

Summary of Results for 2 year Return Period (+30%)

Half Drain Time : 6 minutes.

| Storm Event | Max Level (m) | Max Depth (m) | Max Infiltration (l/s) | Max Control (l/s) | Max Σ Outflow (l/s) | Max Volume (m ³) | Status |
|------------------|---------------|---------------|------------------------|-------------------|----------------------------|------------------------------|--------|
| 15 min Summer | 115.665 | 0.165 | 0.0 | 4.1 | 4.1 | 2.2 | O K |
| 30 min Summer | 115.675 | 0.175 | 0.0 | 4.4 | 4.4 | 2.3 | O K |
| 60 min Summer | 115.662 | 0.162 | 0.0 | 4.1 | 4.1 | 2.2 | O K |
| 120 min Summer | 115.632 | 0.132 | 0.0 | 3.3 | 3.3 | 1.8 | O K |
| 180 min Summer | 115.610 | 0.110 | 0.0 | 2.8 | 2.8 | 1.5 | O K |
| 240 min Summer | 115.595 | 0.095 | 0.0 | 2.4 | 2.4 | 1.3 | O K |
| 360 min Summer | 115.575 | 0.075 | 0.0 | 1.9 | 1.9 | 1.0 | O K |
| 480 min Summer | 115.562 | 0.062 | 0.0 | 1.6 | 1.6 | 0.8 | O K |
| 600 min Summer | 115.554 | 0.054 | 0.0 | 1.3 | 1.3 | 0.7 | O K |
| 720 min Summer | 115.547 | 0.047 | 0.0 | 1.2 | 1.2 | 0.6 | O K |
| 960 min Summer | 115.539 | 0.039 | 0.0 | 1.0 | 1.0 | 0.5 | O K |
| 1440 min Summer | 115.529 | 0.029 | 0.0 | 0.7 | 0.7 | 0.4 | O K |
| 2160 min Summer | 115.521 | 0.021 | 0.0 | 0.5 | 0.5 | 0.3 | O K |
| 2880 min Summer | 115.517 | 0.017 | 0.0 | 0.4 | 0.4 | 0.2 | O K |
| 4320 min Summer | 115.513 | 0.013 | 0.0 | 0.3 | 0.3 | 0.2 | O K |
| 5760 min Summer | 115.510 | 0.010 | 0.0 | 0.3 | 0.3 | 0.1 | O K |
| 7200 min Summer | 115.509 | 0.009 | 0.0 | 0.2 | 0.2 | 0.1 | O K |
| 8640 min Summer | 115.507 | 0.007 | 0.0 | 0.2 | 0.2 | 0.1 | O K |
| 10080 min Summer | 115.507 | 0.007 | 0.0 | 0.2 | 0.2 | 0.1 | O K |
| 15 min Winter | 115.682 | 0.182 | 0.0 | 4.5 | 4.5 | 2.4 | O K |

| Storm Event | Rain (mm/hr) | Flooded Volume (m ³) | Discharge Volume (m ³) | Time-Peak (mins) |
|------------------|--------------|----------------------------------|------------------------------------|------------------|
| 15 min Summer | 55.235 | 0.0 | 4.7 | 19 |
| 30 min Summer | 35.329 | 0.0 | 6.0 | 26 |
| 60 min Summer | 21.724 | 0.0 | 7.3 | 42 |
| 120 min Summer | 13.066 | 0.0 | 8.8 | 72 |
| 180 min Summer | 9.650 | 0.0 | 9.8 | 102 |
| 240 min Summer | 7.771 | 0.0 | 10.5 | 132 |
| 360 min Summer | 5.707 | 0.0 | 11.6 | 192 |
| 480 min Summer | 4.577 | 0.0 | 12.4 | 252 |
| 600 min Summer | 3.856 | 0.0 | 13.0 | 312 |
| 720 min Summer | 3.352 | 0.0 | 13.6 | 372 |
| 960 min Summer | 2.686 | 0.0 | 14.5 | 494 |
| 1440 min Summer | 1.966 | 0.0 | 15.9 | 734 |
| 2160 min Summer | 1.439 | 0.0 | 17.5 | 1096 |
| 2880 min Summer | 1.153 | 0.0 | 18.7 | 1444 |
| 4320 min Summer | 0.843 | 0.0 | 20.5 | 2180 |
| 5760 min Summer | 0.675 | 0.0 | 21.9 | 2912 |
| 7200 min Summer | 0.569 | 0.0 | 23.0 | 3608 |
| 8640 min Summer | 0.494 | 0.0 | 24.0 | 4400 |
| 10080 min Summer | 0.439 | 0.0 | 24.9 | 5104 |
| 15 min Winter | 55.235 | 0.0 | 5.2 | 19 |

