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| 7 St James Crescent Swansea Wales SA1 6DP | Infiltration Basin 2 Station Road Nantgaredig |  |
| Date 11/06/2020 File C1605 - Swale 2.SRCX | Designed by DH Checked by DF | |
| XP Solutions | Source Control 2019.1 | |

Summary of Results for 100 year Return Period (+30%)

Half Drain Time : 614 minutes.

| Storm Event | Max Level (m) | Max Depth (m) | Max Infiltration (l/s) | Max Volume (m ³) | Status |
|------------------|---------------|---------------|------------------------|------------------------------|--------|
| 15 min Summer | 15.406 | 0.206 | 0.2 | 8.1 | O K |
| 30 min Summer | 15.464 | 0.264 | 0.3 | 11.6 | O K |
| 60 min Summer | 15.521 | 0.321 | 0.3 | 15.6 | O K |
| 120 min Summer | 15.575 | 0.375 | 0.4 | 19.9 | O K |
| 180 min Summer | 15.600 | 0.400 | 0.4 | 22.2 | O K |
| 240 min Summer | 15.615 | 0.415 | 0.4 | 23.5 | O K |
| 360 min Summer | 15.632 | 0.432 | 0.4 | 25.2 | O K |
| 480 min Summer | 15.640 | 0.440 | 0.5 | 26.0 | O K |
| 600 min Summer | 15.646 | 0.446 | 0.5 | 26.6 | O K |
| 720 min Summer | 15.650 | 0.450 | 0.5 | 27.0 | O K |
| 960 min Summer | 15.654 | 0.454 | 0.5 | 27.4 | O K |
| 1440 min Summer | 15.654 | 0.454 | 0.5 | 27.4 | O K |
| 2160 min Summer | 15.645 | 0.445 | 0.5 | 26.5 | O K |
| 2880 min Summer | 15.634 | 0.434 | 0.5 | 25.3 | O K |
| 4320 min Summer | 15.609 | 0.409 | 0.4 | 23.0 | O K |
| 5760 min Summer | 15.587 | 0.387 | 0.4 | 21.0 | O K |
| 7200 min Summer | 15.567 | 0.367 | 0.4 | 19.3 | O K |
| 8640 min Summer | 15.549 | 0.349 | 0.4 | 17.8 | O K |
| 10080 min Summer | 15.534 | 0.334 | 0.4 | 16.5 | O K |
| 15 min Winter | 15.424 | 0.224 | 0.2 | 9.1 | O K |


| Storm Event | Rain (mm/hr) | Flooded Volume (m ³) | Time-Peak (mins) |
|------------------|--------------|----------------------------------|------------------|
| 15 min Summer | 98.427 | 0.0 | 19 |
| 30 min Summer | 70.599 | 0.0 | 33 |
| 60 min Summer | 48.563 | 0.0 | 64 |
| 120 min Summer | 32.126 | 0.0 | 122 |
| 180 min Summer | 24.668 | 0.0 | 182 |
| 240 min Summer | 20.321 | 0.0 | 242 |
| 360 min Summer | 15.451 | 0.0 | 360 |
| 480 min Summer | 12.690 | 0.0 | 420 |
| 600 min Summer | 10.878 | 0.0 | 482 |
| 720 min Summer | 9.582 | 0.0 | 546 |
| 960 min Summer | 7.831 | 0.0 | 676 |
| 1440 min Summer | 5.873 | 0.0 | 954 |
| 2160 min Summer | 4.387 | 0.0 | 1364 |
| 2880 min Summer | 3.570 | 0.0 | 1784 |
| 4320 min Summer | 2.673 | 0.0 | 2592 |
| 5760 min Summer | 2.181 | 0.0 | 3344 |
| 7200 min Summer | 1.865 | 0.0 | 4104 |
| 8640 min Summer | 1.644 | 0.0 | 4840 |
| 10080 min Summer | 1.480 | 0.0 | 5552 |
| 15 min Winter | 98.427 | 0.0 | 19 |

