
600 min Winter	5.993	0.0	71.8	580		
720 min Winter	5.240	0.0	74.0	688		
960 min Winter	4.236	0.0	76.9	888		
1440 min Winter	3.134	0.0	78.9	1108		
2160 min Winter	2.315	0.0	106.9	1564		
2880 min Winter	1.865	0.0	114.6	2020		
4320 min Winter	1.374	0.0	123.9	2896		
5760 min Winter	1.107	0.0	136.9	3696		
7200 min Winter	0.936	0.0	144.6	4536		
8640 min Winter	0.816	0.0	151.3	5280		
10080 min Winter	0.727	0.0	157.0	6048		
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Micro Drainage		Source Control 2020.1.3

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	30	Cv (Summer)	1.000
Region	England and Wales	Cv (Winter)	1.000
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.329	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.129

Time (mins)	Area	Time (mins)	Area
From: To:	(ha)	From: To:	(ha)
0 4	0.065	4 8	0.064

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Micro Drainage		Source Control 2020.1.3

Model Details

Storage is Online Cover Level (m) 50.000

Tank or Pond Structure

Invert Level (m) 49.000

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	120.0	0.700	215.4	1.400	0.0	2.100	0.0
0.100	131.9	0.800	231.3	1.500	0.0	2.200	0.0
0.200	144.4	0.900	247.8	1.600	0.0	2.300	0.0
0.300	157.5	1.000	264.8	1.700	0.0	2.400	0.0
0.400	171.1	1.001	0.0	1.800	0.0	2.500	0.0
0.500	185.3	1.200	0.0	1.900	0.0		
0.600	200.1	1.300	0.0	2.000	0.0		

