

11 Broomhead Road
Wombell
Barnsley S73 0SA



Date 01/06/2022 11:38
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Designed by shaun
Checked by

CADS Source Control 2020.1.3

Summary of Results for 30 year Return Period

Half Drain Time : 91 minutes.

| Storm Event | Max Level (m) | Max Depth (m) | Max Infiltration (l/s) | Max Volume (m ³) | Status |
|------------------|---------------|---------------|------------------------|------------------------------|--------|
| 15 min Summer | 61.182 | 0.482 | 0.7 | 4.6 | O K |
| 30 min Summer | 61.302 | 0.602 | 0.8 | 5.7 | O K |
| 60 min Summer | 61.381 | 0.681 | 0.8 | 6.5 | O K |
| 120 min Summer | 61.405 | 0.705 | 0.8 | 6.7 | O K |
| 180 min Summer | 61.392 | 0.692 | 0.8 | 6.6 | O K |
| 240 min Summer | 61.369 | 0.669 | 0.8 | 6.4 | O K |
| 360 min Summer | 61.317 | 0.617 | 0.8 | 5.9 | O K |
| 480 min Summer | 61.268 | 0.568 | 0.7 | 5.4 | O K |
| 600 min Summer | 61.222 | 0.522 | 0.7 | 5.0 | O K |
| 720 min Summer | 61.179 | 0.479 | 0.7 | 4.6 | O K |
| 960 min Summer | 61.103 | 0.403 | 0.6 | 3.8 | O K |
| 1440 min Summer | 60.982 | 0.282 | 0.6 | 2.7 | O K |
| 2160 min Summer | 60.860 | 0.160 | 0.5 | 1.5 | O K |
| 2880 min Summer | 60.787 | 0.087 | 0.5 | 0.8 | O K |
| 4320 min Summer | 60.744 | 0.044 | 0.4 | 0.4 | O K |
| 5760 min Summer | 60.735 | 0.035 | 0.3 | 0.3 | O K |
| 7200 min Summer | 60.730 | 0.030 | 0.3 | 0.3 | O K |
| 8640 min Summer | 60.726 | 0.026 | 0.2 | 0.2 | O K |
| 10080 min Summer | 60.723 | 0.023 | 0.2 | 0.2 | O K |
| 15 min Winter | 61.244 | 0.544 | 0.7 | 5.2 | O K |

| Storm Event | Rain (mm/hr) | Flooded Volume (m ³) | Time-Peak (mins) |
|------------------|--------------|----------------------------------|------------------|
| 15 min Summer | 69.560 | 0.0 | 18 |
| 30 min Summer | 46.077 | 0.0 | 32 |
| 60 min Summer | 29.238 | 0.0 | 60 |
| 120 min Summer | 18.017 | 0.0 | 90 |
| 180 min Summer | 13.426 | 0.0 | 124 |
| 240 min Summer | 10.845 | 0.0 | 160 |
| 360 min Summer | 8.002 | 0.0 | 228 |
| 480 min Summer | 6.447 | 0.0 | 296 |
| 600 min Summer | 5.449 | 0.0 | 362 |
| 720 min Summer | 4.747 | 0.0 | 428 |
| 960 min Summer | 3.817 | 0.0 | 556 |
| 1440 min Summer | 2.803 | 0.0 | 796 |
| 2160 min Summer | 2.056 | 0.0 | 1152 |
| 2880 min Summer | 1.648 | 0.0 | 1500 |
| 4320 min Summer | 1.206 | 0.0 | 2200 |
| 5760 min Summer | 0.966 | 0.0 | 2936 |
| 7200 min Summer | 0.812 | 0.0 | 3600 |
| 8640 min Summer | 0.705 | 0.0 | 4320 |
| 10080 min Summer | 0.626 | 0.0 | 5080 |
| 15 min Winter | 69.560 | 0.0 | 17 |

