

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for Proposed - Storm (No Infil)

Pipe Sizes STANDARD Manhole Sizes STANDARD

FSR Rainfall Model - England and Wales

|                                      |        |                                       |       |
|--------------------------------------|--------|---------------------------------------|-------|
| Return Period (years)                | 2      | PIMP (%)                              | 100   |
| M5-60 (mm)                           | 19.700 | Add Flow / Climate Change (%)         | 0     |
| Ratio R                              | 0.350  | Minimum Backdrop Height (m)           | 0.600 |
| Maximum Rainfall (mm/hr)             | 550    | Maximum Backdrop Height (m)           | 1.500 |
| Maximum Time of Concentration (mins) | 30     | Min Design Depth for Optimisation (m) | 1.200 |
| Foul Sewage (l/s/ha)                 | 0.000  | Min Vel for Auto Design only (m/s)    | 1.00  |
| Volumetric Runoff Coeff.             | 0.750  | Min Slope for Optimisation (1:X)      | 200   |

Designed with Level Soffits

Time Area Diagram for Proposed - Storm (No Infil)

| Time<br>(mins) | Area<br>(ha) | Time<br>(mins) | Area<br>(ha) |
|----------------|--------------|----------------|--------------|
| 0-4            | 0.820        | 4-8            | 0.605        |

Total Area Contributing (ha) = 1.425

Total Pipe Volume (m³) = 223.482

Network Design Table for Proposed - Storm (No Infil)

# - Indicates pipe length does not match coordinates

| PN     | Length<br>(m) | Fall<br>(m) | Slope<br>(1:X) | I.Area<br>(ha) | T.E.<br>(mins) | Base<br>Flow (l/s) | k<br>(mm) | n | HYD<br>SECT | DIA<br>(mm) | Section Type | Auto<br>Design                                                                        |
|--------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|---|-------------|-------------|--------------|---------------------------------------------------------------------------------------|
| S1.000 | 22.991        | 1.060       | 21.7           | 0.067          | 2.00           | 0.0                | 0.600     |   | o           | 150         | Pipe/Conduit |  |
| S1.001 | 21.806        | 1.835       | 11.9           | 0.056          | 0.00           | 0.0                | 0.600     |   | o           | 150         | Pipe/Conduit |  |
| S1.002 | 20.451        | 1.565       | 13.1           | 0.065          | 0.00           | 0.0                | 0.600     |   | o           | 150         | Pipe/Conduit |  |
| S1.003 | 12.740        | 0.805       | 15.8           | 0.000          | 0.00           | 0.0                | 0.600     |   | o           | 150         | Pipe/Conduit |  |
| S1.004 | 65.176        | 2.260       | 28.8           | 0.222          | 0.00           | 0.0                | 0.600     |   | o           | 225         | Pipe/Conduit |  |
| S2.000 | 23.826        | 0.125       | 190.8          | 0.131          | 2.00           | 0.0                | 0.600     |   | o           | 225         | Pipe/Conduit |  |
| S1.005 | 37.789        | 2.915       | 13.0           | 0.000          | 0.00           | 0.0                | 0.600     |   | o           | 225         | Pipe/Conduit |  |

Network Results Table

| PN     | Rain<br>(mm/hr) | T.C.<br>(mins) | US/IL<br>(m) | Σ I.Area<br>(ha) | Σ Base<br>Flow (l/s) | Foul<br>(l/s) | Add Flow<br>(l/s) | Vel<br>(m/s) | Cap<br>(l/s) | Flow<br>(l/s) |
|--------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S1.000 | 84.90           | 2.18           | 51.550       | 0.067            | 0.0                  | 0.0           | 0.0               | 2.17         | 38.4         | 15.4          |
| S1.001 | 83.69           | 2.30           | 50.490       | 0.123            | 0.0                  | 0.0           | 0.0               | 2.94         | 51.9         | 27.9          |
| S1.002 | 82.53           | 2.42           | 48.655       | 0.189            | 0.0                  | 0.0           | 0.0               | 2.80         | 49.5         | 42.1          |
| S1.003 | 81.76           | 2.51           | 47.090       | 0.189            | 0.0                  | 0.0           | 0.0               | 2.54         | 45.0         | 42.1          |
| S1.004 | 77.94           | 2.95           | 46.210       | 0.411            | 0.0                  | 0.0           | 0.0               | 2.45         | 97.2         | 86.7          |
| S2.000 | 82.54           | 2.42           | 44.075       | 0.131            | 0.0                  | 0.0           | 0.0               | 0.94         | 37.5         | 29.2          |
| S1.005 | 76.56           | 3.12           | 43.950       | 0.541            | 0.0                  | 0.0           | 0.0               | 3.65         | 145.3        | 112.2         |

|                                                           |  |                                                                                          |
|-----------------------------------------------------------|--|------------------------------------------------------------------------------------------|
| WSP Group Ltd                                             |  | Page 2                                                                                   |
| .<br>.<br>.                                               |  | Church Road, Bishopstoke<br>SW - Field Attenuation Basin<br>As Built+Weir Raised(+100mm) |
| Date 19/02/2024<br>File 70015667 Church Road As Built ... |  | Designed by JB<br>Checked by OJF                                                         |
| XP Solutions                                              |  | Network 2018.1.1                                                                         |



Network Design Table for Proposed - Storm (No Infil)

| PN     | Length<br>(m) | Fall<br>(m) | Slope<br>(1:X) | I.Area<br>(ha) | T.E.<br>(mins) | Base<br>Flow (l/s) | k<br>(mm) | n   | HYD<br>SECT | DIA<br>(mm) | Section Type | Auto<br>Design |
|--------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|-----|-------------|-------------|--------------|----------------|
| S3.000 | 7.600         | 0.130       | 58.5           | 0.042          | 2.00           | 0.0                | 0.600     |     | o           | 225         | Pipe/Conduit |                |
| S1.006 | 6.811         | 0.875       | 7.8            | 0.047          | 0.00           | 0.0                | 0.600     |     | o           | 375         | Pipe/Conduit |                |
| S4.000 | 24.756        | 0.235       | 105.3          | 0.057          | 2.00           | 0.0                | 0.600     |     | o           | 225         | Pipe/Conduit |                |
| S1.007 | 36.218        | 1.200       | 30.2           | 0.078          | 0.00           | 0.0                | 0.600     |     | o           | 375         | Pipe/Conduit |                |
| S5.000 | 44.736        | 3.945       | 11.3           | 0.090          | 2.00           | 0.0                | 0.600     |     | o           | 150         | Pipe/Conduit |                |
| S5.001 | 22.741        | 0.325       | 70.0           | 0.026          | 0.00           | 0.0                | 0.600     |     | o           | 225         | Pipe/Conduit |                |
| S5.002 | 35.094        | 0.205       | 171.2          | 0.000          | 0.00           | 0.0                | 0.600     |     | o           | 225         | Pipe/Conduit |                |
| S1.008 | 11.383        | 0.730       | 15.6           | 0.096          | 0.00           | 0.0                | 0.600     |     | o           | 375         | Pipe/Conduit |                |
| S6.000 | 24.351        | 0.170       | 143.2          | 0.066          | 2.00           | 0.0                | 0.600     |     | o           | 225         | Pipe/Conduit |                |
| S1.009 | 23.512        | 0.780       | 30.1           | 0.000          | 0.00           | 0.0                | 0.600     |     | o           | 375         | Pipe/Conduit |                |
| S1.010 | 13.206        | 0.295       | 44.8           | 0.093          | 0.00           | 0.0                | 0.600     |     | o           | 375         | Pipe/Conduit |                |
| S1.011 | 29.141        | 0.590       | 49.4           | 0.035          | 0.00           | 0.0                | 0.600     |     | o           | 375         | Pipe/Conduit |                |
| S7.000 | 10.000#       | 0.075       | 133.3          | 0.000          | 2.00           | 0.0                | 0.600     |     | o           | 150         | Pipe/Conduit |                |
| S7.001 | 10.000#       | 0.075       | 133.3          | 0.000          | 0.00           | 0.0                | 0.600     |     | o           | 150         | Pipe/Conduit |                |
| S7.002 | 10.561        | 0.140       | 75.4           | 0.000          | 0.00           | 0.0                | 0.600     | ooo |             | -2          | Pipe/Conduit |                |
| S7.003 | 4.761         | 0.095       | 50.1           | 0.000          | 0.00           | 0.0                | 0.600     |     | o           | 225         | Pipe/Conduit |                |
| S1.012 | 16.991        | 0.105       | 161.8          | 0.042          | 0.00           | 0.0                | 0.600     |     | o           | 225         | Pipe/Conduit |                |
| S1.013 | 11.994        | 0.060       | 199.9          | 0.033          | 0.00           | 0.0                | 0.600     |     | o           | 225         | Pipe/Conduit |                |

Network Results Table

| PN     | Rain<br>(mm/hr) | T.C.<br>(mins) | US/IL<br>(m) | Σ I.Area<br>(ha) | Σ Base<br>Flow (l/s) | Foul<br>(l/s) | Add Flow<br>(l/s) | Vel<br>(m/s) | Cap<br>(l/s) | Flow<br>(l/s) |
|--------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S3.000 | 85.93           | 2.07           | 41.165       | 0.042            | 0.0                  | 0.0           | 0.0               | 1.71         | 68.1         | 9.7           |
| S1.006 | 76.43           | 3.14           | 40.885       | 0.630            | 0.0                  | 0.0           | 0.0               | 6.53         | 721.0        | 130.3         |
| S4.000 | 83.46           | 2.32           | 40.320       | 0.057            | 0.0                  | 0.0           | 0.0               | 1.27         | 50.6         | 12.9          |
| S1.007 | 75.04           | 3.32           | 39.935       | 0.764            | 0.0                  | 0.0           | 0.0               | 3.31         | 365.4        | 155.3         |
| S5.000 | 84.19           | 2.25           | 42.810       | 0.090            | 0.0                  | 0.0           | 0.0               | 3.01         | 53.2         | 20.5          |
| S5.001 | 81.90           | 2.49           | 38.790       | 0.116            | 0.0                  | 0.0           | 0.0               | 1.57         | 62.2         | 25.7          |
| S5.002 | 76.91           | 3.08           | 38.465       | 0.116            | 0.0                  | 0.0           | 0.0               | 1.00         | 39.6         | 25.7          |
| S1.008 | 74.74           | 3.36           | 38.110       | 0.976            | 0.0                  | 0.0           | 0.0               | 4.61         | 509.0        | 197.6         |
| S6.000 | 83.00           | 2.37           | 37.700       | 0.066            | 0.0                  | 0.0           | 0.0               | 1.09         | 43.4         | 14.8          |
| S1.009 | 73.88           | 3.48           | 37.380       | 1.042            | 0.0                  | 0.0           | 0.0               | 3.31         | 365.7        | 208.5         |
| S1.010 | 73.30           | 3.56           | 36.600       | 1.135            | 0.0                  | 0.0           | 0.0               | 2.71         | 299.8        | 225.4         |
| S1.011 | 72.01           | 3.75           | 36.305       | 1.170            | 0.0                  | 0.0           | 0.0               | 2.58         | 285.3        | 228.2         |
| S7.000 | 84.74           | 2.19           | 36.100       | 0.000            | 0.0                  | 0.0           | 0.0               | 0.87         | 15.3         | 0.0           |
| S7.001 | 82.89           | 2.38           | 36.025       | 0.000            | 0.0                  | 0.0           | 0.0               | 0.87         | 15.3         | 0.0           |
| S7.002 | 81.49           | 2.54           | 35.950       | 0.000            | 0.0                  | 0.0           | 0.0               | 1.16         | 61.4         | 0.0           |
| S7.003 | 81.10           | 2.58           | 35.810       | 0.000            | 0.0                  | 0.0           | 0.0               | 1.85         | 73.6         | 0.0           |
| S1.012 | 83.92           | 2.28           | 35.715       | 0.000            | 20.0                 | 0.0           | 0.0               | 1.03         | 40.8         | 20.0          |
| S1.013 | 81.87           | 2.49           | 35.610       | 0.033            | 20.0                 | 0.0           | 0.0               | 0.92         | 36.6         | 27.3          |

|                                                 |                                                                                          |                                                                                    |
|-------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| WSP Group Ltd                                   |                                                                                          | Page 3                                                                             |
| <div><div>.</div><div>.</div><div>.</div></div> | Church Road, Bishopstoke<br>SW - Field Attenuation Basin<br>As Built+Weir Raised(+100mm) |  |
| Date 19/02/2024                                 | Designed by JB                                                                           |                                                                                    |
| File 70015667 Church Road As Built ...          | Checked by OJF                                                                           |                                                                                    |
| XP Solutions                                    | Network 2018.1.1                                                                         |                                                                                    |