Orifice Outflow Control

Diameter (m) 0.020 Discharge Coefficient 0.700 Invert Level (m) 49.000

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Micro Drainage			Source Control 2020.1.3				
Summary of Results for 10 year Return Period							
Storm Event			Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
15 min Summer			49.139	0.139	0.4	17.9	O K
30 min Summer			49.181	0.181	0.4	23.6	O K
60 min Summer			49.224	0.224	0.5	29.9	O K
120 min Summer			49.267	0.267	0.5	36.4	O K
180 min Summer			49.292	0.292	0.5	40.2	O K
240 min Summer			49.308	0.308	0.5	42.7	O K
360 min Summer			49.328	0.328	0.5	45.9	O K
480 min Summer			49.339	0.339	0.6	47.7	O K
600 min Summer			49.345	0.345	0.6	48.7	O K
720 min Summer			49.349	0.349	0.6	49.4	O K
960 min Summer			49.355	0.355	0.6	50.3	O K
1440 min Summer			49.359	0.359	0.6	50.9	O K
2160 min Summer			49.356	0.356	0.6	50.5	O K
2880 min Summer			49.348	0.348	0.6	49.2	O K
4320 min Summer			49.327	0.327	0.5	45.8	O K
5760 min Summer			49.306	0.306	0.5	42.5	O K
7200 min Summer			49.287	0.287	0.5	39.4	O K
8640 min Summer			49.269	0.269	0.5	36.6	O K
10080 min Summer			49.252	0.252	0.5	34.1	O K
15 min Winter			49.139	0.139	0.4	17.9	O K
30 min Winter			49.181	0.181	0.4	23.6	O K
Storm Event			Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	
15 min Summer			56.229	0.0	16.6	23	
30 min Summer			37.458	0.0	21.7	37	
60 min Summer			24.003	0.0	30.3	66	
120 min Summer			15.001	0.0	37.9	126	
180 min Summer			11.298	0.0	42.8	184	
240 min Summer			9.214	0.0	46.5	244	
360 min Summer			6.907	0.0	52.0	362	
480 min Summer			5.623	0.0	56.2	482	
600 min Summer			4.792	0.0	59.4	596	
720 min Summer			4.204	0.0	61.9	644	
960 min Summer			3.417	0.0	65.2	764	
1440 min Summer			2.550	0.0	68.3	1026	
2160 min Summer			1.901	0.0	87.8	1436	
2880 min Summer			1.542	0.0	94.8	1848	
4320 min Summer			1.148	0.0	104.8	2680	
5760 min Summer			0.932	0.0	115.2	3464	
7200 min Summer			0.792	0.0	122.4	4248	
8640 min Summer			0.694	0.0	128.6	5016	
10080 min Summer			0.620	0.0	133.9	5752	
15 min Winter			56.229	0.0	16.6	22	
30 min Winter			37.458	0.0	21.7	37	
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Micro Drainage		Source Control 2020.1.3				
Summary of Results for 10 year Return Period						
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status	
60 min Winter	49.224	0.224	0.5	29.9	O K	
120 min Winter	49.268	0.268	0.5	36.5	O K	
180 min Winter	49.292	0.292	0.5	40.3	O K	
240 min Winter	49.308	0.308	0.5	42.8	O K	
360 min Winter	49.329	0.329	0.5	46.1	O K	
480 min Winter	49.341	0.341	0.6	48.0	O K	
600 min Winter	49.347	0.347	0.6	49.1	O K	
720 min Winter	49.351	0.351	0.6	49.7	O K	
960 min Winter	49.354	0.354	0.6	50.2	O K	
1440 min Winter	49.356	0.356	0.6	50.5	O K	
2160 min Winter	49.347	0.347	0.6	49.0	O K	
2880 min Winter	49.333	0.333	0.6	46.7	O K	
4320 min Winter	49.301	0.301	0.5	41.7	O K	
5760 min Winter	49.271	0.271	0.5	37.0	O K	
7200 min Winter	49.244	0.244	0.5	32.9	O K	
8640 min Winter	49.220	0.220	0.4	29.4	O K	
10080 min Winter	49.200	0.200	0.4	26.4	O K	
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)		
60 min Winter	24.003	0.0	30.3	66		
120 min Winter	15.001	0.0	37.9	124		
180 min Winter	11.298	0.0	42.8	182		
240 min Winter	9.214	0.0	46.5	240		
360 min Winter	6.907	0.0	52.0	354		
480 min Winter	5.623	0.0	56.2	466		
600 min Winter	4.792	0.0	59.4	576		
720 min Winter	4.204	0.0	61.9	680		
960 min Winter	3.417	0.0	65.3	780		
1440 min Winter	2.550	0.0	68.3	1084		
2160 min Winter	1.901	0.0	87.8	1540		
2880 min Winter	1.542	0.0	94.8	1992		
4320 min Winter	1.148	0.0	104.9	2852		
5760 min Winter	0.932	0.0	115.2	3640		
7200 min Winter	0.792	0.0	122.4	4464		
8640 min Winter	0.694	0.0	128.6	5192		
10080 min Winter	0.620	0.0	133.9	5952		
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99 South Street Eastbourne BN20 4LU	E9459 Borde Hill, Haywards Heath 1:10yr	
Date 04/03/2025 14:34 File E9459 Basin Volume Calc...	Designed by SWP Ltd Checked by SWP Ltd	
Micro Drainage		Source Control 2020.1.3

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	10	Cv (Summer)	1.000
Region	England and Wales	Cv (Winter)	1.000
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.329	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.129

Time (mins)	Area	Time (mins)	Area
From: To:	(ha)	From: To:	(ha)
0 4	0.065	4 8	0.064

Stephen Wilson Partnership Ltd		Page 4
99 South Street Eastbourne BN20 4LU	E9459 Borde Hill, Haywards Heath 1:10yr	
Date 04/03/2025 14:34 File E9459 Basin Volume Calc...	Designed by SWP Ltd Checked by SWP Ltd	
Micro Drainage Source Control 2020.1.3		

Model Details

Storage is Online Cover Level (m) 50.000

Tank or Pond Structure

Invert Level (m) 49.000

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	120.0	0.700	215.4	1.400	0.0	2.100	0.0
0.100	131.9	0.800	231.3	1.500	0.0	2.200	0.0
0.200	144.4	0.900	247.8	1.600	0.0	2.300	0.0
0.300	157.5	1.000	264.8	1.700	0.0	2.400	0.0
0.400	171.1	1.001	0.0	1.800	0.0	2.500	0.0
0.500	185.3	1.200	0.0	1.900	0.0		
0.600	200.1	1.300	0.0	2.000	0.0		

