



Date 17/10/2024 17:18

Designed by OliviaDent

File 27141 HIMELY DRAINAGE MODEL.MDX

Checked by

Innovyze

Network 2020.1.3

STORM SEWER DESIGN by the Modified Rational Method

Design Criteria for NW3 Storm + 2A

Pipe Sizes Default Manhole Sizes Default

FSR Rainfall Model - England and Wales

| | | | | | |
|--------------------------------------|--------|-------------------------------|-------|---------------------------------------|-------|
| Return Period (years) | 100 | Foul Sewage (l/s/ha) | 0.000 | Maximum Backdrop Height (m) | 0.000 |
| M5-60 (mm) | 20.000 | Volumetric Runoff Coeff. | 0.750 | Min Design Depth for Optimisation (m) | 1.200 |
| Ratio R | 0.405 | PIMP (%) | 100 | Min Vel for Auto Design only (m/s) | 1.00 |
| Maximum Rainfall (mm/hr) | 50 | Add Flow / Climate Change (%) | 0 | Min Slope for Optimisation (1:X) | 200 |
| Maximum Time of Concentration (mins) | 30 | Minimum Backdrop Height (m) | 0.000 | | |

Designed with Level Soffits

Network Design Table for NW3 Storm + 2A

- Indicates pipe length does not match coordinates

« - Indicates pipe capacity < flow

| PN | Length (m) | Fall (m) | Slope (1:X) | I.Area (ha) | T.E. (mins) | Base Flow (l/s) | k (mm) | n | HYD SECT | DIA (mm) | Section Type | Auto Design |
|--------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|---|-------------|-------------|--------------|----------------|
| S1.000 | 66.731 | 0.970 | 68.8 | 0.136 | 5.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔒 |
| S2.000 | 70.318 | 0.820 | 85.8 | 0.177 | 5.00 | 0.0 | 0.600 | | o | 375 | Pipe/Conduit | 🔓 |

Network Results Table

| PN | Rain (mm/hr) | T.C. (mins) | US/IL (m) | Σ I.Area (ha) | Σ Base Flow (l/s) | Foul (l/s) | Add Flow (l/s) | Vel (m/s) | Cap (l/s) | Flow (l/s) |
|--------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S1.000 | 50.00 | 5.70 | 93.100 | 0.136 | 0.0 | 0.0 | 0.0 | 1.58 | 62.8 | 18.4 |
| S2.000 | 50.00 | 5.60 | 92.800 | 0.177 | 0.0 | 0.0 | 0.0 | 1.96 | 216.2 | 24.0 |



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| PN | Length (m) | Fall (m) | Slope (1:X) | I.Area (ha) | T.E. (mins) | Base Flow (l/s) | k (mm) | n | HYD SECT | DIA (mm) | Section Type | Auto Design |
|--------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|---|-------------|-------------|--------------|----------------|
| S1.001 | 18.215 | 0.091 | 200.0 | 0.133 | 0.00 | 0.0 | 0.600 | | o | 375 | Pipe/Conduit | 🔒 |
| S1.002 | 12.254 | 0.061 | 200.9 | 0.034 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | 🟢 |
| S1.003 | 23.154 | 0.478 | 48.4 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | 🟢 |
| S1.004 | 52.204 | 0.350 | 149.2 | 0.067 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | 🔒 |
| S1.005 | 69.675 | 0.450 | 154.8 | 0.290 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | 🔒 |
| S1.006 | 36.329 | 0.180 | 201.8 | 0.041 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | 🟢 |
| S1.007 | 12.507 | 0.031 | 400.0 | 0.033 | 0.00 | 0.0 | 0.600 | | o | 600 | Pipe/Conduit | 🟢 |
| S1.008 | 13.972 | 0.035 | 400.0 | 0.237 | 0.00 | 0.0 | 0.600 | | o | 600 | Pipe/Conduit | 🟢 |
| S1.009 | 37.892 | 0.179 | 211.7 | 0.039 | 0.00 | 0.0 | 0.600 | | o | 600 | Pipe/Conduit | 🟢 |
| S1.010 | 14.772 | 0.050 | 295.4 | 0.081 | 0.00 | 0.0 | 0.600 | | o | 600 | Pipe/Conduit | 🔒 |
| S1.011 | 35.821 | 0.150 | 238.8 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 600 | Pipe/Conduit | 🔒 |
| S3.000 | 35.797 | 0.450 | 79.5 | 0.178 | 5.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔒 |

Network Results Table

| PN | Rain (mm/hr) | T.C. (mins) | US/IL (m) | Σ I.Area (ha) | Σ Base Flow (l/s) | Foul (l/s) | Add Flow (l/s) | Vel (m/s) | Cap (l/s) | Flow (l/s) |
|--------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S1.001 | 50.00 | 5.94 | 91.980 | 0.446 | 0.0 | 0.0 | 0.0 | 1.28 | 141.1 | 60.4 |
| S1.002 | 50.00 | 6.08 | 91.814 | 0.480 | 0.0 | 0.0 | 0.0 | 1.43 | 227.6 | 65.0 |
| S1.003 | 50.00 | 6.22 | 91.753 | 0.480 | 0.0 | 0.0 | 0.0 | 2.93 | 465.5 | 65.0 |
| S1.004 | 50.00 | 6.74 | 91.275 | 0.547 | 0.0 | 0.0 | 0.0 | 1.66 | 264.4 | 74.1 |
| S1.005 | 50.00 | 7.45 | 90.925 | 0.837 | 0.0 | 0.0 | 0.0 | 1.63 | 259.5 | 113.3 |
| S1.006 | 50.00 | 7.88 | 90.475 | 0.878 | 0.0 | 0.0 | 0.0 | 1.43 | 227.0 | 118.9 |
| S1.007 | 50.00 | 8.05 | 90.145 | 0.911 | 0.0 | 0.0 | 0.0 | 1.21 | 342.5 | 123.4 |
| S1.008 | 50.00 | 8.24 | 90.114 | 1.148 | 0.0 | 0.0 | 0.0 | 1.21 | 342.5 | 155.5 |
| S1.009 | 50.00 | 8.62 | 90.079 | 1.187 | 0.0 | 0.0 | 0.0 | 1.67 | 472.1 | 160.7 |
| S1.010 | 50.00 | 8.79 | 89.900 | 1.268 | 0.0 | 0.0 | 0.0 | 1.41 | 399.1 | 171.7 |
| S1.011 | 50.00 | 9.17 | 89.850 | 1.268 | 0.0 | 0.0 | 0.0 | 1.57 | 444.3 | 171.7 |
| S3.000 | 50.00 | 5.41 | 91.100 | 0.178 | 0.0 | 0.0 | 0.0 | 1.47 | 58.3 | 24.1 |



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Network Design Table for NW3 Storm + 2A

| PN | Length (m) | Fall (m) | Slope (1:X) | I.Area (ha) | T.E. (mins) | Base Flow (l/s) | k (mm) | n | HYD SECT | DIA (mm) | Section Type | Auto Design |
|--------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|---|-------------|-------------|--------------|----------------|
| S3.001 | 13.454 | 0.725 | 18.6 | 0.118 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | |
| S3.002 | 9.725 | 0.150 | 64.8 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | |
| S1.012 | 11.254 | 0.111 | 101.4 | 0.106 | 0.00 | 0.0 | 0.600 | | o | 150 | Pipe/Conduit | |
| S1.013 | 32.595 | 0.249 | 130.9 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | |
| S1.014 | 73.512 | 0.348 | 211.2 | 0.102 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | |
| S4.000 | 52.488 | 0.400 | 131.2 | 0.083 | 5.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | |
| S4.001 | 38.478 | 0.150 | 256.5 | 0.144 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | |
| S4.002 | 12.484 | 0.180 | 69.4 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 100 | Pipe/Conduit | |
| S4.003 | 53.095 | 0.425 | 124.9 | 0.241 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | |
| S5.000 | 25.414 | 0.250 | 101.7 | 0.126 | 5.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | |
| S5.001 | 72.095 | 0.217 | 332.2 | 0.160 | 0.00 | 0.0 | 0.600 | | o | 375 | Pipe/Conduit | |

Network Results Table

| PN | Rain (mm/hr) | T.C. (mins) | US/IL (m) | Σ I.Area (ha) | Σ Base Flow (l/s) | Foul (l/s) | Add Flow (l/s) | Vel (m/s) | Cap (l/s) | Flow (l/s) |
|--------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S3.001 | 50.00 | 5.47 | 90.575 | 0.296 | 0.0 | 0.0 | 0.0 | 3.67 | 259.2 | 40.1 |
| S3.002 | 50.00 | 5.55 | 89.850 | 0.296 | 0.0 | 0.0 | 0.0 | 1.96 | 138.2 | 40.1 |
| S1.012 | 50.00 | 9.36 | 89.700 | 1.670 | 0.0 | 0.0 | 0.0 | 1.00 | 17.6« | 226.1 |
| S1.013 | 50.00 | 9.84 | 89.589 | 1.670 | 0.0 | 0.0 | 0.0 | 1.14 | 45.4« | 226.1 |
| S1.014 | 50.00 | 10.97 | 89.265 | 1.772 | 0.0 | 0.0 | 0.0 | 1.08 | 76.2« | 240.0 |
| S4.000 | 50.00 | 5.77 | 93.135 | 0.083 | 0.0 | 0.0 | 0.0 | 1.14 | 45.3 | 11.2 |
| S4.001 | 50.00 | 6.42 | 92.660 | 0.227 | 0.0 | 0.0 | 0.0 | 0.98 | 69.1 | 30.7 |
| S4.002 | 50.00 | 6.65 | 92.380 | 0.227 | 0.0 | 0.0 | 0.0 | 0.93 | 7.3« | 30.7 |
| S4.003 | 50.00 | 7.28 | 92.000 | 0.468 | 0.0 | 0.0 | 0.0 | 1.41 | 99.3 | 63.4 |
| S5.000 | 50.00 | 5.27 | 92.800 | 0.126 | 0.0 | 0.0 | 0.0 | 1.56 | 110.2 | 17.1 |
| S5.001 | 50.00 | 6.49 | 92.475 | 0.286 | 0.0 | 0.0 | 0.0 | 0.99 | 109.2 | 38.7 |



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Network Design Table for NW3 Storm + 2A

| PN | Length (m) | Fall (m) | Slope (1:X) | I.Area (ha) | T.E. (mins) | Base Flow (l/s) | k (mm) | n | HYD SECT | DIA (mm) | Section Type | Auto Design |
|--------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|---|-------------|-------------|--------------|----------------|
| S5.002 | 14.849 | 0.483 | 30.7 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 100 | Pipe/Conduit | 🔒 |
| S4.004 | 58.047 | 0.750 | 77.4 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | 🔓 |
| S6.000 | 51.982 | 0.347 | 150.0 | 0.080 | 5.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔒 |
| S6.001 | 72.070 | 1.653 | 43.6 | 0.075 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔓 |
| S4.005 | 52.213 | 0.985 | 53.0 | 0.170 | 0.00 | 0.0 | 0.600 | | o | 375 | Pipe/Conduit | 🔒 |
| S7.000 | 39.570 | 1.348 | 29.4 | 0.107 | 5.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔒 |
| S7.001 | 17.469 | 0.103 | 169.6 | 0.083 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔓 |
| S8.000 | 51.795 | 1.350 | 38.4 | 0.052 | 5.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔒 |
| S8.001 | 19.004 | 0.350 | 54.3 | 0.052 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔓 |

Network Results Table

| PN | Rain (mm/hr) | T.C. (mins) | US/IL (m) | Σ I.Area (ha) | Σ Base Flow (l/s) | Foul (l/s) | Add Flow (l/s) | Vel (m/s) | Cap (l/s) | Flow (l/s) |
|--------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S5.002 | 50.00 | 6.66 | 92.258 | 0.286 | 0.0 | 0.0 | 0.0 | 1.40 | 11.0« | 38.7 |
| S4.004 | 50.00 | 7.82 | 91.575 | 0.754 | 0.0 | 0.0 | 0.0 | 1.79 | 126.5 | 102.1 |
| S6.000 | 50.00 | 5.81 | 92.900 | 0.080 | 0.0 | 0.0 | 0.0 | 1.07 | 42.4 | 10.8 |
| S6.001 | 50.00 | 6.42 | 92.553 | 0.155 | 0.0 | 0.0 | 0.0 | 1.99 | 79.0 | 21.0 |
| S4.005 | 50.00 | 8.17 | 90.750 | 1.079 | 0.0 | 0.0 | 0.0 | 2.49 | 275.4 | 146.1 |
| S7.000 | 50.00 | 5.27 | 92.116 | 0.107 | 0.0 | 0.0 | 0.0 | 2.42 | 96.4 | 14.5 |
| S7.001 | 50.00 | 5.56 | 90.768 | 0.190 | 0.0 | 0.0 | 0.0 | 1.00 | 39.8 | 25.7 |
| S8.000 | 50.00 | 5.41 | 93.125 | 0.052 | 0.0 | 0.0 | 0.0 | 2.12 | 84.2 | 7.0 |
| S8.001 | 50.00 | 5.59 | 91.775 | 0.104 | 0.0 | 0.0 | 0.0 | 1.78 | 70.7 | 14.1 |



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| PN | Length (m) | Fall (m) | Slope (1:X) | I.Area (ha) | T.E. (mins) | Base Flow (l/s) | k (mm) | n | HYD SECT | DIA (mm) | Section Type | Auto Design |
|--------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|---|-------------|-------------|--------------|----------------|
| S8.002 | 9.479 | 0.560 | 16.9 | 0.055 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | |
| S8.003 | 26.950 | 0.112 | 240.6 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | |
| S8.004 | 21.566 | 0.088 | 245.1 | 0.040 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | |
| S7.002 | 37.303 | 0.124 | 300.8 | 0.033 | 0.00 | 0.0 | 0.600 | | o | 375 | Pipe/Conduit | |
| S9.000 | 19.337 | 0.064 | 302.1 | 0.000 | 5.00 | 0.0 | 0.600 | | o | 375 | Pipe/Conduit | |
| S7.003 | 9.857 | 0.033 | 298.7 | 0.051 | 0.00 | 0.0 | 0.600 | | o | 375 | Pipe/Conduit | |
| S7.004 | 19.479 | 0.065 | 299.7 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 375 | Pipe/Conduit | |
| S7.005 | 15.066 | 0.100 | 150.7 | 0.102 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | |
| S7.006 | 41.649 | 0.278 | 149.8 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | |
| S4.006 | 80.231 | 0.365 | 219.8 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | |

Network Results Table

| PN | Rain (mm/hr) | T.C. (mins) | US/IL (m) | Σ I.Area (ha) | Σ Base Flow (l/s) | Foul (l/s) | Add Flow (l/s) | Vel (m/s) | Cap (l/s) | Flow (l/s) |
|--------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S8.002 | 50.00 | 5.63 | 91.425 | 0.159 | 0.0 | 0.0 | 0.0 | 3.20 | 127.1 | 21.5 |
| S8.003 | 50.00 | 6.08 | 90.790 | 0.159 | 0.0 | 0.0 | 0.0 | 1.01 | 71.3 | 21.5 |
| S8.004 | 50.00 | 6.44 | 90.678 | 0.199 | 0.0 | 0.0 | 0.0 | 1.00 | 70.7 | 26.9 |
| S7.002 | 50.00 | 7.04 | 90.515 | 0.422 | 0.0 | 0.0 | 0.0 | 1.04 | 114.8 | 57.1 |
| S9.000 | 50.00 | 5.31 | 90.455 | 0.000 | 0.0 | 0.0 | 0.0 | 1.04 | 114.5 | 0.0 |
| S7.003 | 50.00 | 7.20 | 90.391 | 0.473 | 0.0 | 0.0 | 0.0 | 1.04 | 115.2 | 64.1 |
| S7.004 | 50.00 | 7.51 | 90.358 | 0.473 | 0.0 | 0.0 | 0.0 | 1.04 | 115.0 | 64.1 |
| S7.005 | 50.00 | 5.24 | 90.293 | 0.000 | 10.0 | 0.0 | 0.0 | 1.06 | 42.3 | 10.0 |
| S7.006 | 50.00 | 5.89 | 90.193 | 0.000 | 10.0 | 0.0 | 0.0 | 1.07 | 42.4 | 10.0 |
| S4.006 | 50.00 | 9.15 | 89.690 | 1.079 | 10.0 | 0.0 | 0.0 | 1.37 | 217.4 | 156.1 |



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|---------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|---|-------------|-------------|--------------|----------------|
| S4.007 | 88.214 | 0.558 | 158.1 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | 🔒 |
| S1.015 | 26.886 | 0.857 | 31.4 | 0.133 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | 🔒 |
| S10.000 | 34.316 | 0.722 | 47.5 | 0.158 | 5.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | 🔒 |
| S11.000 | 23.896 | 0.353 | 67.7 | 0.000 | 5.00 | 0.0 | 0.600 | | o | 100 | Pipe/Conduit | 🔒 |
| S11.001 | 42.220 | 0.619 | 68.2 | 0.071 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔒 |
| S11.002 | 6.457 | 0.094 | 68.7 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔒 |
| S11.003 | 43.001 | 0.485 | 88.7 | 0.071 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔒 |
| S11.004 | 4.826 | 0.269 | 17.9 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔒 |
| S10.001 | 65.983 | 0.220 | 299.9 | 0.115 | 0.00 | 0.0 | 0.600 | | o | 750 | Pipe/Conduit | 🔒 |

Network Results Table

| PN | Rain (mm/hr) | T.C. (mins) | US/IL (m) | E I.Area (ha) | E Base Flow (l/s) | Foul (l/s) | Add Flow (l/s) | Vel (m/s) | Cap (l/s) | Flow (l/s) |
|---------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S4.007 | 50.00 | 10.06 | 89.325 | 1.079 | 10.0 | 0.0 | 0.0 | 1.61 | 256.8 | 156.1 |
| S1.015 | 50.00 | 11.10 | 88.767 | 2.984 | 10.0 | 0.0 | 0.0 | 3.64 | 578.9 | 414.1 |
| S10.000 | 50.00 | 5.25 | 89.830 | 0.158 | 0.0 | 0.0 | 0.0 | 2.29 | 161.6 | 21.4 |
| S11.000 | 50.00 | 5.42 | 90.928 | 0.000 | 0.0 | 0.0 | 0.0 | 0.94 | 7.4 | 0.0 |
| S11.001 | 50.00 | 5.87 | 90.450 | 0.071 | 0.0 | 0.0 | 0.0 | 1.59 | 63.1 | 9.6 |
| S11.002 | 50.00 | 5.94 | 89.831 | 0.071 | 0.0 | 0.0 | 0.0 | 1.58 | 62.8 | 9.6 |
| S11.003 | 50.00 | 6.45 | 89.737 | 0.142 | 0.0 | 0.0 | 0.0 | 1.39 | 55.2 | 19.2 |
| S11.004 | 50.00 | 6.48 | 89.252 | 0.142 | 0.0 | 0.0 | 0.0 | 3.10 | 123.4 | 19.2 |
| S10.001 | 50.00 | 7.16 | 88.658 | 0.415 | 0.0 | 0.0 | 0.0 | 1.61 | 711.6 | 56.2 |



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|---------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|---|-------------|-------------|--------------|----------------|
| S12.000 | 14.711 | 0.280 | 52.5 | 0.085 | 5.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔒 |
| S12.001 | 23.546 | 0.722 | 32.6 | 0.013 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔒 |
| S13.000 | 17.003 | 0.113 | 150.5 | 0.000 | 5.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔒 |
| S13.001 | 5.487 | 0.037 | 148.3 | 0.043 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔒 |
| S12.002 | 27.379 | 0.183 | 149.6 | 0.025 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔒 |
| S14.000 | 18.168 | 0.121 | 150.1 | 0.000 | 5.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔒 |
| S14.001 | 8.909 | 0.059 | 151.0 | 0.077 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔒 |
| S12.003 | 11.591 | 0.077 | 150.5 | 0.015 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔒 |
| S10.002 | 49.078 | 0.164 | 299.3 | 0.090 | 0.00 | 0.0 | 0.600 | | o | 750 | Pipe/Conduit | 🔒 |

Network Results Table

| PN | Rain (mm/hr) | T.C. (mins) | US/IL (m) | E I.Area (ha) | E Base Flow (l/s) | Foul (l/s) | Add Flow (l/s) | Vel (m/s) | Cap (l/s) | Flow (l/s) |
|---------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S12.000 | 50.00 | 5.14 | 90.225 | 0.085 | 0.0 | 0.0 | 0.0 | 1.81 | 71.9 | 11.5 |
| S12.001 | 50.00 | 5.31 | 89.945 | 0.098 | 0.0 | 0.0 | 0.0 | 2.30 | 91.4 | 13.3 |
| S13.000 | 50.00 | 5.27 | 89.373 | 0.000 | 0.0 | 0.0 | 0.0 | 1.06 | 42.3 | 0.0 |
| S13.001 | 50.00 | 5.35 | 89.260 | 0.043 | 0.0 | 0.0 | 0.0 | 1.07 | 42.6 | 5.8 |
| S12.002 | 50.00 | 5.78 | 89.223 | 0.166 | 0.0 | 0.0 | 0.0 | 1.07 | 42.4 | 22.5 |
| S14.000 | 50.00 | 5.28 | 89.220 | 0.000 | 0.0 | 0.0 | 0.0 | 1.06 | 42.3 | 0.0 |
| S14.001 | 50.00 | 5.42 | 89.099 | 0.077 | 0.0 | 0.0 | 0.0 | 1.06 | 42.2 | 10.4 |
| S12.003 | 50.00 | 5.96 | 89.040 | 0.258 | 0.0 | 0.0 | 0.0 | 1.06 | 42.3 | 34.9 |
| S10.002 | 50.00 | 7.67 | 88.438 | 0.763 | 0.0 | 0.0 | 0.0 | 1.61 | 712.4 | 103.3 |



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Network Design Table for NW3 Storm + 2A

| PN | Length (m) | Fall (m) | Slope (1:X) | I.Area (ha) | T.E. (mins) | Base Flow (l/s) | k (mm) | n | HYD SECT | DIA (mm) | Section Type | Auto Design |
|---------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|---|-------------|-------------|--------------|----------------|
| S10.003 | 17.026 | 0.057 | 298.7 | 0.073 | 0.00 | 0.0 | 0.600 | | o | 750 | Pipe/Conduit | 🔒 |
| S15.000 | 28.884 | 0.096 | 300.9 | 0.000 | 5.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | 🔒 |
| S15.001 | 6.860 | 0.028 | 245.0 | 0.043 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | 🔒 |
| S10.004 | 62.322 | 0.208 | 299.6 | 0.052 | 0.00 | 0.0 | 0.600 | | o | 750 | Pipe/Conduit | 🔒 |
| S16.000 | 22.034 | 0.073 | 301.8 | 0.000 | 5.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | 🔒 |
| S16.001 | 8.125 | 0.033 | 246.2 | 0.037 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | 🔒 |
| S17.000 | 23.228 | 0.077 | 301.7 | 0.000 | 5.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | 🔒 |
| S17.001 | 13.287 | 0.054 | 246.1 | 0.039 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | 🔒 |
| S10.005 | 18.718 | 0.062 | 301.9 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 750 | Pipe/Conduit | 🔒 |

Network Results Table

| PN | Rain (mm/hr) | T.C. (mins) | US/IL (m) | E I.Area (ha) | E Base Flow (l/s) | Foul (l/s) | Add Flow (l/s) | Vel (m/s) | Cap (l/s) | Flow (l/s) |
|---------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S10.003 | 50.00 | 7.84 | 88.274 | 0.836 | 0.0 | 0.0 | 0.0 | 1.61 | 713.0 | 113.2 |
| S15.000 | 50.00 | 5.53 | 88.641 | 0.000 | 0.0 | 0.0 | 0.0 | 0.90 | 63.7 | 0.0 |
| S15.001 | 50.00 | 5.65 | 88.545 | 0.043 | 0.0 | 0.0 | 0.0 | 1.00 | 70.7 | 5.8 |
| S10.004 | 50.00 | 8.49 | 88.217 | 0.931 | 0.0 | 0.0 | 0.0 | 1.61 | 711.9 | 126.1 |
| S16.000 | 50.00 | 5.41 | 88.565 | 0.000 | 0.0 | 0.0 | 0.0 | 0.90 | 63.6 | 0.0 |
| S16.001 | 50.00 | 5.54 | 88.492 | 0.037 | 0.0 | 0.0 | 0.0 | 1.00 | 70.5 | 5.0 |
| S17.000 | 50.00 | 5.43 | 88.590 | 0.000 | 0.0 | 0.0 | 0.0 | 0.90 | 63.6 | 0.0 |
| S17.001 | 50.00 | 5.65 | 88.513 | 0.039 | 0.0 | 0.0 | 0.0 | 1.00 | 70.5 | 5.3 |
| S10.005 | 50.00 | 8.68 | 88.009 | 1.007 | 0.0 | 0.0 | 0.0 | 1.61 | 709.2 | 136.4 |



Date 17/10/2024 17:18

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Network Design Table for NW3 Storm + 2A

| PN | Length (m) | Fall (m) | Slope (1:X) | I.Area (ha) | T.E. (mins) | Base Flow (l/s) | k (mm) | n | HYD SECT | DIA (mm) | Section Type | Auto Design |
|---------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|-------|-------------|-------------|--------------|----------------|
| S10.006 | 11.089 | 0.037 | 299.7 | 0.130 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | 🔒 |
| S1.016 | 65.237 | 0.325 | 200.7 | 0.050 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | 🔒 |
| S18.000 | 18.686 | 0.235 | 79.5 | 0.020 | 5.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | 🔒 |
| S18.001 | 8.472 | 0.110 | 77.0 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 150 | Pipe/Conduit | 🔒 |
| S18.002 | 57.574 | 0.780 | 73.8 | 0.093 | 0.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | 🔒 |
| S18.003 | 9.579 | 0.150 | 63.9 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 150 | Pipe/Conduit | 🔒 |
| S18.004 | 36.586 | 0.340 | 107.6 | 0.063 | 0.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | 🔒 |
| S18.005 | 18.821 | 0.265 | 71.0 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 150 | Pipe/Conduit | 🔒 |
| S19.000 | 25.595 | 0.276 | 92.7 | 0.170 | 5.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | 🔒 |
| S18.006 | 8.400 | 0.084 | 100.0 | 0.000 | 0.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | 🔒 |

Network Results Table

| PN | Rain (mm/hr) | T.C. (mins) | US/IL (m) | Σ I.Area (ha) | Σ Base Flow (l/s) | Foul (l/s) | Add Flow (l/s) | Vel (m/s) | Cap (l/s) | Flow (l/s) |
|---------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S10.006 | 50.00 | 5.16 | 87.947 | 0.000 | 10.0 | 0.0 | 0.0 | 1.17 | 185.9 | 10.0 |
| S1.016 | 50.00 | 11.86 | 87.910 | 3.034 | 20.0 | 0.0 | 0.0 | 1.43 | 227.6« | 430.8 |
| S18.000 | 50.00 | 5.10 | 94.003 | 0.020 | 0.0 | 0.0 | 0.0 | 2.97 | 4538.9 | 2.7 |
| S18.001 | 50.00 | 5.23 | 93.769 | 0.020 | 0.0 | 0.0 | 0.0 | 1.15 | 20.3 | 2.7 |
| S18.002 | 50.00 | 5.54 | 93.663 | 0.113 | 0.0 | 0.0 | 0.0 | 3.06 | 4587.4 | 15.3 |
| S18.003 | 50.00 | 5.67 | 92.876 | 0.113 | 0.0 | 0.0 | 0.0 | 1.26 | 22.3 | 15.3 |
| S18.004 | 50.00 | 5.91 | 92.729 | 0.176 | 0.0 | 0.0 | 0.0 | 2.55 | 3901.7 | 23.8 |
| S18.005 | 50.00 | 6.17 | 92.390 | 0.176 | 0.0 | 0.0 | 0.0 | 1.19 | 21.1« | 23.8 |
| S19.000 | 50.00 | 5.16 | 92.402 | 0.170 | 0.0 | 0.0 | 0.0 | 2.75 | 4203.0 | 23.0 |
| S18.006 | 50.00 | 6.22 | 92.126 | 0.346 | 0.0 | 0.0 | 0.0 | 2.65 | 4047.4 | 46.9 |