Network Design Table for Proposed - Storm (No Infil)

| PN     | Length<br>(m) | Fall<br>(m) | Slope<br>(1:X) | I.Area<br>(ha) | T.E.<br>(mins) | Base<br>Flow (l/s) | k<br>(mm) | n | HYD<br>SECT | DIA<br>(mm) | Section Type | Auto<br>Design                                                                      |
|--------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|---|-------------|-------------|--------------|-------------------------------------------------------------------------------------|
| S1.014 | 11.357        | 0.060       | 189.3          | 0.000          | 0.00           | 0.0                | 0.600     |   | o           | 225         | Pipe/Conduit |  |
| S1.015 | 22.952        | 0.370       | 62.0           | 0.000          | 0.00           | 0.0                | 0.600     |   | o           | 225         | Pipe/Conduit |  |
| S8.000 | 22.052        | 0.220       | 100.2          | 0.062          | 2.00           | 0.0                | 0.600     |   | o           | 150         | Pipe/Conduit |  |
| S9.000 | 22.708        | 0.570       | 39.8           | 0.007          | 2.00           | 0.0                | 0.600     |   | o           | 150         | Pipe/Conduit |  |
| S8.001 | 38.963        | 0.285       | 136.7          | 0.040          | 0.00           | 0.0                | 0.600     |   | o           | 225         | Pipe/Conduit |  |
| S8.002 | 7.948         | 0.045       | 176.6          | 0.047          | 0.00           | 0.0                | 0.600     |   | o           | 225         | Pipe/Conduit |  |
| S8.003 | 11.707        | 0.060       | 195.1          | 0.000          | 0.00           | 0.0                | 0.600     |   | o           | 225         | Pipe/Conduit |  |
| S1.016 | 12.461        | 0.085       | 146.6          | 0.024          | 0.00           | 0.0                | 0.600     |   | oo          | -1          | Pipe/Conduit |  |
| S1.017 | 17.809#       | 0.633       | 28.1           | 0.000          | 0.00           | 0.0                | 0.030     | 2 | \_/_        | 1000        | 1:2 Ditch    |  |
| S1.018 | 11.314#       | 0.780       | 14.5           | 0.000          | 0.00           | 0.0                | 0.030     | 2 | \_/_        | 600         | 1:2 Ditch    |  |
| S1.019 | 5.000#        | 0.100       | 50.0           | 0.000          | 0.00           | 0.0                | 0.600     |   | o           | 300         | Pipe/Conduit |  |

Network Results Table

| PN     | Rain<br>(mm/hr) | T.C.<br>(mins) | US/IL<br>(m) | Σ I.Area<br>(ha) | Σ Base<br>Flow (l/s) | Foul<br>(l/s) | Add Flow<br>(l/s) | Vel<br>(m/s) | Cap<br>(l/s) | Flow<br>(l/s) |
|--------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S1.014 | 80.09           | 2.69           | 35.550       | 0.033            | 20.0                 | 0.0           | 0.0               | 0.95         | 37.7         | 27.3          |
| S1.015 | 78.15           | 2.92           | 35.490       | 0.033            | 20.0                 | 0.0           | 0.0               | 1.66         | 66.1         | 27.3          |
| S8.000 | 83.05           | 2.37           | 35.805       | 0.062            | 0.0                  | 0.0           | 0.0               | 1.00         | 17.7         | 14.0          |
| S9.000 | 84.30           | 2.24           | 36.155       | 0.007            | 0.0                  | 0.0           | 0.0               | 1.60         | 28.3         | 1.6           |
| S8.001 | 77.95           | 2.95           | 35.510       | 0.109            | 0.0                  | 0.0           | 0.0               | 1.12         | 44.4         | 23.0          |
| S8.002 | 76.87           | 3.08           | 35.225       | 0.156            | 0.0                  | 0.0           | 0.0               | 0.98         | 39.0         | 32.5          |
| S8.003 | 75.26           | 3.29           | 35.180       | 0.156            | 0.0                  | 0.0           | 0.0               | 0.93         | 37.1         | 32.5          |
| S1.016 | 84.16           | 2.25           | 35.120       | 0.000            | 10.0                 | 0.0           | 0.0               | 0.83         | 29.3         | 10.0          |
| S1.017 | 82.86           | 2.39           | 35.013       | 0.000            | 10.0                 | 0.0           | 0.0               | 2.18         | 1048.7       | 10.0          |
| S1.018 | 82.24           | 2.45           | 34.380       | 0.000            | 10.0                 | 0.0           | 0.0               | 2.85         | 1024.5       | 10.0          |
| S1.019 | 86.31           | 2.04           | 32.900       | 0.000            | 1.0                  | 0.0           | 0.0               | 2.23         | 157.5        | 1.0           |

|                                        |  |  |  |                                                                                          |  |
|----------------------------------------|--|--|--|------------------------------------------------------------------------------------------|--|
| WSP Group Ltd                          |  |  |  | Page 4                                                                                   |  |
| .<br>.<br>.                            |  |  |  | Church Road, Bishopstoke<br>SW - Field Attenuation Basin<br>As Built+Weir Raised(+100mm) |  |
| Date 19/02/2024                        |  |  |  | Designed by JB                                                                           |  |
| File 70015667 Church Road As Built ... |  |  |  | Checked by OJF                                                                           |  |
| XP Solutions                           |  |  |  | Network 2018.1.1                                                                         |  |



Manhole Schedules for Proposed - Storm (No Infil)

| MH Name | MH CL (m) | MH Depth (m) | MH Connection | MH Diam., L*W (mm) | PN     | Pipe Out Invert Level (m) | Diameter (mm) | PN     | Pipes In Invert Level (m) | Diameter (mm) | Backdrop (mm) |
|---------|-----------|--------------|---------------|--------------------|--------|---------------------------|---------------|--------|---------------------------|---------------|---------------|
| S1      | 53.165    | 1.615        | Open Manhole  | 1200               | S1.000 | 51.550                    | 150           |        |                           |               |               |
| S2      | 51.840    | 1.350        | Open Manhole  | 1200               | S1.001 | 50.490                    | 150           | S1.000 | 50.490                    | 150           |               |
| S3      | 50.005    | 1.350        | Open Manhole  | 1200               | S1.002 | 48.655                    | 150           | S1.001 | 48.655                    | 150           |               |
| S4      | 48.440    | 1.350        | Open Manhole  | 1200               | S1.003 | 47.090                    | 150           | S1.002 | 47.090                    | 150           |               |
| S5      | 47.635    | 1.425        | Open Manhole  | 1200               | S1.004 | 46.210                    | 225           | S1.003 | 46.285                    | 150           |               |
| S8      | 45.500    | 1.425        | Open Manhole  | 1200               | S2.000 | 44.075                    | 225           |        |                           |               |               |
| S9      | 45.510    | 1.560        | Open Manhole  | 1200               | S1.005 | 43.950                    | 225           | S1.004 | 43.950                    | 225           |               |
|         |           |              |               |                    |        |                           |               | S2.000 | 43.950                    | 225           |               |
| S10     | 43.090    | 1.925        | Open Manhole  | 1200               | S3.000 | 41.165                    | 225           |        |                           |               |               |
| S11     | 43.065    | 2.180        | Open Manhole  | 1350               | S1.006 | 40.885                    | 375           | S1.005 | 41.035                    | 225           |               |
|         |           |              |               |                    |        |                           |               | S3.000 | 41.035                    | 225           |               |
| S12     | 43.000    | 2.680        | Open Manhole  | 1200               | S4.000 | 40.320                    | 225           |        |                           |               |               |
| S13     | 42.600    | 2.665        | Open Manhole  | 1350               | S1.007 | 39.935                    | 375           | S1.006 | 40.010                    | 375           | 75            |
|         |           |              |               |                    |        |                           |               | S4.000 | 40.085                    | 225           |               |
| S14     | 44.160    | 1.350        | Open Manhole  | 1200               | S5.000 | 42.810                    | 150           |        |                           |               |               |
| S15     | 40.215    | 1.425        | Open Manhole  | 1200               | S5.001 | 38.790                    | 225           | S5.000 | 38.865                    | 150           |               |
| S16     | 39.890    | 1.425        | Open Manhole  | 1200               | S5.002 | 38.465                    | 225           | S5.001 | 38.465                    | 225           |               |
| S17     | 40.095    | 1.985        | Open Manhole  | 1350               | S1.008 | 38.110                    | 375           | S1.007 | 38.735                    | 375           | 625           |
|         |           |              |               |                    |        |                           |               | S5.002 | 38.260                    | 225           |               |
| S18     | 39.475    | 1.775        | Open Manhole  | 1200               | S6.000 | 37.700                    | 225           |        |                           |               |               |
| S19     | 39.310    | 1.930        | Open Manhole  | 1350               | S1.009 | 37.380                    | 375           | S1.008 | 37.380                    | 375           |               |
|         |           |              |               |                    |        |                           |               | S6.000 | 37.530                    | 225           |               |
| S20     | 38.050    | 1.450        | Open Manhole  | 1350               | S1.010 | 36.600                    | 375           | S1.009 | 36.600                    | 375           |               |
| S22     | 38.135    | 1.830        | Open Manhole  | 1350               | S1.011 | 36.305                    | 375           | S1.010 | 36.305                    | 375           |               |
| STANK 2 | 38.570    | 2.470        | Open Manhole  | 500                | S7.000 | 36.100                    | 150           |        |                           |               |               |
| S24     | 38.790    | 2.765        | Open Manhole  | 1200               | S7.001 | 36.025                    | 150           | S7.000 | 36.025                    | 150           |               |
| STANK 1 | 38.200    | 2.250        | Open Manhole  | 500                | S7.002 | 35.950                    | -2            | S7.001 | 35.950                    | 150           |               |
| S23A    | 37.720    | 1.910        | Open Manhole  | 1200               | S7.003 | 35.810                    | 225           | S7.002 | 35.810                    | -2            |               |
| S23     | 37.775    | 2.060        | Open Manhole  | 1350               | S1.012 | 35.715                    | 225           | S1.011 | 35.715                    | 375           |               |
|         |           |              |               |                    |        |                           |               | S7.003 | 35.715                    | 225           |               |
| S27     | 37.675    | 2.065        | Open Manhole  | 1200               | S1.013 | 35.610                    | 225           | S1.012 | 35.610                    | 225           |               |
| S28     | 37.420    | 1.870        | Open Manhole  | 1200               | S1.014 | 35.550                    | 225           | S1.013 | 35.550                    | 225           |               |
| SHW1    | 37.291    | 1.801        | Open Manhole  | 1                  | S1.015 | 35.490                    | 225           | S1.014 | 35.490                    | 225           |               |
| S29     | 37.200    | 1.395        | Open Manhole  | 1200               | S8.000 | 35.805                    | 150           |        |                           |               |               |
| S30     | 37.505    | 1.350        | Open Manhole  | 1200               | S9.000 | 36.155                    | 150           |        |                           |               |               |
| S31     | 37.070    | 1.560        | Open Manhole  | 1200               | S8.001 | 35.510                    | 225           | S8.000 | 35.585                    | 150           |               |
|         |           |              |               |                    |        |                           |               | S9.000 | 35.585                    | 150           |               |
| S32     | 36.640    | 1.415        | Open Manhole  | 1200               | S8.002 | 35.225                    | 225           | S8.001 | 35.225                    | 225           |               |
| S33     | 36.720    | 1.540        | Open Manhole  | 1200               | S8.003 | 35.180                    | 225           | S8.002 | 35.180                    | 225           |               |
| SHW2    | 36.981    | 1.861        | Open Manhole  | 1200               | S1.016 | 35.120                    | -1            | S1.015 | 35.120                    | 225           |               |
|         |           |              |               |                    |        |                           |               | S8.003 | 35.120                    | 225           |               |
| SHW3    | 36.900    | 1.887        | Open Manhole  | 500                | S1.017 | 35.013                    | 1000          | S1.016 | 35.035                    | -1            |               |
| SHW4    | 35.400    | 1.020        | Open Manhole  | 500                | S1.018 | 34.380                    | 600           | S1.017 | 34.380                    | 1000          |               |
| SFIELD  | 34.300    | 1.400        | Open Manhole  | 1 x 10000          | S1.019 | 32.900                    | 300           | S1.018 | 33.600                    | 600           | 700           |
| SDUMMY  | 34.000    | 1.200        | Open Manhole  | 0                  |        | OUTFALL                   |               | S1.019 | 32.800                    | 300           |               |

|                                                 |                                                                                          |                                                                                    |
|-------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| WSP Group Ltd                                   |                                                                                          | Page 5                                                                             |
| <div><div>.</div><div>.</div><div>.</div></div> | Church Road, Bishopstoke<br>SW - Field Attenuation Basin<br>As Built+Weir Raised(+100mm) |  |
| Date 19/02/2024                                 | Designed by JB                                                                           |                                                                                    |
| File 70015667 Church Road As Built ...          | Checked by OJF                                                                           |                                                                                    |
| XP Solutions                                    | Network 2018.1.1                                                                         |                                                                                    |

