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| Baker & Associates Ltd                                             |                                                  | Page 1                                                                              |
| Wessex House<br>Uper Market Street<br>Eastleigh Hampshire SO50 5FD | Upper Bognor Road<br>Bognor<br>Gravel Car Park 1 |  |
| Date 18/03/2022<br>File Paving 17.03.22.SRCX                       | Designed by S Baker<br>Checked by                |                                                                                     |
| Micro Drainage                                                     | Source Control 2018.1.1                          |                                                                                     |

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

Half Drain Time : 1102 minutes.

| 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 |
|------------------|---------------------|---------------------|------------------------------|------------------------------------|--------|
| 15 min Summer    | 0.123               | 0.123               | 0.2                          | 6.5                                | O K    |
| 30 min Summer    | 0.149               | 0.149               | 0.2                          | 9.3                                | O K    |
| 60 min Summer    | 0.177               | 0.177               | 0.2                          | 12.3                               | O K    |
| 120 min Summer   | 0.204               | 0.204               | 0.2                          | 15.3                               | O K    |
| 180 min Summer   | 0.219               | 0.219               | 0.2                          | 16.9                               | O K    |
| 240 min Summer   | 0.229               | 0.229               | 0.2                          | 17.9                               | O K    |
| 360 min Summer   | 0.240               | 0.240               | 0.2                          | 19.2                               | O K    |
| 480 min Summer   | 0.247               | 0.247               | 0.2                          | 19.9                               | O K    |
| 600 min Summer   | 0.250               | 0.250               | 0.2                          | 20.3                               | O K    |
| 720 min Summer   | 0.252               | 0.252               | 0.2                          | 20.4                               | O K    |
| 960 min Summer   | 0.252               | 0.252               | 0.2                          | 20.4                               | O K    |
| 1440 min Summer  | 0.249               | 0.249               | 0.2                          | 20.1                               | O K    |
| 2160 min Summer  | 0.242               | 0.242               | 0.2                          | 19.3                               | O K    |
| 2880 min Summer  | 0.232               | 0.232               | 0.2                          | 18.2                               | O K    |
| 4320 min Summer  | 0.211               | 0.211               | 0.2                          | 16.0                               | O K    |
| 5760 min Summer  | 0.192               | 0.192               | 0.2                          | 13.9                               | O K    |
| 7200 min Summer  | 0.174               | 0.174               | 0.2                          | 12.0                               | O K    |
| 8640 min Summer  | 0.159               | 0.159               | 0.2                          | 10.3                               | O K    |
| 10080 min Summer | 0.146               | 0.146               | 0.2                          | 8.9                                | O K    |
| 15 min Winter    | 0.133               | 0.133               | 0.2                          | 7.5                                | O K    |
| 30 min Winter    | 0.161               | 0.161               | 0.2                          | 10.6                               | O K    |
| 60 min Winter    | 0.192               | 0.192               | 0.2                          | 14.0                               | O K    |
| 120 min Winter   | 0.224               | 0.224               | 0.2                          | 17.4                               | O K    |
| 180 min Winter   | 0.241               | 0.241               | 0.2                          | 19.3                               | O K    |

| Storm<br>Event   | Rain<br>(mm/hr) | Flooded<br>Volume<br>(m <sup>3</sup> ) | Time-Peak<br>(mins) |
|------------------|-----------------|----------------------------------------|---------------------|
| 15 min Summer    | 124.633         | 0.0                                    | 19                  |
| 30 min Summer    | 83.789          | 0.0                                    | 34                  |
| 60 min Summer    | 53.779          | 0.0                                    | 64                  |
| 120 min Summer   | 33.337          | 0.0                                    | 124                 |
| 180 min Summer   | 24.832          | 0.0                                    | 182                 |
| 240 min Summer   | 20.006          | 0.0                                    | 242                 |
| 360 min Summer   | 14.706          | 0.0                                    | 362                 |
| 480 min Summer   | 11.818          | 0.0                                    | 482                 |
| 600 min Summer   | 9.966           | 0.0                                    | 600                 |
| 720 min Summer   | 8.665           | 0.0                                    | 720                 |
| 960 min Summer   | 6.943           | 0.0                                    | 858                 |
| 1440 min Summer  | 5.071           | 0.0                                    | 1108                |
| 2160 min Summer  | 3.696           | 0.0                                    | 1492                |
| 2880 min Summer  | 2.949           | 0.0                                    | 1904                |
| 4320 min Summer  | 2.142           | 0.0                                    | 2720                |
| 5760 min Summer  | 1.705           | 0.0                                    | 3512                |
| 7200 min Summer  | 1.427           | 0.0                                    | 4248                |
| 8640 min Summer  | 1.235           | 0.0                                    | 4936                |
| 10080 min Summer | 1.093           | 0.0                                    | 5648                |
| 15 min Winter    | 124.633         | 0.0                                    | 19                  |
| 30 min Winter    | 83.789          | 0.0                                    | 33                  |
| 60 min Winter    | 53.779          | 0.0                                    | 62                  |
| 120 min Winter   | 33.337          | 0.0                                    | 122                 |
| 180 min Winter   | 24.832          | 0.0                                    | 180                 |

|                                                                    |                                                  |                                                                                     |
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| Micro Drainage                                                     | Source Control 2018.1.1                          |                                                                                     |