Date 17/10/2024 17:18

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Network Design Table for NW3 Storm + 2A

| PN | Length (m) | Fall (m) | Slope (1:X) | I.Area (ha) | T.E. (mins) | Base Flow (l/s) | k (mm) | n | HYD SECT | DIA (mm) | Section Type | Auto Design |
|---------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|-------|-------------|-------------|--------------|----------------|
| S18.007 | 2.984 | 0.030 | 99.5 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 150 | Pipe/Conduit | |
| S18.008 | 4.969 | 0.034 | 146.1 | 0.000 | 0.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | |
| S18.009 | 8.340 | 0.056 | 148.9 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | |
| S18.010 | 15.181 | 0.101 | 150.3 | 0.061 | 0.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | |
| S18.011 | 13.396 | 0.089 | 150.5 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | |
| S20.000 | 14.695 | 1.159 | 12.7 | 0.045 | 5.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | |
| S18.012 | 7.665 | 0.051 | 150.3 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | |
| S18.013 | 74.253 | 0.823 | 90.2 | 0.000 | 0.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | |
| S18.014 | 77.585 | 1.295 | 59.9 | 0.000 | 0.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | |
| S18.015 | 9.244 | 0.200 | 46.2 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | |
| S18.016 | 0.500# | 0.150 | 3.3 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | |

Network Results Table

| PN | Rain (mm/hr) | T.C. (mins) | US/IL (m) | Σ I.Area (ha) | Σ Base Flow (l/s) | Foul (l/s) | Add Flow (l/s) | Vel (m/s) | Cap (l/s) | Flow (l/s) |
|---------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S18.007 | 50.00 | 6.27 | 92.042 | 0.346 | 0.0 | 0.0 | 0.0 | 1.01 | 17.8« | 46.9 |
| S18.008 | 50.00 | 6.31 | 92.012 | 0.346 | 0.0 | 0.0 | 0.0 | 2.19 | 3348.0 | 46.9 |
| S18.009 | 50.00 | 6.44 | 91.978 | 0.346 | 0.0 | 0.0 | 0.0 | 1.07 | 42.5« | 46.9 |
| S18.010 | 50.00 | 6.55 | 91.922 | 0.407 | 0.0 | 0.0 | 0.0 | 2.37 | 5324.8 | 55.1 |
| S18.011 | 50.00 | 6.76 | 91.821 | 0.407 | 0.0 | 0.0 | 0.0 | 1.06 | 42.3« | 55.1 |
| S20.000 | 50.00 | 5.03 | 92.891 | 0.045 | 0.0 | 0.0 | 0.0 | 7.44 | 11366.7 | 6.1 |
| S18.012 | 50.00 | 6.88 | 91.732 | 0.452 | 0.0 | 0.0 | 0.0 | 1.06 | 42.3« | 61.2 |
| S18.013 | 50.00 | 7.89 | 91.618 | 0.452 | 0.0 | 0.0 | 0.0 | 1.22 | 333.4 | 61.2 |
| S18.014 | 50.00 | 8.27 | 90.795 | 0.452 | 0.0 | 0.0 | 0.0 | 3.45 | 5317.6 | 61.2 |
| S18.015 | 50.00 | 8.35 | 89.500 | 0.452 | 0.0 | 0.0 | 0.0 | 1.93 | 76.7 | 61.2 |
| S18.016 | 50.00 | 8.35 | 88.500 | 0.452 | 0.0 | 0.0 | 0.0 | 8.67 | 612.8 | 61.2 |



Date 17/10/2024 17:18

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Network Design Table for NW3 Storm + 2A

| PN | Length (m) | Fall (m) | Slope (1:X) | I.Area (ha) | T.E. (mins) | Base Flow (l/s) | k (mm) | n | HYD SECT | DIA (mm) | Section Type | Auto Design |
|---------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|-------|-------------|-------------|--------------|----------------|
| S21.000 | 30.817 | 0.585 | 52.7 | 0.061 | 5.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | |
| S21.001 | 9.639 | 0.335 | 28.8 | 0.307 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | |
| S21.002 | 0.500# | 0.150 | 3.3 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | |
| S18.017 | 21.942 | 0.765 | 28.7 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | |
| S1.017 | 79.204 | 0.528 | 150.0 | 0.071 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | |
| S1.018 | 86.332 | 0.576 | 149.9 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | |
| S1.019 | 52.421 | 0.349 | 150.0 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | |
| S22.000 | 43.551 | 0.290 | 150.0 | 0.041 | 5.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | |
| S22.001 | 7.478 | 0.050 | 150.0 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 150 | Pipe/Conduit | |
| S22.002 | 78.891 | 0.641 | 123.1 | 0.210 | 0.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | |

Network Results Table

| PN | Rain (mm/hr) | T.C. (mins) | US/IL (m) | Σ I.Area (ha) | Σ Base Flow (l/s) | Foul (l/s) | Add Flow (l/s) | Vel (m/s) | Cap (l/s) | Flow (l/s) |
|---------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S21.000 | 50.00 | 5.24 | 89.850 | 0.061 | 0.0 | 0.0 | 0.0 | 2.17 | 153.5 | 8.3 |
| S21.001 | 50.00 | 5.29 | 89.265 | 0.368 | 0.0 | 0.0 | 0.0 | 2.94 | 208.0 | 49.8 |
| S21.002 | 50.00 | 5.29 | 88.500 | 0.368 | 0.0 | 0.0 | 0.0 | 8.67 | 612.8 | 49.8 |
| S18.017 | 50.00 | 8.44 | 88.350 | 0.820 | 0.0 | 0.0 | 0.0 | 3.81 | 605.6 | 111.0 |
| S1.017 | 50.00 | 13.10 | 87.585 | 3.925 | 20.0 | 0.0 | 0.0 | 1.07 | 42.4« | 551.5 |
| S1.018 | 50.00 | 14.45 | 87.057 | 3.925 | 20.0 | 0.0 | 0.0 | 1.07 | 42.4« | 551.5 |
| S1.019 | 50.00 | 15.27 | 86.481 | 3.925 | 20.0 | 0.0 | 0.0 | 1.07 | 42.4« | 551.5 |
| S22.000 | 50.00 | 5.34 | 92.483 | 0.041 | 0.0 | 0.0 | 0.0 | 2.16 | 3304.7 | 5.6 |
| S22.001 | 50.00 | 5.49 | 92.193 | 0.041 | 0.0 | 0.0 | 0.0 | 0.82 | 14.5 | 5.6 |
| S22.002 | 50.00 | 5.94 | 92.143 | 0.251 | 0.0 | 0.0 | 0.0 | 2.94 | 7483.1 | 34.0 |



Date 17/10/2024 17:18

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Network Design Table for NW3 Storm + 2A

| PN | Length (m) | Fall (m) | Slope (1:X) | I.Area (ha) | T.E. (mins) | Base Flow (l/s) | k (mm) | n | HYD SECT | DIA (mm) | Section Type | Auto Design |
|---------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|-------|-------------|-------------|--------------|----------------|
| S23.000 | 11.566 | 0.077 | 150.2 | 0.042 | 5.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | 🔒 |
| S23.001 | 8.760 | 0.058 | 151.0 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 150 | Pipe/Conduit | 🔒 |
| S23.002 | 15.338 | 0.102 | 150.4 | 0.072 | 0.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | 🔒 |
| S23.003 | 3.234 | 0.022 | 147.0 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 150 | Pipe/Conduit | 🔒 |
| S23.004 | 27.302 | 0.182 | 150.0 | 0.000 | 0.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | 🔒 |
| S23.005 | 9.352 | 0.062 | 150.8 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 150 | Pipe/Conduit | 🔒 |
| S23.006 | 52.820 | 0.352 | 150.1 | 0.113 | 0.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | 🔒 |
| S23.007 | 18.754 | 0.427 | 43.9 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 150 | Pipe/Conduit | 🔒 |
| S22.003 | 36.487 | 0.218 | 167.4 | 0.044 | 0.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | 🔒 |
| S22.004 | 10.066 | 0.341 | 29.5 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 150 | Pipe/Conduit | 🔒 |
| S22.005 | 150.685 | 1.014 | 148.6 | 0.301 | 0.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | 🔒 |
| S22.006 | 9.198 | 0.136 | 67.6 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | 🔒 |
| S22.007 | 45.310 | 0.514 | 88.2 | 0.117 | 0.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | 🔒 |

Network Results Table

| PN | Rain (mm/hr) | T.C. (mins) | US/IL (m) | Σ I.Area (ha) | Σ Base Flow (l/s) | Foul (l/s) | Add Flow (l/s) | Vel (m/s) | Cap (l/s) | Flow (l/s) |
|---------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S23.000 | 50.00 | 5.09 | 92.784 | 0.042 | 0.0 | 0.0 | 0.0 | 2.16 | 3302.4 | 5.7 |
| S23.001 | 50.00 | 5.27 | 92.707 | 0.042 | 0.0 | 0.0 | 0.0 | 0.82 | 14.4 | 5.7 |
| S23.002 | 50.00 | 5.35 | 92.649 | 0.114 | 0.0 | 0.0 | 0.0 | 3.04 | 10869.8 | 15.4 |
| S23.003 | 50.00 | 5.42 | 92.547 | 0.114 | 0.0 | 0.0 | 0.0 | 0.83 | 14.6 | 15.4 |
| S23.004 | 50.00 | 5.57 | 92.525 | 0.114 | 0.0 | 0.0 | 0.0 | 3.07 | 11268.9 | 15.4 |
| S23.005 | 50.00 | 5.76 | 92.343 | 0.114 | 0.0 | 0.0 | 0.0 | 0.82 | 14.4 | 15.4 |
| S23.006 | 50.00 | 6.20 | 92.281 | 0.227 | 0.0 | 0.0 | 0.0 | 1.98 | 2432.8 | 30.7 |
| S23.007 | 50.00 | 6.41 | 91.929 | 0.227 | 0.0 | 0.0 | 0.0 | 1.52 | 26.9 | 30.7 |
| S22.003 | 50.00 | 6.72 | 91.502 | 0.522 | 0.0 | 0.0 | 0.0 | 1.95 | 2646.9 | 70.7 |
| S22.004 | 50.00 | 6.81 | 91.284 | 0.522 | 0.0 | 0.0 | 0.0 | 1.86 | 32.9 | 70.7 |
| S22.005 | 50.00 | 8.09 | 90.943 | 0.823 | 0.0 | 0.0 | 0.0 | 1.97 | 2442.9 | 111.4 |
| S22.006 | 50.00 | 8.18 | 89.929 | 0.823 | 0.0 | 0.0 | 0.0 | 1.59 | 63.3 | 111.4 |
| S22.007 | 50.00 | 8.48 | 89.793 | 0.940 | 0.0 | 0.0 | 0.0 | 2.57 | 3237.9 | 127.3 |



Date 17/10/2024 17:18

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Network Design Table for NW3 Storm + 2A

| PN | Length (m) | Fall (m) | Slope (1:X) | I.Area (ha) | T.E. (mins) | Base Flow (l/s) | k (mm) | n | HYD SECT | DIA (mm) | Section Type | Auto Design |
|---------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|-------|-------------|-------------|--------------|----------------|
| S22.008 | 7.011 | 0.076 | 92.3 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | 🔒 |
| S22.009 | 39.555 | 0.430 | 92.0 | 0.149 | 0.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | 🔒 |
| S22.010 | 10.813 | 0.117 | 92.4 | 0.000 | 0.00 | 0.0 | | 0.015 | o | 300 | Pipe/Conduit | 🔒 |
| S22.011 | 11.605 | 0.131 | 88.6 | 0.000 | 0.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | 🔒 |
| S22.012 | 8.239 | 0.090 | 91.5 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | 🔒 |
| S22.013 | 38.915 | 0.422 | 92.2 | 0.094 | 0.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | 🔒 |
| S22.014 | 5.389 | 0.058 | 92.9 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | 🔒 |
| S22.015 | 24.259 | 0.203 | 119.5 | 0.054 | 0.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | 🔒 |
| S22.016 | 9.387 | 0.134 | 70.1 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | 🔒 |
| S22.017 | 94.550 | 1.139 | 83.0 | 0.250 | 0.00 | 0.0 | | 0.015 | →\-/→ | | Dry Swale | 🔒 |
| S22.018 | 11.375 | 0.422 | 27.0 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | 🔒 |
| S1.020 | 32.215 | 0.275 | 117.1 | 0.069 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | 🔒 |
| S1.021 | 17.276 | 0.058 | 297.9 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | 🔒 |

Network Results Table

| PN | Rain (mm/hr) | T.C. (mins) | US/IL (m) | Σ I.Area (ha) | Σ Base Flow (l/s) | Foul (l/s) | Add Flow (l/s) | Vel (m/s) | Cap (l/s) | Flow (l/s) |
|---------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S22.008 | 50.00 | 8.55 | 89.279 | 0.940 | 0.0 | 0.0 | 0.0 | 1.64 | 115.7« | 127.3 |
| S22.009 | 50.00 | 8.81 | 89.203 | 1.089 | 0.0 | 0.0 | 0.0 | 2.52 | 3169.7 | 147.5 |
| S22.010 | 50.00 | 8.95 | 88.773 | 1.089 | 0.0 | 0.0 | 0.0 | 1.23 | 87.2« | 147.5 |
| S22.011 | 50.00 | 9.03 | 88.656 | 1.089 | 0.0 | 0.0 | 0.0 | 2.60 | 3323.1 | 147.5 |
| S22.012 | 50.00 | 9.11 | 88.525 | 1.089 | 0.0 | 0.0 | 0.0 | 1.64 | 116.2« | 147.5 |
| S22.013 | 50.00 | 9.37 | 88.435 | 1.183 | 0.0 | 0.0 | 0.0 | 2.55 | 3257.1 | 160.2 |
| S22.014 | 50.00 | 9.42 | 88.013 | 1.183 | 0.0 | 0.0 | 0.0 | 1.63 | 115.3« | 160.2 |
| S22.015 | 50.00 | 9.60 | 87.955 | 1.237 | 0.0 | 0.0 | 0.0 | 2.24 | 2861.2 | 167.5 |
| S22.016 | 50.00 | 9.69 | 87.752 | 1.237 | 0.0 | 0.0 | 0.0 | 1.88 | 133.0« | 167.5 |
| S22.017 | 50.00 | 10.27 | 87.618 | 1.487 | 0.0 | 0.0 | 0.0 | 2.68 | 3432.9 | 201.4 |
| S22.018 | 50.00 | 10.34 | 86.479 | 1.487 | 0.0 | 0.0 | 0.0 | 3.04 | 214.9 | 201.4 |
| S1.020 | 50.00 | 15.55 | 85.907 | 5.481 | 20.0 | 0.0 | 0.0 | 1.88 | 298.6« | 762.2 |
| S1.021 | 50.00 | 15.80 | 85.632 | 5.481 | 20.0 | 0.0 | 0.0 | 1.17 | 186.5« | 762.2 |



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Network Design Table for NW3 Storm + 2A

| PN | Length (m) | Fall (m) | Slope (1:X) | I.Area (ha) | T.E. (mins) | Base Flow (l/s) | k (mm) | n | HYD SECT | DIA (mm) | Section Type | Auto Design |
|---------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|-------|-------------|-------------|--------------|----------------|
| S1.022 | 22.203 | 0.074 | 300.0 | 0.016 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | 🔒 |
| S1.023 | 0.500# | 0.050 | 10.0 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | 🔒 |
| S24.000 | 48.378 | 0.323 | 149.8 | 0.191 | 5.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | 🔒 |
| S24.001 | 65.978 | 0.800 | 82.5 | 0.191 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | 🔒 |
| S24.002 | 62.947 | 0.925 | 68.1 | 0.191 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | 🔒 |
| S24.003 | 8.119 | 0.075 | 108.3 | 0.192 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | 🔒 |
| S24.004 | 0.500# | 0.150 | 3.3 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | 🔒 |
| S24.005 | 34.390 | 0.250 | 137.6 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 150 | Pipe/Conduit | 🔒 |
| S24.006 | 0.500# | 0.150 | 3.3 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 375 | Pipe/Conduit | 🔒 |
| S1.024 | 7.948 | 0.090 | 88.3 | 0.000 | 0.00 | 0.0 | | 0.045 | o | 450 | Pipe/Conduit | 🔒 |
| S25.000 | 31.034 | 0.530 | 58.6 | 0.191 | 5.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | 🔒 |

Network Results Table

| PN | Rain (mm/hr) | T.C. (mins) | US/IL (m) | Σ I.Area (ha) | Σ Base Flow (l/s) | Foul (l/s) | Add Flow (l/s) | Vel (m/s) | Cap (l/s) | Flow (l/s) |
|---------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S1.022 | 50.00 | 16.11 | 85.574 | 5.497 | 20.0 | 0.0 | 0.0 | 1.17 | 185.8<< | 764.4 |
| S1.023 | 50.00 | 16.12 | 85.500 | 5.497 | 20.0 | 0.0 | 0.0 | 6.46 | 1027.0 | 764.4 |
| S24.000 | 50.00 | 5.63 | 88.023 | 0.191 | 0.0 | 0.0 | 0.0 | 1.28 | 90.6 | 25.9 |
| S24.001 | 50.00 | 6.12 | 87.550 | 0.382 | 0.0 | 0.0 | 0.0 | 2.24 | 356.3 | 51.7 |
| S24.002 | 50.00 | 6.54 | 86.750 | 0.573 | 0.0 | 0.0 | 0.0 | 2.47 | 392.4 | 77.6 |
| S24.003 | 50.00 | 6.61 | 85.975 | 0.765 | 0.0 | 0.0 | 0.0 | 1.95 | 310.7 | 103.6 |
| S24.004 | 50.00 | 6.61 | 85.900 | 0.765 | 0.0 | 0.0 | 0.0 | 11.19 | 1780.4 | 103.6 |
| S24.005 | 50.00 | 7.29 | 85.750 | 0.765 | 0.0 | 0.0 | 0.0 | 0.85 | 15.1<< | 103.6 |
| S24.006 | 50.00 | 7.29 | 85.500 | 0.765 | 0.0 | 0.0 | 0.0 | 9.98 | 1102.5 | 103.6 |
| S1.024 | 50.00 | 16.36 | 85.350 | 6.262 | 20.0 | 0.0 | 0.0 | 0.55 | 87.6<< | 868.0 |
| S25.000 | 50.00 | 5.19 | 86.250 | 0.191 | 0.0 | 0.0 | 0.0 | 2.66 | 423.2 | 25.9 |



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Network Design Table for NW3 Storm + 2A

| PN | Length (m) | Fall (m) | Slope (1:X) | I.Area (ha) | T.E. (mins) | Base Flow (l/s) | k (mm) | n | HYD SECT | DIA (mm) | Section Type | Auto Design |
|---------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|---|-------------|-------------|--------------|----------------|
| S26.000 | 61.852 | 0.650 | 95.2 | 0.190 | 5.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | |
| S27.000 | 39.443 | 0.760 | 51.9 | 0.190 | 5.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | |
| S27.001 | 23.177 | 0.240 | 96.6 | 0.190 | 0.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | |
| S26.001 | 55.493 | 0.515 | 107.8 | 0.190 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | |
| S28.000 | 56.389 | 0.615 | 91.7 | 0.190 | 5.00 | 0.0 | 0.600 | | o | 300 | Pipe/Conduit | |
| S28.001 | 29.103 | 0.400 | 72.8 | 0.190 | 0.00 | 0.0 | 0.600 | | o | 450 | Pipe/Conduit | |
| S26.002 | 60.337 | 0.150 | 402.2 | 0.190 | 0.00 | 0.0 | 0.600 | | o | 600 | Pipe/Conduit | |
| S26.003 | 63.227 | 0.215 | 294.1 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 600 | Pipe/Conduit | |

Network Results Table

| PN | Rain (mm/hr) | T.C. (mins) | US/IL (m) | E I.Area (ha) | E Base Flow (l/s) | Foul (l/s) | Add Flow (l/s) | Vel (m/s) | Cap (l/s) | Flow (l/s) |
|---------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S26.000 | 50.00 | 5.49 | 87.250 | 0.190 | 0.0 | 0.0 | 0.0 | 2.08 | 331.5 | 25.7 |
| S27.000 | 50.00 | 5.30 | 87.750 | 0.190 | 0.0 | 0.0 | 0.0 | 2.19 | 154.6 | 25.7 |
| S27.001 | 50.00 | 5.54 | 86.990 | 0.380 | 0.0 | 0.0 | 0.0 | 1.60 | 113.1 | 51.5 |
| S26.001 | 50.00 | 6.01 | 86.600 | 0.760 | 0.0 | 0.0 | 0.0 | 1.96 | 311.3 | 102.9 |
| S28.000 | 50.00 | 5.57 | 87.250 | 0.190 | 0.0 | 0.0 | 0.0 | 1.64 | 116.1 | 25.7 |
| S28.001 | 50.00 | 5.78 | 86.485 | 0.380 | 0.0 | 0.0 | 0.0 | 2.39 | 379.4 | 51.5 |
| S26.002 | 50.00 | 6.85 | 85.935 | 1.330 | 0.0 | 0.0 | 0.0 | 1.21 | 341.5 | 180.1 |
| S26.003 | 50.00 | 7.59 | 85.785 | 1.330 | 0.0 | 0.0 | 0.0 | 1.41 | 400.0 | 180.1 |



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Network Design Table for NW3 Storm + 2A

| PN | Length (m) | Fall (m) | Slope (1:X) | I.Area (ha) | T.E. (mins) | Base Flow (l/s) | k (mm) | n | HYD SECT | DIA (mm) | Section Type | Auto Design |
|---------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|-------------|-------------|-------------|--------------|----------------|
| S25.001 | 75.210 | 0.190 | 395.8 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 600 | Pipe/Conduit | |
| S25.002 | 13.324 | 0.089 | 149.7 | 0.190 | 0.00 | 0.0 | 0.600 | | o | 150 | Pipe/Conduit | |
| S1.025 | 7.211 | 0.040 | 180.3 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 150 | Pipe/Conduit | |
| S1.026 | 60.641 | 0.020 | 3109.8 | 0.000 | 0.00 | 0.0 | | 0.045 3 \=/ | | 500 | 1:3 Swale | |
| S29.000 | 15.445 | 0.105 | 147.1 | 0.178 | 5.00 | 0.0 | 0.600 | | o | 225 | Pipe/Conduit | |
| S29.001 | 13.319 | 0.090 | 148.0 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 150 | Pipe/Conduit | |
| S1.027 | 19.459 | 0.059 | 329.8 | 0.000 | 0.00 | 0.0 | | 0.045 3 \=/ | | 500 | 1:3 Swale | |
| S1.028 | 6.209 | 0.045 | 138.0 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 150 | Pipe/Conduit | |
| S1.029 | 4.903 | 0.030 | 163.4 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 150 | Pipe/Conduit | |
| S1.030 | 105.946 | 0.047 | 2254.2 | 0.000 | 0.00 | 0.0 | | 0.045 3 \=/ | | 500 | 1:3 Swale | |
| S1.031 | 4.456 | 0.030 | 148.5 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 150 | Pipe/Conduit | |

Network Results Table

| PN | Rain (mm/hr) | T.C. (mins) | US/IL (m) | Σ I.Area (ha) | Σ Base Flow (l/s) | Foul (l/s) | Add Flow (l/s) | Vel (m/s) | Cap (l/s) | Flow (l/s) |
|---------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S25.001 | 50.00 | 8.62 | 85.570 | 1.521 | 0.0 | 0.0 | 0.0 | 1.22 | 344.3 | 206.0 |
| S25.002 | 50.00 | 8.89 | 85.349 | 1.711 | 0.0 | 0.0 | 0.0 | 0.82 | 14.5« | 231.7 |
| S1.025 | 50.00 | 16.52 | 85.260 | 7.973 | 20.0 | 0.0 | 0.0 | 0.75 | 13.2« | 1099.6 |
| S1.026 | 50.00 | 28.42 | 85.220 | 7.973 | 20.0 | 0.0 | 0.0 | 0.08 | 12.1« | 1099.6 |
| S29.000 | 50.00 | 5.24 | 85.395 | 0.178 | 0.0 | 0.0 | 0.0 | 1.08 | 42.8 | 24.1 |
| S29.001 | 50.00 | 5.51 | 85.290 | 0.178 | 0.0 | 0.0 | 0.0 | 0.82 | 14.6« | 24.1 |
| S1.027 | 50.00 | 29.66 | 85.200 | 8.151 | 20.0 | 0.0 | 0.0 | 0.26 | 37.2« | 1123.7 |
| S1.028 | 50.00 | 29.78 | 85.141 | 8.151 | 20.0 | 0.0 | 0.0 | 0.85 | 15.1« | 1123.7 |
| S1.029 | 50.00 | 29.89 | 85.100 | 8.151 | 20.0 | 0.0 | 0.0 | 0.78 | 13.8« | 1123.7 |
| S1.030 | 50.00 | 30.00 | 85.067 | 8.151 | 20.0 | 0.0 | 0.0 | 0.10 | 14.2« | 1123.7 |
| S1.031 | 50.00 | 30.00 | 85.020 | 8.151 | 20.0 | 0.0 | 0.0 | 0.82 | 14.5« | 1123.7 |



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Network Design Table for NW3 Storm + 2A

| PN | Length (m) | Fall (m) | Slope (1:X) | I.Area (ha) | T.E. (mins) | Base Flow (l/s) | k (mm) | n | HYD SECT | DIA (mm) | Section Type | Auto Design |
|--------|---------------|-------------|----------------|----------------|----------------|--------------------|-----------|---|-------------|-------------|--------------|----------------|
| S1.032 | 9.315 | 0.062 | 150.2 | 0.000 | 0.00 | 0.0 | 0.600 | | o | 150 | Pipe/Conduit | |

Network Results Table

| PN | Rain (mm/hr) | T.C. (mins) | US/IL (m) | Σ I.Area (ha) | Σ Base Flow (l/s) | Foul (l/s) | Add Flow (l/s) | Vel (m/s) | Cap (l/s) | Flow (l/s) |
|--------|-----------------|----------------|--------------|------------------|----------------------|---------------|-------------------|--------------|--------------|---------------|
| S1.032 | 50.00 | 30.00 | 84.990 | 8.151 | 20.0 | 0.0 | 0.0 | 0.82 | 14.4< | 1123.7 |