# PIPELINE SCHEDULES for Proposed - Storm (No Infil)

## Upstream Manhole

# - Indicates pipe length does not match coordinates

| PN     | Hyd  | Diam | MH  | C.Level | I.Level | D.Depth    | MH           | MH DIAM., L*W |
|--------|------|------|-----|---------|---------|------------|--------------|---------------|
| Sect   | (mm) | Name | (m) | (m)     | (m)     | Connection | (mm)         |               |
| S1.000 | o    | 150  | S1  | 53.165  | 51.550  | 1.465      | Open Manhole | 1200          |
| S1.001 | o    | 150  | S2  | 51.840  | 50.490  | 1.200      | Open Manhole | 1200          |
| S1.002 | o    | 150  | S3  | 50.005  | 48.655  | 1.200      | Open Manhole | 1200          |
| S1.003 | o    | 150  | S4  | 48.440  | 47.090  | 1.200      | Open Manhole | 1200          |
| S1.004 | o    | 225  | S5  | 47.635  | 46.210  | 1.200      | Open Manhole | 1200          |
| S2.000 | o    | 225  | S8  | 45.500  | 44.075  | 1.200      | Open Manhole | 1200          |
| S1.005 | o    | 225  | S9  | 45.510  | 43.950  | 1.335      | Open Manhole | 1200          |
| S3.000 | o    | 225  | S10 | 43.090  | 41.165  | 1.700      | Open Manhole | 1200          |
| S1.006 | o    | 375  | S11 | 43.065  | 40.885  | 1.805      | Open Manhole | 1350          |
| S4.000 | o    | 225  | S12 | 43.000  | 40.320  | 2.455      | Open Manhole | 1200          |
| S1.007 | o    | 375  | S13 | 42.600  | 39.935  | 2.290      | Open Manhole | 1350          |
| S5.000 | o    | 150  | S14 | 44.160  | 42.810  | 1.200      | Open Manhole | 1200          |
| S5.001 | o    | 225  | S15 | 40.215  | 38.790  | 1.200      | Open Manhole | 1200          |
| S5.002 | o    | 225  | S16 | 39.890  | 38.465  | 1.200      | Open Manhole | 1200          |
| S1.008 | o    | 375  | S17 | 40.095  | 38.110  | 1.610      | Open Manhole | 1350          |

## Downstream Manhole

| PN     | Length | Slope | MH  | C.Level | I.Level | D.Depth    | MH           | MH DIAM., L*W |
|--------|--------|-------|-----|---------|---------|------------|--------------|---------------|
| (m)    | (1:X)  | Name  | (m) | (m)     | (m)     | Connection | (mm)         |               |
| S1.000 | 22.991 | 21.7  | S2  | 51.840  | 50.490  | 1.200      | Open Manhole | 1200          |
| S1.001 | 21.806 | 11.9  | S3  | 50.005  | 48.655  | 1.200      | Open Manhole | 1200          |
| S1.002 | 20.451 | 13.1  | S4  | 48.440  | 47.090  | 1.200      | Open Manhole | 1200          |
| S1.003 | 12.740 | 15.8  | S5  | 47.635  | 46.285  | 1.200      | Open Manhole | 1200          |
| S1.004 | 65.176 | 28.8  | S9  | 45.510  | 43.950  | 1.335      | Open Manhole | 1200          |
| S2.000 | 23.826 | 190.8 | S9  | 45.510  | 43.950  | 1.335      | Open Manhole | 1200          |
| S1.005 | 37.789 | 13.0  | S11 | 43.065  | 41.035  | 1.805      | Open Manhole | 1350          |
| S3.000 | 7.600  | 58.5  | S11 | 43.065  | 41.035  | 1.805      | Open Manhole | 1350          |
| S1.006 | 6.811  | 7.8   | S13 | 42.600  | 40.010  | 2.215      | Open Manhole | 1350          |
| S4.000 | 24.756 | 105.3 | S13 | 42.600  | 40.085  | 2.290      | Open Manhole | 1350          |
| S1.007 | 36.218 | 30.2  | S17 | 40.095  | 38.735  | 0.985      | Open Manhole | 1350          |
| S5.000 | 44.736 | 11.3  | S15 | 40.215  | 38.865  | 1.200      | Open Manhole | 1200          |
| S5.001 | 22.741 | 70.0  | S16 | 39.890  | 38.465  | 1.200      | Open Manhole | 1200          |
| S5.002 | 35.094 | 171.2 | S17 | 40.095  | 38.260  | 1.610      | Open Manhole | 1350          |
| S1.008 | 11.383 | 15.6  | S19 | 39.310  | 37.380  | 1.555      | Open Manhole | 1350          |

|                                                 |                                                                                          |                                                                                    |
|-------------------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| WSP Group Ltd                                   |                                                                                          | Page 6                                                                             |
| <div><div>.</div><div>.</div><div>.</div></div> | Church Road, Bishopstoke<br>SW - Field Attenuation Basin<br>As Built+Weir Raised(+100mm) |  |
| Date 19/02/2024                                 | Designed by JB                                                                           |                                                                                    |
| File 70015667 Church Road As Built ...          | Checked by OJF                                                                           |                                                                                    |
| XP Solutions                                    | Network 2018.1.1                                                                         |                                                                                    |

PIPELINE SCHEDULES for Proposed - Storm (No Infil)

Upstream Manhole

| PN     | Hyd<br>Sect | Diam<br>(mm) | MH<br>Name | C.Level<br>(m) | I.Level<br>(m) | D.Depth<br>(m) | MH<br>Connection | MH DIAM., L*W<br>(mm) |
|--------|-------------|--------------|------------|----------------|----------------|----------------|------------------|-----------------------|
| S6.000 | o           | 225          | S18        | 39.475         | 37.700         | 1.550          | Open Manhole     | 1200                  |
| S1.009 | o           | 375          | S19        | 39.310         | 37.380         | 1.555          | Open Manhole     | 1350                  |
| S1.010 | o           | 375          | S20        | 38.050         | 36.600         | 1.075          | Open Manhole     | 1350                  |
| S1.011 | o           | 375          | S22        | 38.135         | 36.305         | 1.455          | Open Manhole     | 1350                  |
| S7.000 | o           | 150          | STANK 2    | 38.570         | 36.100         | 2.320          | Open Manhole     | 500                   |
| S7.001 | o           | 150          | S24        | 38.790         | 36.025         | 2.615          | Open Manhole     | 1200                  |
| S7.002 | ooo         | -2           | STANK 1    | 38.200         | 35.950         | 2.100          | Open Manhole     | 500                   |
| S7.003 | o           | 225          | S23A       | 37.720         | 35.810         | 1.760          | Open Manhole     | 1200                  |
| S1.012 | o           | 225          | S23        | 37.775         | 35.715         | 1.835          | Open Manhole     | 1350                  |
| S1.013 | o           | 225          | S27        | 37.675         | 35.610         | 1.840          | Open Manhole     | 1200                  |
| S1.014 | o           | 225          | S28        | 37.420         | 35.550         | 1.645          | Open Manhole     | 1200                  |
| S1.015 | o           | 225          | SHW1       | 37.291         | 35.490         | 1.576          | Open Manhole     | 1                     |
| S8.000 | o           | 150          | S29        | 37.200         | 35.805         | 1.245          | Open Manhole     | 1200                  |
| S9.000 | o           | 150          | S30        | 37.505         | 36.155         | 1.200          | Open Manhole     | 1200                  |
| S8.001 | o           | 225          | S31        | 37.070         | 35.510         | 1.335          | Open Manhole     | 1200                  |
| S8.002 | o           | 225          | S32        | 36.640         | 35.225         | 1.190          | Open Manhole     | 1200                  |
| S8.003 | o           | 225          | S33        | 36.720         | 35.180         | 1.315          | Open Manhole     | 1200                  |
| S1.016 | oo          | -1           | SHW2       | 36.981         | 35.120         | 1.711          | Open Manhole     | 1200                  |
| S1.017 | 2 \_ /      | 1000         | SHW3       | 36.900         | 35.013         | 1.587          | Open Manhole     | 500                   |

Downstream Manhole

| PN     | Length<br>(m) | Slope<br>(1:X) | MH<br>Name | C.Level<br>(m) | I.Level<br>(m) | D.Depth<br>(m) | MH<br>Connection | MH DIAM., L*W<br>(mm) |
|--------|---------------|----------------|------------|----------------|----------------|----------------|------------------|-----------------------|
| S6.000 | 24.351        | 143.2          | S19        | 39.310         | 37.530         | 1.555          | Open Manhole     | 1350                  |
| S1.009 | 23.512        | 30.1           | S20        | 38.050         | 36.600         | 1.075          | Open Manhole     | 1350                  |
| S1.010 | 13.206        | 44.8           | S22        | 38.135         | 36.305         | 1.455          | Open Manhole     | 1350                  |
| S1.011 | 29.141        | 49.4           | S23        | 37.775         | 35.715         | 1.685          | Open Manhole     | 1350                  |
| S7.000 | 10.000#       | 133.3          | S24        | 38.790         | 36.025         | 2.615          | Open Manhole     | 1200                  |
| S7.001 | 10.000#       | 133.3          | STANK 1    | 38.200         | 35.950         | 2.100          | Open Manhole     | 500                   |
| S7.002 | 10.561        | 75.4           | S23A       | 37.720         | 35.810         | 1.760          | Open Manhole     | 1200                  |
| S7.003 | 4.761         | 50.1           | S23        | 37.775         | 35.715         | 1.910          | Open Manhole     | 1350                  |
| S1.012 | 16.991        | 161.8          | S27        | 37.675         | 35.610         | 1.840          | Open Manhole     | 1200                  |
| S1.013 | 11.994        | 199.9          | S28        | 37.420         | 35.550         | 1.645          | Open Manhole     | 1200                  |
| S1.014 | 11.357        | 189.3          | SHW1       | 37.291         | 35.490         | 1.576          | Open Manhole     | 1                     |
| S1.015 | 22.952        | 62.0           | SHW2       | 36.981         | 35.120         | 1.636          | Open Manhole     | 1200                  |
| S8.000 | 22.052        | 100.2          | S31        | 37.070         | 35.585         | 1.335          | Open Manhole     | 1200                  |
| S9.000 | 22.708        | 39.8           | S31        | 37.070         | 35.585         | 1.335          | Open Manhole     | 1200                  |
| S8.001 | 38.963        | 136.7          | S32        | 36.640         | 35.225         | 1.190          | Open Manhole     | 1200                  |
| S8.002 | 7.948         | 176.6          | S33        | 36.720         | 35.180         | 1.315          | Open Manhole     | 1200                  |
| S8.003 | 11.707        | 195.1          | SHW2       | 36.981         | 35.120         | 1.636          | Open Manhole     | 1200                  |
| S1.016 | 12.461        | 146.6          | SHW3       | 36.900         | 35.035         | 1.715          | Open Manhole     | 500                   |
| S1.017 | 17.809#       | 28.1           | SHW4       | 35.400         | 34.380         | 0.720          | Open Manhole     | 500                   |

|                                        |                              |                                                                                    |
|----------------------------------------|------------------------------|------------------------------------------------------------------------------------|
| WSP Group Ltd                          |                              | Page 7                                                                             |
| .                                      | Church Road, Bishopstoke     |  |
| .                                      | SW - Field Attenuation Basin |                                                                                    |
| .                                      | As Built+Weir Raised(+100mm) |                                                                                    |
| Date 19/02/2024                        | Designed by JB               |                                                                                    |
| File 70015667 Church Road As Built ... | Checked by OJF               |                                                                                    |
| XP Solutions                           | Network 2018.1.1             |                                                                                    |

