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| CGH02 - Rossett Road, Rossett:<br>Southern Parcel<br>Surface Water (SAB) Details Rev 4.0 | Date:<br>20/10/0023                                              |             |              |
|                                                                                          | Designed by:<br>CP                                               | Checked by: | Approved By: |
|                                                                                          | Report Details:<br>Type: Junctions Summary<br>Storm Phase: South |             |              |
| Betts-Associates:<br>Old Marsh Farm Barns,<br>Welsh Road, Sealand<br>Flintshire, CH5 2LY |                                                                  |             |              |





Critical Storm Per Item: Rank By: Max. Depth

| Junction       | Storm Event                                  | Cover Level (m) | Invert Level (m) | Max. Level (m) | Max. Depth (m) | Max. Inflow (L/s) | Max. Resident Volume (m³) | Max. Flooded Volume (m³) | Total Discharge Volume (m³) | Status     |
|----------------|----------------------------------------------|-----------------|------------------|----------------|----------------|-------------------|---------------------------|--------------------------|-----------------------------|------------|
| Silt Trap      | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.441          | 11.924           | 12.714         | 0.790          | 0.4               | 0.126                     | 0.000                    | 13.925                      | Surcharged |
| Silt Trap (35) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.429          | 11.866           | 12.714         | 0.848          | 0.4               | 0.135                     | 0.000                    | 15.533                      | Surcharged |
| Silt Trap (61) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.394          | 11.868           | 12.818         | 0.950          | 0.3               | 0.151                     | 0.000                    | 11.072                      | Surcharged |
| Silt Trap (50) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.047          | 11.980           | 12.714         | 0.734          | 0.4               | 0.117                     | 0.000                    | 13.277                      | Surcharged |
| Silt Trap (49) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.452          | 12.145           | 12.714         | 0.569          | 0.5               | 0.091                     | 0.000                    | 15.752                      | OK         |
| Silt Trap (60) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.348          | 11.793           | 12.818         | 1.025          | 0.4               | 0.163                     | 0.000                    | 12.239                      | Surcharged |
| Silt Trap (59) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.105          | 11.745           | 12.818         | 1.073          | 2.3               | 0.171                     | 0.000                    | 77.885                      | Surcharged |
| Silt Trap (7)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.150          | 11.796           | 12.818         | 1.022          | 1.1               | 0.163                     | 0.000                    | 39.173                      | Surcharged |
| Silt Trap (57) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.291          | 11.953           | 12.818         | 0.865          | 0.3               | 0.138                     | 0.000                    | 11.066                      | Surcharged |
| Silt Trap (12) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.488          | 11.889           | 12.715         | 0.826          | 0.4               | 0.131                     | 0.000                    | 12.821                      | Surcharged |
| Silt Trap (23) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.423          | 11.805           | 12.715         | 0.910          | 0.9               | 0.145                     | 0.000                    | 31.250                      | Surcharged |
| Silt Trap (1)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.398          | 11.891           | 12.715         | 0.824          | 0.3               | 0.131                     | 0.000                    | 8.921                       | Surcharged |
| Silt Trap (21) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.348          | 11.863           | 12.715         | 0.852          | 0.5               | 0.135                     | 0.000                    | 15.959                      | Surcharged |
| Silt Trap (25) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.340          | 11.753           | 12.715         | 0.962          | 0.7               | 0.153                     | 0.000                    | 24.641                      | Surcharged |
| Silt Trap (4)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.417          | 11.570           | 12.715         | 1.145          | 0.2               | 0.182                     | 0.000                    | 6.150                       | Surcharged |
| Silt Trap (48) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.443          | 12.145           | 12.714         | 0.569          | 0.4               | 0.091                     | 0.000                    | 15.230                      | OK         |
| Silt Trap (47) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.430          | 12.087           | 12.714         | 0.627          | 0.4               | 0.100                     | 0.000                    | 12.905                      | Surcharged |
| Silt Trap (46) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.435          | 12.198           | 12.714         | 0.516          | 0.3               | 0.082                     | 0.000                    | 11.867                      | OK         |
| Silt Trap (45) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.452          | 11.717           | 12.714         | 0.997          | 0.2               | 0.159                     | 0.000                    | 7.538                       | Surcharged |
| Silt Trap (37) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.448          | 12.195           | 12.714         | 0.519          | 0.1               | 0.083                     | 0.000                    | 3.164                       | OK         |
| Silt Trap (11) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.507          | 11.945           | 12.715         | 0.770          | 0.3               | 0.122                     | 0.000                    | 10.613                      | Surcharged |