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Manhole Schedules for NW3 Storm + 2A

| MH Name | MH CL (m) | MH Depth (m) | MH Connection | MH Diam., L*W (mm) | PN | Pipe Out Invert Level (m) | Pipe Out Diameter (mm) | PN | Pipes In Invert Level (m) | Pipes In Diameter (mm) | Backdrop (mm) |
|----------|-----------|--------------|---------------|--------------------|--------|---------------------------|------------------------|--------|---------------------------|------------------------|---------------|
| S1 | 95.159 | 2.059 | Open Manhole | 1200 | S1.000 | 93.100 | 225 | | | | |
| SXX | 94.402 | 1.602 | Open Manhole | 1350 | S2.000 | 92.800 | 375 | | | | |
| S2 | 94.326 | 2.346 | Open Manhole | 1350 | S1.001 | 91.980 | 375 | S1.000 | 92.130 | 225 | |
| | | | | | | | | S2.000 | 91.980 | 375 | |
| S3 | 94.088 | 2.274 | Open Manhole | 1350 | S1.002 | 91.814 | 450 | S1.001 | 91.889 | 375 | |
| S4 | 93.935 | 2.182 | Open Manhole | 1350 | S1.003 | 91.753 | 450 | S1.002 | 91.753 | 450 | |
| S5 | 93.682 | 2.407 | Open Manhole | 1500 | S1.004 | 91.275 | 450 | S1.003 | 91.275 | 450 | |
| S6 | 93.786 | 2.861 | Open Manhole | 1350 | S1.005 | 90.925 | 450 | S1.004 | 90.925 | 450 | |
| SXX | 92.629 | 2.154 | Open Manhole | 1350 | S1.006 | 90.475 | 450 | S1.005 | 90.475 | 450 | |
| SXX | 93.134 | 2.989 | Open Manhole | 1500 | S1.007 | 90.145 | 600 | S1.006 | 90.295 | 450 | |
| SXX | 93.293 | 3.179 | Open Manhole | 1500 | S1.008 | 90.114 | 600 | S1.007 | 90.114 | 600 | |
| SXX | 93.402 | 3.323 | Open Manhole | 1500 | S1.009 | 90.079 | 600 | S1.008 | 90.079 | 600 | |
| S7 | 93.009 | 3.109 | Open Manhole | 1500 | S1.010 | 89.900 | 600 | S1.009 | 89.900 | 600 | |
| SHWA2 | 92.000 | 2.150 | Junction | | S1.011 | 89.850 | 600 | S1.010 | 89.850 | 600 | |
| S22 | 92.645 | 1.545 | Open Manhole | 1200 | S3.000 | 91.100 | 225 | | | | |
| S23 | 92.239 | 1.664 | Open Manhole | 1200 | S3.001 | 90.575 | 300 | S3.000 | 90.650 | 225 | |
| SHWA3 | 92.000 | 2.150 | Open Manhole | 1200 | S3.002 | 89.850 | 300 | S3.001 | 89.850 | 300 | |
| SBasin A | 92.000 | 2.300 | Open Manhole | 1500 | S1.012 | 89.700 | 150 | S1.011 | 89.700 | 600 | |
| | | | | | | | | S3.002 | 89.700 | 300 | |
| S8FC | 92.000 | 2.411 | Open Manhole | 2400 | S1.013 | 89.589 | 225 | S1.012 | 89.589 | 150 | |
| S9 | 91.640 | 2.375 | Open Manhole | 1200 | S1.014 | 89.265 | 300 | S1.013 | 89.340 | 225 | |
| SXX | 94.560 | 1.425 | Open Manhole | 1200 | S4.000 | 93.135 | 225 | | | | |
| SXX | 94.482 | 1.822 | Open Manhole | 1200 | S4.001 | 92.660 | 300 | S4.000 | 92.735 | 225 | |
| S24 | 94.469 | 2.089 | Open Manhole | 1200 | S4.002 | 92.380 | 100 | S4.001 | 92.510 | 300 | 330 |
| S25 | 94.076 | 2.076 | Open Manhole | 1200 | S4.003 | 92.000 | 300 | S4.002 | 92.200 | 100 | |



Date 17/10/2024 17:18

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Manhole Schedules for NW3 Storm + 2A

| 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) |
|---------|-----------|--------------|---------------|--------------------|--------|---------------------------|---------------|--------|---------------------------|---------------|---------------|
| SXX | 94.609 | 1.809 | Open Manhole | 1200 | S5.000 | 92.800 | 300 | | | | |
| SXX | 94.224 | 1.749 | Open Manhole | 1350 | S5.001 | 92.475 | 375 | S5.000 | 92.550 | 300 | |
| SXX | 94.004 | 1.746 | Open Manhole | 1350 | S5.002 | 92.258 | 100 | S5.001 | 92.258 | 375 | |
| S26 | 93.780 | 2.205 | Open Manhole | 1200 | S4.004 | 91.575 | 300 | S4.003 | 91.575 | 300 | |
| | | | | | | | | S5.002 | 91.775 | 100 | |
| S31 | 94.421 | 1.521 | Open Manhole | 1200 | S6.000 | 92.900 | 225 | | | | |
| S32 | 94.133 | 1.579 | Open Manhole | 1200 | S6.001 | 92.553 | 225 | S6.000 | 92.553 | 225 | |
| S27 | 93.277 | 2.527 | Open Manhole | 1500 | S4.005 | 90.750 | 375 | S4.004 | 90.825 | 300 | |
| | | | | | | | | S6.001 | 90.900 | 225 | |
| S250 | 93.542 | 1.426 | Open Manhole | 1350 | S7.000 | 92.116 | 225 | | | | |
| S251 | 92.766 | 1.998 | Open Manhole | 1350 | S7.001 | 90.768 | 225 | S7.000 | 90.768 | 225 | |
| S256xx | 94.600 | 1.475 | Open Manhole | 600 | S8.000 | 93.125 | 225 | | | | |
| S256xx | 93.550 | 1.775 | Open Manhole | 600 | S8.001 | 91.775 | 225 | S8.000 | 91.775 | 225 | |
| S256xx | 92.900 | 1.475 | Open Manhole | 600 | S8.002 | 91.425 | 225 | S8.001 | 91.425 | 225 | |
| S256 | 92.450 | 1.660 | Open Manhole | 1200 | S8.003 | 90.790 | 300 | S8.002 | 90.865 | 225 | |
| S257 | 92.400 | 1.722 | Open Manhole | 1200 | S8.004 | 90.678 | 300 | S8.003 | 90.678 | 300 | |
| S252 | 92.394 | 1.879 | Open Manhole | 1350 | S7.002 | 90.515 | 375 | S7.001 | 90.665 | 225 | |
| | | | | | | | | S8.004 | 90.590 | 300 | |
| S253xx | 92.952 | 2.497 | Open Manhole | 1350 | S9.000 | 90.455 | 375 | | | | |
| S253 | 92.500 | 2.109 | Open Manhole | 1350 | S7.003 | 90.391 | 375 | S7.002 | 90.391 | 375 | |
| | | | | | | | | S9.000 | 90.391 | 375 | |
| S254 | 92.347 | 1.989 | Open Manhole | 1350 | S7.004 | 90.358 | 375 | S7.003 | 90.358 | 375 | |
| S255FC | 92.306 | 2.013 | Open Manhole | 2400 | S7.005 | 90.293 | 225 | S7.004 | 90.293 | 375 | |
| S28A | 91.928 | 1.735 | Open Manhole | 1200 | S7.006 | 90.193 | 225 | S7.005 | 90.193 | 225 | |
| S28 | 92.578 | 2.888 | Open Manhole | 1350 | S4.006 | 89.690 | 450 | S4.005 | 89.765 | 375 | |



Date 17/10/2024 17:18

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Manhole Schedules for NW3 Storm + 2A

| 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) |
|----------|-----------|--------------|---------------|--------------------|---------|---------------------------|---------------|---------|---------------------------|---------------|---------------|
| | | | | | | | | S7.006 | 89.915 | 225 | |
| S29 | 92.214 | 2.889 | Open Manhole | 1350 | S4.007 | 89.325 | 450 | S4.006 | 89.325 | 450 | |
| S10 | 91.319 | 2.552 | Open Manhole | 1500 | S1.015 | 88.767 | 450 | S1.014 | 88.917 | 300 | |
| | | | | | | | | S4.007 | 88.767 | 450 | |
| S200 | 91.785 | 1.955 | Open Manhole | 1200 | S10.000 | 89.830 | 300 | | | | |
| S21XX | 92.267 | 1.339 | Open Manhole | 600 | S11.000 | 90.928 | 100 | | | | |
| S22XX | 91.929 | 1.479 | Open Manhole | 600 | S11.001 | 90.450 | 225 | S11.000 | 90.575 | 100 | |
| S23XX | 91.329 | 1.498 | Open Manhole | 600 | S11.002 | 89.831 | 225 | S11.001 | 89.831 | 225 | |
| S24XX | 91.270 | 1.533 | Open Manhole | 600 | S11.003 | 89.737 | 225 | S11.002 | 89.737 | 225 | |
| S25XX | 91.253 | 2.001 | Open Manhole | 600 | S11.004 | 89.252 | 225 | S11.003 | 89.252 | 225 | |
| S201 | 91.308 | 2.650 | Open Manhole | 1800 | S10.001 | 88.658 | 750 | S10.000 | 89.108 | 300 | |
| | | | | | | | | S11.004 | 88.983 | 225 | |
| S207 | 91.654 | 1.429 | Open Manhole | 1350 | S12.000 | 90.225 | 225 | | | | |
| S208 | 91.421 | 1.476 | Open Manhole | 1350 | S12.001 | 89.945 | 225 | S12.000 | 89.945 | 225 | |
| SIC209XX | 91.352 | 1.979 | Open Manhole | 600 | S13.000 | 89.373 | 225 | | | | |
| SIC209 | 91.124 | 1.864 | Open Manhole | 600 | S13.001 | 89.260 | 225 | S13.000 | 89.260 | 225 | |
| S209 | 91.104 | 1.881 | Open Manhole | 1200 | S12.002 | 89.223 | 225 | S12.001 | 89.223 | 225 | |
| | | | | | | | | S13.001 | 89.223 | 225 | |
| S205XX | 91.202 | 1.982 | Open Manhole | 600 | S14.000 | 89.220 | 225 | | | | |
| SIC205 | 90.951 | 1.852 | Open Manhole | 600 | S14.001 | 89.099 | 225 | S14.000 | 89.099 | 225 | |
| S206 | 90.735 | 1.695 | Open Manhole | 1200 | S12.003 | 89.040 | 225 | S12.002 | 89.040 | 225 | |
| | | | | | | | | S14.001 | 89.040 | 225 | |
| S202 | 90.572 | 2.134 | Open Manhole | 1800 | S10.002 | 88.438 | 750 | S10.001 | 88.438 | 750 | |
| | | | | | | | | S12.003 | 88.963 | 225 | |
| S203 | 90.450 | 2.176 | Open Manhole | 1800 | S10.003 | 88.274 | 750 | S10.002 | 88.274 | 750 | |



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Manhole Schedules for NW3 Storm + 2A

| 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) |
|---------|-----------|--------------|---------------|--------------------|---------|---------------------------|---------------|---------|---------------------------|---------------|---------------|
| S204XX | 91.050 | 2.409 | Open Manhole | 600 | S15.000 | 88.641 | 300 | | | | |
| SIC204 | 90.750 | 2.205 | Open Manhole | 600 | S15.001 | 88.545 | 300 | S15.000 | 88.545 | 300 | |
| S204 | 90.520 | 2.303 | Open Manhole | 1800 | S10.004 | 88.217 | 750 | S10.003 | 88.217 | 750 | |
| | | | | | | | | S15.001 | 88.517 | 300 | |
| S206XX | 91.200 | 2.635 | Open Manhole | 600 | S16.000 | 88.565 | 300 | | | | |
| SIC206 | 91.350 | 2.858 | Open Manhole | 600 | S16.001 | 88.492 | 300 | S16.000 | 88.492 | 300 | |
| S205XX | 91.022 | 2.432 | Open Manhole | 600 | S17.000 | 88.590 | 300 | | | | |
| SIC205 | 91.351 | 2.838 | Open Manhole | 600 | S17.001 | 88.513 | 300 | S17.000 | 88.513 | 300 | |
| S205 | 91.293 | 3.284 | Open Manhole | 1800 | S10.005 | 88.009 | 750 | S10.004 | 88.009 | 750 | |
| | | | | | | | | S16.001 | 88.459 | 300 | |
| | | | | | | | | S17.001 | 88.459 | 300 | |
| S206FC | 91.154 | 3.207 | Open Manhole | 2400 | S10.006 | 87.947 | 450 | S10.005 | 87.947 | 750 | |
| S11 | 90.956 | 3.046 | Open Manhole | 1350 | S1.016 | 87.910 | 450 | S1.015 | 87.910 | 450 | |
| | | | | | | | | S10.006 | 87.910 | 450 | |
| SIC20 | 95.503 | 1.500 | Junction | | S18.000 | 94.003 | | | | | |
| SIC21 | 95.269 | 1.501 | Open Manhole | 450 | S18.001 | 93.769 | 150 | S18.000 | 93.768 | | |
| SIC22 | 95.163 | 1.504 | Open Manhole | 450 | S18.002 | 93.663 | | S18.001 | 93.659 | 150 | |
| SIC23 | 94.376 | 1.500 | Open Manhole | 450 | S18.003 | 92.876 | 150 | S18.002 | 92.883 | | 1350 |
| SIC24 | 94.229 | 1.503 | Open Manhole | 450 | S18.004 | 92.729 | | S18.003 | 92.726 | 150 | |
| SIC25 | 93.890 | 1.501 | Open Manhole | 450 | S18.005 | 92.390 | 150 | S18.004 | 92.389 | | |
| SIC37 | 93.902 | 1.500 | Junction | | S19.000 | 92.402 | | | | | |
| SIC26 | 93.626 | 1.501 | Open Manhole | 450 | S18.006 | 92.126 | | S18.005 | 92.125 | 150 | |
| | | | | | | | | S19.000 | 92.126 | | |
| SIC27 | 93.542 | 1.500 | Open Manhole | 450 | S18.007 | 92.042 | 150 | S18.006 | 92.042 | | |
| SIC28 | 93.512 | 1.500 | Open Manhole | 450 | S18.008 | 92.012 | | S18.007 | 92.012 | 150 | |



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Manhole Schedules for NW3 Storm + 2A

| 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) |
|----------|-----------|--------------|---------------|--------------------|---------|---------------------------|---------------|---------|---------------------------|---------------|---------------|
| SIC29 | 93.478 | 1.500 | Open Manhole | 450 | S18.009 | 91.978 | 225 | S18.008 | 91.978 | | |
| SIC30 | 93.486 | 1.564 | Open Manhole | 450 | S18.010 | 91.922 | | S18.009 | 91.922 | 225 | |
| SIC31 | 93.647 | 1.826 | Open Manhole | 450 | S18.011 | 91.821 | 225 | S18.010 | 91.821 | | |
| SIC38 | 94.391 | 1.500 | Junction | | S20.000 | 92.891 | | | | | |
| SIC34 | 94.042 | 2.310 | Open Manhole | 450 | S18.012 | 91.732 | 225 | S18.011 | 91.732 | 225 | |
| | | | | | S20.000 | 91.732 | | | | | |
| SIC35 | 94.200 | 2.582 | Open Manhole | 600 | S18.013 | 91.618 | | S18.012 | 91.681 | 225 | |
| Swale | 92.432 | 1.637 | Open Manhole | 600 | S18.014 | 90.795 | | S18.013 | 90.795 | | |
| SIC36 | 91.000 | 1.500 | Open Manhole | 600 | S18.015 | 89.500 | 225 | S18.014 | 89.500 | | |
| SHWB2 | 90.300 | 1.800 | Open Manhole | 1200 | S18.016 | 88.500 | 300 | S18.015 | 89.300 | 225 | 725 |
| SXX | 91.383 | 1.533 | Open Manhole | 1200 | S21.000 | 89.850 | 300 | | | | |
| Sxx | 91.052 | 1.787 | Open Manhole | 1200 | S21.001 | 89.265 | 300 | S21.000 | 89.265 | 300 | |
| SHWB3 | 90.300 | 1.800 | Open Manhole | 1200 | S21.002 | 88.500 | 300 | S21.001 | 88.930 | 300 | 430 |
| SBasin B | 90.300 | 1.950 | Open Manhole | 1350 | S18.017 | 88.350 | 450 | S18.016 | 88.350 | 300 | |
| | | | | | S21.002 | 88.350 | 300 | | | | |
| S12FC | 90.329 | 2.744 | Open Manhole | 2700 | S1.017 | 87.585 | 225 | S1.016 | 87.585 | 450 | |
| | | | | | S18.017 | 87.585 | 450 | | | | |
| S14 | 89.390 | 2.333 | Open Manhole | 1200 | S1.018 | 87.057 | 225 | S1.017 | 87.057 | 225 | |
| S15 | 88.441 | 1.960 | Open Manhole | 1200 | S1.019 | 86.481 | 225 | S1.018 | 86.481 | 225 | |
| SIC40 | 93.983 | 1.500 | Junction | | S22.000 | 92.483 | | | | | |
| SIC41 | 94.081 | 1.888 | Open Manhole | 450 | S22.001 | 92.193 | 150 | S22.000 | 92.193 | | |
| SIC42 | 94.006 | 1.863 | Open Manhole | 450 | S22.002 | 92.143 | | S22.001 | 92.143 | 150 | |
| SIC60 | 94.284 | 1.500 | Junction | | S23.000 | 92.784 | | | | | |
| SIC61 | 94.428 | 1.721 | Open Manhole | 450 | S23.001 | 92.707 | 150 | S23.000 | 92.707 | | |
| SIC62 | 94.538 | 1.889 | Open Manhole | 450 | S23.002 | 92.649 | | S23.001 | 92.649 | 150 | |



Date 17/10/2024 17:18

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Manhole Schedules for NW3 Storm + 2A

| 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) |
|---------|-----------|--------------|---------------|--------------------|---------|---------------------------|---------------|---------|---------------------------|---------------|---------------|
| SIC63 | 94.606 | 2.059 | Open Manhole | 450 | S23.003 | 92.547 | 150 | S23.002 | 92.547 | | |
| SIC64 | 94.590 | 2.065 | Open Manhole | 450 | S23.004 | 92.525 | | S23.003 | 92.525 | 150 | |
| SIC65 | 94.246 | 1.903 | Open Manhole | 450 | S23.005 | 92.343 | 150 | S23.004 | 92.343 | | |
| SIC66 | 94.097 | 1.816 | Open Manhole | 450 | S23.006 | 92.281 | | S23.005 | 92.281 | 150 | |
| SIC67 | 93.352 | 1.423 | Open Manhole | 450 | S23.007 | 91.929 | 150 | S23.006 | 91.929 | | |
| SIC43 | 93.217 | 1.715 | Open Manhole | 450 | S22.003 | 91.502 | | S22.002 | 91.502 | | |
| | | | | | | | | S23.007 | 91.502 | 150 | |
| SIC44 | 92.741 | 1.457 | Open Manhole | 450 | S22.004 | 91.284 | 150 | S22.003 | 91.284 | | |
| SIC45 | 92.517 | 1.574 | Open Manhole | 450 | S22.005 | 90.943 | | S22.004 | 90.943 | 150 | |
| SIC46 | 91.429 | 1.500 | Open Manhole | 450 | S22.006 | 89.929 | 225 | S22.005 | 89.929 | | |
| SIC47 | 91.293 | 1.500 | Open Manhole | 450 | S22.007 | 89.793 | | S22.006 | 89.793 | 225 | |
| SIC48 | 90.779 | 1.500 | Open Manhole | 450 | S22.008 | 89.279 | 300 | S22.007 | 89.279 | | |
| SIC49 | 90.703 | 1.500 | Open Manhole | 450 | S22.009 | 89.203 | | S22.008 | 89.203 | 300 | |
| SIC50 | 90.273 | 1.500 | Open Manhole | 450 | S22.010 | 88.773 | 300 | S22.009 | 88.773 | | |
| SIC51 | 90.156 | 1.500 | Open Manhole | 450 | S22.011 | 88.656 | | S22.010 | 88.656 | 300 | |
| SIC52 | 90.025 | 1.500 | Open Manhole | 450 | S22.012 | 88.525 | 300 | S22.011 | 88.525 | | |
| SIC53 | 89.935 | 1.500 | Open Manhole | 450 | S22.013 | 88.435 | | S22.012 | 88.435 | 300 | |
| SIC54 | 89.513 | 1.500 | Open Manhole | 450 | S22.014 | 88.013 | 300 | S22.013 | 88.013 | | |
| SIC55 | 89.455 | 1.500 | Open Manhole | 450 | S22.015 | 87.955 | | S22.014 | 87.955 | 300 | |
| SIC56 | 89.252 | 1.500 | Open Manhole | 450 | S22.016 | 87.752 | 300 | S22.015 | 87.752 | | |
| SIC57 | 89.118 | 1.500 | Open Manhole | 450 | S22.017 | 87.618 | | S22.016 | 87.618 | 300 | |
| SIC58 | 87.979 | 1.500 | Open Manhole | 450 | S22.018 | 86.479 | 300 | S22.017 | 86.479 | | |
| S17 | 87.902 | 1.995 | Open Manhole | 1350 | S1.020 | 85.907 | 450 | S1.019 | 86.132 | 225 | |
| | | | | | | | | S22.018 | 86.057 | 300 | |
| S18 | 87.544 | 1.912 | Open Manhole | 1350 | S1.021 | 85.632 | 450 | S1.020 | 85.632 | 450 | |



Date 17/10/2024 17:18

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Manhole Schedules for NW3 Storm + 2A

| 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) |
|----------|-----------|--------------|---------------|--------------------|---------|---------------------------|---------------|---------|---------------------------|---------------|---------------|
| S19 | 87.332 | 1.758 | Open Manhole | 1350 | S1.022 | 85.574 | 450 | S1.021 | 85.574 | 450 | |
| SHWD2 | 87.300 | 1.800 | Junction | | S1.023 | 85.500 | 450 | S1.022 | 85.500 | 450 | |
| SXX | 89.348 | 1.325 | Open Manhole | 1350 | S24.000 | 88.023 | 300 | | | | |
| SXX | 89.437 | 1.887 | Open Manhole | 1350 | S24.001 | 87.550 | 450 | S24.000 | 87.700 | 300 | |
| SXX | 88.467 | 1.717 | Open Manhole | 1350 | S24.002 | 86.750 | 450 | S24.001 | 86.750 | 450 | |
| SXXFC | 87.550 | 1.725 | Open Manhole | 2400 | S24.003 | 85.975 | 450 | S24.002 | 85.825 | 450 | |
| SHWC2 | 87.300 | 1.400 | Junction | | S24.004 | 85.900 | 450 | S24.003 | 85.900 | 450 | |
| SBasin C | 87.300 | 1.550 | Open Manhole | 1350 | S24.005 | 85.750 | 150 | S24.004 | 85.750 | 450 | |
| SHWD3 | 87.300 | 1.800 | Open Manhole | 1350 | S24.006 | 85.500 | 375 | S24.005 | 85.500 | 150 | |
| SBasin D | 87.300 | 1.950 | Open Manhole | 1350 | S1.024 | 85.350 | 450 | S1.023 | 85.450 | 450 | 100 |
| | | | | | | | | S24.006 | 85.350 | 375 | |
| SXX | 87.974 | 1.724 | Open Manhole | 1350 | S25.000 | 86.250 | 450 | | | | |
| SXX | 89.209 | 1.959 | Open Manhole | 1350 | S26.000 | 87.250 | 450 | | | | |
| SXX | 89.537 | 1.787 | Open Manhole | 1200 | S27.000 | 87.750 | 300 | | | | |
| SXX | 88.877 | 1.887 | Open Manhole | 1200 | S27.001 | 86.990 | 300 | S27.000 | 86.990 | 300 | |
| SXX | 88.557 | 1.957 | Open Manhole | 1350 | S26.001 | 86.600 | 450 | S26.000 | 86.600 | 450 | |
| | | | | | | | | S27.001 | 86.750 | 300 | |
| SXX | 88.903 | 1.653 | Open Manhole | 1200 | S28.000 | 87.250 | 300 | | | | |
| SXX | 88.288 | 1.803 | Open Manhole | 1350 | S28.001 | 86.485 | 450 | S28.000 | 86.635 | 300 | |
| SXX | 87.997 | 2.062 | Open Manhole | 1500 | S26.002 | 85.935 | 600 | S26.001 | 86.085 | 450 | |
| | | | | | | | | S28.001 | 86.085 | 450 | |
| SXX | 87.399 | 1.614 | Open Manhole | 1500 | S26.003 | 85.785 | 600 | S26.002 | 85.785 | 600 | |
| SXX | 87.577 | 2.007 | Open Manhole | 1500 | S25.001 | 85.570 | 600 | S25.000 | 85.720 | 450 | |
| | | | | | | | | S26.003 | 85.570 | 600 | |
| SXXFC | 87.150 | 1.801 | Open Manhole | 2400 | S25.002 | 85.349 | 150 | S25.001 | 85.380 | 600 | 481 |



Date 17/10/2024 17:18

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Manhole Schedules for NW3 Storm + 2A

| 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) |
|---------|-----------|--------------|---------------|--------------------|---------|---------------------------|---------------|---------|---------------------------|---------------|---------------|
| S20FC | 87.300 | 2.040 | Open Manhole | 2700 | S1.025 | 85.260 | 150 | S1.024 | 85.260 | 450 | |
| | | | | | | | | S25.002 | 85.260 | 150 | |
| SHWE2 | 86.700 | 1.480 | Junction | | S1.026 | 85.220 | 500 | S1.025 | 85.220 | 150 | |
| SXX | 86.700 | 1.305 | Open Manhole | 1200 | S29.000 | 85.395 | 225 | | | | |
| SXXFC | 86.700 | 1.410 | Open Manhole | 2400 | S29.001 | 85.290 | 150 | S29.000 | 85.290 | 225 | |
| SHWF3 | 86.700 | 1.500 | Junction | | S1.027 | 85.200 | 500 | S1.026 | 85.201 | 500 | 1 |
| | | | | | | | | S29.001 | 85.200 | 150 | |
| SHWF1 | 86.700 | 1.559 | Junction | | S1.028 | 85.141 | 150 | S1.027 | 85.141 | 500 | |
| S21FC | 86.500 | 1.404 | Open Manhole | 2400 | S1.029 | 85.100 | 150 | S1.028 | 85.096 | 150 | |
| SHWG1 | 86.000 | 0.933 | Junction | | S1.030 | 85.067 | 500 | S1.029 | 85.070 | 150 | 3 |
| SHWO3 | 86.000 | 0.980 | Junction | | S1.031 | 85.020 | 150 | S1.030 | 85.020 | 500 | |
| S21A | 86.150 | 1.160 | Open Manhole | 1200 | S1.032 | 84.990 | 150 | S1.031 | 84.990 | 150 | |
| S | 86.000 | 1.072 | Open Manhole | 0 | | OUTFALL | | S1.032 | 84.928 | 150 | |

| MH Name | Manhole Easting (m) | Manhole Northing (m) | Intersection Easting (m) | Intersection Northing (m) | Manhole Access | Layout (North) |
|---------|---------------------|----------------------|--------------------------|---------------------------|----------------|----------------|
|---------|---------------------|----------------------|--------------------------|---------------------------|----------------|----------------|

| | | | | | | |
|----|------------|------------|------------|------------|----------|--|
| S1 | 455608.249 | 223504.629 | 455608.249 | 223504.629 | Required | |
|----|------------|------------|------------|------------|----------|--|

| | | | | | | |
|-----|------------|------------|------------|------------|----------|--|
| SXX | 455704.348 | 223527.596 | 455704.348 | 223527.596 | Required | |
|-----|------------|------------|------------|------------|----------|--|

| | | | | | | |
|----|------------|------------|------------|------------|----------|--|
| S2 | 455664.910 | 223469.379 | 455664.910 | 223469.379 | Required | |
|----|------------|------------|------------|------------|----------|--|