PIPELINE SCHEDULES for Proposed - Storm (No Infil)

Upstream Manhole

| PN     | Hyd<br>Sect | Diam<br>(mm) | MH<br>Name | C.Level<br>(m) | I.Level<br>(m) | D.Depth<br>(m) | MH<br>Connection | MH DIAM., L*W<br>(mm) |
|--------|-------------|--------------|------------|----------------|----------------|----------------|------------------|-----------------------|
| S1.018 | 2 \_ /      | 600          | SHW4       | 35.400         | 34.380         | 0.720          | Open Manhole     | 500                   |
| S1.019 | o           | 300          | SFIELD     | 34.300         | 32.900         | 1.100          | Open Manhole     | 1 x 10000             |

Downstream Manhole

| PN     | Length<br>(m) | Slope<br>(1:X) | MH<br>Name | C.Level<br>(m) | I.Level<br>(m) | D.Depth<br>(m) | MH<br>Connection | MH DIAM., L*W<br>(mm) |
|--------|---------------|----------------|------------|----------------|----------------|----------------|------------------|-----------------------|
| S1.018 | 11.314#       | 14.5           | SFIELD     | 34.300         | 33.600         | 0.400          | Open Manhole     | 1 x 10000             |
| S1.019 | 5.000#        | 50.0           | SDUMMY     | 34.000         | 32.800         | 0.900          | Open Manhole     | 0                     |

|                                        |                              |                                                                                    |
|----------------------------------------|------------------------------|------------------------------------------------------------------------------------|
| WSP Group Ltd                          |                              | Page 8                                                                             |
| .                                      | Church Road, Bishopstoke     |  |
| .                                      | SW - Field Attenuation Basin |                                                                                    |
| .                                      | As Built+Weir Raised(+100mm) |                                                                                    |
| Date 19/02/2024                        | Designed by JB               |                                                                                    |
| File 70015667 Church Road As Built ... | Checked by OJF               |                                                                                    |
| XP Solutions                           | Network 2018.1.1             |                                                                                    |

Area Summary for Proposed - Storm (No Infil)

| Pipe Number | PIMP Type | PIMP Name | PIMP (%) | Gross Area (ha) | Imp. Area (ha) | Pipe Total (ha) |
|-------------|-----------|-----------|----------|-----------------|----------------|-----------------|
| 1.000       | User      | -         | 100      | 0.067           | 0.067          | 0.067           |
| 1.001       | User      | -         | 100      | 0.056           | 0.056          | 0.056           |
| 1.002       | User      | -         | 100      | 0.065           | 0.065          | 0.065           |
| 1.003       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 1.004       | User      | -         | 100      | 0.222           | 0.222          | 0.222           |
| 2.000       | User      | -         | 100      | 0.040           | 0.040          | 0.040           |
|             | User      | -         | 100      | 0.021           | 0.021          | 0.061           |
|             | User      | -         | 100      | 0.033           | 0.033          | 0.095           |
|             | User      | -         | 100      | 0.036           | 0.036          | 0.131           |
| 1.005       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 3.000       | User      | -         | 100      | 0.042           | 0.042          | 0.042           |
| 1.006       | User      | -         | 100      | 0.047           | 0.047          | 0.047           |
| 4.000       | User      | -         | 100      | 0.057           | 0.057          | 0.057           |
| 1.007       | User      | -         | 100      | 0.029           | 0.029          | 0.029           |
|             | User      | -         | 100      | 0.048           | 0.048          | 0.078           |
| 5.000       | User      | -         | 100      | 0.090           | 0.090          | 0.090           |
| 5.001       | User      | -         | 100      | 0.026           | 0.026          | 0.026           |
| 5.002       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 1.008       | User      | -         | 100      | 0.096           | 0.096          | 0.096           |
| 6.000       | User      | -         | 100      | 0.066           | 0.066          | 0.066           |
| 1.009       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 1.010       | User      | -         | 100      | 0.093           | 0.093          | 0.093           |
| 1.011       | User      | -         | 100      | 0.035           | 0.035          | 0.035           |
| 7.000       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 7.001       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 7.002       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 7.003       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 1.012       | User      | -         | 100      | 0.042           | 0.042          | 0.042           |
| 1.013       | User      | -         | 100      | 0.033           | 0.033          | 0.033           |
| 1.014       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 1.015       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 8.000       | User      | -         | 100      | 0.062           | 0.062          | 0.062           |
| 9.000       | User      | -         | 100      | 0.007           | 0.007          | 0.007           |
| 8.001       | User      | -         | 100      | 0.040           | 0.040          | 0.040           |
| 8.002       | User      | -         | 100      | 0.047           | 0.047          | 0.047           |
| 8.003       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 1.016       | User      | -         | 100      | 0.024           | 0.024          | 0.024           |
| 1.017       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 1.018       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
| 1.019       | -         | -         | 100      | 0.000           | 0.000          | 0.000           |
|             |           |           |          | Total           | Total          | Total           |
|             |           |           |          | 1.425           | 1.425          | 1.425           |

Free Flowing Outfall Details for Proposed - Storm (No Infil)

| Outfall Pipe Number | Outfall Name | C. Level (m) | I. Level (m) | Min I. Level (m) | D,L (mm) | W (mm) |
|---------------------|--------------|--------------|--------------|------------------|----------|--------|
| S1.019              | SDUMMY       | 34.000       | 32.800       | 0.000            | 0        | 0      |

|                                        |                              |                                                                                    |
|----------------------------------------|------------------------------|------------------------------------------------------------------------------------|
| WSP Group Ltd                          |                              | Page 9                                                                             |
| .                                      | Church Road, Bishopstoke     |  |
| .                                      | SW - Field Attenuation Basin |                                                                                    |
| .                                      | As Built+Weir Raised(+100mm) |                                                                                    |
| Date 19/02/2024                        | Designed by JB               |                                                                                    |
| File 70015667 Church Road As Built ... | Checked by OJF               |                                                                                    |
| XP Solutions                           | Network 2018.1.1             |                                                                                    |

Simulation Criteria for Proposed - Storm (No Infil)

|                                 |       |                                     |        |
|---------------------------------|-------|-------------------------------------|--------|
| Volumetric Runoff Coeff         | 0.840 | Additional Flow - % of Total Flow   | 0.000  |
| Areal Reduction Factor          | 1.000 | MADD Factor * 10m³/ha Storage       | 10.000 |
| Hot Start (mins)                | 0     | Inlet Coefficient                   | 0.800  |
| Hot Start Level (mm)            | 0     | Flow per Person per Day (l/per/day) | 0.000  |
| Manhole Headloss Coeff (Global) | 0.500 | Run Time (mins)                     | 2880   |
| Foul Sewage per hectare (l/s)   | 0.000 | Output Interval (mins)              | 24     |

Number of Input Hydrographs 0    Number of Offline Controls 1    Number of Time/Area Diagrams 0  
Number of Online Controls 6    Number of Storage Structures 6    Number of Real Time Controls 0

Synthetic Rainfall Details

|                       |                   |                       |        |
|-----------------------|-------------------|-----------------------|--------|
| Rainfall Model        | FSR               | Profile Type          | Winter |
| Return Period (years) | 100               | Cv (Summer)           | 0.750  |
| Region                | England and Wales | Cv (Winter)           | 0.840  |
| M5-60 (mm)            | 19.700            | Storm Duration (mins) | 1440   |
| Ratio R               | 0.350             |                       |        |

|                                        |                              |                                                                                    |
|----------------------------------------|------------------------------|------------------------------------------------------------------------------------|
| WSP Group Ltd                          |                              | Page 10                                                                            |
| .                                      | Church Road, Bishopstoke     |  |
| .                                      | SW - Field Attenuation Basin |                                                                                    |
| .                                      | As Built+Weir Raised(+100mm) |                                                                                    |
| Date 19/02/2024                        | Designed by JB               |                                                                                    |
| File 70015667 Church Road As Built ... | Checked by OJF               |                                                                                    |
| XP Solutions                           | Network 2018.1.1             |                                                                                    |

Online Controls for Proposed - Storm (No Infil)

Orifice Manhole: S11, DS/PN: S1.006, Volume (m<sup>3</sup>): 4.8

Diameter (m) 0.275 Discharge Coefficient 0.600 Invert Level (m) 40.885

Orifice Manhole: S13, DS/PN: S1.007, Volume (m<sup>3</sup>): 5.4

Diameter (m) 0.225 Discharge Coefficient 0.600 Invert Level (m) 39.935

Orifice Manhole: S19, DS/PN: S1.009, Volume (m<sup>3</sup>): 4.8

Diameter (m) 0.200 Discharge Coefficient 0.600 Invert Level (m) 37.380

Hydro-Brake® Optimum Manhole: S24, DS/PN: S7.001, Volume (m<sup>3</sup>): 3.3

|                                   |                            |
|-----------------------------------|----------------------------|
| Unit Reference                    | MD-SHE-0082-4000-2000-4000 |
| Design Head (m)                   | 2.000                      |
| Design Flow (l/s)                 | 4.0                        |
| Flush-Flo™                        | Calculated                 |
| Objective                         | Minimise upstream storage  |
| Application                       | Surface                    |
| Sump Available                    | Yes                        |
| Diameter (mm)                     | 82                         |
| Invert Level (m)                  | 36.025                     |
| Minimum Outlet Pipe Diameter (mm) | 100                        |
| Suggested Manhole Diameter (mm)   | 1200                       |

| Control Points            |          |            | Control Points            |          |            |
|---------------------------|----------|------------|---------------------------|----------|------------|
|                           | Head (m) | Flow (l/s) |                           | Head (m) | Flow (l/s) |
| Design Point (Calculated) | 2.000    | 4.0        | Kick-Flo®                 | 0.729    | 2.5        |
| Flush-Flo™                | 0.356    | 3.1        | Mean Flow over Head Range | -        | 3.1        |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100     | 2.4        | 0.800     | 2.6        | 2.000     | 4.0        | 4.000     | 5.5        | 7.000     | 7.2        |
| 0.200     | 3.0        | 1.000     | 2.9        | 2.200     | 4.2        | 4.500     | 5.8        | 7.500     | 7.4        |
| 0.300     | 3.1        | 1.200     | 3.2        | 2.400     | 4.3        | 5.000     | 6.1        | 8.000     | 7.7        |
| 0.400     | 3.1        | 1.400     | 3.4        | 2.600     | 4.5        | 5.500     | 6.4        | 8.500     | 7.9        |
| 0.500     | 3.1        | 1.600     | 3.6        | 3.000     | 4.8        | 6.000     | 6.7        | 9.000     | 8.1        |
| 0.600     | 2.9        | 1.800     | 3.8        | 3.500     | 5.2        | 6.500     | 6.9        | 9.500     | 8.3        |