Orifice Outflow Control

Diameter (m) 0.020 Discharge Coefficient 0.700 Invert Level (m) 49.000

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99 South Street Eastbourne BN20 4LU			E9459 Borde Hill, Haywards Heath 1:2yr																																																																																																																																							
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<table><tr><th>Storm Event</th><th>Max Level (m)</th><th>Max Depth (m)</th><th>Max Control (l/s)</th><th>Max Volume (m³)</th><th>Status</th></tr><tr><td>15 min Summer</td><td>49.095</td><td>0.095</td><td>0.3</td><td>11.9</td><td>O K</td></tr><tr><td>30 min Summer</td><td>49.124</td><td>0.124</td><td>0.3</td><td>15.8</td><td>O K</td></tr><tr><td>60 min Summer</td><td>49.155</td><td>0.155</td><td>0.4</td><td>20.0</td><td>O K</td></tr><tr><td>120 min Summer</td><td>49.188</td><td>0.188</td><td>0.4</td><td>24.6</td><td>O K</td></tr><tr><td>180 min Summer</td><td>49.207</td><td>0.207</td><td>0.4</td><td>27.4</td><td>O K</td></tr><tr><td>240 min Summer</td><td>49.219</td><td>0.219</td><td>0.4</td><td>29.2</td><td>O K</td></tr><tr><td>360 min Summer</td><td>49.234</td><td>0.234</td><td>0.5</td><td>31.4</td><td>O K</td></tr><tr><td>480 min Summer</td><td>49.242</td><td>0.242</td><td>0.5</td><td>32.7</td><td>O K</td></tr><tr><td>600 min Summer</td><td>49.248</td><td>0.248</td><td>0.5</td><td>33.4</td><td>O K</td></tr><tr><td>720 min Summer</td><td>49.252</td><td>0.252</td><td>0.5</td><td>34.1</td><td>O K</td></tr><tr><td>960 min Summer</td><td>49.257</td><td>0.257</td><td>0.5</td><td>34.9</td><td>O K</td></tr><tr><td>1440 min Summer</td><td>49.262</td><td>0.262</td><td>0.5</td><td>35.6</td><td>O K</td></tr><tr><td>2160 min Summer</td><td>49.261</td><td>0.261</td><td>0.5</td><td>35.4</td><td>O K</td></tr><tr><td>2880 min Summer</td><td>49.255</td><td>0.255</td><td>0.5</td><td>34.5</td><td>O K</td></tr><tr><td>4320 min Summer</td><td>49.240</td><td>0.240</td><td>0.5</td><td>32.3</td><td>O K</td></tr><tr><td>5760 min Summer</td><td>49.224</td><td>0.224</td><td>0.5</td><td>29.9</td><td>O K</td></tr><tr><td>7200 min Summer</td><td>49.209</td><td>0.209</td><td>0.4</td><td>27.7</td><td>O K</td></tr><tr><td>8640 min Summer</td><td>49.195</td><td>0.195</td><td>0.4</td><td>25.7</td><td>O K</td></tr><tr><td>10080 min Summer</td><td>49.183</td><td>0.183</td><td>0.4</td><td>23.9</td><td>O K</td></tr><tr><td>15 min Winter</td><td>49.095</td><td>0.095</td><td>0.3</td><td>11.9</td><td>O K</td></tr><tr><td>30 min Winter</td><td>49.124</td><td>0.124</td><td>0.3</td><td>15.8</td><td>O K</td></tr></table>							Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status	15 min Summer	49.095	0.095	0.3	11.9	O K	30 min Summer	49.124	0.124	0.3	15.8	O K	60 min Summer	49.155	0.155	0.4	20.0	O K	120 min Summer	49.188	0.188	0.4	24.6	O K	180 min Summer	49.207	0.207	0.4	27.4	O K	240 min Summer	49.219	0.219	0.4	29.2	O K	360 min Summer	49.234	0.234	0.5	31.4	O K	480 min Summer	49.242	0.242	0.5	32.7	O K	600 min Summer	49.248	0.248	0.5	33.4	O K	720 min Summer	49.252	0.252	0.5	34.1	O K	960 min Summer	49.257	0.257	0.5	34.9	O K	1440 min Summer	49.262	0.262	0.5	35.6	O K	2160 min Summer	49.261	0.261	0.5	35.4	O K	2880 min Summer	49.255	0.255	0.5	34.5	O K	4320 min Summer	49.240	0.240	0.5	32.3	O K	5760 min Summer	49.224	0.224	0.5	29.9	O K	7200 min Summer	49.209	0.209	0.4	27.7	O K	8640 min Summer	49.195	0.195	0.4	25.7	O K	10080 min Summer	49.183	0.183	0.4	23.9	O K	15 min Winter	49.095	0.095	0.3	11.9	O K	30 min Winter	49.124	0.124	0.3	15.8	O K
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Stephen Wilson Partnership Ltd					Page 2
99 South Street Eastbourne BN20 4LU		E9459 Borde Hill, Haywards Heath 1:2yr			
Date 04/03/2025 14:35 File E9459 Basin Volume Calc...		Designed by SWP Ltd Checked by SWP Ltd			
Micro Drainage		Source Control 2020.1.3			
Summary of Results for 2 year Return Period					
Storm Event	Max Level (m)	Max Depth (m)	Max Control (l/s)	Max Volume (m³)	Status
60 min Winter	49.155	0.155	0.4	20.1	O K
120 min Winter	49.188	0.188	0.4	24.7	O K
180 min Winter	49.207	0.207	0.4	27.4	O K
240 min Winter	49.220	0.220	0.4	29.3	O K
360 min Winter	49.235	0.235	0.5	31.6	O K
480 min Winter	49.244	0.244	0.5	32.9	O K
600 min Winter	49.249	0.249	0.5	33.6	O K
720 min Winter	49.252	0.252	0.5	34.1	O K
960 min Winter	49.256	0.256	0.5	34.8	O K
1440 min Winter	49.258	0.258	0.5	35.0	O K
2160 min Winter	49.251	0.251	0.5	33.9	O K
2880 min Winter	49.240	0.240	0.5	32.3	O K
4320 min Winter	49.216	0.216	0.4	28.7	O K
5760 min Winter	49.193	0.193	0.4	25.3	O K
7200 min Winter	49.172	0.172	0.4	22.4	O K
8640 min Winter	49.154	0.154	0.4	20.0	O K
10080 min Winter	49.139	0.139	0.4	17.9	O K
Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)	
60 min Winter	16.200	0.0	20.4	66	
120 min Winter	10.259	0.0	25.9	122	
180 min Winter	7.817	0.0	29.6	180	
240 min Winter	6.432	0.0	32.5	238	
360 min Winter	4.866	0.0	36.8	352	
480 min Winter	3.991	0.0	40.2	462	
600 min Winter	3.421	0.0	43.0	566	
720 min Winter	3.016	0.0	45.4	648	
960 min Winter	2.473	0.0	49.2	744	
1440 min Winter	1.869	0.0	53.7	1056	
2160 min Winter	1.411	0.0	65.1	1512	
2880 min Winter	1.157	0.0	71.1	1936	
4320 min Winter	0.874	0.0	80.2	2772	
5760 min Winter	0.716	0.0	88.5	3576	
7200 min Winter	0.613	0.0	94.6	4328	
8640 min Winter	0.540	0.0	99.9	5104	
10080 min Winter	0.485	0.0	104.5	5848	
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99 South Street Eastbourne BN20 4LU	E9459 Borde Hill, Haywards Heath 1:2yr	
Date 04/03/2025 14:35 File E9459 Basin Volume Calc...	Designed by SWP Ltd Checked by SWP Ltd	
Micro Drainage		Source Control 2020.1.3