Date 17/10/2024 17:18

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Manhole Schedules for NW3 Storm + 2A

| MH Name | Manhole Easting (m) | Manhole Northing (m) | Intersection Easting (m) | Intersection Northing (m) | Manhole Access | Layout (North) |
|---------|---------------------|----------------------|--------------------------|---------------------------|----------------|----------------|
| S3 | 455680.335 | 223459.691 | 455680.335 | 223459.691 | Required | |
| S4 | 455688.060 | 223450.178 | 455688.060 | 223450.178 | Required | |
| S5 | 455697.455 | 223429.017 | 455697.455 | 223429.017 | Required | |
| S6 | 455745.388 | 223449.697 | 455745.388 | 223449.697 | Required | |
| SXX | 455772.933 | 223385.698 | 455772.933 | 223385.698 | Required | |
| SXX | 455739.578 | 223371.303 | 455739.578 | 223371.303 | Required | |
| SXX | 455729.646 | 223363.701 | 455729.646 | 223363.701 | Required | |
| SXX | 455721.671 | 223352.229 | 455721.671 | 223352.229 | Required | |
| S7 | 455707.754 | 223316.985 | 455707.754 | 223316.985 | Required | |
| SHWA2 | 455721.663 | 223312.011 | | | No Entry | |



Date 17/10/2024 17:18

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Network 2020.1.3

Manhole Schedules for NW3 Storm + 2A

| MH Name | Manhole Easting (m) | Manhole Northing (m) | Intersection Easting (m) | Intersection Northing (m) | Manhole Access | Layout (North) |
|----------|---------------------|----------------------|--------------------------|---------------------------|----------------|----------------|
| S22 | 455695.490 | 223289.254 | 455695.490 | 223289.254 | Required | |
| S23 | 455729.158 | 223277.093 | 455729.158 | 223277.093 | Required | |
| SHWA3 | 455736.647 | 223288.271 | 455736.647 | 223288.271 | Required | |
| SBasin A | 455746.044 | 223285.767 | 455746.044 | 223285.767 | Required | |
| S8FC | 455751.336 | 223275.835 | 455751.336 | 223275.835 | Required | |
| S9 | 455779.534 | 223259.486 | 455779.534 | 223259.486 | Required | |
| SXX | 455576.281 | 223453.113 | 455576.281 | 223453.113 | Required | |
| SXX | 455621.088 | 223425.775 | 455621.088 | 223425.775 | Required | |
| S24 | 455653.899 | 223405.675 | 455653.899 | 223405.675 | Required | |
| S25 | 455664.544 | 223399.154 | 455664.544 | 223399.154 | Required | |



Date 17/10/2024 17:18

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File 27141 HIMELY DRAINAGE MODEL.MDX

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Network 2020.1.3

Manhole Schedules for NW3 Storm + 2A

| MH Name | Manhole Easting (m) | Manhole Northing (m) | Intersection Easting (m) | Intersection Northing (m) | Manhole Access | Layout (North) |
|---------|---------------------|----------------------|--------------------------|---------------------------|----------------|----------------|
| SXX | 455541.365 | 223400.134 | 455541.365 | 223400.134 | Required | |
| SXX | 455563.107 | 223386.977 | 455563.107 | 223386.977 | Required | |
| SXX | 455628.724 | 223357.108 | 455628.724 | 223357.108 | Required | |
| S26 | 455642.245 | 223350.969 | 455642.245 | 223350.969 | Required | |
| S31 | 455504.162 | 223347.661 | 455504.162 | 223347.661 | Required | |
| S32 | 455552.042 | 223327.421 | 455552.042 | 223327.421 | Required | |
| S27 | 455617.945 | 223298.253 | 455617.945 | 223298.253 | Required | |
| S250 | 455540.429 | 223299.284 | 455540.429 | 223299.284 | Required | |
| S251 | 455525.425 | 223262.669 | 455525.425 | 223262.669 | Required | |
| S256xx | 455496.531 | 223336.468 | 455496.531 | 223336.468 | Required | |



Date 17/10/2024 17:18

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File 27141 HIMELY DRAINAGE MODEL.MDX

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Network 2020.1.3

Manhole Schedules for NW3 Storm + 2A

| MH Name | Manhole Easting (m) | Manhole Northing (m) | Intersection Easting (m) | Intersection Northing (m) | Manhole Access | Layout (North) |
|---------|---------------------|----------------------|--------------------------|---------------------------|----------------|----------------|
| S256xx | 455474.690 | 223289.504 | 455474.690 | 223289.504 | Required | |
| S256xx | 455468.435 | 223271.559 | 455468.435 | 223271.559 | Required | |
| S256 | 455473.357 | 223263.458 | 455473.357 | 223263.458 | Required | |
| S257 | 455498.787 | 223254.537 | 455498.787 | 223254.537 | Required | |
| S252 | 455518.801 | 223246.504 | 455518.801 | 223246.504 | Required | |
| S253xx | 455560.733 | 223250.772 | 455560.733 | 223250.772 | Required | |
| S253 | 455553.509 | 223232.834 | 455553.509 | 223232.834 | Required | |
| S254 | 455550.327 | 223223.505 | 455550.327 | 223223.505 | Required | |
| S255FC | 455568.547 | 223216.616 | 455568.547 | 223216.616 | Required | |
| S28A | 455582.640 | 223211.290 | 455582.640 | 223211.290 | Required | |



Date 17/10/2024 17:18

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File 27141 HIMELY DRAINAGE MODEL.MDX

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Network 2020.1.3

Manhole Schedules for NW3 Storm + 2A

| MH Name | Manhole Easting (m) | Manhole Northing (m) | Intersection Easting (m) | Intersection Northing (m) | Manhole Access | Layout (North) |
|---------|---------------------|----------------------|--------------------------|---------------------------|----------------|----------------|
| S28 | 455597.821 | 223250.074 | 455597.821 | 223250.074 | Required | |
| S29 | 455672.533 | 223220.830 | 455672.533 | 223220.830 | Required | |
| S10 | 455755.225 | 223190.110 | 455755.225 | 223190.110 | Required | |
| S200 | 455635.991 | 223171.888 | 455635.991 | 223171.888 | Required | |
| S21XX | 455601.478 | 223220.724 | 455601.478 | 223220.724 | Required | |
| S22XX | 455593.642 | 223198.149 | 455593.642 | 223198.149 | Required | |
| S23XX | 455579.542 | 223158.354 | 455579.542 | 223158.354 | Required | |
| S24XX | 455580.063 | 223151.918 | 455580.063 | 223151.918 | Required | |
| S25XX | 455620.495 | 223137.276 | 455620.495 | 223137.276 | Required | |
| S201 | 455624.805 | 223139.447 | 455624.805 | 223139.447 | Required | |



Date 17/10/2024 17:18

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Manhole Schedules for NW3 Storm + 2A

| MH Name | Manhole Easting (m) | Manhole Northing (m) | Intersection Easting (m) | Intersection Northing (m) | Manhole Access | Layout (North) |
|----------|---------------------|----------------------|--------------------------|---------------------------|----------------|----------------|
| S207 | 455710.987 | 223190.266 | 455710.987 | 223190.266 | Required | |
| S208 | 455707.462 | 223175.983 | 455707.462 | 223175.983 | Required | |
| SIC209XX | 455711.204 | 223168.983 | 455711.204 | 223168.983 | Required | |
| SIC209 | 455705.486 | 223152.971 | 455705.486 | 223152.971 | Required | |
| S209 | 455700.039 | 223153.638 | 455700.039 | 223153.638 | Required | |
| S205XX | 455690.483 | 223151.673 | 455690.483 | 223151.673 | Required | |
| SIC205 | 455684.657 | 223134.464 | 455684.657 | 223134.464 | Required | |
| S206 | 455690.687 | 223127.906 | 455690.687 | 223127.906 | Required | |
| S202 | 455686.843 | 223116.971 | 455686.843 | 223116.971 | Required | |
| S203 | 455733.087 | 223100.535 | 455733.087 | 223100.535 | Required | |



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Manhole Schedules for NW3 Storm + 2A

| MH Name | Manhole Easting (m) | Manhole Northing (m) | Intersection Easting (m) | Intersection Northing (m) | Manhole Access | Layout (North) |
|---------|---------------------|----------------------|--------------------------|---------------------------|----------------|----------------|
| S204XX | 455765.364 | 223119.457 | 455765.364 | 223119.457 | Required | |
| SIC204 | 455755.510 | 223092.305 | 455755.510 | 223092.305 | Required | |
| S204 | 455749.069 | 223094.666 | 455749.069 | 223094.666 | Required | |
| S206XX | 455767.650 | 223126.188 | 455767.650 | 223126.188 | Required | |
| SIC206 | 455775.396 | 223146.816 | 455775.396 | 223146.816 | Required | |
| S205XX | 455749.422 | 223129.046 | 455749.422 | 223129.046 | Required | |
| SIC205 | 455757.320 | 223150.890 | 455757.320 | 223150.890 | Required | |
| S205 | 455770.400 | 223153.224 | 455770.400 | 223153.224 | Required | |
| S206FC | 455776.807 | 223170.811 | 455776.807 | 223170.811 | Required | |
| S11 | 455780.602 | 223181.230 | 455780.602 | 223181.230 | Required | |





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Manhole Schedules for NW3 Storm + 2A

| MH Name | Manhole Easting (m) | Manhole Northing (m) | Intersection Easting (m) | Intersection Northing (m) | Manhole Access | Layout (North) |
|---------|---------------------|----------------------|--------------------------|---------------------------|----------------|----------------|
| SIC20 | 455592.225 | 223520.474 | | | No Entry | |
| SIC21 | 455608.096 | 223510.611 | 455608.096 | 223510.611 | Required | |
| SIC22 | 455615.291 | 223506.138 | 455615.291 | 223506.138 | Required | |
| SIC23 | 455664.198 | 223475.759 | 455664.198 | 223475.759 | Required | |
| SIC24 | 455672.334 | 223470.702 | 455672.334 | 223470.702 | Required | |
| SIC25 | 455696.097 | 223443.792 | 455696.097 | 223443.792 | Required | |
| SIC37 | 455682.596 | 223414.059 | | | No Entry | |
| SIC26 | 455704.659 | 223427.032 | 455704.659 | 223427.032 | Required | |
| SIC27 | 455712.351 | 223430.407 | 455712.351 | 223430.407 | Required | |
| SIC28 | 455715.084 | 223431.606 | 455715.084 | 223431.606 | Required | |



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Manhole Schedules for NW3 Storm + 2A

| MH Name | Manhole Easting (m) | Manhole Northing (m) | Intersection Easting (m) | Intersection Northing (m) | Manhole Access | Layout (North) |
|---------|---------------------|----------------------|--------------------------|---------------------------|----------------|----------------|
| SIC29 | 455719.635 | 223433.602 | 455719.635 | 223433.602 | Required | |
| SIC30 | 455727.272 | 223436.953 | 455727.272 | 223436.953 | Required | |
| SIC31 | 455741.188 | 223443.019 | 455741.188 | 223443.019 | Required | |
| SIC38 | 455766.891 | 223454.353 | | | No Entry | |
| SIC34 | 455753.433 | 223448.450 | 455753.433 | 223448.450 | Required | |
| SIC35 | 455756.339 | 223441.358 | 455756.339 | 223441.358 | Required | |
| Swale | 455786.146 | 223373.350 | 455786.146 | 223373.350 | Required | |
| SIC36 | 455825.570 | 223306.529 | 455825.570 | 223306.529 | Required | |
| SHWB2 | 455834.331 | 223303.577 | 455834.331 | 223303.577 | Required | |
| SXX | 455801.724 | 223264.999 | 455801.724 | 223264.999 | Required | |



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Manhole Schedules for NW3 Storm + 2A

| MH Name | Manhole Easting (m) | Manhole Northing (m) | Intersection Easting (m) | Intersection Northing (m) | Manhole Access | Layout (North) |
|----------|---------------------|----------------------|--------------------------|---------------------------|----------------|----------------|
| Sxx | 455830.958 | 223274.747 | 455830.958 | 223274.747 | Required | |
| SHWB3 | 455840.592 | 223275.070 | 455840.592 | 223275.070 | Required | |
| SBasin B | 455844.304 | 223195.054 | 455844.304 | 223195.054 | Required | |
| S12FC | 455845.335 | 223173.136 | 455845.335 | 223173.136 | Required | |
| S14 | 455924.415 | 223168.715 | 455924.415 | 223168.715 | Required | |
| S15 | 456009.898 | 223156.638 | 456009.898 | 223156.638 | Required | |
| SIC40 | 455677.159 | 223409.073 | | | No Entry | |
| SIC41 | 455656.778 | 223370.586 | 455656.778 | 223370.586 | Required | |
| SIC42 | 455653.658 | 223363.790 | 455653.658 | 223363.790 | Required | |
| SIC60 | 455485.883 | 223350.881 | | | No Entry | |



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Manhole Schedules for NW3 Storm + 2A

| MH Name | Manhole Easting (m) | Manhole Northing (m) | Intersection Easting (m) | Intersection Northing (m) | Manhole Access | Layout (North) |
|---------|---------------------|----------------------|--------------------------|---------------------------|----------------|----------------|
| SIC61 | 455496.524 | 223346.347 | 455496.524 | 223346.347 | Required | |
| SIC62 | 455504.588 | 223342.925 | 455504.588 | 223342.925 | Required | |
| SIC63 | 455518.702 | 223336.920 | 455518.702 | 223336.920 | Required | |
| SIC64 | 455521.678 | 223335.654 | 455521.678 | 223335.654 | Required | |
| SIC65 | 455546.802 | 223324.968 | 455546.802 | 223324.968 | Required | |
| SIC66 | 455555.408 | 223321.308 | 455555.408 | 223321.308 | Required | |
| SIC67 | 455603.682 | 223299.871 | 455603.682 | 223299.871 | Required | |
| SIC43 | 455620.747 | 223292.091 | 455620.747 | 223292.091 | Required | |
| SIC44 | 455605.678 | 223258.861 | 455605.678 | 223258.861 | Required | |
| SIC45 | 455610.383 | 223249.962 | 455610.383 | 223249.962 | Required | |



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Manhole Schedules for NW3 Storm + 2A

| MH Name | Manhole Easting (m) | Manhole Northing (m) | Intersection Easting (m) | Intersection Northing (m) | Manhole Access | Layout (North) |
|---------|---------------------|----------------------|--------------------------|---------------------------|----------------|----------------|
| SIC46 | 455751.327 | 223196.666 | 455751.327 | 223196.666 | Required | |
| SIC47 | 455759.988 | 223193.569 | 455759.988 | 223193.569 | Required | |
| SIC48 | 455804.055 | 223183.027 | 455804.055 | 223183.027 | Required | |
| SIC49 | 455811.023 | 223182.263 | 455811.023 | 223182.263 | Required | |
| SIC50 | 455850.343 | 223177.949 | 455850.343 | 223177.949 | Required | |
| SIC51 | 455861.082 | 223176.691 | 455861.082 | 223176.691 | Required | |
| SIC52 | 455872.647 | 223175.723 | 455872.647 | 223175.723 | Required | |
| SIC53 | 455880.880 | 223175.405 | 455880.880 | 223175.405 | Required | |
| SIC54 | 455919.772 | 223174.074 | 455919.772 | 223174.074 | Required | |
| SIC55 | 455925.158 | 223173.892 | 455925.158 | 223173.892 | Required | |



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Manhole Schedules for NW3 Storm + 2A

| MH Name | Manhole Easting (m) | Manhole Northing (m) | Intersection Easting (m) | Intersection Northing (m) | Manhole Access | Layout (North) |
|---------|---------------------|----------------------|--------------------------|---------------------------|----------------|----------------|
| SIC56 | 455949.216 | 223170.782 | 455949.216 | 223170.782 | Required | |
| SIC57 | 455958.492 | 223169.342 | 455958.492 | 223169.342 | Required | |
| SIC58 | 456051.915 | 223154.783 | 456051.915 | 223154.783 | Required | |
| S17 | 456061.776 | 223149.112 | 456061.776 | 223149.112 | Required | |
| S18 | 456091.158 | 223162.321 | 456091.158 | 223162.321 | Required | |
| S19 | 456102.711 | 223175.165 | 456102.711 | 223175.165 | Required | |
| SHWD2 | 456119.216 | 223160.313 | | | No Entry | |
| SXX | 455954.956 | 223182.533 | 455954.956 | 223182.533 | Required | |
| SXX | 455962.071 | 223230.385 | 455962.071 | 223230.385 | Required | |
| SXX | 456027.380 | 223221.011 | 456027.380 | 223221.011 | Required | |



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Manhole Schedules for NW3 Storm + 2A

| MH Name | Manhole Easting (m) | Manhole Northing (m) | Intersection Easting (m) | Intersection Northing (m) | Manhole Access | Layout (North) |
|----------|---------------------|----------------------|--------------------------|---------------------------|----------------|----------------|
| SXXFC | 456089.825 | 223213.079 | 456089.825 | 223213.079 | Required | |
| SHWC2 | 456096.767 | 223208.868 | | | No Entry | |
| SBasin C | 456108.625 | 223198.120 | 456108.625 | 223198.120 | Required | |
| SHWD3 | 456124.572 | 223167.651 | 456124.572 | 223167.651 | Required | |
| SBasin D | 456130.630 | 223092.620 | 456130.630 | 223092.620 | Required | |
| SXX | 456046.876 | 223134.604 | 456046.876 | 223134.604 | Required | |
| SXX | 455854.071 | 223078.251 | 455854.071 | 223078.251 | Required | |
| SXX | 455923.054 | 223134.018 | 455923.054 | 223134.018 | Required | |
| SXX | 455917.622 | 223094.950 | 455917.622 | 223094.950 | Required | |
| SXX | 455915.592 | 223071.862 | 455915.592 | 223071.862 | Required | |



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Manhole Schedules for NW3 Storm + 2A

| MH Name | Manhole Easting (m) | Manhole Northing (m) | Intersection Easting (m) | Intersection Northing (m) | Manhole Access | Layout (North) |
|---------|---------------------|----------------------|--------------------------|---------------------------|----------------|----------------|
| SXX | 455984.488 | 223143.573 | 455984.488 | 223143.573 | Required | |
| SXX | 455975.953 | 223087.833 | 455975.953 | 223087.833 | Required | |
| SXX | 455969.671 | 223059.416 | 455969.671 | 223059.416 | Required | |
| SXX | 456027.567 | 223042.428 | 456027.567 | 223042.428 | Required | |
| SXX | 456042.356 | 223103.901 | 456042.356 | 223103.901 | Required | |
| SXXFC | 456115.849 | 223087.919 | 456115.849 | 223087.919 | Required | |
| S20FC | 456128.822 | 223084.881 | 456128.822 | 223084.881 | Required | |
| SHWE2 | 456127.137 | 223077.869 | | | No Entry | |
| SXX | 456083.556 | 223025.719 | 456083.556 | 223025.719 | Required | |
| SXXFC | 456098.606 | 223022.249 | 456098.606 | 223022.249 | Required | |



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Manhole Schedules for NW3 Storm + 2A

| MH Name | Manhole Easting (m) | Manhole Northing (m) | Intersection Easting (m) | Intersection Northing (m) | Manhole Access | Layout (North) |
|---------|---------------------|----------------------|--------------------------|---------------------------|----------------|----------------|
| SHWF3 | 456111.585 | 223019.257 | | | No Entry | |
| SHWF1 | 456109.421 | 222999.918 | | | No Entry | |
| S21FC | 456110.439 | 222993.793 | 456110.439 | 222993.793 | Required | |
| SHWG1 | 456112.401 | 222989.300 | | | No Entry | |
| SHWO3 | 456086.233 | 222886.636 | | | No Entry | |
| S21A | 456082.029 | 222885.160 | 456082.029 | 222885.160 | Required | |
| S | 456079.485 | 222876.199 | | | No Entry | |



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PIPELINE SCHEDULES for NW3 Storm + 2A

Upstream Manhole

- Indicates pipe length does not match coordinates

| PN | Hyd Sect | Diam (mm) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|--------|-------------|--------------|------------|----------------|----------------|----------------|------------------|-----------------------|
| S1.000 | o | 225 | S1 | 95.159 | 93.100 | 1.834 | Open Manhole | 1200 |
| S2.000 | o | 375 | SXX | 94.402 | 92.800 | 1.227 | Open Manhole | 1350 |
| S1.001 | o | 375 | S2 | 94.326 | 91.980 | 1.971 | Open Manhole | 1350 |
| S1.002 | o | 450 | S3 | 94.088 | 91.814 | 1.824 | Open Manhole | 1350 |
| S1.003 | o | 450 | S4 | 93.935 | 91.753 | 1.732 | Open Manhole | 1350 |
| S1.004 | o | 450 | S5 | 93.682 | 91.275 | 1.957 | Open Manhole | 1500 |
| S1.005 | o | 450 | S6 | 93.786 | 90.925 | 2.411 | Open Manhole | 1350 |
| S1.006 | o | 450 | SXX | 92.629 | 90.475 | 1.704 | Open Manhole | 1350 |
| S1.007 | o | 600 | SXX | 93.134 | 90.145 | 2.389 | Open Manhole | 1500 |

Downstream Manhole

| PN | Length (m) | Slope (1:X) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|--------|---------------|----------------|------------|----------------|----------------|----------------|------------------|-----------------------|
| S1.000 | 66.731 | 68.8 | S2 | 94.326 | 92.130 | 1.971 | Open Manhole | 1350 |
| S2.000 | 70.318 | 85.8 | S2 | 94.326 | 91.980 | 1.971 | Open Manhole | 1350 |
| S1.001 | 18.215 | 200.0 | S3 | 94.088 | 91.889 | 1.824 | Open Manhole | 1350 |
| S1.002 | 12.254 | 200.9 | S4 | 93.935 | 91.753 | 1.732 | Open Manhole | 1350 |
| S1.003 | 23.154 | 48.4 | S5 | 93.682 | 91.275 | 1.957 | Open Manhole | 1500 |
| S1.004 | 52.204 | 149.2 | S6 | 93.786 | 90.925 | 2.411 | Open Manhole | 1350 |
| S1.005 | 69.675 | 154.8 | SXX | 92.629 | 90.475 | 1.704 | Open Manhole | 1350 |
| S1.006 | 36.329 | 201.8 | SXX | 93.134 | 90.295 | 2.389 | Open Manhole | 1500 |
| S1.007 | 12.507 | 400.0 | SXX | 93.293 | 90.114 | 2.579 | Open Manhole | 1500 |



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PIPELINE SCHEDULES for NW3 Storm + 2AUpstream Manhole

| PN | Hyd Sect | Diam (mm) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|--------|----------|-----------|----------|-------------|-------------|-------------|---------------|--------------------|
| S1.008 | o | 600 | SXX | 93.293 | 90.114 | 2.579 | Open Manhole | 1500 |
| S1.009 | o | 600 | SXX | 93.402 | 90.079 | 2.723 | Open Manhole | 1500 |
| S1.010 | o | 600 | S7 | 93.009 | 89.900 | 2.509 | Open Manhole | 1500 |
| S1.011 | o | 600 | SHWA2 | 92.000 | 89.850 | 1.550 | Junction | |
| S3.000 | o | 225 | S22 | 92.645 | 91.100 | 1.320 | Open Manhole | 1200 |
| S3.001 | o | 300 | S23 | 92.239 | 90.575 | 1.364 | Open Manhole | 1200 |
| S3.002 | o | 300 | SHWA3 | 92.000 | 89.850 | 1.850 | Open Manhole | 1200 |
| S1.012 | o | 150 | SBasin A | 92.000 | 89.700 | 2.150 | Open Manhole | 1500 |
| S1.013 | o | 225 | S8FC | 92.000 | 89.589 | 2.186 | Open Manhole | 2400 |
| S1.014 | o | 300 | S9 | 91.640 | 89.265 | 2.075 | Open Manhole | 1200 |

Downstream Manhole

| PN | Length (m) | Slope (1:X) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|--------|------------|-------------|----------|-------------|-------------|-------------|---------------|--------------------|
| S1.008 | 13.972 | 400.0 | SXX | 93.402 | 90.079 | 2.723 | Open Manhole | 1500 |
| S1.009 | 37.892 | 211.7 | S7 | 93.009 | 89.900 | 2.509 | Open Manhole | 1500 |
| S1.010 | 14.772 | 295.4 | SHWA2 | 92.000 | 89.850 | 1.550 | Junction | |
| S1.011 | 35.821 | 238.8 | SBasin A | 92.000 | 89.700 | 1.700 | Open Manhole | 1500 |
| S3.000 | 35.797 | 79.5 | S23 | 92.239 | 90.650 | 1.364 | Open Manhole | 1200 |
| S3.001 | 13.454 | 18.6 | SHWA3 | 92.000 | 89.850 | 1.850 | Open Manhole | 1200 |
| S3.002 | 9.725 | 64.8 | SBasin A | 92.000 | 89.700 | 2.000 | Open Manhole | 1500 |
| S1.012 | 11.254 | 101.4 | S8FC | 92.000 | 89.589 | 2.261 | Open Manhole | 2400 |
| S1.013 | 32.595 | 130.9 | S9 | 91.640 | 89.340 | 2.075 | Open Manhole | 1200 |
| S1.014 | 73.512 | 211.2 | S10 | 91.319 | 88.917 | 2.102 | Open Manhole | 1500 |



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PIPELINE SCHEDULES for NW3 Storm + 2A

Upstream Manhole

| PN | Hyd | Diam | MH | C.Level | I.Level | D.Depth | MH | MH DIAM., L*W |
|--------|------|------|------|---------|---------|---------|--------------|---------------|
| | Sect | (mm) | Name | (m) | (m) | (m) | Connection | (mm) |
| S4.000 | o | 225 | SXX | 94.560 | 93.135 | 1.200 | Open Manhole | 1200 |
| S4.001 | o | 300 | SXX | 94.482 | 92.660 | 1.522 | Open Manhole | 1200 |
| S4.002 | o | 100 | S24 | 94.469 | 92.380 | 1.989 | Open Manhole | 1200 |
| S4.003 | o | 300 | S25 | 94.076 | 92.000 | 1.776 | Open Manhole | 1200 |
| S5.000 | o | 300 | SXX | 94.609 | 92.800 | 1.509 | Open Manhole | 1200 |
| S5.001 | o | 375 | SXX | 94.224 | 92.475 | 1.374 | Open Manhole | 1350 |
| S5.002 | o | 100 | SXX | 94.004 | 92.258 | 1.646 | Open Manhole | 1350 |
| S4.004 | o | 300 | S26 | 93.780 | 91.575 | 1.905 | Open Manhole | 1200 |
| S6.000 | o | 225 | S31 | 94.421 | 92.900 | 1.296 | Open Manhole | 1200 |
| S6.001 | o | 225 | S32 | 94.133 | 92.553 | 1.354 | Open Manhole | 1200 |