Complex Manhole: S23, DS/PN: S1.012, Volume (m<sup>3</sup>): 6.2

Hydro-Brake® Optimum

|                                   |                            |
|-----------------------------------|----------------------------|
| Unit Reference                    | MD-SHE-0147-1000-0900-1000 |
| Design Head (m)                   | 0.900                      |
| Design Flow (l/s)                 | 10.0                       |
| Flush-Flo™                        | Calculated                 |
| Objective                         | Minimise upstream storage  |
| Application                       | Surface                    |
| Sump Available                    | Yes                        |
| Diameter (mm)                     | 147                        |
| Invert Level (m)                  | 35.715                     |
| Minimum Outlet Pipe Diameter (mm) | 225                        |

|                                        |                              |                                                                                    |
|----------------------------------------|------------------------------|------------------------------------------------------------------------------------|
| WSP Group Ltd                          |                              | Page 11                                                                            |
| .                                      | Church Road, Bishopstoke     |  |
| .                                      | SW - Field Attenuation Basin |                                                                                    |
| .                                      | As Built+Weir Raised(+100mm) |                                                                                    |
| Date 19/02/2024                        | Designed by JB               |                                                                                    |
| File 70015667 Church Road As Built ... | Checked by OJF               |                                                                                    |
| XP Solutions                           | Network 2018.1.1             |                                                                                    |

### Hydro-Brake® Optimum

Suggested Manhole Diameter (mm) 1200

| Control Points            | Head (m) | Flow (l/s) | Control Points            | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 0.900    | 10.0       | Kick-Flo®                 | 0.625    | 8.4        |
| Flush-Flo™                | 0.283    | 10.0       | Mean Flow over Head Range | -        | 8.5        |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated

| Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100     | 5.3        | 0.800     | 9.5        | 2.000     | 14.6       | 4.000     | 20.3       | 7.000     | 26.5       |
| 0.200     | 9.8        | 1.000     | 10.5       | 2.200     | 15.2       | 4.500     | 21.5       | 7.500     | 27.4       |
| 0.300     | 10.0       | 1.200     | 11.4       | 2.400     | 15.9       | 5.000     | 22.6       | 8.000     | 28.3       |
| 0.400     | 9.8        | 1.400     | 12.3       | 2.600     | 16.5       | 5.500     | 23.6       | 8.500     | 29.1       |
| 0.500     | 9.5        | 1.600     | 13.1       | 3.000     | 17.7       | 6.000     | 24.6       | 9.000     | 30.0       |
| 0.600     | 8.8        | 1.800     | 13.9       | 3.500     | 19.0       | 6.500     | 25.6       | 9.500     | 30.7       |

### Weir

Discharge Coef 0.544 Width (m) 1.000 Invert Level (m) 37.300

Complex Manhole: SFIELD, DS/PN: S1.019, Volume (m³): 29.8

### Orifice

Diameter (m) 0.090 Discharge Coefficient 0.600 Invert Level (m) 33.442

### Weir

Discharge Coef 0.510 Width (m) 0.250 Invert Level (m) 34.113

|                                        |                              |                                                                                    |
|----------------------------------------|------------------------------|------------------------------------------------------------------------------------|
| WSP Group Ltd                          |                              | Page 12                                                                            |
| .                                      | Church Road, Bishopstoke     |  |
| .                                      | SW - Field Attenuation Basin |                                                                                    |
| .                                      | As Built+Weir Raised(+100mm) |                                                                                    |
| Date 19/02/2024                        | Designed by JB               |                                                                                    |
| File 70015667 Church Road As Built ... | Checked by OJF               |                                                                                    |
| XP Solutions                           | Network 2018.1.1             |                                                                                    |

Offline Controls for Proposed - Storm (No Infil)

Pipe Manhole: STANK 1, DS/PN: S7.002, Loop to PN: S7.000

|              |              |                            |        |
|--------------|--------------|----------------------------|--------|
| Diameter (m) | -3           | Roughness k (mm)           | 0.600  |
| Section Type | Pipe/Conduit | Entry Loss Coefficient     | 0.500  |
| Slope (1:X)  | 100.0        | Coefficient of Contraction | 0.600  |
| Length (m)   | 20.000       | Upstream Invert Level (m)  | 36.925 |

|                                        |                              |                                                                                    |
|----------------------------------------|------------------------------|------------------------------------------------------------------------------------|
| WSP Group Ltd                          |                              | Page 13                                                                            |
| .                                      | Church Road, Bishopstoke     |  |
| .                                      | SW - Field Attenuation Basin |                                                                                    |
| .                                      | As Built+Weir Raised(+100mm) |                                                                                    |
| Date 19/02/2024                        | Designed by JB               |                                                                                    |
| File 70015667 Church Road As Built ... | Checked by OJF               |                                                                                    |
| XP Solutions                           | Network 2018.1.1             |                                                                                    |

### Storage Structures for Proposed - Storm (No Infil)

#### Cellular Storage Manhole: S10, DS/PN: S3.000

Invert Level (m) 41.165 Safety Factor 2.0  
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95  
Infiltration Coefficient Side (m/hr) 0.00000

| Depth (m) | Area (m <sup>2</sup> ) | Inf. Area (m <sup>2</sup> ) | Depth (m) | Area (m <sup>2</sup> ) | Inf. Area (m <sup>2</sup> ) | Depth (m) | Area (m <sup>2</sup> ) | Inf. Area (m <sup>2</sup> ) |
|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|
| 0.000     | 33.0                   | 33.0                        | 1.200     | 33.0                   | 66.6                        | 1.300     | 0.0                    | 66.6                        |

#### Cellular Storage Manhole: S12, DS/PN: S4.000

Invert Level (m) 40.320 Safety Factor 2.0  
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95  
Infiltration Coefficient Side (m/hr) 0.00000

| Depth (m) | Area (m <sup>2</sup> ) | Inf. Area (m <sup>2</sup> ) | Depth (m) | Area (m <sup>2</sup> ) | Inf. Area (m <sup>2</sup> ) | Depth (m) | Area (m <sup>2</sup> ) | Inf. Area (m <sup>2</sup> ) |
|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|
| 0.000     | 66.5                   | 66.5                        | 1.200     | 66.5                   | 106.1                       | 1.300     | 0.0                    | 106.1                       |

#### Cellular Storage Manhole: S18, DS/PN: S6.000

Invert Level (m) 37.700 Safety Factor 2.0  
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95  
Infiltration Coefficient Side (m/hr) 0.00000

| Depth (m) | Area (m <sup>2</sup> ) | Inf. Area (m <sup>2</sup> ) | Depth (m) | Area (m <sup>2</sup> ) | Inf. Area (m <sup>2</sup> ) | Depth (m) | Area (m <sup>2</sup> ) | Inf. Area (m <sup>2</sup> ) |
|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|
| 0.000     | 112.0                  | 0.0                         | 1.200     | 112.0                  | 0.0                         | 1.201     | 0.0                    | 0.0                         |

#### Cellular Storage Manhole: STANK 2, DS/PN: S7.000

Invert Level (m) 36.100 Safety Factor 2.0  
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95  
Infiltration Coefficient Side (m/hr) 0.00000

| Depth (m) | Area (m <sup>2</sup> ) | Inf. Area (m <sup>2</sup> ) | Depth (m) | Area (m <sup>2</sup> ) | Inf. Area (m <sup>2</sup> ) | Depth (m) | Area (m <sup>2</sup> ) | Inf. Area (m <sup>2</sup> ) |
|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|
| 0.000     | 148.0                  | 148.0                       | 1.200     | 148.0                  | 211.6                       | 1.300     | 0.0                    | 211.6                       |

#### Cellular Storage Manhole: STANK 1, DS/PN: S7.002

Invert Level (m) 35.950 Safety Factor 2.0  
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95  
Infiltration Coefficient Side (m/hr) 0.00000

| Depth (m) | Area (m <sup>2</sup> ) | Inf. Area (m <sup>2</sup> ) | Depth (m) | Area (m <sup>2</sup> ) | Inf. Area (m <sup>2</sup> ) | Depth (m) | Area (m <sup>2</sup> ) | Inf. Area (m <sup>2</sup> ) |
|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|
| 0.000     | 400.0                  | 400.0                       | 1.200     | 400.0                  | 496.0                       | 1.300     | 0.0                    | 496.0                       |

#### Infiltration Basin Manhole: SFIELD, DS/PN: S1.019

Invert Level (m) 33.000 Safety Factor 1.0  
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 1.00  
Infiltration Coefficient Side (m/hr) 0.00000

| Depth (m) | Area (m <sup>2</sup> ) | Depth (m) | Area (m <sup>2</sup> ) | Depth (m) | Area (m <sup>2</sup> ) | Depth (m) | Area (m <sup>2</sup> ) |
|-----------|------------------------|-----------|------------------------|-----------|------------------------|-----------|------------------------|
| 0.000     | 0.0                    | 0.100     | 0.0                    | 0.200     | 0.0                    | 0.300     | 0.0                    |

**Infiltration Basin Manhole: SFIELD, DS/PN: S1.019**

| Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) | Depth (m) | Area (m²) |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 0.439     | 0.0       | 0.600     | 87.0      | 0.900     | 114.5     | 1.100     | 132.7     |
| 0.440     | 71.8      | 0.700     | 95.8      | 1.000     | 123.5     | 1.200     | 142.1     |
| 0.500     | 77.8      | 0.800     | 104.6     | 1.010     | 124.5     | 1.300     | 151.6     |

|                                        |                              |                                                                                    |
|----------------------------------------|------------------------------|------------------------------------------------------------------------------------|
| WSP Group Ltd                          |                              | Page 15                                                                            |
| .                                      | Church Road, Bishopstoke     |  |
| .                                      | SW - Field Attenuation Basin |                                                                                    |
| .                                      | As Built+Weir Raised(+100mm) |                                                                                    |
| Date 19/02/2024                        | Designed by JB               |                                                                                    |
| File 70015667 Church Road As Built ... | Checked by OJF               |                                                                                    |
| XP Solutions                           | Network 2018.1.1             |                                                                                    |

1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Proposed - Storm (No Infil)

Simulation Criteria

Areal Reduction Factor 1.000    Additional Flow - % of Total Flow 0.000  
 Hot Start (mins) 0    MADD Factor \* 10m³/ha Storage 10.000  
 Hot Start Level (mm) 0    Inlet Coefficient 0.800  
 Manhole Headloss Coeff (Global) 0.500    Flow per Person per Day (l/per/day) 0.000  
 Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0    Number of Offline Controls 1    Number of Time/Area Diagrams 0  
 Number of Online Controls 6    Number of Storage Structures 6    Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model    FSR M5-60 (mm) 19.700    Cv (Summer) 0.750  
 Region England and Wales    Ratio R 0.350    Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0  
 Analysis Timestep 2.5 Second Increment (Extended)  
 DTS Status ON  
 DVD Status OFF  
 Inertia Status OFF

Profile(s) Summer and Winter  
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880  
 Return Period(s) (years) 1, 30, 100  
 Climate Change (%) 0, 0, 30