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

| Storm Event      | Max Level (m) | Max Depth (m) | Max Infiltration (l/s) | Max Volume (m <sup>3</sup> ) | Status |
|------------------|---------------|---------------|------------------------|------------------------------|--------|
| 240 min Winter   | 0.252         | 0.252         | 0.2                    | 20.5                         | O K    |
| 360 min Winter   | 0.266         | 0.266         | 0.2                    | 21.9                         | O K    |
| 480 min Winter   | 0.274         | 0.274         | 0.2                    | 22.8                         | O K    |
| 600 min Winter   | 0.279         | 0.279         | 0.2                    | 23.4                         | O K    |
| 720 min Winter   | 0.282         | 0.282         | 0.2                    | 23.7                         | O K    |
| 960 min Winter   | 0.283         | 0.283         | 0.2                    | 23.8                         | O K    |
| 1440 min Winter  | 0.278         | 0.278         | 0.2                    | 23.2                         | O K    |
| 2160 min Winter  | 0.267         | 0.267         | 0.2                    | 22.1                         | O K    |
| 2880 min Winter  | 0.253         | 0.253         | 0.2                    | 20.5                         | O K    |
| 4320 min Winter  | 0.222         | 0.222         | 0.2                    | 17.1                         | O K    |
| 5760 min Winter  | 0.192         | 0.192         | 0.2                    | 13.9                         | O K    |
| 7200 min Winter  | 0.166         | 0.166         | 0.2                    | 11.1                         | O K    |
| 8640 min Winter  | 0.144         | 0.144         | 0.2                    | 8.8                          | O K    |
| 10080 min Winter | 0.128         | 0.128         | 0.2                    | 7.0                          | O K    |

| Storm Event      | Rain (mm/hr) | Flooded Volume (m <sup>3</sup> ) | Time-Peak (mins) |
|------------------|--------------|----------------------------------|------------------|
| 240 min Winter   | 20.006       | 0.0                              | 238              |
| 360 min Winter   | 14.706       | 0.0                              | 356              |
| 480 min Winter   | 11.818       | 0.0                              | 470              |
| 600 min Winter   | 9.966        | 0.0                              | 584              |
| 720 min Winter   | 8.665        | 0.0                              | 698              |
| 960 min Winter   | 6.943        | 0.0                              | 916              |
| 1440 min Winter  | 5.071        | 0.0                              | 1184             |
| 2160 min Winter  | 3.696        | 0.0                              | 1624             |
| 2880 min Winter  | 2.949        | 0.0                              | 2076             |
| 4320 min Winter  | 2.142        | 0.0                              | 2940             |
| 5760 min Winter  | 1.705        | 0.0                              | 3744             |
| 7200 min Winter  | 1.427        | 0.0                              | 4472             |
| 8640 min Winter  | 1.235        | 0.0                              | 5184             |
| 10080 min Winter | 1.093        | 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)            | 19.000            | Shortest Storm (mins) | 15    |
| Ratio R               | 0.350             | Longest Storm (mins)  | 10080 |
| Summer Storms         | Yes               | Climate Change %      | +40   |

#### Time Area Diagram

Total Area (ha) 0.036

| Time (mins) | Area     |
|-------------|----------|
| From:       | To: (ha) |

|   |   |       |
|---|---|-------|
| 0 | 4 | 0.036 |
|---|---|-------|

|                                                                    |                                                  |                                                                                     |
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| Micro Drainage                                                     | Source Control 2018.1.1                          |                                                                                     |

#### Model Details

Storage is Online Cover Level (m) 0.300

#### Porous Car Park Structure

|                                      |         |                         |       |
|--------------------------------------|---------|-------------------------|-------|
| Infiltration Coefficient Base (m/hr) | 0.00360 | Width (m)               | 19.0  |
| Membrane Percolation (mm/hr)         | 1000    | Length (m)              | 19.0  |
| Max Percolation (l/s)                | 100.3   | Slope (1:X)             | 150.0 |
| Safety Factor                        | 2.0     | Depression Storage (mm) | 5     |
| Porosity                             | 0.30    | Evaporation (mm/day)    | 3     |
| Invert Level (m)                     | 0.000   | Membrane Depth (m)      | 0     |