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) |
| S4.000 | 52.488 | 131.2 | SXX | 94.482 | 92.735 | 1.522 | Open Manhole | 1200 |
| S4.001 | 38.478 | 256.5 | S24 | 94.469 | 92.510 | 1.659 | Open Manhole | 1200 |
| S4.002 | 12.484 | 69.4 | S25 | 94.076 | 92.200 | 1.776 | Open Manhole | 1200 |
| S4.003 | 53.095 | 124.9 | S26 | 93.780 | 91.575 | 1.905 | Open Manhole | 1200 |
| S5.000 | 25.414 | 101.7 | SXX | 94.224 | 92.550 | 1.374 | Open Manhole | 1350 |
| S5.001 | 72.095 | 332.2 | SXX | 94.004 | 92.258 | 1.371 | Open Manhole | 1350 |
| S5.002 | 14.849 | 30.7 | S26 | 93.780 | 91.775 | 1.905 | Open Manhole | 1200 |
| S4.004 | 58.047 | 77.4 | S27 | 93.277 | 90.825 | 2.152 | Open Manhole | 1500 |
| S6.000 | 51.982 | 150.0 | S32 | 94.133 | 92.553 | 1.354 | Open Manhole | 1200 |
| S6.001 | 72.070 | 43.6 | S27 | 93.277 | 90.900 | 2.152 | Open Manhole | 1500 |



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PIPELINE SCHEDULES for NW3 Storm + 2AUpstream Manhole

| PN | Hyd Sect | Diam (mm) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|--------|----------|-----------|---------|-------------|-------------|-------------|---------------|--------------------|
| S4.005 | o | 375 | S27 | 93.277 | 90.750 | 2.152 | Open Manhole | 1500 |
| S7.000 | o | 225 | S250 | 93.542 | 92.116 | 1.201 | Open Manhole | 1350 |
| S7.001 | o | 225 | S251 | 92.766 | 90.768 | 1.773 | Open Manhole | 1350 |
| S8.000 | o | 225 | S256xx | 94.600 | 93.125 | 1.250 | Open Manhole | 600 |
| S8.001 | o | 225 | S256xx | 93.550 | 91.775 | 1.550 | Open Manhole | 600 |
| S8.002 | o | 225 | S256xx | 92.900 | 91.425 | 1.250 | Open Manhole | 600 |
| S8.003 | o | 300 | S256 | 92.450 | 90.790 | 1.360 | Open Manhole | 1200 |
| S8.004 | o | 300 | S257 | 92.400 | 90.678 | 1.422 | Open Manhole | 1200 |
| S7.002 | o | 375 | S252 | 92.394 | 90.515 | 1.504 | Open Manhole | 1350 |

Downstream Manhole

| PN | Length (m) | Slope (1:X) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|--------|------------|-------------|---------|-------------|-------------|-------------|---------------|--------------------|
| S4.005 | 52.213 | 53.0 | S28 | 92.578 | 89.765 | 2.438 | Open Manhole | 1350 |
| S7.000 | 39.570 | 29.4 | S251 | 92.766 | 90.768 | 1.773 | Open Manhole | 1350 |
| S7.001 | 17.469 | 169.6 | S252 | 92.394 | 90.665 | 1.504 | Open Manhole | 1350 |
| S8.000 | 51.795 | 38.4 | S256xx | 93.550 | 91.775 | 1.550 | Open Manhole | 600 |
| S8.001 | 19.004 | 54.3 | S256xx | 92.900 | 91.425 | 1.250 | Open Manhole | 600 |
| S8.002 | 9.479 | 16.9 | S256 | 92.450 | 90.865 | 1.360 | Open Manhole | 1200 |
| S8.003 | 26.950 | 240.6 | S257 | 92.400 | 90.678 | 1.422 | Open Manhole | 1200 |
| S8.004 | 21.566 | 245.1 | S252 | 92.394 | 90.590 | 1.504 | Open Manhole | 1350 |
| S7.002 | 37.303 | 300.8 | S253 | 92.500 | 90.391 | 1.734 | Open Manhole | 1350 |



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PIPELINE SCHEDULES for NW3 Storm + 2AUpstream Manhole

| PN | Hyd Sect | Diam (mm) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|--------|----------|-----------|---------|-------------|-------------|-------------|---------------|--------------------|
| S9.000 | o | 375 | S253xx | 92.952 | 90.455 | 2.122 | Open Manhole | 1350 |
| S7.003 | o | 375 | S253 | 92.500 | 90.391 | 1.734 | Open Manhole | 1350 |
| S7.004 | o | 375 | S254 | 92.347 | 90.358 | 1.614 | Open Manhole | 1350 |
| S7.005 | o | 225 | S255FC | 92.306 | 90.293 | 1.788 | Open Manhole | 2400 |
| S7.006 | o | 225 | S28A | 91.928 | 90.193 | 1.510 | Open Manhole | 1200 |
| S4.006 | o | 450 | S28 | 92.578 | 89.690 | 2.438 | Open Manhole | 1350 |
| S4.007 | o | 450 | S29 | 92.214 | 89.325 | 2.439 | Open Manhole | 1350 |
| S1.015 | o | 450 | S10 | 91.319 | 88.767 | 2.102 | Open Manhole | 1500 |

Downstream Manhole

| PN | Length (m) | Slope (1:X) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|--------|------------|-------------|---------|-------------|-------------|-------------|---------------|--------------------|
| S9.000 | 19.337 | 302.1 | S253 | 92.500 | 90.391 | 1.734 | Open Manhole | 1350 |
| S7.003 | 9.857 | 298.7 | S254 | 92.347 | 90.358 | 1.614 | Open Manhole | 1350 |
| S7.004 | 19.479 | 299.7 | S255FC | 92.306 | 90.293 | 1.638 | Open Manhole | 2400 |
| S7.005 | 15.066 | 150.7 | S28A | 91.928 | 90.193 | 1.510 | Open Manhole | 1200 |
| S7.006 | 41.649 | 149.8 | S28 | 92.578 | 89.915 | 2.438 | Open Manhole | 1350 |
| S4.006 | 80.231 | 219.8 | S29 | 92.214 | 89.325 | 2.439 | Open Manhole | 1350 |
| S4.007 | 88.214 | 158.1 | S10 | 91.319 | 88.767 | 2.102 | Open Manhole | 1500 |
| S1.015 | 26.886 | 31.4 | S11 | 90.956 | 87.910 | 2.596 | Open Manhole | 1350 |



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PIPELINE SCHEDULES for NW3 Storm + 2AUpstream Manhole

| PN | Hyd Sect | Diam (mm) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., (mm) | L*W |
|---------|-------------|--------------|------------|----------------|----------------|----------------|------------------|-------------------|------|
| S10.000 | o | 300 | S200 | 91.785 | 89.830 | 1.655 | Open Manhole | | 1200 |
| S11.000 | o | 100 | S21XX | 92.267 | 90.928 | 1.239 | Open Manhole | | 600 |
| S11.001 | o | 225 | S22XX | 91.929 | 90.450 | 1.254 | Open Manhole | | 600 |
| S11.002 | o | 225 | S23XX | 91.329 | 89.831 | 1.273 | Open Manhole | | 600 |
| S11.003 | o | 225 | S24XX | 91.270 | 89.737 | 1.308 | Open Manhole | | 600 |
| S11.004 | o | 225 | S25XX | 91.253 | 89.252 | 1.776 | Open Manhole | | 600 |
| S10.001 | o | 750 | S201 | 91.308 | 88.658 | 1.900 | Open Manhole | | 1800 |
| S12.000 | o | 225 | S207 | 91.654 | 90.225 | 1.204 | Open Manhole | | 1350 |
| S12.001 | o | 225 | S208 | 91.421 | 89.945 | 1.251 | Open Manhole | | 1350 |

Downstream Manhole

| PN | Length (m) | Slope (1:X) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., (mm) | L*W |
|---------|---------------|----------------|------------|----------------|----------------|----------------|------------------|-------------------|------|
| S10.000 | 34.316 | 47.5 | S201 | 91.308 | 89.108 | 1.900 | Open Manhole | | 1800 |
| S11.000 | 23.896 | 67.7 | S22XX | 91.929 | 90.575 | 1.254 | Open Manhole | | 600 |
| S11.001 | 42.220 | 68.2 | S23XX | 91.329 | 89.831 | 1.273 | Open Manhole | | 600 |
| S11.002 | 6.457 | 68.7 | S24XX | 91.270 | 89.737 | 1.308 | Open Manhole | | 600 |
| S11.003 | 43.001 | 88.7 | S25XX | 91.253 | 89.252 | 1.776 | Open Manhole | | 600 |
| S11.004 | 4.826 | 17.9 | S201 | 91.308 | 88.983 | 2.100 | Open Manhole | | 1800 |
| S10.001 | 65.983 | 299.9 | S202 | 90.572 | 88.438 | 1.384 | Open Manhole | | 1800 |
| S12.000 | 14.711 | 52.5 | S208 | 91.421 | 89.945 | 1.251 | Open Manhole | | 1350 |
| S12.001 | 23.546 | 32.6 | S209 | 91.104 | 89.223 | 1.656 | Open Manhole | | 1200 |



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PIPELINE SCHEDULES for NW3 Storm + 2A

Upstream Manhole

| PN | Hyd Sect | Diam (mm) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|----------|-----------|----------|-------------|-------------|-------------|---------------|--------------------|
| S13.000 | o | 225 | SIC209XX | 91.352 | 89.373 | 1.754 | Open Manhole | 600 |
| S13.001 | o | 225 | SIC209 | 91.124 | 89.260 | 1.639 | Open Manhole | 600 |
| S12.002 | o | 225 | S209 | 91.104 | 89.223 | 1.656 | Open Manhole | 1200 |
| S14.000 | o | 225 | S205XX | 91.202 | 89.220 | 1.757 | Open Manhole | 600 |
| S14.001 | o | 225 | SIC205 | 90.951 | 89.099 | 1.627 | Open Manhole | 600 |
| S12.003 | o | 225 | S206 | 90.735 | 89.040 | 1.470 | Open Manhole | 1200 |
| S10.002 | o | 750 | S202 | 90.572 | 88.438 | 1.384 | Open Manhole | 1800 |
| S10.003 | o | 750 | S203 | 90.450 | 88.274 | 1.426 | Open Manhole | 1800 |

Downstream Manhole

| PN | Length (m) | Slope (1:X) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|------------|-------------|---------|-------------|-------------|-------------|---------------|--------------------|
| S13.000 | 17.003 | 150.5 | SIC209 | 91.124 | 89.260 | 1.639 | Open Manhole | 600 |
| S13.001 | 5.487 | 148.3 | S209 | 91.104 | 89.223 | 1.656 | Open Manhole | 1200 |
| S12.002 | 27.379 | 149.6 | S206 | 90.735 | 89.040 | 1.470 | Open Manhole | 1200 |
| S14.000 | 18.168 | 150.1 | SIC205 | 90.951 | 89.099 | 1.627 | Open Manhole | 600 |
| S14.001 | 8.909 | 151.0 | S206 | 90.735 | 89.040 | 1.470 | Open Manhole | 1200 |
| S12.003 | 11.591 | 150.5 | S202 | 90.572 | 88.963 | 1.384 | Open Manhole | 1800 |
| S10.002 | 49.078 | 299.3 | S203 | 90.450 | 88.274 | 1.426 | Open Manhole | 1800 |
| S10.003 | 17.026 | 298.7 | S204 | 90.520 | 88.217 | 1.553 | Open Manhole | 1800 |



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PIPELINE SCHEDULES for NW3 Storm + 2A

Upstream Manhole

| PN | Hyd Sect | Diam (mm) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|----------|-----------|---------|-------------|-------------|-------------|---------------|--------------------|
| S15.000 | o | 300 | S204XX | 91.050 | 88.641 | 2.109 | Open Manhole | 600 |
| S15.001 | o | 300 | SIC204 | 90.750 | 88.545 | 1.905 | Open Manhole | 600 |
| S10.004 | o | 750 | S204 | 90.520 | 88.217 | 1.553 | Open Manhole | 1800 |
| S16.000 | o | 300 | S206XX | 91.200 | 88.565 | 2.335 | Open Manhole | 600 |
| S16.001 | o | 300 | SIC206 | 91.350 | 88.492 | 2.558 | Open Manhole | 600 |
| S17.000 | o | 300 | S205XX | 91.022 | 88.590 | 2.132 | Open Manhole | 600 |
| S17.001 | o | 300 | SIC205 | 91.351 | 88.513 | 2.538 | Open Manhole | 600 |
| S10.005 | o | 750 | S205 | 91.293 | 88.009 | 2.534 | Open Manhole | 1800 |
| S10.006 | o | 450 | S206FC | 91.154 | 87.947 | 2.757 | Open Manhole | 2400 |

Downstream Manhole

| PN | Length (m) | Slope (1:X) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|------------|-------------|---------|-------------|-------------|-------------|---------------|--------------------|
| S15.000 | 28.884 | 300.9 | SIC204 | 90.750 | 88.545 | 1.905 | Open Manhole | 600 |
| S15.001 | 6.860 | 245.0 | S204 | 90.520 | 88.517 | 1.703 | Open Manhole | 1800 |
| S10.004 | 62.322 | 299.6 | S205 | 91.293 | 88.009 | 2.534 | Open Manhole | 1800 |
| S16.000 | 22.034 | 301.8 | SIC206 | 91.350 | 88.492 | 2.558 | Open Manhole | 600 |
| S16.001 | 8.125 | 246.2 | S205 | 91.293 | 88.459 | 2.534 | Open Manhole | 1800 |
| S17.000 | 23.228 | 301.7 | SIC205 | 91.351 | 88.513 | 2.538 | Open Manhole | 600 |
| S17.001 | 13.287 | 246.1 | S205 | 91.293 | 88.459 | 2.534 | Open Manhole | 1800 |
| S10.005 | 18.718 | 301.9 | S206FC | 91.154 | 87.947 | 2.457 | Open Manhole | 2400 |
| S10.006 | 11.089 | 299.7 | S11 | 90.956 | 87.910 | 2.596 | Open Manhole | 1350 |



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PIPELINE SCHEDULES for NW3 Storm + 2A

Upstream Manhole

| PN | Hyd Sect | Diam (mm) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|----------|-----------|---------|-------------|-------------|-------------|---------------|--------------------|
| S1.016 | o | 450 | S11 | 90.956 | 87.910 | 2.596 | Open Manhole | 1350 |
| S18.000 | -\-/→ | | SIC20 | 95.503 | 94.003 | 0.000 | Junction | |
| S18.001 | o | 150 | SIC21 | 95.269 | 93.769 | 1.350 | Open Manhole | 450 |
| S18.002 | -\-/→ | | SIC22 | 95.163 | 93.663 | 0.007 | Open Manhole | 450 |
| S18.003 | o | 150 | SIC23 | 94.376 | 92.876 | 1.350 | Open Manhole | 450 |
| S18.004 | -\-/→ | | SIC24 | 94.229 | 92.729 | 0.000 | Open Manhole | 450 |
| S18.005 | o | 150 | SIC25 | 93.890 | 92.390 | 1.350 | Open Manhole | 450 |
| S19.000 | -\-/→ | | SIC37 | 93.902 | 92.402 | 0.000 | Junction | |
| S18.006 | -\-/→ | | SIC26 | 93.626 | 92.126 | 0.000 | Open Manhole | 450 |

Downstream Manhole

| PN | Length (m) | Slope (1:X) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|------------|-------------|---------|-------------|-------------|-------------|---------------|--------------------|
| S1.016 | 65.237 | 200.7 | S12FC | 90.329 | 87.585 | 2.294 | Open Manhole | 2700 |
| S18.000 | 18.686 | 79.5 | SIC21 | 95.269 | 93.768 | 0.001 | Open Manhole | 450 |
| S18.001 | 8.472 | 77.0 | SIC22 | 95.163 | 93.659 | 1.354 | Open Manhole | 450 |
| S18.002 | 57.574 | 73.8 | SIC23 | 94.376 | 92.883 | 0.000 | Open Manhole | 450 |
| S18.003 | 9.579 | 63.9 | SIC24 | 94.229 | 92.726 | 1.353 | Open Manhole | 450 |
| S18.004 | 36.586 | 107.6 | SIC25 | 93.890 | 92.389 | 0.001 | Open Manhole | 450 |
| S18.005 | 18.821 | 71.0 | SIC26 | 93.626 | 92.125 | 1.351 | Open Manhole | 450 |
| S19.000 | 25.595 | 92.7 | SIC26 | 93.626 | 92.126 | 0.000 | Open Manhole | 450 |
| S18.006 | 8.400 | 100.0 | SIC27 | 93.542 | 92.042 | 0.000 | Open Manhole | 450 |



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PIPELINE SCHEDULES for NW3 Storm + 2A

Upstream Manhole

| PN | Hyd Sect | Diam (mm) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|----------|-----------|---------|-------------|-------------|-------------|---------------|--------------------|
| S18.007 | o | 150 | SIC27 | 93.542 | 92.042 | 1.350 | Open Manhole | 450 |
| S18.008 | -\-/→ | | SIC28 | 93.512 | 92.012 | 0.000 | Open Manhole | 450 |
| S18.009 | o | 225 | SIC29 | 93.478 | 91.978 | 1.275 | Open Manhole | 450 |
| S18.010 | -\-/→ | | SIC30 | 93.486 | 91.922 | 0.000 | Open Manhole | 450 |
| S18.011 | o | 225 | SIC31 | 93.647 | 91.821 | 1.601 | Open Manhole | 450 |
| S20.000 | -\-/→ | | SIC38 | 94.391 | 92.891 | 0.000 | Junction | |
| S18.012 | o | 225 | SIC34 | 94.042 | 91.732 | 2.085 | Open Manhole | 450 |
| S18.013 | -\-/→ | | SIC35 | 94.200 | 91.618 | 0.945 | Open Manhole | 600 |
| S18.014 | -\-/→ | | Swale | 92.432 | 90.795 | 0.137 | Open Manhole | 600 |
| S18.015 | o | 225 | SIC36 | 91.000 | 89.500 | 1.275 | Open Manhole | 600 |
| S18.016 | o | 300 | SHWB2 | 90.300 | 88.500 | 1.500 | Open Manhole | 1200 |

Downstream Manhole

| PN | Length (m) | Slope (1:X) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|------------|-------------|----------|-------------|-------------|-------------|---------------|--------------------|
| S18.007 | 2.984 | 99.5 | SIC28 | 93.512 | 92.012 | 1.350 | Open Manhole | 450 |
| S18.008 | 4.969 | 146.1 | SIC29 | 93.478 | 91.978 | 0.000 | Open Manhole | 450 |
| S18.009 | 8.340 | 148.9 | SIC30 | 93.486 | 91.922 | 1.339 | Open Manhole | 450 |
| S18.010 | 15.181 | 150.3 | SIC31 | 93.647 | 91.821 | 0.262 | Open Manhole | 450 |
| S18.011 | 13.396 | 150.5 | SIC34 | 94.042 | 91.732 | 2.085 | Open Manhole | 450 |
| S20.000 | 14.695 | 12.7 | SIC34 | 94.042 | 91.732 | 0.810 | Open Manhole | 450 |
| S18.012 | 7.665 | 150.3 | SIC35 | 94.200 | 91.681 | 2.294 | Open Manhole | 600 |
| S18.013 | 74.253 | 90.2 | Swale | 92.432 | 90.795 | 0.000 | Open Manhole | 600 |
| S18.014 | 77.585 | 59.9 | SIC36 | 91.000 | 89.500 | 0.000 | Open Manhole | 600 |
| S18.015 | 9.244 | 46.2 | SHWB2 | 90.300 | 89.300 | 0.775 | Open Manhole | 1200 |
| S18.016 | 0.500# | 3.3 | SBasin B | 90.300 | 88.350 | 1.650 | Open Manhole | 1350 |



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PIPELINE SCHEDULES for NW3 Storm + 2A

Upstream Manhole

| PN | Hyd Sect | Diam (mm) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|----------|-----------|----------|-------------|-------------|-------------|---------------|--------------------|
| S21.000 | o | 300 | SXX | 91.383 | 89.850 | 1.233 | Open Manhole | 1200 |
| S21.001 | o | 300 | Sxx | 91.052 | 89.265 | 1.487 | Open Manhole | 1200 |
| S21.002 | o | 300 | SHWB3 | 90.300 | 88.500 | 1.500 | Open Manhole | 1200 |
| S18.017 | o | 450 | SBasin B | 90.300 | 88.350 | 1.500 | Open Manhole | 1350 |
| S1.017 | o | 225 | S12FC | 90.329 | 87.585 | 2.519 | Open Manhole | 2700 |
| S1.018 | o | 225 | S14 | 89.390 | 87.057 | 2.108 | Open Manhole | 1200 |
| S1.019 | o | 225 | S15 | 88.441 | 86.481 | 1.735 | Open Manhole | 1200 |
| S22.000 | →\-/→ | | SIC40 | 93.983 | 92.483 | 0.000 | Junction | |
| S22.001 | o | 150 | SIC41 | 94.081 | 92.193 | 1.738 | Open Manhole | 450 |

Downstream Manhole

| PN | Length (m) | Slope (1:X) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|------------|-------------|----------|-------------|-------------|-------------|---------------|--------------------|
| S21.000 | 30.817 | 52.7 | Sxx | 91.052 | 89.265 | 1.487 | Open Manhole | 1200 |
| S21.001 | 9.639 | 28.8 | SHWB3 | 90.300 | 88.930 | 1.070 | Open Manhole | 1200 |
| S21.002 | 0.500# | 3.3 | SBasin B | 90.300 | 88.350 | 1.650 | Open Manhole | 1350 |
| S18.017 | 21.942 | 28.7 | S12FC | 90.329 | 87.585 | 2.294 | Open Manhole | 2700 |
| S1.017 | 79.204 | 150.0 | S14 | 89.390 | 87.057 | 2.108 | Open Manhole | 1200 |
| S1.018 | 86.332 | 149.9 | S15 | 88.441 | 86.481 | 1.735 | Open Manhole | 1200 |
| S1.019 | 52.421 | 150.0 | S17 | 87.902 | 86.132 | 1.546 | Open Manhole | 1350 |
| S22.000 | 43.551 | 150.0 | SIC41 | 94.081 | 92.193 | 0.388 | Open Manhole | 450 |
| S22.001 | 7.478 | 150.0 | SIC42 | 94.006 | 92.143 | 1.713 | Open Manhole | 450 |



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PIPELINE SCHEDULES for NW3 Storm + 2A

Upstream Manhole

| PN | Hyd Sect | Diam (mm) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|----------|-----------|---------|-------------|-------------|-------------|---------------|--------------------|
| S22.002 | →\-/→ | | SIC42 | 94.006 | 92.143 | 0.148 | Open Manhole | 450 |
| S23.000 | →\-/→ | | SIC60 | 94.284 | 92.784 | 0.000 | Junction | |
| S23.001 | o | 150 | SIC61 | 94.428 | 92.707 | 1.571 | Open Manhole | 450 |
| S23.002 | →\-/→ | | SIC62 | 94.538 | 92.649 | 0.000 | Open Manhole | 450 |
| S23.003 | o | 150 | SIC63 | 94.606 | 92.547 | 1.909 | Open Manhole | 450 |
| S23.004 | →\-/→ | | SIC64 | 94.590 | 92.525 | 0.162 | Open Manhole | 450 |
| S23.005 | o | 150 | SIC65 | 94.246 | 92.343 | 1.753 | Open Manhole | 450 |
| S23.006 | →\-/→ | | SIC66 | 94.097 | 92.281 | 0.393 | Open Manhole | 450 |
| S23.007 | o | 150 | SIC67 | 93.352 | 91.929 | 1.273 | Open Manhole | 450 |
| S22.003 | →\-/→ | | SIC43 | 93.217 | 91.502 | 0.258 | Open Manhole | 450 |
| S22.004 | o | 150 | SIC44 | 92.741 | 91.284 | 1.307 | Open Manhole | 450 |

Downstream Manhole

| PN | Length (m) | Slope (1:X) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|------------|-------------|---------|-------------|-------------|-------------|---------------|--------------------|
| S22.002 | 78.891 | 123.1 | SIC43 | 93.217 | 91.502 | 0.000 | Open Manhole | 450 |
| S23.000 | 11.566 | 150.2 | SIC61 | 94.428 | 92.707 | 0.221 | Open Manhole | 450 |
| S23.001 | 8.760 | 151.0 | SIC62 | 94.538 | 92.649 | 1.739 | Open Manhole | 450 |
| S23.002 | 15.338 | 150.4 | SIC63 | 94.606 | 92.547 | 0.170 | Open Manhole | 450 |
| S23.003 | 3.234 | 147.0 | SIC64 | 94.590 | 92.525 | 1.915 | Open Manhole | 450 |
| S23.004 | 27.302 | 150.0 | SIC65 | 94.246 | 92.343 | 0.000 | Open Manhole | 450 |
| S23.005 | 9.352 | 150.8 | SIC66 | 94.097 | 92.281 | 1.666 | Open Manhole | 450 |
| S23.006 | 52.820 | 150.1 | SIC67 | 93.352 | 91.929 | 0.000 | Open Manhole | 450 |
| S23.007 | 18.754 | 43.9 | SIC43 | 93.217 | 91.502 | 1.565 | Open Manhole | 450 |
| S22.003 | 36.487 | 167.4 | SIC44 | 92.741 | 91.284 | 0.000 | Open Manhole | 450 |
| S22.004 | 10.066 | 29.5 | SIC45 | 92.517 | 90.943 | 1.424 | Open Manhole | 450 |



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PIPELINE SCHEDULES for NW3 Storm + 2A

Upstream Manhole

| PN | Hyd Sect | Diam (mm) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|----------|-----------|---------|-------------|-------------|-------------|---------------|--------------------|
| S22.005 | →\-/→ | | SIC45 | 92.517 | 90.943 | 0.074 | Open Manhole | 450 |
| S22.006 | o | 225 | SIC46 | 91.429 | 89.929 | 1.275 | Open Manhole | 450 |
| S22.007 | →\-/→ | | SIC47 | 91.293 | 89.793 | 0.000 | Open Manhole | 450 |
| S22.008 | o | 300 | SIC48 | 90.779 | 89.279 | 1.200 | Open Manhole | 450 |
| S22.009 | →\-/→ | | SIC49 | 90.703 | 89.203 | 0.000 | Open Manhole | 450 |
| S22.010 | o | 300 | SIC50 | 90.273 | 88.773 | 1.200 | Open Manhole | 450 |
| S22.011 | →\-/→ | | SIC51 | 90.156 | 88.656 | 0.000 | Open Manhole | 450 |
| S22.012 | o | 300 | SIC52 | 90.025 | 88.525 | 1.200 | Open Manhole | 450 |
| S22.013 | →\-/→ | | SIC53 | 89.935 | 88.435 | 0.000 | Open Manhole | 450 |
| S22.014 | o | 300 | SIC54 | 89.513 | 88.013 | 1.200 | Open Manhole | 450 |
| S22.015 | →\-/→ | | SIC55 | 89.455 | 87.955 | 0.000 | Open Manhole | 450 |
| S22.016 | o | 300 | SIC56 | 89.252 | 87.752 | 1.200 | Open Manhole | 450 |
| S22.017 | →\-/→ | | SIC57 | 89.118 | 87.618 | 0.000 | Open Manhole | 450 |