Rainfall Details

Rainfall Model	FSR	Winter Storms	Yes
Return Period (years)	2	Cv (Summer)	1.000
Region	England and Wales	Cv (Winter)	1.000
M5-60 (mm)	20.000	Shortest Storm (mins)	15
Ratio R	0.329	Longest Storm (mins)	10080
Summer Storms	Yes	Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.129

Time (mins)	Area	Time (mins)	Area
From: To:	(ha)	From: To:	(ha)
0 4	0.065	4 8	0.064

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99 South Street Eastbourne BN20 4LU	E9459 Borde Hill, Haywards Heath 1:2yr	
Date 04/03/2025 14:35 File E9459 Basin Volume Calc...	Designed by SWP Ltd Checked by SWP Ltd	
Micro Drainage		Source Control 2020.1.3

Model Details

Storage is Online Cover Level (m) 50.000

Tank or Pond Structure

Invert Level (m) 49.000

Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)	Depth (m)	Area (m ²)
0.000	120.0	0.700	215.4	1.400	0.0	2.100	0.0
0.100	131.9	0.800	231.3	1.500	0.0	2.200	0.0
0.200	144.4	0.900	247.8	1.600	0.0	2.300	0.0
0.300	157.5	1.000	264.8	1.700	0.0	2.400	0.0
0.400	171.1	1.001	0.0	1.800	0.0	2.500	0.0
0.500	185.3	1.200	0.0	1.900	0.0		
0.600	200.1	1.300	0.0	2.000	0.0		

Orifice Outflow Control

Diameter (m) 0.020 Discharge Coefficient 0.700 Invert Level (m) 49.000