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|                                                                                          | Designed by:<br>CP                                               | Checked by: | Approved By: |
|                                                                                          | Report Details:<br>Type: Junctions Summary<br>Storm Phase: South |             |              |
| Betts-Associates:<br>Old Marsh Farm Barns,<br>Welsh Road, Sealand<br>Flintshire, CH5 2LY |                                                                  |             |              |



|                 |                                              |        |        |        |       |     |       |       |        |            |
|-----------------|----------------------------------------------|--------|--------|--------|-------|-----|-------|-------|--------|------------|
| Silt Trap (44)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.463 | 12.067 | 12.714 | 0.647 | 0.4 | 0.103 | 0.000 | 15.311 | Surcharged |
| Silt Trap (56)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.489 | 12.051 | 12.715 | 0.664 | 0.2 | 0.106 | 0.000 | 7.904  | Surcharged |
| Silt Trap (71)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.486 | 12.055 | 12.715 | 0.660 | 0.2 | 0.105 | 0.000 | 7.904  | Surcharged |
| Silt Trap (70)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.420 | 11.853 | 12.715 | 0.862 | 0.2 | 0.137 | 0.000 | 7.643  | Surcharged |
| Silt Trap (36)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.420 | 12.043 | 12.818 | 0.775 | 0.4 | 0.123 | 0.000 | 14.342 | Surcharged |
| Silt Trap (64)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.464 | 11.844 | 12.715 | 0.871 | 0.3 | 0.138 | 0.000 | 10.136 | Surcharged |
| Silt Trap (63)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.464 | 12.059 | 12.715 | 0.656 | 0.2 | 0.104 | 0.000 | 7.904  | Surcharged |
| Silt Trap (62)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.467 | 12.023 | 12.715 | 0.692 | 0.3 | 0.110 | 0.000 | 9.233  | Surcharged |
| Silt Trap (66)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.451 | 12.025 | 12.715 | 0.690 | 0.3 | 0.110 | 0.000 | 9.233  | Surcharged |
| Silt Trap (52)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.603 | 12.196 | 12.715 | 0.519 | 0.3 | 0.083 | 0.000 | 10.757 | OK         |
| Silt Trap (32)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.693 | 12.146 | 12.715 | 0.569 | 0.3 | 0.090 | 0.000 | 10.757 | OK         |
| Silt Trap (31)  | Rossett: 100 years: +40 %: 15 mins: Winter   | 13.690 | 12.256 | 12.768 | 0.512 | 4.5 | 0.081 | 0.000 | 2.859  | OK         |
| Silt Trap (26)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.457 | 12.025 | 12.715 | 0.690 | 0.6 | 0.110 | 0.000 | 21.877 | Surcharged |
| _Silt Trap (30) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.400 | 12.011 | 12.715 | 0.704 | 0.8 | 0.112 | 0.000 | 29.169 | Surcharged |
| Silt Trap (10)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.512 | 11.923 | 12.715 | 0.792 | 0.4 | 0.126 | 0.000 | 14.840 | Surcharged |
| Silt Trap (16)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.504 | 12.092 | 12.715 | 0.623 | 0.4 | 0.099 | 0.000 | 12.269 | Surcharged |
| Silt Trap (51)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.456 | 11.864 | 12.715 | 0.851 | 0.4 | 0.135 | 0.000 | 15.449 | Surcharged |
| Silt Trap (20)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.420 | 11.891 | 12.715 | 0.824 | 0.4 | 0.131 | 0.000 | 12.395 | Surcharged |
| Silt Trap (54)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.414 | 11.897 | 12.715 | 0.818 | 0.3 | 0.130 | 0.000 | 11.489 | Surcharged |
| Silt Trap (73)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.382 | 11.888 | 12.715 | 0.827 | 0.4 | 0.131 | 0.000 | 12.707 | Surcharged |
| Silt Trap (3)   | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.352 | 11.903 | 12.715 | 0.812 | 0.3 | 0.129 | 0.000 | 11.162 | Surcharged |
| Silt Trap (2)   | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.350 | 11.891 | 12.715 | 0.824 | 0.4 | 0.131 | 0.000 | 12.623 | Surcharged |
| Silt Trap (8)   | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.394 | 11.897 | 12.715 | 0.818 | 0.3 | 0.130 | 0.000 | 11.495 | Surcharged |
| _Silt Trap (65) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.567 | 11.800 | 12.715 | 0.915 | 1.2 | 0.145 | 0.000 | 39.620 | Surcharged |
| Silt Trap (18)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.474 | 11.929 | 12.715 | 0.786 | 0.4 | 0.125 | 0.000 | 14.654 | Surcharged |