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Summary of Results for 100 year Return Period (+30%)

| Storm Event | Max Level (m) | Max Depth (m) | Max Infiltration (l/s) | Max Volume (m ³) | Status |
|------------------|---------------|---------------|------------------------|------------------------------|--------|
| 30 min Winter | 15.485 | 0.285 | 0.3 | 13.0 | O K |
| 60 min Winter | 15.546 | 0.346 | 0.4 | 17.5 | O K |
| 120 min Winter | 15.603 | 0.403 | 0.4 | 22.4 | O K |
| 180 min Winter | 15.630 | 0.430 | 0.4 | 25.0 | O K |
| 240 min Winter | 15.647 | 0.447 | 0.5 | 26.7 | O K |
| 360 min Winter | 15.666 | 0.466 | 0.5 | 28.7 | O K |
| 480 min Winter | 15.676 | 0.476 | 0.5 | 29.7 | O K |
| 600 min Winter | 15.680 | 0.480 | 0.5 | 30.2 | O K |
| 720 min Winter | 15.684 | 0.484 | 0.5 | 30.6 | O K |
| 960 min Winter | 15.687 | 0.487 | 0.5 | 31.0 | O K |
| 1440 min Winter | 15.683 | 0.483 | 0.5 | 30.6 | O K |
| 2160 min Winter | 15.668 | 0.468 | 0.5 | 28.8 | O K |
| 2880 min Winter | 15.649 | 0.449 | 0.5 | 26.9 | O K |
| 4320 min Winter | 15.613 | 0.413 | 0.4 | 23.3 | O K |
| 5760 min Winter | 15.580 | 0.380 | 0.4 | 20.4 | O K |
| 7200 min Winter | 15.551 | 0.351 | 0.4 | 18.0 | O K |
| 8640 min Winter | 15.527 | 0.327 | 0.3 | 16.0 | O K |
| 10080 min Winter | 15.505 | 0.305 | 0.3 | 14.4 | O K |

| Storm Event | Rain (mm/hr) | Flooded Volume (m ³) | Time-Peak (mins) |
|------------------|--------------|----------------------------------|------------------|
| 30 min Winter | 70.599 | 0.0 | 33 |
| 60 min Winter | 48.563 | 0.0 | 62 |
| 120 min Winter | 32.126 | 0.0 | 120 |
| 180 min Winter | 24.668 | 0.0 | 178 |
| 240 min Winter | 20.321 | 0.0 | 236 |
| 360 min Winter | 15.451 | 0.0 | 348 |
| 480 min Winter | 12.690 | 0.0 | 454 |
| 600 min Winter | 10.878 | 0.0 | 546 |
| 720 min Winter | 9.582 | 0.0 | 570 |
| 960 min Winter | 7.831 | 0.0 | 722 |
| 1440 min Winter | 5.873 | 0.0 | 1036 |
| 2160 min Winter | 4.387 | 0.0 | 1472 |
| 2880 min Winter | 3.570 | 0.0 | 1904 |
| 4320 min Winter | 2.673 | 0.0 | 2724 |
| 5760 min Winter | 2.181 | 0.0 | 3520 |
| 7200 min Winter | 1.865 | 0.0 | 4256 |
| 8640 min Winter | 1.644 | 0.0 | 5016 |
| 10080 min Winter | 1.480 | 0.0 | 5752 |

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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) | 18.500 | Shortest Storm (mins) | 15 |
| Ratio R | 0.240 | Longest Storm (mins) | 10080 |
| Summer Storms | Yes | Climate Change % | +30 |

Time Area Diagram

Total Area (ha) 0.045

| Time (mins) | | Area |
|--------------------|------------|-------------|
| From: | To: | (ha) |
| 0 | 4 | 0.045 |

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Model Details

Storage is Online Cover Level (m) 16.000

Complex Structure

Infiltration Basin

Invert Level (m) 15.200 Safety Factor 5.0
 Infiltration Coefficient Base (m/hr) 0.04608 Porosity 1.00
 Infiltration Coefficient Side (m/hr) 0.04608

| Depth (m) | Area (m ²) | Depth (m) | Area (m ²) | Depth (m) | Area (m ²) |
|-----------|------------------------|-----------|------------------------|-----------|------------------------|
| 0.000 | 26.0 | 0.500 | 114.0 | 0.800 | 175.0 |