Summary of Results for 2 year Return Period (+30%)

| Storm Event | Max Level (m) | Max Depth (m) | Max Infiltration (1/s) | Max Control (1/s) | Max Σ Outflow (1/s) | Max Volume (m³) | Status |
|------------------|---------------|---------------|------------------------|-------------------|---------------------|-----------------|--------|
| 30 min Winter | 115.689 | 0.189 | 0.0 | 4.7 | 4.7 | 2.5 | O K |
| 60 min Winter | 115.664 | 0.164 | 0.0 | 4.1 | 4.1 | 2.2 | O K |
| 120 min Winter | 115.620 | 0.120 | 0.0 | 3.0 | 3.0 | 1.6 | O K |
| 180 min Winter | 115.594 | 0.094 | 0.0 | 2.4 | 2.4 | 1.3 | O K |
| 240 min Winter | 115.578 | 0.078 | 0.0 | 2.0 | 2.0 | 1.0 | O K |
| 360 min Winter | 115.559 | 0.059 | 0.0 | 1.5 | 1.5 | 0.8 | O K |
| 480 min Winter | 115.548 | 0.048 | 0.0 | 1.2 | 1.2 | 0.6 | O K |
| 600 min Winter | 115.541 | 0.041 | 0.0 | 1.0 | 1.0 | 0.5 | O K |
| 720 min Winter | 115.535 | 0.035 | 0.0 | 0.9 | 0.9 | 0.5 | O K |
| 960 min Winter | 115.529 | 0.029 | 0.0 | 0.7 | 0.7 | 0.4 | O K |
| 1440 min Winter | 115.521 | 0.021 | 0.0 | 0.5 | 0.5 | 0.3 | O K |
| 2160 min Winter | 115.515 | 0.015 | 0.0 | 0.4 | 0.4 | 0.2 | O K |
| 2880 min Winter | 115.512 | 0.012 | 0.0 | 0.3 | 0.3 | 0.2 | O K |
| 4320 min Winter | 115.509 | 0.009 | 0.0 | 0.2 | 0.2 | 0.1 | O K |
| 5760 min Winter | 115.507 | 0.007 | 0.0 | 0.2 | 0.2 | 0.1 | O K |
| 7200 min Winter | 115.506 | 0.006 | 0.0 | 0.2 | 0.2 | 0.1 | O K |
| 8640 min Winter | 115.505 | 0.005 | 0.0 | 0.1 | 0.1 | 0.1 | O K |
| 10080 min Winter | 115.505 | 0.005 | 0.0 | 0.1 | 0.1 | 0.1 | O K |

| Storm Event | Rain (mm/hr) | Flooded Volume (m³) | Discharge Volume (m³) | Time-Peak (mins) |
|------------------|--------------|---------------------|-----------------------|------------------|
| 30 min Winter | 35.329 | 0.0 | 6.7 | 26 |
| 60 min Winter | 21.724 | 0.0 | 8.2 | 42 |
| 120 min Winter | 13.066 | 0.0 | 9.9 | 74 |
| 180 min Winter | 9.650 | 0.0 | 10.9 | 104 |
| 240 min Winter | 7.771 | 0.0 | 11.7 | 134 |
| 360 min Winter | 5.707 | 0.0 | 12.9 | 194 |
| 480 min Winter | 4.577 | 0.0 | 13.8 | 254 |
| 600 min Winter | 3.856 | 0.0 | 14.6 | 316 |
| 720 min Winter | 3.352 | 0.0 | 15.2 | 374 |
| 960 min Winter | 2.686 | 0.0 | 16.2 | 494 |
| 1440 min Winter | 1.966 | 0.0 | 17.8 | 740 |
| 2160 min Winter | 1.439 | 0.0 | 19.6 | 1120 |
| 2880 min Winter | 1.153 | 0.0 | 20.9 | 1424 |
| 4320 min Winter | 0.843 | 0.0 | 22.9 | 2212 |
| 5760 min Winter | 0.675 | 0.0 | 24.5 | 2888 |
| 7200 min Winter | 0.569 | 0.0 | 25.8 | 3592 |
| 8640 min Winter | 0.494 | 0.0 | 26.9 | 4168 |
| 10080 min Winter | 0.439 | 0.0 | 27.9 | 5104 |