| PN     | US/MH<br>Name |            | Event  |        |      | US/CL<br>(m) | Level<br>(m) | Depth<br>(m) | Volume<br>(m³) | Flow /<br>Cap. | Overflow<br>(l/s) | Maximum<br>Vol (m³) |
|--------|---------------|------------|--------|--------|------|--------------|--------------|--------------|----------------|----------------|-------------------|---------------------|
|        |               |            |        |        |      |              |              |              |                |                |                   |                     |
| S1.000 | S1            | 15 minute  | 1 year | Summer | I+0% | 53.165       | 51.609       | -0.091       | 0.000          | 0.33           |                   | 0.061               |
| S1.001 | S2            | 15 minute  | 1 year | Summer | I+0% | 51.840       | 50.552       | -0.088       | 0.000          | 0.35           |                   | 0.071               |
| S1.002 | S3            | 15 minute  | 1 year | Summer | I+0% | 50.005       | 48.733       | -0.072       | 0.000          | 0.52           |                   | 0.087               |
| S1.003 | S4            | 15 minute  | 1 year | Summer | I+0% | 48.440       | 47.174       | -0.066       | 0.000          | 0.60           |                   | 0.095               |
| S1.004 | S5            | 15 minute  | 1 year | Winter | I+0% | 47.635       | 46.325       | -0.111       | 0.000          | 0.51           |                   | 0.125               |
| S2.000 | S8            | 15 minute  | 1 year | Summer | I+0% | 45.500       | 44.207       | -0.093       | 0.000          | 0.58           |                   | 0.144               |
| S1.005 | S9            | 15 minute  | 1 year | Winter | I+0% | 45.510       | 44.062       | -0.113       | 0.000          | 0.49           |                   | 0.306               |
| S3.000 | S10           | 15 minute  | 1 year | Winter | I+0% | 43.090       | 41.224       | -0.166       | 0.000          | 0.11           |                   | 1.904               |
| S1.006 | S11           | 15 minute  | 1 year | Winter | I+0% | 43.065       | 41.239       | -0.021       | 0.000          | 0.19           |                   | 0.694               |
| S4.000 | S12           | 15 minute  | 1 year | Winter | I+0% | 43.000       | 40.382       | -0.163       | 0.000          | 0.14           |                   | 3.991               |
| S1.007 | S13           | 15 minute  | 1 year | Winter | I+0% | 42.600       | 40.486       | 0.176        | 0.000          | 0.21           |                   | 1.861               |
| S5.000 | S14           | 15 minute  | 1 year | Summer | I+0% | 44.160       | 42.867       | -0.093       | 0.000          | 0.31           |                   | 0.059               |
| S5.001 | S15           | 15 minute  | 1 year | Summer | I+0% | 40.215       | 38.881       | -0.134       | 0.000          | 0.33           |                   | 0.098               |
| S5.002 | S16           | 15 minute  | 1 year | Summer | I+0% | 39.890       | 38.577       | -0.113       | 0.000          | 0.49           |                   | 0.182               |
| S1.008 | S17           | 15 minute  | 1 year | Winter | I+0% | 40.095       | 38.245       | -0.240       | 0.000          | 0.28           |                   | 0.192               |
| S6.000 | S18           | 30 minute  | 1 year | Winter | I+0% | 39.475       | 37.835       | -0.090       | 0.000          | 0.44           |                   | 14.537              |
| S1.009 | S19           | 15 minute  | 1 year | Summer | I+0% | 39.310       | 38.047       | 0.292        | 0.000          | 0.20           |                   | 2.586               |
| S1.010 | S20           | 15 minute  | 1 year | Winter | I+0% | 38.050       | 36.754       | -0.221       | 0.000          | 0.35           |                   | 0.298               |
| S1.011 | S22           | 15 minute  | 1 year | Winter | I+0% | 38.135       | 36.624       | -0.056       | 0.000          | 0.28           |                   | 1.020               |
| S7.000 | STANK 2       | 180 minute | 1 year | Winter | I+0% | 38.570       | 36.118       | -0.132       | 0.000          | 0.02           |                   | 2.523               |
| S7.001 | S24           | 120 minute | 1 year | Winter | I+0% | 38.790       | 36.167       | -0.008       | 0.000          | 0.02           |                   | 0.254               |
| S7.002 | STANK 1       | 120 minute | 1 year | Winter | I+0% | 38.200       | 36.192       | 0.092        | 0.000          | 0.22           | 0.0               | 92.246              |
| S7.003 | S23A          | 15 minute  | 1 year | Winter | I+0% | 37.720       | 36.376       | 0.341        | 0.000          | 0.19           |                   | 1.149               |
| S1.012 | S23           | 15 minute  | 1 year | Winter | I+0% | 37.775       | 36.576       | 0.636        | 0.000          | 0.27           |                   | 4.360               |
| S1.013 | S27           | 15 minute  | 1 year | Summer | I+0% | 37.675       | 35.718       | -0.117       | 0.000          | 0.46           |                   | 0.232               |
| S1.014 | S28           | 15 minute  | 1 year | Summer | I+0% | 37.420       | 35.650       | -0.125       | 0.000          | 0.41           |                   | 0.218               |
| S1.015 | SHW1          | 15 minute  | 1 year | Winter | I+0% | 37.291       | 35.568       | -0.147       | 0.000          | 0.26           |                   | 0.084               |
| S8.000 | S29           | 15 minute  | 1 year | Summer | I+0% | 37.200       | 35.893       | -0.062       | 0.000          | 0.62           |                   | 0.094               |
| S9.000 | S30           | 15 minute  | 1 year | Summer | I+0% | 37.505       | 36.176       | -0.129       | 0.000          | 0.05           |                   | 0.018               |
| S8.001 | S31           | 15 minute  | 1 year | Summer | I+0% | 37.070       | 35.606       | -0.129       | 0.000          | 0.36           |                   | 0.105               |

|                                        |                              |                                                                                    |
|----------------------------------------|------------------------------|------------------------------------------------------------------------------------|
| WSP Group Ltd                          |                              | Page 16                                                                            |
| .                                      | Church Road, Bishopstoke     |  |
| .                                      | SW - Field Attenuation Basin |                                                                                    |
| .                                      | As Built+Weir Raised(+100mm) |                                                                                    |
| Date 19/02/2024                        | Designed by JB               |                                                                                    |
| File 70015667 Church Road As Built ... | Checked by OJF               |                                                                                    |
| XP Solutions                           | Network 2018.1.1             |                                                                                    |

1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Proposed - Storm (No Infil)

| PN     | US/MH<br>Name | Discharge<br>Vol (m <sup>3</sup> ) | Pipe<br>Flow<br>(l/s) | Status     |
|--------|---------------|------------------------------------|-----------------------|------------|
|        |               |                                    |                       |            |
| S1.000 | S1            | 3.665                              | 11.9                  | OK         |
| S1.001 | S2            | 6.746                              | 17.2                  | OK         |
| S1.002 | S3            | 10.316                             | 24.3                  | OK         |
| S1.003 | S4            | 10.316                             | 24.5                  | OK         |
| S1.004 | S5            | 25.168                             | 47.6                  | OK         |
| S2.000 | S8            | 7.142                              | 20.1                  | OK         |
| S1.005 | S9            | 33.172                             | 64.5                  | OK         |
| S3.000 | S10           | 2.543                              | 5.6                   | OK         |
| S1.006 | S11           | 38.577                             | 69.0                  | OK         |
| S4.000 | S12           | 3.088                              | 6.5                   | OK         |
| S1.007 | S13           | 46.347                             | 69.9                  | SURCHARGED |
| S5.000 | S14           | 4.922                              | 16.0                  | OK         |
| S5.001 | S15           | 6.349                              | 17.9                  | OK         |
| S5.002 | S16           | 6.349                              | 18.3                  | OK         |
| S1.008 | S17           | 59.334                             | 92.5                  | OK         |
| S6.000 | S18           | 2.540                              | 17.5                  | OK         |
| S1.009 | S19           | 54.397                             | 61.4                  | SURCHARGED |
| S1.010 | S20           | 66.787                             | 71.5                  | OK         |
| S1.011 | S22           | 68.949                             | 69.9                  | OK         |
| S7.000 | STANK 2       | -1.137                             | 0.3                   | OK         |
| S7.001 | S24           | -1.627                             | 0.3                   | OK         |
| S7.002 | STANK 1       | -31.241                            | 9.6                   | SURCHARGED |
| S7.003 | S23A          | -37.609                            | 8.5                   | SURCHARGED |
| S1.012 | S23           | 31.888                             | 9.9                   | SURCHARGED |
| S1.013 | S27           | 33.179                             | 13.1                  | OK         |
| S1.014 | S28           | 32.907                             | 13.1                  | OK         |
| S1.015 | SHW1          | 32.972                             | 13.1                  | OK         |
| S8.000 | S29           | 3.410                              | 10.4                  | OK         |
| S9.000 | S30           | 0.375                              | 1.2                   | OK         |
| S8.001 | S31           | 5.953                              | 15.0                  | OK         |

|                                        |                                                                                          |                                                                                    |
|----------------------------------------|------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| WSP Group Ltd                          |                                                                                          | Page 17                                                                            |
| .<br>.<br>.                            | Church Road, Bishopstoke<br>SW - Field Attenuation Basin<br>As Built+Weir Raised(+100mm) |  |
| Date 19/02/2024                        | Designed by JB                                                                           |                                                                                    |
| File 70015667 Church Road As Built ... | Checked by OJF                                                                           |                                                                                    |
| XP Solutions                           | Network 2018.1.1                                                                         |                                                                                    |

1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Proposed - Storm (No Infil)

|        |        |                               | US/MH     |           | Water Level |             | Surcharged  | Flooded        |                  |  |
|--------|--------|-------------------------------|-----------|-----------|-------------|-------------|-------------|----------------|------------------|--|
| PN     | Name   | Event                         | US/CL (m) | Level (m) | Depth (m)   | Volume (m³) | Flow / Cap. | Overflow (l/s) | Maximum Vol (m³) |  |
| S8.002 | S32    | 15 minute 1 year Winter I+0%  | 36.640    | 35.391    | -0.059      | 0.000       | 0.56        |                | 0.502            |  |
| S8.003 | S33    | 15 minute 1 year Winter I+0%  | 36.720    | 35.374    | -0.031      | 0.000       | 0.51        |                | 0.424            |  |
| S1.016 | SHW2   | 15 minute 1 year Winter I+0%  | 36.981    | 35.350    | 0.080       | 0.000       | 1.42        |                | 0.883            |  |
| S1.017 | SHW3   | 15 minute 1 year Winter I+0%  | 36.900    | 35.051    | -1.849      | 0.000       | 0.00        |                | 0.035            |  |
| S1.018 | SHW4   | 15 minute 1 year Winter I+0%  | 35.400    | 34.426    | -0.974      | 0.000       | 0.00        |                | 0.018            |  |
| S1.019 | SFIELD | 720 minute 1 year Winter I+0% | 34.300    | 33.929    | 0.729       | 0.000       | 0.18        |                | 47.048           |  |

|        |            | Pipe               |            |            |  |
|--------|------------|--------------------|------------|------------|--|
| PN     | US/MH Name | Discharge Vol (m³) | Flow (l/s) | Status     |  |
| S8.002 | S32        | 9.573              | 16.8       | OK         |  |
| S8.003 | S33        | 9.559              | 16.1       | OK         |  |
| S1.016 | SHW2       | 43.562             | 30.6       | SURCHARGED |  |
| S1.017 | SHW3       | 43.465             | 30.6       | OK         |  |
| S1.018 | SHW4       | 43.370             | 30.6       | OK         |  |
| S1.019 | SFIELD     | 340.719            | 11.2       | SURCHARGED |  |

|                                        |                              |                                                                                    |
|----------------------------------------|------------------------------|------------------------------------------------------------------------------------|
| WSP Group Ltd                          |                              | Page 18                                                                            |
| .                                      | Church Road, Bishopstoke     |  |
| .                                      | SW - Field Attenuation Basin |                                                                                    |
| .                                      | As Built+Weir Raised(+100mm) |                                                                                    |
| Date 19/02/2024                        | Designed by JB               |                                                                                    |
| File 70015667 Church Road As Built ... | Checked by OJF               |                                                                                    |
| XP Solutions                           | Network 2018.1.1             |                                                                                    |

### 30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Proposed - Storm (No Infil)

#### Simulation Criteria

Areal Reduction Factor 1.000    Additional Flow - % of Total Flow 0.000  
 Hot Start (mins) 0    MADD Factor \* 10m³/ha Storage 10.000  
 Hot Start Level (mm) 0    Inlet Coefficient 0.800  
 Manhole Headloss Coeff (Global) 0.500    Flow per Person per Day (l/per/day) 0.000  
 Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0    Number of Offline Controls 1    Number of Time/Area Diagrams 0  
 Number of Online Controls 6    Number of Storage Structures 6    Number of Real Time Controls 0

#### Synthetic Rainfall Details

Rainfall Model    FSR M5-60 (mm) 19.700    Cv (Summer) 0.750  
 Region England and Wales    Ratio R 0.350    Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 300.0  
 Analysis Timestep 2.5 Second Increment (Extended)  
 DTS Status ON  
 DVD Status OFF  
 Inertia Status OFF

