## Summary of Results for 100 year Return Period (+40%)

Half Drain Time : 217 minutes.

| Storm Event | Max Level (m) | Max Depth (m) | Max Infiltration (l/s) | Max Volume (m³) | Status |
|---|---|---|---|---|---|
| 15 min Summer | 99.330 | 0.330 | 0.4 | 5.6 | O K |
| 30 min Summer | 99.374 | 0.374 | 0.4 | 7.3 | O K |
| 60 min Summer | 99.411 | 0.411 | 0.5 | 8.8 | O K |
| 120 min Summer | 99.433 | 0.433 | 0.5 | 9.9 | O K |
| 180 min Summer | 99.437 | 0.437 | 0.5 | 10.1 | O K |
| 240 min Summer | 99.438 | 0.438 | 0.5 | 10.1 | O K |
| 360 min Summer | 99.436 | 0.436 | 0.5 | 10.1 | O K |
| 480 min Summer | 99.432 | 0.432 | 0.5 | 9.8 | O K |
| 600 min Summer | 99.426 | 0.426 | 0.5 | 9.5 | O K |
| 720 min Summer | 99.419 | 0.419 | 0.5 | 9.2 | O K |
| 960 min Summer | 99.405 | 0.405 | 0.5 | 8.6 | O K |
| 1440 min Summer | 99.379 | 0.379 | 0.4 | 7.5 | O K |
| 2160 min Summer | 99.345 | 0.345 | 0.4 | 6.1 | O K |
| 2880 min Summer | 99.317 | 0.317 | 0.4 | 5.1 | O K |
| 4320 min Summer | 99.274 | 0.274 | 0.3 | 3.7 | O K |
| 5760 min Summer | 99.242 | 0.242 | 0.3 | 2.8 | O K |
| 7200 min Summer | 99.218 | 0.218 | 0.2 | 2.2 | O K |
| 8640 min Summer | 99.199 | 0.199 | 0.2 | 1.8 | O K |
| 10080 min Summer | 99.186 | 0.186 | 0.2 | 1.5 | O K |
| 15 min Winter | 99.348 | 0.348 | 0.4 | 6.2 | O K |

| Storm Event | Rain (mm/hr) | Flooded Volume (m³) | Time-Peak (mins) |
|---|---|---|---|
| 15 min Summer | 134.746 | 0.0 | 18 |
| 30 min Summer | 90.474 | 0.0 | 33 |
| 60 min Summer | 57.877 | 0.0 | 62 |
| 120 min Summer | 35.655 | 0.0 | 120 |
| 180 min Summer | 26.413 | 0.0 | 154 |
| 240 min Summer | 21.237 | 0.0 | 186 |
| 360 min Summer | 15.626 | 0.0 | 252 |
| 480 min Summer | 12.548 | 0.0 | 320 |
| 600 min Summer | 10.575 | 0.0 | 388 |
| 720 min Summer | 9.191 | 0.0 | 458 |
| 960 min Summer | 7.358 | 0.0 | 594 |
| 1440 min Summer | 5.368 | 0.0 | 854 |
| 2160 min Summer | 3.907 | 0.0 | 1236 |
| 2880 min Summer | 3.115 | 0.0 | 1612 |
| 4320 min Summer | 2.259 | 0.0 | 2332 |
| 5760 min Summer | 1.796 | 0.0 | 3056 |
| 7200 min Summer | 1.506 | 0.0 | 3752 |
| 8640 min Summer | 1.304 | 0.0 | 4488 |
| 10080 min Summer | 1.154 | 0.0 | 5144 |
| 15 min Winter | 134.746 | 0.0 | 18 |

