

|                                                   |                                                    |                                                                                     |
|---------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Paul Basham Associates                            |                                                    | Page 1                                                                              |
| Lancaster Court<br>Fareham<br>Hampshire, PO15 5TU | 1:10+40%CC ROAD CATCHMENT 3<br>INFILTRATION TRENCH |  |
| Date 28/10/2021 09:55                             | Designed by CLP                                    |                                                                                     |
| File 108.5009 - ROAD CATCHMENT 3.SRCX             | Checked by RW                                      |                                                                                     |
| Innovyze                                          | Source Control 2020.1.3                            |                                                                                     |

### Summary of Results for 10 year Return Period (+40%)

Half Drain Time : 46 minutes.

| Storm Event      | Max Level (m) | Max Depth (m) | Max Infiltration (l/s) | Max Volume (m <sup>3</sup> ) | Status |
|------------------|---------------|---------------|------------------------|------------------------------|--------|
| 15 min Summer    | 15.692        | 0.372         | 0.6                    | 2.1                          | O K    |
| 30 min Summer    | 15.770        | 0.450         | 0.6                    | 2.5                          | O K    |
| 60 min Summer    | 15.804        | 0.484         | 0.7                    | 2.7                          | O K    |
| 120 min Summer   | 15.800        | 0.480         | 0.7                    | 2.7                          | O K    |
| 180 min Summer   | 15.777        | 0.457         | 0.6                    | 2.6                          | O K    |
| 240 min Summer   | 15.750        | 0.430         | 0.6                    | 2.4                          | O K    |
| 360 min Summer   | 15.694        | 0.374         | 0.6                    | 2.1                          | O K    |
| 480 min Summer   | 15.641        | 0.321         | 0.6                    | 1.8                          | O K    |
| 600 min Summer   | 15.595        | 0.275         | 0.6                    | 1.5                          | O K    |
| 720 min Summer   | 15.554        | 0.234         | 0.5                    | 1.2                          | O K    |
| 960 min Summer   | 15.487        | 0.167         | 0.5                    | 0.8                          | O K    |
| 1440 min Summer  | 15.401        | 0.081         | 0.5                    | 0.3                          | O K    |
| 2160 min Summer  | 15.367        | 0.047         | 0.4                    | 0.1                          | O K    |
| 2880 min Summer  | 15.363        | 0.043         | 0.3                    | 0.1                          | O K    |
| 4320 min Summer  | 15.357        | 0.037         | 0.2                    | 0.1                          | O K    |
| 5760 min Summer  | 15.353        | 0.033         | 0.2                    | 0.1                          | O K    |
| 7200 min Summer  | 15.351        | 0.031         | 0.2                    | 0.1                          | O K    |
| 8640 min Summer  | 15.349        | 0.029         | 0.1                    | 0.0                          | O K    |
| 10080 min Summer | 15.347        | 0.027         | 0.1                    | 0.0                          | O K    |
| 15 min Winter    | 15.741        | 0.421         | 0.6                    | 2.4                          | O K    |
| 30 min Winter    | 15.834        | 0.514         | 0.7                    | 2.9                          | O K    |
| 60 min Winter    | 15.877        | 0.557         | 0.7                    | 3.2                          | O K    |
| 120 min Winter   | 15.863        | 0.543         | 0.7                    | 3.1                          | O K    |
| 180 min Winter   | 15.822        | 0.502         | 0.7                    | 2.8                          | O K    |

| Storm Event      | Rain (mm/hr) | Flooded Volume (m <sup>3</sup> ) | Time-Peak (mins) |
|------------------|--------------|----------------------------------|------------------|
| 15 min Summer    | 76.566       | 0.0                              | 19               |
| 30 min Summer    | 51.183       | 0.0                              | 31               |
| 60 min Summer    | 32.926       | 0.0                              | 50               |
| 120 min Summer   | 20.664       | 0.0                              | 84               |
| 180 min Summer   | 15.602       | 0.0                              | 118              |
| 240 min Summer   | 12.744       | 0.0                              | 152              |
| 360 min Summer   | 9.573        | 0.0                              | 218              |
| 480 min Summer   | 7.806        | 0.0                              | 282              |
| 600 min Summer   | 6.660        | 0.0                              | 344              |
| 720 min Summer   | 5.849        | 0.0                              | 406              |
| 960 min Summer   | 4.762        | 0.0                              | 526              |
| 1440 min Summer  | 3.561        | 0.0                              | 754              |
| 2160 min Summer  | 2.660        | 0.0                              | 1100             |
| 2880 min Summer  | 2.162        | 0.0                              | 1436             |
| 4320 min Summer  | 1.613        | 0.0                              | 2148             |
| 5760 min Summer  | 1.311        | 0.0                              | 2840             |
| 7200 min Summer  | 1.116        | 0.0                              | 3576             |
| 8640 min Summer  | 0.978        | 0.0                              | 4296             |
| 10080 min Summer | 0.875        | 0.0                              | 5000             |
| 15 min Winter    | 76.566       | 0.0                              | 19               |
| 30 min Winter    | 51.183       | 0.0                              | 32               |
| 60 min Winter    | 32.926       | 0.0                              | 52               |
| 120 min Winter   | 20.664       | 0.0                              | 90               |
| 180 min Winter   | 15.602       | 0.0                              | 128              |