Downstream Manhole

| PN | Length (m) | Slope (1:X) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|------------|-------------|---------|-------------|-------------|-------------|---------------|--------------------|
| S22.005 | 150.685 | 148.6 | SIC46 | 91.429 | 89.929 | 0.000 | Open Manhole | 450 |
| S22.006 | 9.198 | 67.6 | SIC47 | 91.293 | 89.793 | 1.275 | Open Manhole | 450 |
| S22.007 | 45.310 | 88.2 | SIC48 | 90.779 | 89.279 | 0.000 | Open Manhole | 450 |
| S22.008 | 7.011 | 92.3 | SIC49 | 90.703 | 89.203 | 1.200 | Open Manhole | 450 |
| S22.009 | 39.555 | 92.0 | SIC50 | 90.273 | 88.773 | 0.000 | Open Manhole | 450 |
| S22.010 | 10.813 | 92.4 | SIC51 | 90.156 | 88.656 | 1.200 | Open Manhole | 450 |
| S22.011 | 11.605 | 88.6 | SIC52 | 90.025 | 88.525 | 0.000 | Open Manhole | 450 |
| S22.012 | 8.239 | 91.5 | SIC53 | 89.935 | 88.435 | 1.200 | Open Manhole | 450 |
| S22.013 | 38.915 | 92.2 | SIC54 | 89.513 | 88.013 | 0.000 | Open Manhole | 450 |
| S22.014 | 5.389 | 92.9 | SIC55 | 89.455 | 87.955 | 1.200 | Open Manhole | 450 |
| S22.015 | 24.259 | 119.5 | SIC56 | 89.252 | 87.752 | 0.000 | Open Manhole | 450 |
| S22.016 | 9.387 | 70.1 | SIC57 | 89.118 | 87.618 | 1.200 | Open Manhole | 450 |
| S22.017 | 94.550 | 83.0 | SIC58 | 87.979 | 86.479 | 0.000 | Open Manhole | 450 |



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PIPELINE SCHEDULES for NW3 Storm + 2A

Upstream Manhole

| PN | Hyd Sect | Diam (mm) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|----------|-----------|----------|-------------|-------------|-------------|---------------|--------------------|
| S22.018 | o | 300 | SIC58 | 87.979 | 86.479 | 1.200 | Open Manhole | 450 |
| S1.020 | o | 450 | S17 | 87.902 | 85.907 | 1.545 | Open Manhole | 1350 |
| S1.021 | o | 450 | S18 | 87.544 | 85.632 | 1.462 | Open Manhole | 1350 |
| S1.022 | o | 450 | S19 | 87.332 | 85.574 | 1.308 | Open Manhole | 1350 |
| S1.023 | o | 450 | SHWD2 | 87.300 | 85.500 | 1.350 | Junction | |
| S24.000 | o | 300 | SXX | 89.348 | 88.023 | 1.025 | Open Manhole | 1350 |
| S24.001 | o | 450 | SXX | 89.437 | 87.550 | 1.437 | Open Manhole | 1350 |
| S24.002 | o | 450 | SXX | 88.467 | 86.750 | 1.267 | Open Manhole | 1350 |
| S24.003 | o | 450 | SXXFC | 87.550 | 85.975 | 1.125 | Open Manhole | 2400 |
| S24.004 | o | 450 | SHWC2 | 87.300 | 85.900 | 0.950 | Junction | |
| S24.005 | o | 150 | SBasin C | 87.300 | 85.750 | 1.400 | Open Manhole | 1350 |

Downstream Manhole

| PN | Length (m) | Slope (1:X) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|------------|-------------|----------|-------------|-------------|-------------|---------------|--------------------|
| S22.018 | 11.375 | 27.0 | S17 | 87.902 | 86.057 | 1.545 | Open Manhole | 1350 |
| S1.020 | 32.215 | 117.1 | S18 | 87.544 | 85.632 | 1.462 | Open Manhole | 1350 |
| S1.021 | 17.276 | 297.9 | S19 | 87.332 | 85.574 | 1.308 | Open Manhole | 1350 |
| S1.022 | 22.203 | 300.0 | SHWD2 | 87.300 | 85.500 | 1.350 | Junction | |
| S1.023 | 0.500# | 10.0 | SBasin D | 87.300 | 85.450 | 1.400 | Open Manhole | 1350 |
| S24.000 | 48.378 | 149.8 | SXX | 89.437 | 87.700 | 1.437 | Open Manhole | 1350 |
| S24.001 | 65.978 | 82.5 | SXX | 88.467 | 86.750 | 1.267 | Open Manhole | 1350 |
| S24.002 | 62.947 | 68.1 | SXXFC | 87.550 | 85.825 | 1.275 | Open Manhole | 2400 |
| S24.003 | 8.119 | 108.3 | SHWC2 | 87.300 | 85.900 | 0.950 | Junction | |
| S24.004 | 0.500# | 3.3 | SBasin C | 87.300 | 85.750 | 1.100 | Open Manhole | 1350 |
| S24.005 | 34.390 | 137.6 | SHWD3 | 87.300 | 85.500 | 1.650 | Open Manhole | 1350 |



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PIPELINE SCHEDULES for NW3 Storm + 2A

Upstream Manhole

| PN | Hyd Sect | Diam (mm) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|-------------|--------------|------------|----------------|----------------|----------------|------------------|-----------------------|
| S24.006 | o | 375 | SHWD3 | 87.300 | 85.500 | 1.425 | Open Manhole | 1350 |
| S1.024 | o | 450 | SBasin D | 87.300 | 85.350 | 1.500 | Open Manhole | 1350 |
| S25.000 | o | 450 | SXX | 87.974 | 86.250 | 1.274 | Open Manhole | 1350 |
| S26.000 | o | 450 | SXX | 89.209 | 87.250 | 1.509 | Open Manhole | 1350 |
| S27.000 | o | 300 | SXX | 89.537 | 87.750 | 1.487 | Open Manhole | 1200 |
| S27.001 | o | 300 | SXX | 88.877 | 86.990 | 1.587 | Open Manhole | 1200 |
| S26.001 | o | 450 | SXX | 88.557 | 86.600 | 1.507 | Open Manhole | 1350 |

Downstream Manhole

| PN | Length (m) | Slope (1:X) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|---------------|----------------|------------|----------------|----------------|----------------|------------------|-----------------------|
| S24.006 | 0.500# | 3.3 | SBasin D | 87.300 | 85.350 | 1.575 | Open Manhole | 1350 |
| S1.024 | 7.948 | 88.3 | S20FC | 87.300 | 85.260 | 1.590 | Open Manhole | 2700 |
| S25.000 | 31.034 | 58.6 | SXX | 87.577 | 85.720 | 1.407 | Open Manhole | 1500 |
| S26.000 | 61.852 | 95.2 | SXX | 88.557 | 86.600 | 1.507 | Open Manhole | 1350 |
| S27.000 | 39.443 | 51.9 | SXX | 88.877 | 86.990 | 1.587 | Open Manhole | 1200 |
| S27.001 | 23.177 | 96.6 | SXX | 88.557 | 86.750 | 1.507 | Open Manhole | 1350 |
| S26.001 | 55.493 | 107.8 | SXX | 87.997 | 86.085 | 1.462 | Open Manhole | 1500 |



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PIPELINE SCHEDULES for NW3 Storm + 2AUpstream Manhole

| PN | Hyd Sect | Diam (mm) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|----------|-----------|---------|-------------|-------------|-------------|---------------|--------------------|
| S28.000 | o | 300 | SXX | 88.903 | 87.250 | 1.353 | Open Manhole | 1200 |
| S28.001 | o | 450 | SXX | 88.288 | 86.485 | 1.353 | Open Manhole | 1350 |
| S26.002 | o | 600 | SXX | 87.997 | 85.935 | 1.462 | Open Manhole | 1500 |
| S26.003 | o | 600 | SXX | 87.399 | 85.785 | 1.014 | Open Manhole | 1500 |
| S25.001 | o | 600 | SXX | 87.577 | 85.570 | 1.407 | Open Manhole | 1500 |
| S25.002 | o | 150 | SXXFC | 87.150 | 85.349 | 1.651 | Open Manhole | 2400 |
| S1.025 | o | 150 | S20FC | 87.300 | 85.260 | 1.890 | Open Manhole | 2700 |
| S1.026 | 3 \=/ | 500 | SHWE2 | 86.700 | 85.220 | 1.330 | Junction | |
| S29.000 | o | 225 | SXX | 86.700 | 85.395 | 1.080 | Open Manhole | 1200 |

Downstream Manhole

| PN | Length (m) | Slope (1:X) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|------------|-------------|---------|-------------|-------------|-------------|---------------|--------------------|
| S28.000 | 56.389 | 91.7 | SXX | 88.288 | 86.635 | 1.353 | Open Manhole | 1350 |
| S28.001 | 29.103 | 72.8 | SXX | 87.997 | 86.085 | 1.462 | Open Manhole | 1500 |
| S26.002 | 60.337 | 402.2 | SXX | 87.399 | 85.785 | 1.014 | Open Manhole | 1500 |
| S26.003 | 63.227 | 294.1 | SXX | 87.577 | 85.570 | 1.407 | Open Manhole | 1500 |
| S25.001 | 75.210 | 395.8 | SXXFC | 87.150 | 85.380 | 1.170 | Open Manhole | 2400 |
| S25.002 | 13.324 | 149.7 | S20FC | 87.300 | 85.260 | 1.890 | Open Manhole | 2700 |
| S1.025 | 7.211 | 180.3 | SHWE2 | 86.700 | 85.220 | 1.330 | Junction | |
| S1.026 | 60.641 | 3109.8 | SHWF3 | 86.700 | 85.201 | 1.350 | Junction | |
| S29.000 | 15.445 | 147.1 | SXXFC | 86.700 | 85.290 | 1.185 | Open Manhole | 2400 |



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PIPELINE SCHEDULES for NW3 Storm + 2AUpstream Manhole

| PN | Hyd Sect | Diam (mm) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|----------|-----------|---------|-------------|-------------|-------------|---------------|--------------------|
| S29.001 | o | 150 | SXXFC | 86.700 | 85.290 | 1.260 | Open Manhole | 2400 |
| S1.027 | 3 \=/ | 500 | SHWF3 | 86.700 | 85.200 | 1.350 | Junction | |
| S1.028 | o | 150 | SHWF1 | 86.700 | 85.141 | 1.409 | Junction | |
| S1.029 | o | 150 | S21FC | 86.500 | 85.100 | 1.250 | Open Manhole | 2400 |
| S1.030 | 3 \=/ | 500 | SHWG1 | 86.000 | 85.067 | 0.783 | Junction | |
| S1.031 | o | 150 | SHWO3 | 86.000 | 85.020 | 0.830 | Junction | |
| S1.032 | o | 150 | S21A | 86.150 | 84.990 | 1.010 | Open Manhole | 1200 |

Downstream Manhole

| PN | Length (m) | Slope (1:X) | MH Name | C.Level (m) | I.Level (m) | D.Depth (m) | MH Connection | MH DIAM., L*W (mm) |
|---------|------------|-------------|---------|-------------|-------------|-------------|---------------|--------------------|
| S29.001 | 13.319 | 148.0 | SHWF3 | 86.700 | 85.200 | 1.350 | Junction | |
| S1.027 | 19.459 | 329.8 | SHWF1 | 86.700 | 85.141 | 1.409 | Junction | |
| S1.028 | 6.209 | 138.0 | S21FC | 86.500 | 85.096 | 1.254 | Open Manhole | 2400 |
| S1.029 | 4.903 | 163.4 | SHWG1 | 86.000 | 85.070 | 0.780 | Junction | |
| S1.030 | 105.946 | 2254.2 | SHWO3 | 86.000 | 85.020 | 0.830 | Junction | |
| S1.031 | 4.456 | 148.5 | S21A | 86.150 | 84.990 | 1.010 | Open Manhole | 1200 |
| S1.032 | 9.315 | 150.2 | S | 86.000 | 84.928 | 0.922 | Open Manhole | 0 |



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Area Summary for NW3 Storm + 2A

| Pipe Number | PIMP Type | PIMP Name | PIMP (%) | Gross Area (ha) | Imp. Area (ha) | Pipe Total (ha) |
|-------------|-----------|-----------|----------|-----------------|----------------|-----------------|
| 1.000 | - | - | 100 | 0.136 | 0.136 | 0.136 |
| 2.000 | - | - | 100 | 0.177 | 0.177 | 0.177 |
| 1.001 | - | - | 100 | 0.133 | 0.133 | 0.133 |
| 1.002 | - | - | 100 | 0.034 | 0.034 | 0.034 |
| 1.003 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 1.004 | - | - | 100 | 0.067 | 0.067 | 0.067 |
| 1.005 | - | - | 100 | 0.290 | 0.290 | 0.290 |
| 1.006 | - | - | 100 | 0.041 | 0.041 | 0.041 |
| 1.007 | - | - | 100 | 0.033 | 0.033 | 0.033 |
| 1.008 | - | - | 100 | 0.237 | 0.237 | 0.237 |
| 1.009 | - | - | 100 | 0.039 | 0.039 | 0.039 |
| 1.010 | - | - | 100 | 0.081 | 0.081 | 0.081 |
| 1.011 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 3.000 | - | - | 100 | 0.178 | 0.178 | 0.178 |
| 3.001 | - | - | 100 | 0.118 | 0.118 | 0.118 |
| 3.002 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 1.012 | - | - | 100 | 0.106 | 0.106 | 0.106 |
| 1.013 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 1.014 | - | - | 100 | 0.102 | 0.102 | 0.102 |
| 4.000 | - | - | 100 | 0.083 | 0.083 | 0.083 |
| 4.001 | - | - | 100 | 0.144 | 0.144 | 0.144 |
| 4.002 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 4.003 | - | - | 100 | 0.241 | 0.241 | 0.241 |
| 5.000 | - | - | 100 | 0.126 | 0.126 | 0.126 |
| 5.001 | - | - | 100 | 0.160 | 0.160 | 0.160 |
| 5.002 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 4.004 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 6.000 | - | - | 100 | 0.080 | 0.080 | 0.080 |
| 6.001 | - | - | 100 | 0.075 | 0.075 | 0.075 |
| 4.005 | - | - | 100 | 0.170 | 0.170 | 0.170 |
| 7.000 | - | - | 100 | 0.107 | 0.107 | 0.107 |
| 7.001 | - | - | 100 | 0.083 | 0.083 | 0.083 |
| 8.000 | - | - | 100 | 0.052 | 0.052 | 0.052 |
| 8.001 | - | - | 100 | 0.052 | 0.052 | 0.052 |
| 8.002 | - | - | 100 | 0.055 | 0.055 | 0.055 |



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Area Summary for NW3 Storm + 2A

| Pipe Number | PIMP Type | PIMP Name | PIMP (%) | Gross Area (ha) | Imp. Area (ha) | Pipe Total (ha) |
|-------------|-----------|-----------|----------|-----------------|----------------|-----------------|
| 8.003 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 8.004 | - | - | 100 | 0.040 | 0.040 | 0.040 |
| 7.002 | - | - | 100 | 0.033 | 0.033 | 0.033 |
| 9.000 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 7.003 | - | - | 100 | 0.051 | 0.051 | 0.051 |
| 7.004 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 7.005 | - | - | 100 | 0.102 | 0.102 | 0.102 |
| 7.006 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 4.006 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 4.007 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 1.015 | - | - | 100 | 0.133 | 0.133 | 0.133 |
| 10.000 | - | - | 100 | 0.158 | 0.158 | 0.158 |
| 11.000 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 11.001 | - | - | 100 | 0.071 | 0.071 | 0.071 |
| 11.002 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 11.003 | - | - | 100 | 0.071 | 0.071 | 0.071 |
| 11.004 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 10.001 | - | - | 100 | 0.115 | 0.115 | 0.115 |
| 12.000 | - | - | 100 | 0.085 | 0.085 | 0.085 |
| 12.001 | - | - | 100 | 0.013 | 0.013 | 0.013 |
| 13.000 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 13.001 | - | - | 100 | 0.043 | 0.043 | 0.043 |
| 12.002 | - | - | 100 | 0.025 | 0.025 | 0.025 |
| 14.000 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 14.001 | - | - | 100 | 0.077 | 0.077 | 0.077 |
| 12.003 | - | - | 100 | 0.015 | 0.015 | 0.015 |
| 10.002 | - | - | 100 | 0.090 | 0.090 | 0.090 |
| 10.003 | - | - | 100 | 0.073 | 0.073 | 0.073 |
| 15.000 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 15.001 | - | - | 100 | 0.043 | 0.043 | 0.043 |
| 10.004 | - | - | 100 | 0.052 | 0.052 | 0.052 |
| 16.000 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 16.001 | - | - | 100 | 0.037 | 0.037 | 0.037 |
| 17.000 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 17.001 | - | - | 100 | 0.039 | 0.039 | 0.039 |



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Area Summary for NW3 Storm + 2A

| Pipe Number | PIMP Type | PIMP Name | PIMP (%) | Gross Area (ha) | Imp. Area (ha) | Pipe Total (ha) |
|-------------|-----------|-----------|----------|-----------------|----------------|-----------------|
| 10.005 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 10.006 | - | - | 100 | 0.130 | 0.130 | 0.130 |
| 1.016 | - | - | 100 | 0.050 | 0.050 | 0.050 |
| 18.000 | - | - | 100 | 0.020 | 0.020 | 0.020 |
| 18.001 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 18.002 | - | - | 100 | 0.093 | 0.093 | 0.093 |
| 18.003 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 18.004 | - | - | 100 | 0.063 | 0.063 | 0.063 |
| 18.005 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 19.000 | - | - | 100 | 0.170 | 0.170 | 0.170 |
| 18.006 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 18.007 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 18.008 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 18.009 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 18.010 | - | - | 100 | 0.061 | 0.061 | 0.061 |
| 18.011 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 20.000 | - | - | 100 | 0.045 | 0.045 | 0.045 |
| 18.012 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 18.013 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 18.014 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 18.015 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 18.016 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 21.000 | - | - | 100 | 0.061 | 0.061 | 0.061 |
| 21.001 | - | - | 100 | 0.307 | 0.307 | 0.307 |
| 21.002 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 18.017 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 1.017 | - | - | 100 | 0.071 | 0.071 | 0.071 |
| 1.018 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 1.019 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 22.000 | - | - | 100 | 0.041 | 0.041 | 0.041 |
| 22.001 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 22.002 | - | - | 100 | 0.210 | 0.210 | 0.210 |
| 23.000 | - | - | 100 | 0.042 | 0.042 | 0.042 |
| 23.001 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 23.002 | - | - | 100 | 0.072 | 0.072 | 0.072 |



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Area Summary for NW3 Storm + 2A

| Pipe Number | PIMP Type | PIMP Name | PIMP (%) | Gross Area (ha) | Imp. Area (ha) | Pipe Total (ha) |
|-------------|-----------|-----------|----------|-----------------|----------------|-----------------|
| 23.003 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 23.004 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 23.005 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 23.006 | - | - | 100 | 0.113 | 0.113 | 0.113 |
| 23.007 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 22.003 | - | - | 100 | 0.044 | 0.044 | 0.044 |
| 22.004 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 22.005 | - | - | 100 | 0.301 | 0.301 | 0.301 |
| 22.006 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 22.007 | - | - | 100 | 0.117 | 0.117 | 0.117 |
| 22.008 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 22.009 | - | - | 100 | 0.149 | 0.149 | 0.149 |
| 22.010 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 22.011 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 22.012 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 22.013 | - | - | 100 | 0.094 | 0.094 | 0.094 |
| 22.014 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 22.015 | - | - | 100 | 0.054 | 0.054 | 0.054 |
| 22.016 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 22.017 | - | - | 100 | 0.250 | 0.250 | 0.250 |
| 22.018 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 1.020 | - | - | 100 | 0.069 | 0.069 | 0.069 |
| 1.021 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 1.022 | - | - | 100 | 0.016 | 0.016 | 0.016 |
| 1.023 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 24.000 | - | - | 100 | 0.191 | 0.191 | 0.191 |
| 24.001 | - | - | 100 | 0.191 | 0.191 | 0.191 |
| 24.002 | - | - | 100 | 0.191 | 0.191 | 0.191 |
| 24.003 | - | - | 100 | 0.192 | 0.192 | 0.192 |
| 24.004 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 24.005 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 24.006 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 1.024 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 25.000 | - | - | 100 | 0.191 | 0.191 | 0.191 |
| 26.000 | - | - | 100 | 0.190 | 0.190 | 0.190 |



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Area Summary for NW3 Storm + 2A

| Pipe Number | PIMP Type | PIMP Name | PIMP (%) | Gross Area (ha) | Imp. Area (ha) | Pipe Total (ha) |
|-------------|-----------|-----------|----------|-----------------|----------------|-----------------|
| 27.000 | - | - | 100 | 0.190 | 0.190 | 0.190 |
| 27.001 | - | - | 100 | 0.190 | 0.190 | 0.190 |
| 26.001 | - | - | 100 | 0.190 | 0.190 | 0.190 |
| 28.000 | - | - | 100 | 0.190 | 0.190 | 0.190 |
| 28.001 | - | - | 100 | 0.190 | 0.190 | 0.190 |
| 26.002 | - | - | 100 | 0.190 | 0.190 | 0.190 |
| 26.003 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 25.001 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 25.002 | - | - | 100 | 0.190 | 0.190 | 0.190 |
| 1.025 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 1.026 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 29.000 | - | - | 100 | 0.178 | 0.178 | 0.178 |
| 29.001 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 1.027 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 1.028 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 1.029 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 1.030 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 1.031 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| 1.032 | - | - | 100 | 0.000 | 0.000 | 0.000 |
| | | | | Total | Total | Total |
| | | | | 9.863 | 9.863 | 9.863 |

Free Flowing Outfall Details for NW3 Storm + 2A

| Outfall Pipe Number | Outfall Name | C. Level (m) | I. Level (m) | Min I. Level (m) | D, L (mm) | W (mm) |
|---------------------|--------------|--------------|--------------|------------------|-----------|--------|
| S1.032 | S | 86.000 | 84.928 | 0.000 | 0 | 0 |



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Online Controls for NW3 Storm + 2A

Hydro-Brake® Optimum Manhole: S8FC, DS/PN: S1.013, Volume (m³): 11.1

| | | | |
|-------------------|----------------------------|-----------------------------------|--------|
| Unit Reference | MD-SHE-0057-2000-2000-2000 | Sump Available | Yes |
| Design Head (m) | 2.000 | Diameter (mm) | 57 |
| Design Flow (l/s) | 2.0 | Invert Level (m) | 89.589 |
| Flush-Flo™ | Calculated | Minimum Outlet Pipe Diameter (mm) | 75 |
| Objective | Minimise upstream storage | Suggested Manhole Diameter (mm) | 1200 |
| Application | Surface | | |

| Control Points | Head (m) | Flow (l/s) | Control Points | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 2.000 | 2.0 | Kick-Flo® | 0.506 | 1.1 |
| Flush-Flo™ | 0.247 | 1.3 | Mean Flow over Head Range | - | 1.5 |

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) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100 | 1.2 | 0.600 | 1.2 | 1.600 | 1.8 | 2.600 | 2.3 | 5.000 | 3.0 | 7.500 | 3.7 |
| 0.200 | 1.3 | 0.800 | 1.3 | 1.800 | 1.9 | 3.000 | 2.4 | 5.500 | 3.2 | 8.000 | 3.8 |
| 0.300 | 1.3 | 1.000 | 1.5 | 2.000 | 2.0 | 3.500 | 2.6 | 6.000 | 3.3 | 8.500 | 3.9 |
| 0.400 | 1.3 | 1.200 | 1.6 | 2.200 | 2.1 | 4.000 | 2.7 | 6.500 | 3.4 | 9.000 | 4.0 |
| 0.500 | 1.1 | 1.400 | 1.7 | 2.400 | 2.2 | 4.500 | 2.9 | 7.000 | 3.6 | 9.500 | 4.1 |

Hydro-Brake® Optimum Manhole: S255FC, DS/PN: S7.005, Volume (m³): 11.1

| | | | |
|-------------------|----------------------------|-----------------------------------|--------|
| Unit Reference | MD-SHE-0131-1000-2000-1000 | Sump Available | Yes |
| Design Head (m) | 2.000 | Diameter (mm) | 131 |
| Design Flow (l/s) | 10.0 | Invert Level (m) | 90.293 |
| Flush-Flo™ | Calculated | Minimum Outlet Pipe Diameter (mm) | 150 |
| Objective | Minimise upstream storage | Suggested Manhole Diameter (mm) | 1500 |
| Application | Surface | | |



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Hydro-Brake® Optimum Manhole: S255FC, DS/PN: S7.005, Volume (m³): 11.1

| Control Points | Head (m) | Flow (l/s) | Control Points | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 2.000 | 10.0 | Kick-Flo® | 1.167 | 7.8 |
| Flush-Flo™ | 0.569 | 9.8 | Mean Flow over Head Range | - | 8.7 |

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) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100 | 4.7 | 0.600 | 9.8 | 1.600 | 9.0 | 2.600 | 11.3 | 5.000 | 15.4 | 7.500 | 18.7 |
| 0.200 | 8.3 | 0.800 | 9.6 | 1.800 | 9.5 | 3.000 | 12.1 | 5.500 | 16.2 | 8.000 | 19.3 |
| 0.300 | 9.2 | 1.000 | 9.0 | 2.000 | 10.0 | 3.500 | 13.0 | 6.000 | 16.8 | 8.500 | 19.9 |
| 0.400 | 9.6 | 1.200 | 7.9 | 2.200 | 10.5 | 4.000 | 13.9 | 6.500 | 17.5 | 9.000 | 20.5 |
| 0.500 | 9.8 | 1.400 | 8.5 | 2.400 | 10.9 | 4.500 | 14.7 | 7.000 | 18.1 | 9.500 | 21.0 |

Hydro-Brake® Optimum Manhole: S206FC, DS/PN: S10.006, Volume (m³): 21.9

| | | | |
|-------------------|----------------------------|-----------------------------------|--------|
| Unit Reference | MD-SHE-0125-1000-2400-1000 | Sump Available | Yes |
| Design Head (m) | 2.400 | Diameter (mm) | 125 |
| Design Flow (l/s) | 10.0 | Invert Level (m) | 87.947 |
| Flush-Flo™ | Calculated | Minimum Outlet Pipe Diameter (mm) | 150 |
| Objective | Minimise upstream storage | Suggested Manhole Diameter (mm) | 1500 |
| Application | Surface | | |

| Control Points | Head (m) | Flow (l/s) | Control Points | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 2.400 | 10.0 | Kick-Flo® | 1.118 | 7.0 |
| Flush-Flo™ | 0.549 | 8.8 | Mean Flow over Head Range | - | 8.1 |

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) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100 | 4.5 | 0.300 | 8.3 | 0.500 | 8.8 | 0.800 | 8.5 | 1.200 | 7.2 | 1.600 | 8.3 |
| 0.200 | 7.5 | 0.400 | 8.6 | 0.600 | 8.8 | 1.000 | 7.8 | 1.400 | 7.8 | 1.800 | 8.7 |



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Hydro-Brake® Optimum Manhole: S206FC, DS/PN: S10.006, Volume (m³): 21.9

| 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) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 2.000 | 9.2 | 2.600 | 10.4 | 4.000 | 12.7 | 5.500 | 14.8 | 7.000 | 16.6 | 8.500 | 18.2 |
| 2.200 | 9.6 | 3.000 | 11.1 | 4.500 | 13.5 | 6.000 | 15.4 | 7.500 | 17.2 | 9.000 | 18.8 |
| 2.400 | 10.0 | 3.500 | 11.9 | 5.000 | 14.2 | 6.500 | 16.0 | 8.000 | 17.7 | 9.500 | 19.2 |