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| Storm Event | Max Level (m) | Max Depth (m) | Max Infiltration (l/s) | Max Volume (m ³) | Status |
|------------------|---------------|---------------|------------------------|------------------------------|--------|
| 30 min Winter | 61.384 | 0.684 | 0.8 | 6.5 | O K |
| 60 min Winter | 61.482 | 0.782 | 0.9 | 7.4 | O K |
| 120 min Winter | 61.510 | 0.810 | 0.9 | 7.7 | O K |
| 180 min Winter | 61.489 | 0.789 | 0.9 | 7.5 | O K |
| 240 min Winter | 61.453 | 0.753 | 0.8 | 7.1 | O K |
| 360 min Winter | 61.373 | 0.673 | 0.8 | 6.4 | O K |
| 480 min Winter | 61.298 | 0.598 | 0.8 | 5.7 | O K |
| 600 min Winter | 61.230 | 0.530 | 0.7 | 5.0 | O K |
| 720 min Winter | 61.168 | 0.468 | 0.7 | 4.4 | O K |
| 960 min Winter | 61.063 | 0.363 | 0.6 | 3.4 | O K |
| 1440 min Winter | 60.907 | 0.207 | 0.5 | 2.0 | O K |
| 2160 min Winter | 60.768 | 0.068 | 0.4 | 0.6 | O K |
| 2880 min Winter | 60.743 | 0.043 | 0.4 | 0.4 | O K |
| 4320 min Winter | 60.732 | 0.032 | 0.3 | 0.3 | O K |
| 5760 min Winter | 60.726 | 0.026 | 0.2 | 0.2 | O K |
| 7200 min Winter | 60.721 | 0.021 | 0.2 | 0.2 | O K |
| 8640 min Winter | 60.719 | 0.019 | 0.2 | 0.2 | O K |
| 10080 min Winter | 60.717 | 0.017 | 0.1 | 0.2 | O K |

| Storm Event | Rain (mm/hr) | Flooded Volume (m ³) | Time-Peak (mins) |
|------------------|--------------|----------------------------------|------------------|
| 30 min Winter | 46.077 | 0.0 | 31 |
| 60 min Winter | 29.238 | 0.0 | 58 |
| 120 min Winter | 18.017 | 0.0 | 96 |
| 180 min Winter | 13.426 | 0.0 | 134 |
| 240 min Winter | 10.845 | 0.0 | 172 |
| 360 min Winter | 8.002 | 0.0 | 246 |
| 480 min Winter | 6.447 | 0.0 | 316 |
| 600 min Winter | 5.449 | 0.0 | 386 |
| 720 min Winter | 4.747 | 0.0 | 454 |
| 960 min Winter | 3.817 | 0.0 | 580 |
| 1440 min Winter | 2.803 | 0.0 | 826 |
| 2160 min Winter | 2.056 | 0.0 | 1148 |
| 2880 min Winter | 1.648 | 0.0 | 1436 |
| 4320 min Winter | 1.206 | 0.0 | 2196 |
| 5760 min Winter | 0.966 | 0.0 | 2928 |
| 7200 min Winter | 0.812 | 0.0 | 3672 |
| 8640 min Winter | 0.705 | 0.0 | 4272 |
| 10080 min Winter | 0.626 | 0.0 | 5040 |

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Rainfall Details

| | | | |
|-----------------------|-------------------|-----------------------|-------|
| Rainfall Model | FSR | Winter Storms | Yes |
| Return Period (years) | 30 | Cv (Summer) | 0.750 |
| Region | England and Wales | Cv (Winter) | 0.840 |
| M5-60 (mm) | 19.000 | Shortest Storm (mins) | 15 |
| Ratio R | 0.361 | Longest Storm (mins) | 10080 |
| Summer Storms | Yes | Climate Change % | +0 |

Time Area Diagram

Total Area (ha) 0.039

| Time (mins) | | Area |
|--------------------|------------|-------------|
| From: | To: | (ha) |
| 0 | 4 | 0.039 |

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Model Details

Storage is Online Cover Level (m) 63.100

Cellular Storage Structure

Invert Level (m) 60.700 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.29520 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.29520

| Depth (m) | Area (m ²) | Inf. Area (m ²) | Depth (m) | Area (m ²) | Inf. Area (m ²) |
|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|
| 0.000 | 10.0 | 10.0 | 0.900 | 0.0 | 21.2 |
| 0.800 | 10.0 | 21.2 | | | |