Profile(s) Summer and Winter  
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880  
 Return Period(s) (years) 1, 30, 100  
 Climate Change (%) 0, 0, 30

| PN     | US/MH<br>Name | Event                          | US/CL<br>(m) | Level<br>(m) | Depth<br>(m) | Volume<br>(m³) | Flow /<br>Cap. | Overflow<br>(l/s) | Maximum<br>Vol (m³) |
|--------|---------------|--------------------------------|--------------|--------------|--------------|----------------|----------------|-------------------|---------------------|
|        |               |                                |              |              |              |                |                |                   |                     |
| S1.000 | S1            | 15 minute 30 year Summer I+0%  | 53.165       | 51.653       | -0.047       | 0.000          | 0.80           |                   | 0.111               |
| S1.001 | S2            | 15 minute 30 year Summer I+0%  | 51.840       | 50.626       | -0.014       | 0.000          | 0.94           |                   | 0.169               |
| S1.002 | S3            | 15 minute 30 year Winter I+0%  | 50.005       | 49.300       | 0.495        | 0.000          | 1.03           |                   | 0.836               |
| S1.003 | S4            | 15 minute 30 year Winter I+0%  | 48.440       | 47.695       | 0.455        | 0.000          | 1.15           |                   | 0.793               |
| S1.004 | S5            | 15 minute 30 year Winter I+0%  | 47.635       | 46.646       | 0.210        | 0.000          | 1.03           |                   | 0.558               |
| S2.000 | S8            | 15 minute 30 year Summer I+0%  | 45.500       | 44.412       | 0.112        | 0.000          | 1.20           |                   | 0.375               |
| S1.005 | S9            | 15 minute 30 year Summer I+0%  | 45.510       | 44.296       | 0.121        | 0.000          | 0.98           |                   | 1.528               |
| S3.000 | S10           | 30 minute 30 year Winter I+0%  | 43.090       | 41.604       | 0.214        | 0.000          | 0.82           |                   | 14.259              |
| S1.006 | S11           | 30 minute 30 year Winter I+0%  | 43.065       | 41.615       | 0.355        | 0.000          | 0.33           |                   | 1.519               |
| S4.000 | S12           | 30 minute 30 year Winter I+0%  | 43.000       | 40.813       | 0.268        | 0.000          | 0.97           |                   | 31.725              |
| S1.007 | S13           | 30 minute 30 year Winter I+0%  | 42.600       | 40.883       | 0.573        | 0.000          | 0.29           |                   | 2.753               |
| S5.000 | S14           | 15 minute 30 year Summer I+0%  | 44.160       | 42.909       | -0.051       | 0.000          | 0.76           |                   | 0.106               |
| S5.001 | S15           | 15 minute 30 year Summer I+0%  | 40.215       | 38.981       | -0.034       | 0.000          | 0.85           |                   | 0.219               |
| S5.002 | S16           | 15 minute 30 year Summer I+0%  | 39.890       | 38.761       | 0.071        | 0.000          | 1.12           |                   | 0.801               |
| S1.008 | S17           | 15 minute 30 year Winter I+0%  | 40.095       | 38.565       | 0.080        | 0.000          | 0.44           |                   | 1.725               |
| S6.000 | S18           | 60 minute 30 year Winter I+0%  | 39.475       | 38.290       | 0.365        | 0.000          | 1.12           |                   | 63.475              |
| S1.009 | S19           | 15 minute 30 year Winter I+0%  | 39.310       | 38.419       | 0.664        | 0.000          | 0.26           |                   | 3.494               |
| S1.010 | S20           | 15 minute 30 year Winter I+0%  | 38.050       | 37.257       | 0.282        | 0.000          | 0.45           |                   | 2.392               |
| S1.011 | S22           | 15 minute 30 year Winter I+0%  | 38.135       | 37.197       | 0.517        | 0.000          | 0.39           |                   | 2.580               |
| S7.000 | STANK 2       | 600 minute 30 year Winter I+0% | 38.570       | 36.455       | 0.205        | 0.000          | 0.25           |                   | 50.025              |
| S7.001 | S24           | 600 minute 30 year Winter I+0% | 38.790       | 36.459       | 0.284        | 0.000          | 0.19           |                   | 0.647               |
| S7.002 | STANK 1       | 180 minute 30 year Winter I+0% | 38.200       | 36.709       | 0.609        | 0.000          | 0.22           | 0.0               | 288.911             |
| S7.003 | S23A          | 180 minute 30 year Winter I+0% | 37.720       | 36.769       | 0.734        | 0.000          | 0.22           |                   | 1.593               |
| S1.012 | S23           | 15 minute 30 year Winter I+0%  | 37.775       | 37.110       | 1.170        | 0.000          | 0.33           |                   | 5.197               |
| S1.013 | S27           | 15 minute 30 year Winter I+0%  | 37.675       | 35.805       | -0.030       | 0.000          | 0.77           |                   | 0.613               |
| S1.014 | S28           | 15 minute 30 year Winter I+0%  | 37.420       | 35.775       | 0.000        | 0.000          | 0.65           |                   | 0.612               |
| S1.015 | SHW1          | 15 minute 30 year Winter I+0%  | 37.291       | 35.750       | 0.035        | 0.000          | 0.40           |                   | 0.390               |
| S8.000 | S29           | 15 minute 30 year Summer I+0%  | 37.200       | 36.081       | 0.126        | 0.000          | 1.21           |                   | 0.306               |
| S9.000 | S30           | 15 minute 30 year Summer I+0%  | 37.505       | 36.188       | -0.117       | 0.000          | 0.11           |                   | 0.032               |
| S8.001 | S31           | 15 minute 30 year Winter I+0%  | 37.070       | 35.902       | 0.167        | 0.000          | 0.68           |                   | 0.943               |

|                                        |                              |                                                                                    |
|----------------------------------------|------------------------------|------------------------------------------------------------------------------------|
| WSP Group Ltd                          |                              | Page 19                                                                            |
| .                                      | Church Road, Bishopstoke     |  |
| .                                      | SW - Field Attenuation Basin |                                                                                    |
| .                                      | As Built+Weir Raised(+100mm) |                                                                                    |
| Date 19/02/2024                        | Designed by JB               |                                                                                    |
| File 70015667 Church Road As Built ... | Checked by OJF               |                                                                                    |
| XP Solutions                           | Network 2018.1.1             |                                                                                    |

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Proposed - Storm (No Infil)

| PN     | US/MH<br>Name | Discharge<br>Vol (m³) | Pipe<br>Flow<br>(l/s) | Status     |
|--------|---------------|-----------------------|-----------------------|------------|
| S1.000 | S1            | 8.982                 | 29.2                  | OK         |
| S1.001 | S2            | 16.532                | 46.1                  | OK         |
| S1.002 | S3            | 28.315                | 47.9                  | SURCHARGED |
| S1.003 | S4            | 28.315                | 47.0                  | SURCHARGED |
| S1.004 | S5            | 61.671                | 96.6                  | SURCHARGED |
| S2.000 | S8            | 17.502                | 41.4                  | SURCHARGED |
| S1.005 | S9            | 72.563                | 128.7                 | SURCHARGED |
| S3.000 | S10           | 8.240                 | 41.6                  | SURCHARGED |
| S1.006 | S11           | 125.739               | 120.5                 | SURCHARGED |
| S4.000 | S12           | 10.090                | 45.3                  | SURCHARGED |
| S1.007 | S13           | 151.165               | 96.5                  | SURCHARGED |
| S5.000 | S14           | 12.062                | 39.2                  | OK         |
| S5.001 | S15           | 15.560                | 45.8                  | OK         |
| S5.002 | S16           | 15.561                | 41.7                  | SURCHARGED |
| S1.008 | S17           | 145.554               | 148.7                 | SURCHARGED |
| S6.000 | S18           | 14.593                | 44.6                  | SURCHARGED |
| S1.009 | S19           | 150.834               | 80.8                  | SURCHARGED |
| S1.010 | S20           | 164.561               | 92.2                  | SURCHARGED |
| S1.011 | S22           | 169.681               | 97.0                  | SURCHARGED |
| S7.000 | STANK 2       | -1.280                | 2.7                   | SURCHARGED |
| S7.001 | S24           | -1.462                | 2.4                   | SURCHARGED |
| S7.002 | STANK 1       | -213.566              | 9.5                   | SURCHARGED |
| S7.003 | S23A          | -215.053              | 9.5                   | SURCHARGED |
| S1.012 | S23           | 33.095                | 11.9                  | SURCHARGED |
| S1.013 | S27           | 37.645                | 21.8                  | OK         |
| S1.014 | S28           | 37.395                | 20.7                  | SURCHARGED |
| S1.015 | SHW1          | 37.186                | 19.8                  | SURCHARGED |
| S8.000 | S29           | 8.357                 | 20.3                  | SURCHARGED |
| S9.000 | S30           | 0.918                 | 3.0                   | OK         |
| S8.001 | S31           | 16.342                | 28.6                  | SURCHARGED |

|                                        |                              |                                                                                    |
|----------------------------------------|------------------------------|------------------------------------------------------------------------------------|
| WSP Group Ltd                          |                              | Page 20                                                                            |
| .                                      | Church Road, Bishopstoke     |  |
| .                                      | SW - Field Attenuation Basin |                                                                                    |
| .                                      | As Built+Weir Raised(+100mm) |                                                                                    |
| Date 19/02/2024                        | Designed by JB               |                                                                                    |
| File 70015667 Church Road As Built ... | Checked by OJF               |                                                                                    |
| XP Solutions                           | Network 2018.1.1             |                                                                                    |

30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Proposed - Storm (No Infil)

| PN     | US/MH Name | Event                          | Water     |           |           | Volume (m³) | Flow / Cap. | Overflow (l/s) | Maximum Vol (m³) |
|--------|------------|--------------------------------|-----------|-----------|-----------|-------------|-------------|----------------|------------------|
|        |            |                                | US/CL (m) | Level (m) | Depth (m) |             |             |                |                  |
| S8.002 | S32        | 15 minute 30 year Winter I+0%  | 36.640    | 35.822    | 0.372     | 0.000       | 1.11        |                | 2.171            |
| S8.003 | S33        | 15 minute 30 year Winter I+0%  | 36.720    | 35.769    | 0.364     | 0.000       | 1.04        |                | 0.929            |
| S1.016 | SHW2       | 15 minute 30 year Winter I+0%  | 36.981    | 35.706    | 0.436     | 0.000       | 2.48        |                | 1.956            |
| S1.017 | SHW3       | 15 minute 30 year Winter I+0%  | 36.900    | 35.071    | -1.829    | 0.000       | 0.00        |                | 0.056            |
| S1.018 | SHW4       | 15 minute 30 year Winter I+0%  | 35.400    | 34.444    | -0.956    | 0.000       | 0.01        |                | 0.027            |
| S1.019 | SFIELD     | 240 minute 30 year Winter I+0% | 34.300    | 34.137    | 0.937     | 0.000       | 0.24        |                | 75.248           |

| PN     | US/MH Name | Pipe               |            | Status     |
|--------|------------|--------------------|------------|------------|
|        |            | Discharge Vol (m³) | Flow (l/s) |            |
| S8.002 | S32        | 23.451             | 33.2       | SURCHARGED |
| S8.003 | S33        | 23.445             | 33.0       | SURCHARGED |
| S1.016 | SHW2       | 63.823             | 53.5       | SURCHARGED |
| S1.017 | SHW3       | 63.737             | 53.5       | OK         |
| S1.018 | SHW4       | 63.653             | 53.5       | OK         |
| S1.019 | SFIELD     | 313.945            | 15.1       | FLOOD RISK |

|                                        |                              |                                                                                    |
|----------------------------------------|------------------------------|------------------------------------------------------------------------------------|
| WSP Group Ltd                          |                              | Page 21                                                                            |
| .                                      | Church Road, Bishopstoke     |  |
| .                                      | SW - Field Attenuation Basin |                                                                                    |
| .                                      | As Built+Weir Raised(+100mm) |                                                                                    |
| Date 19/02/2024                        | Designed by JB               |                                                                                    |
| File 70015667 Church Road As Built ... | Checked by OJF               |                                                                                    |
| XP Solutions                           | Network 2018.1.1             |                                                                                    |

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Proposed - Storm (No Infil)

Simulation Criteria

Areal Reduction Factor 1.000    Additional Flow - % of Total Flow 0.000  
 Hot Start (mins) 0    MADD Factor \* 10m³/ha Storage 10.000  
 Hot Start Level (mm) 0    Inlet Coefficient 0.800  
 Manhole Headloss Coeff (Global) 0.500    Flow per Person per Day (l/per/day) 0.000  
 Foul Sewage per hectare (l/s) 0.000  
  