Hydro-Brake® Optimum Manhole: S12FC, DS/PN: S1.017, Volume (m³): 28.9

| | | | |
|-------------------|----------------------------|-----------------------------------|--------|
| Unit Reference | MD-SHE-0157-1500-2200-1500 | Sump Available | Yes |
| Design Head (m) | 2.200 | Diameter (mm) | 157 |
| Design Flow (l/s) | 15.0 | Invert Level (m) | 87.585 |
| Flush-Flo™ | Calculated | Minimum Outlet Pipe Diameter (mm) | 225 |
| Objective | Minimise upstream storage | Suggested Manhole Diameter (mm) | 1500 |
| Application | Surface | | |

| Control Points | Head (m) | Flow (l/s) | Control Points | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 2.200 | 15.0 | Kick-Flo® | 1.322 | 11.8 |
| Flush-Flo™ | 0.644 | 14.9 | Mean Flow over Head Range | - | 13.1 |

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) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100 | 5.6 | 0.600 | 14.9 | 1.600 | 12.9 | 2.600 | 16.2 | 5.000 | 22.1 | 7.500 | 26.9 |
| 0.200 | 12.1 | 0.800 | 14.7 | 1.800 | 13.6 | 3.000 | 17.3 | 5.500 | 23.2 | 8.000 | 27.8 |
| 0.300 | 13.5 | 1.000 | 14.2 | 2.000 | 14.3 | 3.500 | 18.7 | 6.000 | 24.2 | 8.500 | 28.6 |
| 0.400 | 14.3 | 1.200 | 13.1 | 2.200 | 15.0 | 4.000 | 19.9 | 6.500 | 25.1 | 9.000 | 29.4 |
| 0.500 | 14.7 | 1.400 | 12.1 | 2.400 | 15.6 | 4.500 | 21.0 | 7.000 | 26.0 | 9.500 | 30.2 |

Hydro-Brake® Optimum Manhole: SXXFC, DS/PN: S24.003, Volume (m³): 16.8

| | | | |
|-------------------|----------------------------|-------------|---------------------------|
| Unit Reference | MD-SHE-0098-5000-1500-5000 | Flush-Flo™ | Calculated |
| Design Head (m) | 1.500 | Objective | Minimise upstream storage |
| Design Flow (l/s) | 5.0 | Application | Surface |



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Hydro-Brake® Optimum Manhole: SXXFC, DS/PN: S24.003, Volume (m³): 16.8

Sump Available Yes Minimum Outlet Pipe Diameter (mm) 150
 Diameter (mm) 98 Suggested Manhole Diameter (mm) 1200
 Invert Level (m) 85.975

| Control Points | Head (m) | Flow (l/s) | Control Points | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 1.500 | 5.0 | Kick-Flo® | 0.878 | 3.9 |
| Flush-Flo™ | 0.431 | 4.9 | Mean Flow over Head Range | - | 4.3 |

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) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100 | 3.2 | 0.600 | 4.8 | 1.600 | 5.1 | 2.600 | 6.5 | 5.000 | 8.8 | 7.500 | 10.7 |
| 0.200 | 4.4 | 0.800 | 4.3 | 1.800 | 5.4 | 3.000 | 6.9 | 5.500 | 9.2 | 8.000 | 11.0 |
| 0.300 | 4.8 | 1.000 | 4.1 | 2.000 | 5.7 | 3.500 | 7.4 | 6.000 | 9.6 | 8.500 | 11.3 |
| 0.400 | 4.9 | 1.200 | 4.5 | 2.200 | 6.0 | 4.000 | 7.9 | 6.500 | 10.0 | 9.000 | 11.6 |
| 0.500 | 4.9 | 1.400 | 4.8 | 2.400 | 6.2 | 4.500 | 8.4 | 7.000 | 10.3 | 9.500 | 11.9 |

Hydro-Brake® Optimum Manhole: SXXFC, DS/PN: S25.002, Volume (m³): 28.9

Unit Reference MD-SHE-0103-5000-1200-5000 Sump Available Yes
 Design Head (m) 1.200 Diameter (mm) 103
 Design Flow (l/s) 5.0 Invert Level (m) 85.380
 Flush-Flo™ Calculated Minimum Outlet Pipe Diameter (mm) 150
 Objective Minimise upstream storage Suggested Manhole Diameter (mm) 1200
 Application Surface

| Control Points | Head (m) | Flow (l/s) | Control Points | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 1.200 | 5.0 | Kick-Flo® | 0.745 | 4.0 |
| Flush-Flo™ | 0.354 | 5.0 | Mean Flow over Head Range | - | 4.4 |

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



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Hydro-Brake® Optimum Manhole: SXXFC, DS/PN: S25.002, Volume (m³): 28.9

| 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) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100 | 3.4 | 0.600 | 4.7 | 1.600 | 5.7 | 2.600 | 7.2 | 5.000 | 9.8 | 7.500 | 11.8 |
| 0.200 | 4.7 | 0.800 | 4.1 | 1.800 | 6.0 | 3.000 | 7.7 | 5.500 | 10.2 | 8.000 | 12.2 |
| 0.300 | 5.0 | 1.000 | 4.6 | 2.000 | 6.3 | 3.500 | 8.3 | 6.000 | 10.7 | 8.500 | 12.6 |
| 0.400 | 5.0 | 1.200 | 5.0 | 2.200 | 6.6 | 4.000 | 8.8 | 6.500 | 11.1 | 9.000 | 12.9 |
| 0.500 | 4.9 | 1.400 | 5.4 | 2.400 | 6.9 | 4.500 | 9.3 | 7.000 | 11.5 | 9.500 | 13.3 |

Hydro-Brake® Optimum Manhole: S20FC, DS/PN: S1.025, Volume (m³): 12.8

| | | | |
|-------------------|----------------------------|-----------------------------------|--------|
| Unit Reference | MD-SHE-0121-8000-1700-8000 | Sump Available | Yes |
| Design Head (m) | 1.700 | Diameter (mm) | 121 |
| Design Flow (l/s) | 8.0 | Invert Level (m) | 85.260 |
| Flush-Flo™ | Calculated | Minimum Outlet Pipe Diameter (mm) | 150 |
| Objective | Minimise upstream storage | Suggested Manhole Diameter (mm) | 1200 |
| Application | Surface | | |

| Control Points | Head (m) | Flow (l/s) | Control Points | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 1.700 | 8.0 | Kick-Flo® | 1.039 | 6.4 |
| Flush-Flo™ | 0.507 | 8.0 | Mean Flow over Head Range | - | 7.0 |

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) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100 | 4.3 | 0.600 | 8.0 | 1.600 | 7.8 | 2.600 | 9.8 | 5.000 | 13.3 | 7.500 | 16.2 |
| 0.200 | 7.0 | 0.800 | 7.6 | 1.800 | 8.2 | 3.000 | 10.4 | 5.500 | 13.9 | 8.000 | 16.7 |
| 0.300 | 7.6 | 1.000 | 6.7 | 2.000 | 8.6 | 3.500 | 11.2 | 6.000 | 14.5 | 8.500 | 17.2 |
| 0.400 | 7.9 | 1.200 | 6.8 | 2.200 | 9.0 | 4.000 | 12.0 | 6.500 | 15.1 | 9.000 | 17.6 |
| 0.500 | 8.0 | 1.400 | 7.3 | 2.400 | 9.4 | 4.500 | 12.7 | 7.000 | 15.6 | 9.500 | 18.1 |



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Hydro-Brake® Optimum Manhole: SXXFC, DS/PN: S29.001, Volume (m³): 6.9

| | | | |
|-------------------|----------------------------|-----------------------------------|--------|
| Unit Reference | MD-SHE-0105-5000-1000-5000 | Sump Available | Yes |
| Design Head (m) | 1.000 | Diameter (mm) | 105 |
| Design Flow (l/s) | 5.0 | Invert Level (m) | 85.290 |
| Flush-Flo™ | Calculated | Minimum Outlet Pipe Diameter (mm) | 150 |
| Objective | Minimise upstream storage | Suggested Manhole Diameter (mm) | 1200 |
| Application | Surface | | |

| Control Points | Head (m) | Flow (l/s) | Control Points | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 1.000 | 5.0 | Kick-Flo® | 0.637 | 4.1 |
| Flush-Flo™ | 0.296 | 5.0 | Mean Flow over Head Range | - | 4.3 |

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) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100 | 3.6 | 0.600 | 4.3 | 1.600 | 6.2 | 2.600 | 7.8 | 5.000 | 10.6 | 7.500 | 12.9 |
| 0.200 | 4.8 | 0.800 | 4.5 | 1.800 | 6.6 | 3.000 | 8.4 | 5.500 | 11.1 | 8.000 | 13.3 |
| 0.300 | 5.0 | 1.000 | 5.0 | 2.000 | 6.9 | 3.500 | 9.0 | 6.000 | 11.6 | 8.500 | 13.7 |
| 0.400 | 4.9 | 1.200 | 5.4 | 2.200 | 7.2 | 4.000 | 9.6 | 6.500 | 12.1 | 9.000 | 14.1 |
| 0.500 | 4.7 | 1.400 | 5.8 | 2.400 | 7.5 | 4.500 | 10.1 | 7.000 | 12.5 | 9.500 | 14.5 |

Hydro-Brake® Optimum Manhole: S21FC, DS/PN: S1.029, Volume (m³): 6.4

| | | | |
|-------------------|----------------------------|-----------------------------------|--------|
| Unit Reference | MD-SHE-0103-5500-1500-5500 | Sump Available | Yes |
| Design Head (m) | 1.500 | Diameter (mm) | 103 |
| Design Flow (l/s) | 5.5 | Invert Level (m) | 85.100 |
| Flush-Flo™ | Calculated | Minimum Outlet Pipe Diameter (mm) | 150 |
| Objective | Minimise upstream storage | Suggested Manhole Diameter (mm) | 1200 |
| Application | Surface | | |

| Control Points | Head (m) | Flow (l/s) | Control Points | Head (m) | Flow (l/s) |
|---------------------------|----------|------------|---------------------------|----------|------------|
| Design Point (Calculated) | 1.500 | 5.5 | Kick-Flo® | 0.918 | 4.4 |
| Flush-Flo™ | 0.449 | 5.5 | Mean Flow over Head Range | - | 4.8 |

The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control



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Hydro-Brake® Optimum Manhole: S21FC, DS/PN: S1.029, Volume (m³): 6.4

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) | Depth (m) | Flow (l/s) |
|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|
| 0.100 | 3.5 | 0.600 | 5.4 | 1.600 | 5.7 | 2.600 | 7.1 | 5.000 | 9.7 | 7.500 | 11.7 |
| 0.200 | 4.9 | 0.800 | 5.0 | 1.800 | 6.0 | 3.000 | 7.6 | 5.500 | 10.1 | 8.000 | 12.1 |
| 0.300 | 5.3 | 1.000 | 4.6 | 2.000 | 6.3 | 3.500 | 8.2 | 6.000 | 10.6 | 8.500 | 12.5 |
| 0.400 | 5.5 | 1.200 | 5.0 | 2.200 | 6.6 | 4.000 | 8.7 | 6.500 | 11.0 | 9.000 | 12.8 |
| 0.500 | 5.5 | 1.400 | 5.3 | 2.400 | 6.8 | 4.500 | 9.2 | 7.000 | 11.4 | 9.500 | 13.1 |



Date 17/10/2024 17:18

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Storage Structures for NW3 Storm + 2A

Tank or Pond Manhole: SBasin A, DS/PN: S1.012

Invert Level (m) 89.700

| Depth (m) | Area (m ²) | Depth (m) | Area (m ²) |
|-----------|------------------------|-----------|------------------------|
| 0.000 | 415.0 | 2.200 | 1288.0 |

Tank or Pond Manhole: S24, DS/PN: S4.002

Invert Level (m) 92.380

| Depth (m) | Area (m ²) | Depth (m) | Area (m ²) |
|-----------|------------------------|-----------|------------------------|
| 0.000 | 40.0 | 1.500 | 40.0 |

Tank or Pond Manhole: SXX, DS/PN: S5.002

Invert Level (m) 92.258

| Depth (m) | Area (m ²) | Depth (m) | Area (m ²) |
|-----------|------------------------|-----------|------------------------|
| 0.000 | 100.0 | 1.500 | 100.0 |

Cellular Storage Manhole: S257, DS/PN: S8.004

Invert Level (m) 90.597 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

| Depth (m) | Area (m ²) | Inf. Area (m ²) | Depth (m) | Area (m ²) | Inf. Area (m ²) | Depth (m) | Area (m ²) | Inf. Area (m ²) |
|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|
| 0.000 | 85.0 | 0.0 | 1.200 | 85.0 | 0.0 | 1.201 | 0.0 | 0.0 |



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Cellular Storage Manhole: S253xx, DS/PN: S9.000

Invert Level (m) 90.421 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

| Depth (m) | Area (m ²) | Inf. Area (m ²) | Depth (m) | Area (m ²) | Inf. Area (m ²) | Depth (m) | Area (m ²) | Inf. Area (m ²) |
|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|
| 0.000 | 128.0 | 0.0 | 1.200 | 128.0 | 0.0 | 1.201 | 0.0 | 0.0 |

Cellular Storage Manhole: SIC209, DS/PN: S13.001

Invert Level (m) 89.110 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

| Depth (m) | Area (m ²) | Inf. Area (m ²) | Depth (m) | Area (m ²) | Inf. Area (m ²) | Depth (m) | Area (m ²) | Inf. Area (m ²) |
|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|
| 0.000 | 56.0 | 56.0 | 1.200 | 56.0 | 102.8 | 1.201 | 0.0 | 102.8 |

Cellular Storage Manhole: SIC205, DS/PN: S14.001

Invert Level (m) 88.949 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

| Depth (m) | Area (m ²) | Inf. Area (m ²) | Depth (m) | Area (m ²) | Inf. Area (m ²) | Depth (m) | Area (m ²) | Inf. Area (m ²) |
|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|
| 0.000 | 101.6 | 61.3 | 1.200 | 101.6 | 111.7 | 1.201 | 0.0 | 111.7 |

Cellular Storage Manhole: SIC204, DS/PN: S15.001

Invert Level (m) 88.540 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

| Depth (m) | Area (m ²) | Inf. Area (m ²) | Depth (m) | Area (m ²) | Inf. Area (m ²) | Depth (m) | Area (m ²) | Inf. Area (m ²) |
|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|
| 0.000 | 108.0 | 0.0 | 1.600 | 108.0 | 0.0 | 1.601 | 0.0 | 0.0 |



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Cellular Storage Manhole: SIC206, DS/PN: S16.001

Invert Level (m) 88.336 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

| Depth (m) | Area (m ²) | Inf. Area (m ²) | Depth (m) | Area (m ²) | Inf. Area (m ²) | Depth (m) | Area (m ²) | Inf. Area (m ²) |
|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|
| 0.000 | 76.5 | 84.0 | 2.000 | 76.5 | 184.0 | 2.010 | 0.0 | 184.0 |

Cellular Storage Manhole: SIC205, DS/PN: S17.001

Invert Level (m) 88.353 Infiltration Coefficient Side (m/hr) 0.00000 Porosity 0.95
 Infiltration Coefficient Base (m/hr) 0.00000 Safety Factor 2.0

| Depth (m) | Area (m ²) | Inf. Area (m ²) | Depth (m) | Area (m ²) | Inf. Area (m ²) | Depth (m) | Area (m ²) | Inf. Area (m ²) |
|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|-----------|------------------------|-----------------------------|
| 0.000 | 64.0 | 77.0 | 2.000 | 64.0 | 179.0 | 2.010 | 0.0 | 179.0 |

Dry Swale Pipe: S18.000

| | | | | | |
|--------------------------------------|---------|---------------------------------|---------|----------------------------|-------|
| Manning's N | 0.015 | Invert Level (m) | 94.003 | Trench Porosity | 0.30 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Trench Height (m) | 0.900 | Side Slope (1:X) | 3.0 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Width (m) | 0.5 | Slope (1:X) | 79.5 |
| Safety Factor | 2.0 | Trench Length (m) | 18.7 | Cap Volume Depth (m) | 0.000 |
| Swale Porosity | 1.00 | Trench Infiltration Side (m/hr) | 0.00000 | Cap Infiltration Depth (m) | 0.000 |

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.150 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S18.002

| | | | | | |
|--------------------------------------|---------|---------------------------------|---------|----------------------------|-------|
| Manning's N | 0.015 | Invert Level (m) | 93.663 | Trench Porosity | 0.30 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Trench Height (m) | 0.900 | Side Slope (1:X) | 3.0 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Width (m) | 0.5 | Slope (1:X) | 73.8 |
| Safety Factor | 2.0 | Trench Length (m) | 57.6 | Cap Volume Depth (m) | 0.000 |
| Swale Porosity | 1.00 | Trench Infiltration Side (m/hr) | 0.00000 | Cap Infiltration Depth (m) | 0.000 |

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Date 17/10/2024 17:18

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Dry Swale Pipe: S18.002

Depth above Invert Level (m) 0.000 Diameter (m) 0.150 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S18.004

| | | | | | |
|--------------------------------------|---------|---------------------------------|---------|----------------------------|-------|
| Manning's N | 0.015 | Invert Level (m) | 92.729 | Trench Porosity | 0.30 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Trench Height (m) | 0.900 | Side Slope (1:X) | 3.0 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Width (m) | 0.5 | Slope (1:X) | 107.6 |
| Safety Factor | 2.0 | Trench Length (m) | 36.6 | Cap Volume Depth (m) | 0.000 |
| Swale Porosity | 1.00 | Trench Infiltration Side (m/hr) | 0.00000 | Cap Infiltration Depth (m) | 0.000 |

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.150 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S19.000

| | | | | | |
|--------------------------------------|---------|---------------------------------|---------|----------------------------|-------|
| Manning's N | 0.015 | Invert Level (m) | 92.402 | Trench Porosity | 0.30 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Trench Height (m) | 0.900 | Side Slope (1:X) | 3.0 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Width (m) | 0.5 | Slope (1:X) | 92.7 |
| Safety Factor | 2.0 | Trench Length (m) | 25.6 | Cap Volume Depth (m) | 0.000 |
| Swale Porosity | 1.00 | Trench Infiltration Side (m/hr) | 0.00000 | Cap Infiltration Depth (m) | 0.000 |

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.150 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S18.006

| | | | | | |
|--------------------------------------|---------|---------------------------------|---------|----------------------------|-------|
| Manning's N | 0.015 | Invert Level (m) | 92.126 | Trench Porosity | 0.30 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Trench Height (m) | 0.900 | Side Slope (1:X) | 3.0 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Width (m) | 0.5 | Slope (1:X) | 100.0 |
| Safety Factor | 2.0 | Trench Length (m) | 8.4 | Cap Volume Depth (m) | 0.000 |
| Swale Porosity | 1.00 | Trench Infiltration Side (m/hr) | 0.00000 | Cap Infiltration Depth (m) | 0.000 |

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.150 Number of Pipes 1 Manning's N 0.010



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Dry Swale Pipe: S18.008

| | | | | | |
|--------------------------------------|---------|---------------------------------|---------|----------------------------|-------|
| Manning's N | 0.015 | Invert Level (m) | 92.012 | Trench Porosity | 0.30 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Trench Height (m) | 0.900 | Side Slope (1:X) | 3.0 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Width (m) | 0.5 | Slope (1:X) | 146.1 |
| Safety Factor | 2.0 | Trench Length (m) | 5.0 | Cap Volume Depth (m) | 0.000 |
| Swale Porosity | 1.00 | Trench Infiltration Side (m/hr) | 0.00000 | Cap Infiltration Depth (m) | 0.000 |

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.150 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S18.010

| | | | | | |
|--------------------------------------|---------|---------------------------------|---------|----------------------------|-------|
| Manning's N | 0.015 | Invert Level (m) | 91.922 | Trench Porosity | 0.30 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Trench Height (m) | 0.900 | Side Slope (1:X) | 4.0 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Width (m) | 0.5 | Slope (1:X) | 150.3 |
| Safety Factor | 2.0 | Trench Length (m) | 15.2 | Cap Volume Depth (m) | 0.000 |
| Swale Porosity | 1.00 | Trench Infiltration Side (m/hr) | 0.00000 | Cap Infiltration Depth (m) | 0.000 |

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.150 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S20.000

| | | | | | |
|--------------------------------------|---------|---------------------------------|---------|----------------------------|-------|
| Manning's N | 0.015 | Invert Level (m) | 92.891 | Trench Porosity | 0.30 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Trench Height (m) | 0.900 | Side Slope (1:X) | 3.0 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Width (m) | 0.5 | Slope (1:X) | 12.7 |
| Safety Factor | 2.0 | Trench Length (m) | 14.7 | Cap Volume Depth (m) | 0.000 |
| Swale Porosity | 1.00 | Trench Infiltration Side (m/hr) | 0.00000 | Cap Infiltration Depth (m) | 0.000 |

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.150 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S18.013

| | | | | | |
|--------------------------------------|---------|--------------------------------------|---------|------------------|--------|
| Manning's N | 0.015 | Infiltration Coefficient Side (m/hr) | 0.00000 | Swale Porosity | 1.00 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Safety Factor | 2.0 | Invert Level (m) | 91.618 |



Date 17/10/2024 17:18

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Dry Swale Pipe: S18.013

Trench Height (m) 2.000 Trench Infiltration Side (m/hr) 0.00000 Slope (1:X) 90.2
 Trench Width (m) 0.5 Trench Porosity 0.30 Cap Volume Depth (m) 0.000
 Trench Length (m) 74.3 Side Slope (1:X) 3.0 Cap Infiltration Depth (m) 0.000

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.225 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S18.014

Manning's N 0.015 Invert Level (m) 90.795 Trench Porosity 0.30
 Infiltration Coefficient Base (m/hr) 0.00000 Trench Height (m) 0.900 Side Slope (1:X) 3.0
 Infiltration Coefficient Side (m/hr) 0.00000 Trench Width (m) 0.5 Slope (1:X) 59.9
 Safety Factor 2.0 Trench Length (m) 77.6 Cap Volume Depth (m) 0.000
 Swale Porosity 1.00 Trench Infiltration Side (m/hr) 0.00000 Cap Infiltration Depth (m) 0.000

Under Drain Details

Depth above Invert Level (m) 0.010 Diameter (m) 0.225 Number of Pipes 1 Manning's N 0.010

Tank or Pond Manhole: SBasin B, DS/PN: S18.017

Invert Level (m) 88.350

| Depth (m) | Area (m ²) | Depth (m) | Area (m ²) |
|-----------|------------------------|-----------|------------------------|
| 0.000 | 647.0 | 1.950 | 2135.0 |

Dry Swale Pipe: S22.000

Manning's N 0.015 Invert Level (m) 92.483 Trench Porosity 0.30
 Infiltration Coefficient Base (m/hr) 0.00000 Trench Height (m) 0.900 Side Slope (1:X) 3.0
 Infiltration Coefficient Side (m/hr) 0.00000 Trench Width (m) 0.5 Slope (1:X) 150.0
 Safety Factor 2.0 Trench Length (m) 43.6 Cap Volume Depth (m) 0.000
 Swale Porosity 1.00 Trench Infiltration Side (m/hr) 0.00000 Cap Infiltration Depth (m) 0.000

Under Drain Details



Date 17/10/2024 17:18

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Dry Swale Pipe: S22.000

Depth above Invert Level (m) 0.000 Diameter (m) 0.150 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S22.002

| | | | | | |
|--------------------------------------|---------|---------------------------------|---------|----------------------------|-------|
| Manning's N | 0.015 | Invert Level (m) | 92.143 | Trench Porosity | 0.30 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Trench Height (m) | 0.900 | Side Slope (1:X) | 3.0 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Width (m) | 0.5 | Slope (1:X) | 123.1 |
| Safety Factor | 2.0 | Trench Length (m) | 78.9 | Cap Volume Depth (m) | 0.000 |
| Swale Porosity | 1.00 | Trench Infiltration Side (m/hr) | 0.00000 | Cap Infiltration Depth (m) | 0.000 |

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.150 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S23.000

| | | | | | |
|--------------------------------------|---------|---------------------------------|---------|----------------------------|-------|
| Manning's N | 0.015 | Invert Level (m) | 92.784 | Trench Porosity | 0.30 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Trench Height (m) | 0.900 | Side Slope (1:X) | 3.0 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Width (m) | 0.5 | Slope (1:X) | 150.2 |
| Safety Factor | 2.0 | Trench Length (m) | 11.6 | Cap Volume Depth (m) | 0.000 |
| Swale Porosity | 1.00 | Trench Infiltration Side (m/hr) | 0.00000 | Cap Infiltration Depth (m) | 0.000 |

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.150 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S23.002

| | | | | | |
|--------------------------------------|---------|---------------------------------|---------|----------------------------|-------|
| Manning's N | 0.015 | Invert Level (m) | 92.649 | Trench Porosity | 0.30 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Trench Height (m) | 0.900 | Side Slope (1:X) | 3.0 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Width (m) | 0.5 | Slope (1:X) | 150.4 |
| Safety Factor | 2.0 | Trench Length (m) | 15.3 | Cap Volume Depth (m) | 0.000 |
| Swale Porosity | 1.00 | Trench Infiltration Side (m/hr) | 0.00000 | Cap Infiltration Depth (m) | 0.000 |

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.150 Number of Pipes 1 Manning's N 0.010



Date 17/10/2024 17:18

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Dry Swale Pipe: S23.004

| | | | | | |
|--------------------------------------|---------|---------------------------------|---------|----------------------------|-------|
| Manning's N | 0.015 | Invert Level (m) | 92.525 | Trench Porosity | 0.30 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Trench Height (m) | 0.900 | Side Slope (1:X) | 3.0 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Width (m) | 0.5 | Slope (1:X) | 150.0 |
| Safety Factor | 2.0 | Trench Length (m) | 27.3 | Cap Volume Depth (m) | 0.000 |
| Swale Porosity | 1.00 | Trench Infiltration Side (m/hr) | 0.00000 | Cap Infiltration Depth (m) | 0.000 |

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.150 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S23.006

| | | | | | |
|--------------------------------------|---------|---------------------------------|---------|----------------------------|-------|
| Manning's N | 0.015 | Invert Level (m) | 92.281 | Trench Porosity | 0.30 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Trench Height (m) | 0.900 | Side Slope (1:X) | 3.0 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Width (m) | 0.5 | Slope (1:X) | 150.1 |
| Safety Factor | 2.0 | Trench Length (m) | 52.8 | Cap Volume Depth (m) | 0.000 |
| Swale Porosity | 1.00 | Trench Infiltration Side (m/hr) | 0.00000 | Cap Infiltration Depth (m) | 0.000 |

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.150 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S22.003

| | | | | | |
|--------------------------------------|---------|---------------------------------|---------|----------------------------|-------|
| Manning's N | 0.015 | Invert Level (m) | 91.502 | Trench Porosity | 0.30 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Trench Height (m) | 0.900 | Side Slope (1:X) | 3.0 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Width (m) | 0.5 | Slope (1:X) | 167.4 |
| Safety Factor | 2.0 | Trench Length (m) | 36.5 | Cap Volume Depth (m) | 0.000 |
| Swale Porosity | 1.00 | Trench Infiltration Side (m/hr) | 0.00000 | Cap Infiltration Depth (m) | 0.000 |

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.150 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S22.005

| | | | | | |
|--------------------------------------|---------|--------------------------------------|---------|------------------|--------|
| Manning's N | 0.015 | Infiltration Coefficient Side (m/hr) | 0.00000 | Swale Porosity | 1.00 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Safety Factor | 2.0 | Invert Level (m) | 90.943 |