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|                                                                                          | Designed by:        | Checked by:                                                                              | Approved By: |                                                                                    |
|                                                                                          | CP                  |                                                                                          |              |                                                                                    |
| Report Details:<br>Type: Junctions Summary<br>Storm Phase: South                         |                     | Betts-Associates:<br>Old Marsh Farm Barns,<br>Welsh Road, Sealand<br>Flintshire, CH5 2LY |              |                                                                                    |

|                 |                                              |        |        |        |       |      |       |       |         |            |
|-----------------|----------------------------------------------|--------|--------|--------|-------|------|-------|-------|---------|------------|
| Simple Junction | Rossett: 100 years: +40 %: 1440 mins: Winter |        | 11.650 | 12.714 | 1.064 | 13.6 |       |       | 881.591 | Surcharged |
| Hydro-Brake     | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.412 | 11.035 | 12.714 | 1.679 | 1.2  | 4.274 | 0.000 | 67.174  | Surcharged |
| Manhole (R4TH)  | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.486 | 12.285 | 12.715 | 0.430 | 1.5  | 0.372 | 0.000 | 52.047  | Surcharged |
| Silt Trap (5)   | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.368 | 12.093 | 12.715 | 0.622 | 0.6  | 0.099 | 0.000 | 22.830  | Surcharged |
| Domestic IC (3) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.279 | 12.141 | 12.715 | 0.574 | 0.6  | 0.091 | 0.000 | 22.833  | Surcharged |
| Domestic IC (2) | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.102 | 12.227 | 12.715 | 0.488 | 0.7  | 0.078 | 0.000 | 22.864  | Surcharged |
| Domestic IC (1) | Rossett: 100 years: +40 %: 1440 mins: Winter | 12.923 | 12.313 | 12.715 | 0.402 | 0.5  | 0.064 | 0.000 | 17.185  | Surcharged |
| Domestic IC 62  | Rossett: 100 years: +40 %: 1440 mins: Winter | 12.881 | 12.400 | 12.715 | 0.315 | 0.2  | 0.050 | 0.000 | 5.739   | Flood Risk |
| Wet Well        | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.404 | 10.971 | 10.988 | 0.017 | 0.5  | 0.000 | 0.000 | 67.131  | OK         |

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|                                                                                          | Designed by:<br>CP                                                         | Checked by: | Approved By: |
|                                                                                          | Report Details:<br>Type: Stormwater Controls Summary<br>Storm Phase: South |             |              |
| Betts-Associates:<br>Old Marsh Farm Barns,<br>Welsh Road, Sealand<br>Flintshire, CH5 2LY |                                                                            |             |              |