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## Summary of Results for 100 year Return Period (+40%)

| Storm Event | Max Level (m) | Max Depth (m) | Max Infiltration (l/s) | Max Volume (m³) | Status |
|---|---|---|---|---|---|
| 30 min Winter | 99.396 | 0.396 | 0.5 | 8.2 | O K |
| 60 min Winter | 99.435 | 0.435 | 0.5 | 10.0 | O K |
| 120 min Winter | 99.461 | 0.461 | 0.5 | 11.3 | O K |
| 180 min Winter | 99.466 | 0.466 | 0.6 | 11.6 | O K |
| 240 min Winter | 99.466 | 0.466 | 0.6 | 11.5 | O K |
| 360 min Winter | 99.462 | 0.462 | 0.5 | 11.3 | O K |
| 480 min Winter | 99.455 | 0.455 | 0.5 | 11.0 | O K |
| 600 min Winter | 99.446 | 0.446 | 0.5 | 10.5 | O K |
| 720 min Winter | 99.436 | 0.436 | 0.5 | 10.1 | O K |
| 960 min Winter | 99.417 | 0.417 | 0.5 | 9.1 | O K |
| 1440 min Winter | 99.380 | 0.380 | 0.4 | 7.5 | O K |
| 2160 min Winter | 99.334 | 0.334 | 0.4 | 5.7 | O K |
| 2880 min Winter | 99.297 | 0.297 | 0.3 | 4.4 | O K |
| 4320 min Winter | 99.243 | 0.243 | 0.3 | 2.8 | O K |
| 5760 min Winter | 99.206 | 0.206 | 0.2 | 1.9 | O K |
| 7200 min Winter | 99.183 | 0.183 | 0.2 | 1.4 | O K |
| 8640 min Winter | 99.167 | 0.167 | 0.2 | 1.2 | O K |
| 10080 min Winter | 99.155 | 0.155 | 0.2 | 1.0 | O K |

| Storm Event | Rain (mm/hr) | Flooded Volume (m³) | Time-Peak (mins) |
|---|---|---|---|
| 30 min Winter | 90.474 | 0.0 | 32 |
| 60 min Winter | 57.877 | 0.0 | 60 |
| 120 min Winter | 35.655 | 0.0 | 118 |
| 180 min Winter | 26.413 | 0.0 | 170 |
| 240 min Winter | 21.237 | 0.0 | 194 |
| 360 min Winter | 15.626 | 0.0 | 270 |
| 480 min Winter | 12.548 | 0.0 | 346 |
| 600 min Winter | 10.575 | 0.0 | 422 |
| 720 min Winter | 9.191 | 0.0 | 494 |
| 960 min Winter | 7.358 | 0.0 | 636 |
| 1440 min Winter | 5.368 | 0.0 | 908 |
| 2160 min Winter | 3.907 | 0.0 | 1296 |
| 2880 min Winter | 3.115 | 0.0 | 1672 |
| 4320 min Winter | 2.259 | 0.0 | 2380 |
| 5760 min Winter | 1.796 | 0.0 | 3064 |
| 7200 min Winter | 1.506 | 0.0 | 3752 |
| 8640 min Winter | 1.304 | 0.0 | 4496 |
| 10080 min Winter | 1.154 | 0.0 | 5152 |

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## Rainfall Details

| | | | |
|---|---|---|---|
| Rainfall Model | FSR | Winter Storms | Yes |
| Return Period (years) | 100 | Cv (Summer) | 0.750 |
| Region | England and Wales | Cv (Winter) | 0.840 |
| M5-60 (mm) | 20.400 | Shortest Storm (mins) | 15 |
| Ratio R | 0.350 | Longest Storm (mins) | 10080 |
| Summer Storms | Yes | Climate Change % | +40 |

## Time Area Diagram

Total Area (ha) 0.023

| Time (mins) From: | To: | Area (ha) |
|---|---|---|
| 0 | 4 | 0.023 |

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## Model Details

Storage is Online Cover Level (m) 100.000

## Swale Structure

| | | | |
|---|---|---|---|
| Infiltration Coefficient Base (m/hr) | 0.07200 | Length (m) | 19.0 |
| Infiltration Coefficient Side (m/hr) | 0.07200 | Side Slope (1:X) | 3.0 |
| Safety Factor | 2.0 | Slope (1:X) | 100.0 |
| Porosity | 1.00 | Cap Volume Depth (m) | 0.000 |
| Invert Level (m) | 99.000 | Cap Infiltration Depth (m) | 0.000 |
| Base Width (m) | 0.5 | | |

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