The Stables
 High Cogges, Witney
 Oxfordshire



Date 26/05/2017 16:48
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Designed by david
 Checked by

Micro Drainage Source Control 2015.1


Rainfall Details

| | | | |
|-----------------------|-------------------|-----------------------|-------|
| Rainfall Model | FSR | Winter Storms | Yes |
| Return Period (years) | 2 | Cv (Summer) | 0.750 |
| Region | England and Wales | Cv (Winter) | 0.840 |
| M5-60 (mm) | 20.600 | Shortest Storm (mins) | 15 |
| Ratio R | 0.436 | Longest Storm (mins) | 10080 |
| Summer Storms | Yes | Climate Change % | +30 |

Time Area Diagram

Total Area (ha) 0.045

| Time (mins) | Area | Time (mins) | Area | Time (mins) | Area |
|-------------|----------|-------------|----------|-------------|----------|
| From: | To: (ha) | From: | To: (ha) | From: | To: (ha) |
| 0 | 4 0.015 | 4 | 8 0.015 | 8 | 12 0.015 |

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| The Stables High Cogges, Witney Oxfordshire | |  |
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| Micro Drainage | | Source Control 2015.1 |

Model Details

Storage is Online Cover Level (m) 117.150

Cellular Storage Structure

Invert Level (m) 115.500 Safety Factor 2.0
 Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Side (m/hr) 0.00000

| Depth (m) | Area (m ²) | Inf. Area (m ²) | Depth (m) | Area (m ²) | Inf. Area (m ²) |
|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|
| 0.000 | 14.0 | 14.0 | 2.600 | 0.0 | 27.5 |
| 0.200 | 14.0 | 17.0 | 2.800 | 0.0 | 27.5 |
| 0.400 | 14.0 | 20.0 | 3.000 | 0.0 | 27.5 |
| 0.600 | 14.0 | 23.0 | 3.200 | 0.0 | 27.5 |
| 0.800 | 14.0 | 26.0 | 3.400 | 0.0 | 27.5 |
| 1.000 | 0.0 | 27.5 | 3.600 | 0.0 | 27.5 |
| 1.200 | 0.0 | 27.5 | 3.800 | 0.0 | 27.5 |
| 1.400 | 0.0 | 27.5 | 4.000 | 0.0 | 27.5 |
| 1.600 | 0.0 | 27.5 | 4.200 | 0.0 | 27.5 |
| 1.800 | 0.0 | 27.5 | 4.400 | 0.0 | 27.5 |
| 2.000 | 0.0 | 27.5 | 4.600 | 0.0 | 27.5 |
| 2.200 | 0.0 | 27.5 | 4.800 | 0.0 | 27.5 |
| 2.400 | 0.0 | 27.5 | 5.000 | 0.0 | 27.5 |

Depth/Flow Relationship Outflow Control

Invert Level (m) 115.500

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.200 | 5.0000 | 1.800 | 5.0000 | 3.400 | 5.0000 | 5.000 | 5.0000 |
| 0.400 | 5.0000 | 2.000 | 5.0000 | 3.600 | 5.0000 | 5.200 | 5.0000 |
| 0.600 | 5.0000 | 2.200 | 5.0000 | 3.800 | 5.0000 | 5.400 | 5.0000 |
| 0.800 | 5.0000 | 2.400 | 5.0000 | 4.000 | 5.0000 | 5.600 | 5.0000 |
| 1.000 | 5.0000 | 2.600 | 5.0000 | 4.200 | 5.0000 | 5.800 | 5.0000 |
| 1.200 | 5.0000 | 2.800 | 5.0000 | 4.400 | 5.0000 | 6.000 | 5.0000 |
| 1.400 | 5.0000 | 3.000 | 5.0000 | 4.600 | 5.0000 | | |
| 1.600 | 5.0000 | 3.200 | 5.0000 | 4.800 | 5.0000 | | |