Critical Storm Per Item: Rank By: Max. Avg. Depth

| Stormwater Control | Storm Event                                  | Max. US Level (m) | Max. DS Level (m) | Max. US Depth (m) | Max. DS Depth (m) | Max. Inflow (L/s) | Max. Resident Volume (m³) | Max. Flooded Volume (m³) | Total Lost Volume (m³) | Max. Outflow (L/s) | Total Discharge Volume (m³) | Percentage Available (%) | Status |
|--------------------|----------------------------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|---------------------------|--------------------------|------------------------|--------------------|-----------------------------|--------------------------|--------|
| S Road 1 (a)       | Rossett: 100 years: +40 %: 1440 mins: Winter | 12.715            | 12.715            | 0.639             | 0.692             | 3.7               | 23.174                    | 0.000                    | 0.000                  | 2.9                | 65.522                      | 26.910                   | OK     |
| S Road 1 (b)       | Rossett: 100 years: +40 %: 1440 mins: Winter | 12.715            | 12.715            | 0.715             | 0.867             | 5.6               | 79.194                    | 0.000                    | 0.000                  | 4.2                | 185.130                     | 25.217                   | OK     |
| S Road 1 (c)       | Rossett: 100 years: +40 %: 1440 mins: Winter | 12.715            | 12.714            | 0.885             | 0.972             | 14.5              | 53.951                    | 0.000                    | 0.000                  | 5.5                | 310.495                     | 26.052                   | OK     |
| S Road 1 (d)       | Rossett: 100 years: +40 %: 1440 mins: Winter | 12.714            | 12.714            | 1.155             | 1.257             | 16.6              | 81.247                    | 0.000                    | 0.000                  | 14.1               | 695.256                     | 17.528                   | OK     |
| S Road 1 (e)       | Rossett: 100 years: +40 %: 1440 mins: Winter | 12.714            | 12.714            | 1.272             | 1.323             | 16.0              | 43.547                    | 0.000                    | 0.000                  | 14.8               | 642.223                     | 15.147                   | OK     |
| S Road 2           | Rossett: 100 years: +40 %: 1440 mins: Winter | 13.372            | 13.446            | 1.493             | 1.716             | 6.9               | 130.851                   | 47.088                   | 0.000                  | 7.3                | 246.918                     | -48.486                  | Flood  |
| S Road 3 (a)       | Rossett: 100 years: +40 %: 1440 mins: Winter | 12.714            | 12.714            | 0.687             | 0.724             | 8.2               | 15.024                    | 0.000                    | 0.000                  | 7.6                | 328.786                     | 26.714                   | OK     |
| S Road 3 (b)       | Rossett: 100 years: +40 %: 1440 mins: Winter | 12.714            | 12.715            | 0.565             | 0.669             | 7.8               | 36.770                    | 0.000                    | 0.000                  | 6.9                | 279.526                     | 28.430                   | OK     |
| S Road 4           | Rossett: 100 years: +40 %: 1440 mins: Winter | 12.715            | 12.715            | 0.507             | 0.565             | 5.5               | 44.560                    | 0.000                    | 0.000                  | 5.1                | 185.410                     | 34.499                   | OK     |
| S Road 1TH         | Rossett: 100 years: +40 %: 1440 mins: Winter | 12.714            | 12.714            | 1.323             | 1.377             | 15.4              | 47.910                    | 0.000                    | 0.000                  | 14.1               | 571.977                     | 7.227                    | OK     |
| Pond               | Rossett: 100 years: +40 %: 1440 mins: Winter | 12.714            | 12.714            | 1.556             | 1.556             | 14.1              | 529.017                   | 0.000                    | 0.000                  | 1.2                | 71.833                      | 22.488                   | OK     |
| Plot 97-101 SA     | Rossett: 100 years: +40 %: 120 mins: Winter  | 13.459            | 13.459            | 0.162             | 0.459             | 12.6              | 23.245                    | 0.000                    | 28.531                 | 0.0                | 0.000                       | 42.488                   | OK     |
| Plot 80-82 SA      | Rossett: 100 years: +40 %: 120 mins: Winter  | 13.263            | 13.263            | 0.143             | 0.463             | 14.9              | 27.925                    | 0.000                    | 32.618                 | 0.0                | 0.000                       | 43.817                   | OK     |
| Plot 122-124 SA    | Rossett: 100 years: +40 %: 30 mins: Winter   | 13.340            | 13.116            | 0.099             | 0.316             | 23.9              | 8.876                     | 0.000                    | 21.018                 | 0.0                | 0.000                       | 77.783                   | OK     |