 Number of Input Hydrographs 0    Number of Offline Controls 1    Number of Time/Area Diagrams 0  
 Number of Online Controls 6    Number of Storage Structures 6    Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model    FSR M5-60 (mm) 19.700    Cv (Summer) 0.750  
 Region England and Wales    Ratio R 0.350    Cv (Winter) 0.840  
  
 Margin for Flood Risk Warning (mm) 300.0  
 Analysis Timestep 2.5 Second Increment (Extended)  
 DTS Status    ON  
 DVD Status    OFF  
 Inertia Status    OFF  
  
 Profile(s)    Summer and Winter  
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440, 2160, 2880  
 Return Period(s) (years) 1, 30, 100  
 Climate Change (%) 0, 0, 30

| PN     | US/MH Name | Event                            | US/CL (m) | Water Level (m) | Surcharged Depth (m) | Flooded Volume (m³) | Flow / Cap. | Overflow (l/s) | Maximum Vol (m³) |
|--------|------------|----------------------------------|-----------|-----------------|----------------------|---------------------|-------------|----------------|------------------|
|        |            |                                  |           |                 |                      |                     |             |                |                  |
| S1.000 | S1         | 15 minute 100 year Summer I+30%  | 53.165    | 51.942          | 0.242                | 0.000               | 0.98        |                | 0.438            |
| S1.001 | S2         | 15 minute 100 year Winter I+30%  | 51.840    | 51.397          | 0.757                | 0.000               | 0.94        |                | 1.320            |
| S1.002 | S3         | 15 minute 100 year Winter I+30%  | 50.005    | 50.008          | 1.203                | 2.808               | 1.06        |                | 4.577            |
| S1.003 | S4         | 15 minute 100 year Winter I+30%  | 48.440    | 48.440          | 1.200                | 0.148               | 1.25        |                | 1.950            |
| S1.004 | S5         | 15 minute 100 year Winter I+30%  | 47.635    | 47.463          | 1.028                | 0.000               | 1.08        |                | 1.615            |
| S2.000 | S8         | 15 minute 100 year Winter I+30%  | 45.500    | 44.995          | 0.695                | 0.000               | 1.39        |                | 1.035            |
| S1.005 | S9         | 15 minute 100 year Winter I+30%  | 45.510    | 44.847          | 0.672                | 0.000               | 1.03        |                | 2.785            |
| S3.000 | S10        | 60 minute 100 year Winter I+30%  | 43.090    | 41.933          | 0.543                | 0.000               | 0.95        |                | 24.941           |
| S1.006 | S11        | 60 minute 100 year Winter I+30%  | 43.065    | 41.930          | 0.670                | 0.000               | 0.35        |                | 2.126            |
| S4.000 | S12        | 60 minute 100 year Winter I+30%  | 43.000    | 41.263          | 0.718                | 0.000               | 1.17        |                | 60.609           |
| S1.007 | S13        | 60 minute 100 year Winter I+30%  | 42.600    | 41.298          | 0.988                | 0.000               | 0.36        |                | 3.478            |
| S5.000 | S14        | 15 minute 100 year Summer I+30%  | 44.160    | 43.130          | 0.170                | 0.000               | 0.99        |                | 0.356            |
| S5.001 | S15        | 15 minute 100 year Winter I+30%  | 40.215    | 39.811          | 0.796                | 0.000               | 0.99        |                | 1.318            |
| S5.002 | S16        | 15 minute 100 year Winter I+30%  | 39.890    | 39.510          | 0.820                | 0.000               | 1.30        |                | 2.033            |
| S1.008 | S17        | 15 minute 100 year Winter I+30%  | 40.095    | 39.224          | 0.739                | 0.000               | 0.54        |                | 3.885            |
| S6.000 | S18        | 60 minute 100 year Winter I+30%  | 39.475    | 39.107          | 1.182                | 0.000               | 1.53        |                | 129.301          |
| S1.009 | S19        | 60 minute 100 year Winter I+30%  | 39.310    | 39.103          | 1.348                | 0.000               | 0.32        |                | 4.485            |
| S1.010 | S20        | 30 minute 100 year Winter I+30%  | 38.050    | 37.960          | 0.985                | 0.000               | 0.53        |                | 4.388            |
| S1.011 | S22        | 30 minute 100 year Winter I+30%  | 38.135    | 37.878          | 1.198                | 0.000               | 0.46        |                | 3.554            |
| S7.000 | STANK 2    | 960 minute 100 year Winter I+30% | 38.570    | 36.903          | 0.653                | 0.000               | 0.28        |                | 113.065          |
| S7.001 | S24        | 960 minute 100 year Winter I+30% | 38.790    | 36.906          | 0.731                | 0.000               | 0.20        |                | 1.152            |
| S7.002 | STANK 1    | 360 minute 100 year Winter I+30% | 38.200    | 37.560          | 1.460                | 0.000               | 0.29        | 1.8            | 469.143          |
| S7.003 | S23A       | 360 minute 100 year Winter I+30% | 37.720    | 37.576          | 1.541                | 0.000               | 0.28        |                | 2.507            |
| S1.012 | S23        | 30 minute 100 year Winter I+30%  | 37.775    | 37.751          | 1.811                | 0.000               | 0.40        |                | 6.115            |
| S1.013 | S27        | 15 minute 100 year Winter I+30%  | 37.675    | 36.258          | 0.423                | 0.000               | 0.83        |                | 1.352            |
| S1.014 | S28        | 15 minute 100 year Winter I+30%  | 37.420    | 36.219          | 0.444                | 0.000               | 0.68        |                | 1.180            |
| S1.015 | SHW1       | 15 minute 100 year Winter I+30%  | 37.291    | 36.187          | 0.472                | 0.000               | 0.44        |                | 0.428            |
| S8.000 | S29        | 15 minute 100 year Winter I+30%  | 37.200    | 36.631          | 0.676                | 0.000               | 1.31        |                | 0.929            |
| S9.000 | S30        | 15 minute 100 year Winter I+30%  | 37.505    | 36.458          | 0.153                | 0.000               | 0.17        |                | 0.337            |
| S8.001 | S31        | 15 minute 100 year Winter I+30%  | 37.070    | 36.454          | 0.719                | 0.000               | 0.73        |                | 1.810            |

|                                        |                              |                                                                                    |
|----------------------------------------|------------------------------|------------------------------------------------------------------------------------|
| WSP Group Ltd                          |                              | Page 22                                                                            |
| .                                      | Church Road, Bishopstoke     |  |
| .                                      | SW - Field Attenuation Basin |                                                                                    |
| .                                      | As Built+Weir Raised(+100mm) |                                                                                    |
| Date 19/02/2024                        | Designed by JB               |                                                                                    |
| File 70015667 Church Road As Built ... | Checked by OJF               |                                                                                    |
| XP Solutions                           | Network 2018.1.1             |                                                                                    |

100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Proposed - Storm (No Infil)

| PN     | US/MH<br>Name | Discharge<br>Vol (m <sup>3</sup> ) | Pipe<br>Flow<br>(l/s) | Status     |
|--------|---------------|------------------------------------|-----------------------|------------|
|        |               |                                    |                       |            |
| S1.000 | S1            | 15.121                             | 35.7                  | SURCHARGED |
| S1.001 | S2            | 31.173                             | 46.3                  | SURCHARGED |
| S1.002 | S3            | 47.676                             | 49.5                  | FLOOD      |
| S1.003 | S4            | 47.750                             | 51.2                  | FLOOD      |
| S1.004 | S5            | 103.891                            | 101.8                 | FLOOD RISK |
| S2.000 | S8            | 33.003                             | 47.9                  | SURCHARGED |
| S1.005 | S9            | 136.894                            | 135.7                 | SURCHARGED |
| S3.000 | S10           | 18.156                             | 48.5                  | SURCHARGED |
| S1.006 | S11           | 274.217                            | 126.5                 | SURCHARGED |
| S4.000 | S12           | 24.445                             | 54.4                  | SURCHARGED |
| S1.007 | S13           | 332.357                            | 118.0                 | SURCHARGED |
| S5.000 | S14           | 20.307                             | 51.2                  | SURCHARGED |
| S5.001 | S15           | 29.340                             | 53.1                  | SURCHARGED |
| S5.002 | S16           | 29.339                             | 48.6                  | SURCHARGED |
| S1.008 | S17           | 245.232                            | 179.1                 | SURCHARGED |
| S6.000 | S18           | 23.011                             | 61.0                  | SURCHARGED |
| S1.009 | S19           | 447.451                            | 101.0                 | FLOOD RISK |
| S1.010 | S20           | 297.411                            | 107.8                 | FLOOD RISK |
| S1.011 | S22           | 304.641                            | 116.5                 | FLOOD RISK |
| S7.000 | STANK 2       | 22.789                             | 3.0                   | SURCHARGED |
| S7.001 | S24           | 22.799                             | 2.5                   | SURCHARGED |
| S7.002 | STANK 1       | -298.723                           | 12.8                  | SURCHARGED |
| S7.003 | S23A          | -300.091                           | 12.1                  | FLOOD RISK |
| S1.012 | S23           | 41.654                             | 14.6                  | FLOOD RISK |
| S1.013 | S27           | 47.067                             | 23.6                  | SURCHARGED |
| S1.014 | S28           | 46.785                             | 21.8                  | SURCHARGED |
| S1.015 | SHW1          | 46.538                             | 21.8                  | SURCHARGED |
| S8.000 | S29           | 15.758                             | 21.9                  | SURCHARGED |
| S9.000 | S30           | 1.731                              | 4.4                   | SURCHARGED |
| S8.001 | S31           | 27.512                             | 30.6                  | SURCHARGED |

|                                        |                              |         |
|----------------------------------------|------------------------------|---------|
| WSP Group Ltd                          |                              | Page 23 |
| .<br>.<br>.                            | Church Road, Bishopstoke     |         |
|                                        | SW - Field Attenuation Basin |         |
|                                        | As Built+Weir Raised(+100mm) |         |
| Date 19/02/2024                        | Designed by JB               |         |
| File 70015667 Church Road As Built ... | Checked by OJF               |         |
| XP Solutions                           | Network 2018.1.1             |         |



100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for Proposed - Storm (No Infil)

| PN     | US/MH<br>Name | Event                            | Water Surcharged Flooded |              |              |                | Flow /<br>Cap. | Overflow<br>(l/s) | Maximum<br>Vol (m³) |
|--------|---------------|----------------------------------|--------------------------|--------------|--------------|----------------|----------------|-------------------|---------------------|
|        |               |                                  | US/CL<br>(m)             | Level<br>(m) | Depth<br>(m) | Volume<br>(m³) |                |                   |                     |
| S8.002 | S32           | 15 minute 100 year Winter I+30%  | 36.640                   | 36.324       | 0.874        | 0.000          | 1.48           |                   | 2.739               |
| S8.003 | S33           | 15 minute 100 year Winter I+30%  | 36.720                   | 36.229       | 0.824        | 0.000          | 1.36           |                   | 1.449               |
| S1.016 | SHW2          | 15 minute 100 year Winter I+30%  | 36.981                   | 36.118       | 0.848        | 0.000          | 3.31           |                   | 2.429               |
| S1.017 | SHW3          | 15 minute 100 year Winter I+30%  | 36.900                   | 35.082       | -1.818       | 0.000          | 0.00           |                   | 0.067               |
| S1.018 | SHW4          | 15 minute 100 year Winter I+30%  | 35.400                   | 34.457       | -0.943       | 0.000          | 0.01           |                   | 0.032               |
| S1.019 | SFIELD        | 180 minute 100 year Winter I+30% | 34.300                   | 34.275       | 1.075        | 0.000          | 0.64           |                   | 97.133              |

| PN     | US/MH<br>Name | Pipe                  |               | Status     |
|--------|---------------|-----------------------|---------------|------------|
|        |               | Discharge<br>Vol (m³) | Flow<br>(l/s) |            |
| S8.002 | S32           | 39.480                | 44.4          | SURCHARGED |
| S8.003 | S33           | 39.462                | 43.1          | SURCHARGED |
| S1.016 | SHW2          | 91.572                | 71.4          | SURCHARGED |
| S1.017 | SHW3          | 91.470                | 71.4          | OK         |
| S1.018 | SHW4          | 91.370                | 71.3          | OK         |
| S1.019 | SFIELD        | 383.099               | 41.1          | FLOOD RISK |