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|---------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Paul Basham Associates                            |                                                    | Page 2                                                                              |
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| Innovyze                                          | Source Control 2020.1.3                            |                                                                                     |

Summary of Results for 10 year Return Period (+40%)

| Storm<br>Event   | Max<br>Level<br>(m) | Max<br>Depth<br>(m) | Max<br>Infiltration<br>(l/s) | Max<br>Volume<br>(m <sup>3</sup> ) | Status |
|------------------|---------------------|---------------------|------------------------------|------------------------------------|--------|
| 240 min Winter   | 15.776              | 0.456               | 0.6                          | 2.6                                | O K    |
| 360 min Winter   | 15.688              | 0.368               | 0.6                          | 2.0                                | O K    |
| 480 min Winter   | 15.611              | 0.291               | 0.6                          | 1.6                                | O K    |
| 600 min Winter   | 15.546              | 0.226               | 0.5                          | 1.2                                | O K    |
| 720 min Winter   | 15.491              | 0.171               | 0.5                          | 0.9                                | O K    |
| 960 min Winter   | 15.408              | 0.088               | 0.5                          | 0.4                                | O K    |
| 1440 min Winter  | 15.366              | 0.046               | 0.4                          | 0.1                                | O K    |
| 2160 min Winter  | 15.360              | 0.040               | 0.3                          | 0.1                                | O K    |
| 2880 min Winter  | 15.356              | 0.036               | 0.2                          | 0.1                                | O K    |
| 4320 min Winter  | 15.351              | 0.031               | 0.2                          | 0.1                                | O K    |
| 5760 min Winter  | 15.348              | 0.028               | 0.1                          | 0.0                                | O K    |
| 7200 min Winter  | 15.346              | 0.026               | 0.1                          | 0.0                                | O K    |
| 8640 min Winter  | 15.344              | 0.024               | 0.1                          | 0.0                                | O K    |
| 10080 min Winter | 15.343              | 0.023               | 0.1                          | 0.0                                | O K    |

| Storm<br>Event   | Rain<br>(mm/hr) | Flooded<br>Volume<br>(m <sup>3</sup> ) | Time-Peak<br>(mins) |
|------------------|-----------------|----------------------------------------|---------------------|
| 240 min Winter   | 12.744          | 0.0                                    | 164                 |
| 360 min Winter   | 9.573           | 0.0                                    | 232                 |
| 480 min Winter   | 7.806           | 0.0                                    | 298                 |
| 600 min Winter   | 6.660           | 0.0                                    | 360                 |
| 720 min Winter   | 5.849           | 0.0                                    | 420                 |
| 960 min Winter   | 4.762           | 0.0                                    | 532                 |
| 1440 min Winter  | 3.561           | 0.0                                    | 734                 |
| 2160 min Winter  | 2.660           | 0.0                                    | 1104                |
| 2880 min Winter  | 2.162           | 0.0                                    | 1436                |
| 4320 min Winter  | 1.613           | 0.0                                    | 2180                |
| 5760 min Winter  | 1.311           | 0.0                                    | 2856                |
| 7200 min Winter  | 1.116           | 0.0                                    | 3648                |
| 8640 min Winter  | 0.978           | 0.0                                    | 4328                |
| 10080 min Winter | 0.875           | 0.0                                    | 5040                |

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|---------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Paul Basham Associates                            |                                                    | Page 3                                                                              |
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#### Rainfall Details

|                       |                   |                       |       |
|-----------------------|-------------------|-----------------------|-------|
| Rainfall Model        | FSR               | Winter Storms         | Yes   |
| Return Period (years) | 10                | Cv (Summer)           | 0.750 |
| Region                | England and Wales | Cv (Winter)           | 0.840 |
| M5-60 (mm)            | 19.600            | Shortest Storm (mins) | 15    |
| Ratio R               | 0.322             | Longest Storm (mins)  | 10080 |
| Summer Storms         | Yes               | Climate Change %      | +40   |

#### Time Area Diagram

Total Area (ha) 0.018

| Time (mins) Area |     |       | Time (mins) Area |     |       |
|------------------|-----|-------|------------------|-----|-------|
| From:            | To: | (ha)  | From:            | To: | (ha)  |
| 0                | 4   | 0.009 | 4                | 8   | 0.009 |

|                                                   |                                                    |                                                                                     |
|---------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------------------------------|
| Paul Basham Associates                            |                                                    | Page 4                                                                              |
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#### Model Details

Storage is Online Cover Level (m) 16.420

#### Infiltration Trench Structure

|                                      |         |                            |       |
|--------------------------------------|---------|----------------------------|-------|
| Infiltration Coefficient Base (m/hr) | 0.30852 | Trench Width (m)           | 2.0   |
| Infiltration Coefficient Side (m/hr) | 0.30852 | Trench Length (m)          | 9.9   |
| Safety Factor                        | 4.0     | Slope (1:X)                | 200.0 |
| Porosity                             | 0.30    | Cap Volume Depth (m)       | 0.000 |
| Invert Level (m)                     | 15.320  | Cap Infiltration Depth (m) | 0.000 |