Date 17/10/2024 17:18

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Dry Swale Pipe: S22.005

| | | | | | |
|-------------------|-------|---------------------------------|---------|----------------------------|-------|
| Trench Height (m) | 1.000 | Trench Infiltration Side (m/hr) | 0.00000 | Slope (1:X) | 148.6 |
| Trench Width (m) | 0.6 | Trench Porosity | 0.30 | Cap Volume Depth (m) | 0.000 |
| Trench Length (m) | 150.7 | Side Slope (1:X) | 3.0 | Cap Infiltration Depth (m) | 0.000 |

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.150 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S22.007

| | | | | | |
|--------------------------------------|---------|---------------------------------|---------|----------------------------|-------|
| Manning's N | 0.015 | Invert Level (m) | 89.793 | Trench Porosity | 0.30 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Trench Height (m) | 1.000 | Side Slope (1:X) | 3.0 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Width (m) | 0.6 | Slope (1:X) | 88.2 |
| Safety Factor | 2.0 | Trench Length (m) | 45.3 | Cap Volume Depth (m) | 0.000 |
| Swale Porosity | 1.00 | Trench Infiltration Side (m/hr) | 0.00000 | Cap Infiltration Depth (m) | 0.000 |

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.225 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S22.009

| | | | | | |
|--------------------------------------|---------|---------------------------------|---------|----------------------------|-------|
| Manning's N | 0.015 | Invert Level (m) | 89.203 | Trench Porosity | 0.30 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Trench Height (m) | 1.000 | Side Slope (1:X) | 3.0 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Width (m) | 0.6 | Slope (1:X) | 92.0 |
| Safety Factor | 2.0 | Trench Length (m) | 39.6 | Cap Volume Depth (m) | 0.000 |
| Swale Porosity | 1.00 | Trench Infiltration Side (m/hr) | 0.00000 | Cap Infiltration Depth (m) | 0.000 |

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.225 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S22.011

| | | | | | |
|--------------------------------------|---------|-------------------|--------|---------------------------------|---------|
| Manning's N | 0.015 | Swale Porosity | 1.00 | Trench Length (m) | 11.6 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Invert Level (m) | 88.656 | Trench Infiltration Side (m/hr) | 0.00000 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Height (m) | 1.000 | Trench Porosity | 0.30 |
| Safety Factor | 2.0 | Trench Width (m) | 0.6 | Side Slope (1:X) | 3.0 |



Date 17/10/2024 17:18

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Dry Swale Pipe: S22.011

Slope (1:X) 88.6 Cap Volume Depth (m) 0.000 Cap Infiltration Depth (m) 0.000

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.300 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S22.013

| | | | | | |
|--------------------------------------|---------|---------------------------------|---------|----------------------------|-------|
| Manning's N | 0.015 | Invert Level (m) | 88.435 | Trench Porosity | 0.30 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Trench Height (m) | 1.000 | Side Slope (1:X) | 3.0 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Width (m) | 0.6 | Slope (1:X) | 92.2 |
| Safety Factor | 2.0 | Trench Length (m) | 38.9 | Cap Volume Depth (m) | 0.000 |
| Swale Porosity | 1.00 | Trench Infiltration Side (m/hr) | 0.00000 | Cap Infiltration Depth (m) | 0.000 |

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.300 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S22.015

| | | | | | |
|--------------------------------------|---------|---------------------------------|---------|----------------------------|-------|
| Manning's N | 0.015 | Invert Level (m) | 87.955 | Trench Porosity | 0.30 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Trench Height (m) | 1.000 | Side Slope (1:X) | 3.0 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Width (m) | 0.6 | Slope (1:X) | 119.5 |
| Safety Factor | 2.0 | Trench Length (m) | 24.3 | Cap Volume Depth (m) | 0.000 |
| Swale Porosity | 1.00 | Trench Infiltration Side (m/hr) | 0.00000 | Cap Infiltration Depth (m) | 0.000 |

Under Drain Details

Depth above Invert Level (m) 0.000 Diameter (m) 0.300 Number of Pipes 1 Manning's N 0.010

Dry Swale Pipe: S22.017

| | | | | | |
|--------------------------------------|---------|---------------------------------|---------|----------------------------|-------|
| Manning's N | 0.015 | Invert Level (m) | 87.618 | Trench Porosity | 0.30 |
| Infiltration Coefficient Base (m/hr) | 0.00000 | Trench Height (m) | 1.000 | Side Slope (1:X) | 3.0 |
| Infiltration Coefficient Side (m/hr) | 0.00000 | Trench Width (m) | 0.6 | Slope (1:X) | 83.0 |
| Safety Factor | 2.0 | Trench Length (m) | 94.6 | Cap Volume Depth (m) | 0.000 |
| Swale Porosity | 1.00 | Trench Infiltration Side (m/hr) | 0.00000 | Cap Infiltration Depth (m) | 0.000 |

Under Drain Details



Date 17/10/2024 17:18

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Dry Swale Pipe: S22.017

Depth above Invert Level (m) 0.000 Diameter (m) 0.300 Number of Pipes 1 Manning's N 0.010

Tank or Pond Manhole: SXXFC, DS/PN: S24.003

Invert Level (m) 85.975

| Depth (m) | Area (m ²) | Depth (m) | Area (m ²) |
|-----------|------------------------|-----------|------------------------|
| 0.000 | 300.0 | 1.500 | 300.0 |

Tank or Pond Manhole: SBasin C, DS/PN: S24.005

Invert Level (m) 85.750

| Depth (m) | Area (m ²) | Depth (m) | Area (m ²) |
|-----------|------------------------|-----------|------------------------|
| 0.000 | 223.0 | 1.700 | 650.0 |

Tank or Pond Manhole: SBasin D, DS/PN: S1.024

Invert Level (m) 85.350

| Depth (m) | Area (m ²) | Depth (m) | Area (m ²) |
|-----------|------------------------|-----------|------------------------|
| 0.000 | 1208.0 | 1.850 | 2601.0 |

Tank or Pond Manhole: SXXFC, DS/PN: S25.002

Invert Level (m) 85.380

| Depth (m) | Area (m ²) | Depth (m) | Area (m ²) |
|-----------|------------------------|-----------|------------------------|
| 0.000 | 1000.0 | 1.500 | 1000.0 |

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Tank or Pond Manhole: SXXFC, DS/PN: S29.001

Invert Level (m) 85.625

| Depth (m) | Area (m ²) | Depth (m) | Area (m ²) |
|-----------|------------------------|-----------|------------------------|
| 0.000 | 250.0 | 1.500 | 250.0 |



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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 9 Number of Storage Structures 40 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 20.000 Cv (Summer) 0.750
 Region England and Wales Ratio R 0.405 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 450.0 DVD Status ON
 Analysis Timestep 2.5 Second Increment (Extended) Inertia Status ON
 DTS Status OFF

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
 Return Period(s) (years) 1, 30, 100
 Climate Change (%) 0, 0, 40

| PN | US/MH Name | Storm | Return Period | Climate Change | First (X) Surcharge | First (Y) Flood | First (Z) Overflow | Overflow Act. | Water | Surcharged | Flooded | Flow / Cap. | Half Drain | Pipe | Status |
|--------|---------------|-----------|------------------|-------------------|------------------------|--------------------|-----------------------|------------------|--------------|--------------|-----------------------------|----------------|----------------|---------------|--------|
| | | | | | | | | | Level (m) | Depth (m) | Volume (m ³) | | Time (mins) | Flow (l/s) | |
| S1.000 | S1 | 15 Winter | 1 | +0% | 100/15 Summer | 100/15 Winter | | 93.187 | -0.138 | 0.000 | 0.31 | | 18.6 | OK | |
| S2.000 | SXX | 15 Winter | 1 | +0% | 100/15 Summer | | | 92.887 | -0.288 | 0.000 | 0.12 | | 24.2 | OK | |
| S1.001 | S2 | 15 Winter | 1 | +0% | 30/15 Summer | | | 92.169 | -0.186 | 0.000 | 0.50 | | 58.6 | OK | |
| S1.002 | S3 | 15 Winter | 1 | +0% | 100/15 Summer | | | 92.004 | -0.260 | 0.000 | 0.37 | | 62.5 | OK | |
| S1.003 | S4 | 15 Winter | 1 | +0% | 100/15 Summer | | | 91.874 | -0.329 | 0.000 | 0.16 | | 62.0 | OK | |
| S1.004 | S5 | 15 Winter | 1 | +0% | 100/15 Summer | | | 91.441 | -0.284 | 0.000 | 0.29 | | 69.3 | OK | |
| S1.005 | S6 | 15 Winter | 1 | +0% | 30/15 Winter | | | 91.128 | -0.247 | 0.000 | 0.40 | | 97.8 | OK | |
| S1.006 | SXX | 15 Winter | 1 | +0% | 30/15 Summer | | | 90.703 | -0.222 | 0.000 | 0.51 | | 101.6 | OK | |
| S1.007 | SXX | 15 Winter | 1 | +0% | 30/15 Summer | | | 90.483 | -0.262 | 0.000 | 0.52 | | 103.7 | OK | |
| S1.008 | SXX | 15 Winter | 1 | +0% | 30/120 Winter | | | 90.452 | -0.262 | 0.000 | 0.60 | | 123.7 | OK | |



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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| | US/MH | Level | |
|--------|-------|----------|--|
| PN | Name | Exceeded | |
| S1.000 | S1 | 1 | |
| S2.000 | SXX | | |
| S1.001 | S2 | | |
| S1.002 | S3 | | |
| S1.003 | S4 | | |
| S1.004 | S5 | | |
| S1.005 | S6 | | |
| S1.006 | SXX | | |
| S1.007 | SXX | | |
| S1.008 | SXX | | |



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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Storm | Return Period | Climate Change | First (X) Surcharge | First (Y) Flood | First (Z) Overflow | Overflow Act. | Water Level (m) | Surcharged Depth (m) | Flooded Volume (m ³) | Flow / Overflow Cap. (l/s) | Half Drain Time (mins) | Pipe Flow (l/s) |
|--------|---------------|-------|------------------|-------------------|------------------------|--------------------|-----------------------|------------------|-----------------------|----------------------------|--|-------------------------------------|------------------------------|-----------------------|
| S1.009 | SXX | 1440 | Winter | 1 | +0% | 30/120 | Winter | | 90.322 | -0.356 | 0.000 | 0.02 | | 9.2 |
| S1.010 | S7 | 1440 | Winter | 1 | +0% | 30/60 | Winter | | 90.322 | -0.178 | 0.000 | 0.03 | | 9.6 |
| S1.011 | SHWA2 | 1440 | Winter | 1 | +0% | | | | 90.322 | -0.128 | 0.000 | 0.02 | | 9.4 |
| S3.000 | S22 | 15 | Winter | 1 | +0% | 30/15 | Summer | 100/15 | 91.207 | -0.118 | 0.000 | 0.45 | | 24.5 |
| S3.001 | S23 | 15 | Winter | 1 | +0% | 30/1440 | Winter | | 90.662 | -0.213 | 0.000 | 0.18 | | 38.5 |
| S3.002 | SHWA3 | 1440 | Winter | 1 | +0% | 1/180 | Winter | | 90.322 | 0.172 | 0.000 | 0.02 | | 2.3 |
| S1.012 | SBasin A | 1440 | Winter | 1 | +0% | 1/15 | Summer | | 90.322 | 0.472 | 0.000 | 0.09 | | 1.4 |
| S1.013 | S8FC | 1440 | Winter | 1 | +0% | 1/15 | Summer | | 90.318 | 0.504 | 0.000 | 0.03 | | 1.3 |
| S1.014 | S9 | 15 | Winter | 1 | +0% | 100/15 | Summer | | 89.349 | -0.216 | 0.000 | 0.17 | | 12.5 |
| S4.000 | SXX | 15 | Winter | 1 | +0% | 100/15 | Summer | | 93.214 | -0.146 | 0.000 | 0.26 | | 11.3 |
| S4.001 | SXX | 15 | Winter | 1 | +0% | 30/15 | Summer | | 92.800 | -0.160 | 0.000 | 0.44 | | 28.2 |
| S4.002 | S24 | 30 | Winter | 1 | +0% | 1/15 | Summer | | 92.618 | 0.138 | 0.000 | 1.34 | | 9.2 |
| S4.003 | S25 | 15 | Winter | 1 | +0% | 30/15 | Summer | | 92.128 | -0.172 | 0.000 | 0.37 | | 34.9 |
| S5.000 | SXX | 15 | Winter | 1 | +0% | 100/15 | Summer | | 92.886 | -0.214 | 0.000 | 0.18 | | 17.5 |
| S5.001 | SXX | 15 | Winter | 1 | +0% | 100/15 | Summer | | 92.630 | -0.220 | 0.000 | 0.34 | | 35.1 |
| S5.002 | SXX | 30 | Winter | 1 | +0% | 1/15 | Summer | | 92.388 | 0.030 | 0.000 | 1.04 | | 10.8 |
| S4.004 | S26 | 15 | Winter | 1 | +0% | 100/15 | Summer | | 91.700 | -0.175 | 0.000 | 0.36 | | 43.2 |
| S6.000 | S31 | 15 | Winter | 1 | +0% | 100/15 | Summer | | 92.981 | -0.144 | 0.000 | 0.27 | | 10.8 |
| S6.001 | S32 | 15 | Winter | 1 | +0% | 100/15 | Summer | | 92.631 | -0.148 | 0.000 | 0.26 | | 19.6 |
| S4.005 | S27 | 15 | Winter | 1 | +0% | 100/15 | Summer | | 90.893 | -0.232 | 0.000 | 0.31 | | 78.9 |
| S7.000 | S250 | 15 | Winter | 1 | +0% | 100/15 | Summer | | 92.177 | -0.164 | 0.000 | 0.16 | | 14.8 |
| S7.001 | S251 | 15 | Winter | 1 | +0% | 30/15 | Summer | | 90.908 | -0.085 | 0.000 | 0.69 | | 24.7 |
| S8.000 | S256xx | 15 | Winter | 1 | +0% | | | | 93.171 | -0.179 | 0.000 | 0.09 | | 7.2 |
| S8.001 | S256xx | 15 | Winter | 1 | +0% | 100/15 | Summer | | 91.845 | -0.155 | 0.000 | 0.21 | | 13.3 |
| S8.002 | S256xx | 15 | Winter | 1 | +0% | 100/15 | Summer | | 91.492 | -0.158 | 0.000 | 0.19 | | 19.7 |
| S8.003 | S256 | 15 | Winter | 1 | +0% | 100/15 | Summer | | 90.905 | -0.185 | 0.000 | 0.31 | | 20.0 |
| S8.004 | S257 | 30 | Winter | 1 | +0% | 30/15 | Winter | | 90.755 | -0.223 | 0.000 | 0.14 | | 8.7 |
| S7.002 | S252 | 15 | Winter | 1 | +0% | 30/15 | Summer | | 90.727 | -0.163 | 0.000 | 0.25 | | 26.4 |
| S9.000 | S253xx | 60 | Winter | 1 | +0% | 30/30 | Winter | | 90.579 | -0.251 | 0.000 | 0.06 | 39 | 5.3 |
| S7.003 | S253 | 15 | Winter | 1 | +0% | 30/15 | Summer | | 90.711 | -0.055 | 0.000 | 0.15 | | 12.4 |
| S7.004 | S254 | 15 | Winter | 1 | +0% | 30/15 | Summer | | 90.710 | -0.023 | 0.000 | 0.10 | | 9.6 |
| S7.005 | S255FC | 15 | Winter | 1 | +0% | 1/15 | Summer | | 90.708 | 0.190 | 0.000 | 0.26 | | 9.6 |
| S7.006 | S28A | 15 | Winter | 1 | +0% | 100/15 | Summer | | 90.267 | -0.151 | 0.000 | 0.24 | | 9.6 |



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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|--------|---------------|------------|-------------------|
| S1.009 | SXX | OK | |
| S1.010 | S7 | OK | |
| S1.011 | SHWA2 | OK* | |
| S3.000 | S22 | OK | 1 |
| S3.001 | S23 | OK | |
| S3.002 | SHWA3 | SURCHARGED | |
| S1.012 | SBasin A | SURCHARGED | |
| S1.013 | S8FC | SURCHARGED | |
| S1.014 | S9 | OK | |
| S4.000 | SXX | OK | |
| S4.001 | SXX | OK | |
| S4.002 | S24 | SURCHARGED | |
| S4.003 | S25 | OK | |
| S5.000 | SXX | OK | |
| S5.001 | SXX | OK | |
| S5.002 | SXX | SURCHARGED | |
| S4.004 | S26 | OK | |
| S6.000 | S31 | OK | |
| S6.001 | S32 | OK | |
| S4.005 | S27 | OK | |
| S7.000 | S250 | OK | |
| S7.001 | S251 | OK | |
| S8.000 | S256xx | OK | |
| S8.001 | S256xx | OK | |
| S8.002 | S256xx | OK | |
| S8.003 | S256 | OK | |
| S8.004 | S257 | OK | |
| S7.002 | S252 | OK | |
| S9.000 | S253xx | OK | |
| S7.003 | S253 | OK | |
| S7.004 | S254 | OK | |
| S7.005 | S255FC | SURCHARGED | |

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|-----------|-----------------------|---------------|---------------------------|
| S7.006 | S28A | OK | |



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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Storm | Return Period | Climate Change | First (X) Surchage | First (Y) Flood | First (Z) Overflow | Overflow Act. | Water Level (m) | Surcharged Depth (m) | Flooded Volume (m ³) | Flow / Overflow Cap. (l/s) | Half Drain Time (mins) | Pipe Flow (l/s) |
|---------|------------|-------------|---------------|----------------|--------------------|-----------------|--------------------|---------------|-----------------|----------------------|----------------------------------|----------------------------|------------------------|-----------------|
| S4.006 | S28 | 15 Winter | 1 | +0% | 30/15 Winter | | | | 89.897 | -0.243 | 0.000 | 0.42 | | 85.7 |
| S4.007 | S29 | 15 Winter | 1 | +0% | 100/15 Summer | | | | 89.510 | -0.265 | 0.000 | 0.35 | | 83.8 |
| S1.015 | S10 | 30 Winter | 1 | +0% | 30/15 Summer | | | | 89.103 | -0.114 | 0.000 | 0.19 | | 93.0 |
| S10.000 | S200 | 15 Winter | 1 | +0% | 100/240 Winter | | | | 89.907 | -0.223 | 0.000 | 0.15 | | 21.9 |
| S11.000 | S21XX | 15 Summer | 1 | +0% | 100/15 Summer | | | | 90.928 | -0.100 | 0.000 | 0.00 | | 0.0 |
| S11.001 | S22XX | 15 Winter | 1 | +0% | 100/15 Summer | | | | 90.506 | -0.169 | 0.000 | 0.14 | | 8.3 |
| S11.002 | S23XX | 15 Winter | 1 | +0% | 100/15 Summer | | | | 89.898 | -0.158 | 0.000 | 0.19 | | 8.4 |
| S11.003 | S24XX | 15 Winter | 1 | +0% | 100/15 Summer | | | | 89.824 | -0.138 | 0.000 | 0.32 | | 16.6 |
| S11.004 | S25XX | 15 Winter | 1 | +0% | 100/15 Summer | | | | 89.324 | -0.153 | 0.000 | 0.23 | | 16.6 |
| S10.001 | S201 | 15 Winter | 1 | +0% | 30/240 Winter | | | | 88.803 | -0.605 | 0.000 | 0.08 | | 50.6 |
| S12.000 | S207 | 15 Winter | 1 | +0% | | | | | 90.291 | -0.159 | 0.000 | 0.19 | | 11.9 |
| S12.001 | S208 | 15 Winter | 1 | +0% | 100/360 Winter | | | | 90.005 | -0.165 | 0.000 | 0.16 | | 13.3 |
| S13.000 | SIC209XX | 15 Summer | 1 | +0% | 100/60 Winter | | | | 89.373 | -0.225 | 0.000 | 0.00 | | 0.0 |
| S13.001 | SIC209 | 1440 Winter | 1 | +0% | 100/30 Winter | | | | 89.267 | -0.218 | 0.000 | 0.01 | | 0.2 |
| S12.002 | S209 | 15 Winter | 1 | +0% | 30/600 Winter | | | | 89.322 | -0.126 | 0.000 | 0.39 | | 15.5 |
| S14.000 | S205XX | 15 Summer | 1 | +0% | 100/30 Winter | | | | 89.220 | -0.225 | 0.000 | 0.00 | | 0.0 |
| S14.001 | SIC205 | 1440 Winter | 1 | +0% | 30/180 Winter | | | | 89.108 | -0.216 | 0.000 | 0.01 | | 0.3 |
| S12.003 | S206 | 15 Winter | 1 | +0% | 30/120 Winter | | | | 89.148 | -0.117 | 0.000 | 0.46 | | 16.6 |
| S10.002 | S202 | 360 Winter | 1 | +0% | 30/120 Winter | | | | 88.791 | -0.397 | 0.000 | 0.02 | | 12.5 |
| S10.003 | S203 | 360 Winter | 1 | +0% | 30/30 Winter | | | | 88.791 | -0.233 | 0.000 | 0.03 | | 13.0 |
| S15.000 | S204XX | 360 Winter | 1 | +0% | 30/30 Winter | | | | 88.791 | -0.150 | 0.000 | 0.00 | | 0.0 |
| S15.001 | SIC204 | 360 Winter | 1 | +0% | 30/15 Winter | | | | 88.791 | -0.054 | 0.000 | 0.02 | 252 | 1.1 |
| S10.004 | S204 | 360 Winter | 1 | +0% | 30/60 Summer | | | | 88.791 | -0.176 | 0.000 | 0.02 | | 10.2 |
| S16.000 | S206XX | 360 Winter | 1 | +0% | 30/30 Summer | | | | 88.790 | -0.075 | 0.000 | 0.00 | | 0.0 |
| S16.001 | SIC206 | 360 Winter | 1 | +0% | 30/15 Winter | | | | 88.790 | -0.002 | 0.000 | 0.02 | | 0.8 |
| S17.000 | S205XX | 360 Winter | 1 | +0% | 30/30 Summer | | | | 88.790 | -0.100 | 0.000 | 0.00 | | 0.0 |
| S17.001 | SIC205 | 360 Winter | 1 | +0% | 30/15 Winter | | | | 88.790 | -0.023 | 0.000 | 0.01 | | 0.7 |
| S10.005 | S205 | 360 Winter | 1 | +0% | 1/180 Winter | | | | 88.790 | 0.031 | 0.000 | 0.01 | | 4.1 |
| S10.006 | S206FC | 360 Winter | 1 | +0% | 1/15 Summer | | | | 88.790 | 0.393 | 0.000 | 0.03 | | 4.2 |
| S1.016 | S11 | 30 Summer | 1 | +0% | 1/15 Summer | | | | 88.955 | 0.595 | 0.000 | 0.39 | | 81.4 |
| S18.000 | SIC20 | 15 Winter | 1 | +0% | | | | | 94.033 | -1.470 | 0.000 | 0.00 | 4 | 2.8 |
| S18.001 | SIC21 | 15 Winter | 1 | +0% | 100/15 Summer | | | | 93.809 | -0.110 | 0.000 | 0.16 | | 2.8 |
| S18.002 | SIC22 | 15 Winter | 1 | +0% | | | | | 93.746 | -1.417 | 0.000 | 0.00 | 8 | 13.7 |



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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|---------|---------------|------------|-------------------|
| S4.006 | S28 | OK | |
| S4.007 | S29 | OK | |
| S1.015 | S10 | OK | |
| S10.000 | S200 | OK | |
| S11.000 | S21XX | OK | |
| S11.001 | S22XX | OK | |
| S11.002 | S23XX | OK | |
| S11.003 | S24XX | OK | |
| S11.004 | S25XX | OK | |
| S10.001 | S201 | OK | |
| S12.000 | S207 | OK | |
| S12.001 | S208 | OK | |
| S13.000 | SIC209XX | OK | |
| S13.001 | SIC209 | OK | |
| S12.002 | S209 | OK | |
| S14.000 | S205XX | OK | |
| S14.001 | SIC205 | OK | |
| S12.003 | S206 | OK | |
| S10.002 | S202 | OK | |
| S10.003 | S203 | OK | |
| S15.000 | S204XX | OK | |
| S15.001 | SIC204 | OK | |
| S10.004 | S204 | OK | |
| S16.000 | S206XX | OK | |
| S16.001 | SIC206 | OK | |
| S17.000 | S205XX | OK | |
| S17.001 | SIC205 | OK | |
| S10.005 | S205 | SURCHARGED | |
| S10.006 | S206FC | SURCHARGED | |
| S1.016 | S11 | SURCHARGED | |
| S18.000 | SIC20 | OK | |
| S18.001 | SIC21 | OK | |

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| PN | US/MH Name | Status | Level Exceeded |
|-----------|-----------------------|---------------|---------------------------|
| S18.002 | SIC22 | OK | |



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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Storm | Return Period | Climate Change | First (X) Surcharge | First (Y) Flood | First (Z) Overflow | Overflow Act. | Water | Surcharged | Flooded | Half Drain | | Pipe |
|---------|---------------|-------------|------------------|-------------------|------------------------|--------------------|-----------------------|------------------|--------------|--------------|-----------------------------|-------------------------|-------------------|----------------|
| | | | | | | | | | Level (m) | Depth (m) | Volume (m ³) | Flow / Cap. (l/s) | Overflow (l/s) | Time (mins) |
| S18.003 | SIC23 | 15 Winter | 1 | +0% | 30/15 Summer | | | | 92.969 | -0.057 | 0.000 | 0.70 | | 13.8 |
| S18.004 | SIC24 | 15 Winter | 1 | +0% | | | | | 92.858 | -1.371 | 0.000 | 0.01 | 6 | 18.6 |
| S18.005 | SIC25 | 15 Winter | 1 | +0% | 1/15 Summer | | | | 92.756 | 0.216 | 0.000 | 0.89 | | 17.7 |
| S19.000 | SIC37 | 15 Winter | 1 | +0% | | | | | 92.582 | -1.320 | 0.000 | 0.01 | 5 | 19.9 |
| S18.006 | SIC26 | 15 Winter | 1 | +0% | | | | | 92.566 | -1.060 | 0.000 | 0.01 | 6 | 32.2 |
| S18.007 | SIC27 | 15 Winter | 1 | +0% | 1/15 Summer | | | | 92.559 | 0.367 | 0.000 | 2.97 | | 32.2 |
| S18.008 | SIC28 | 15 Winter | 1 | +0% | | | | | 92.297 | -1.215 | 0.000 | 0.02 | 8 | 32.2 |
| S18.009 | SIC29 | 15 Winter | 1 | +0% | 1/15 Summer | | | | 92.283 | 0.080 | 0.000 | 0.96 | | 32.1 |
| S18.010 | SIC30 | 15 Winter | 1 | +0% | | | | | 92.201 | -1.285 | 0.000 | 0.01 | 9 | 37.7 |
| S18.011 | SIC31 | 15 Winter | 1 | +0% | 1/15 Summer | | | | 92.079 | 0.033 | 0.000 | 1.03 | | 37.8 |
| S20.000 | SIC38 | 15 Winter | 1 | +0% | | | | | 92.911 | -1.480 | 0.000 | 0.00 | 4 | 6.3 |
| S18.012 | SIC34 | 15 Winter | 1 | +0% | 1/15 Summer | | | | 91.986 | 0.029 | 0.000 | 1.31 | | 41.8 |
| S18.013 | SIC35 | 15 Winter | 1 | +0% | | | | | 91.788 | -2.412 | 0.000 | 0.13 | 9 | 41.7 |
| S18.014 | Swale | 15 Winter | 1 | +0% | | | | | 90.936 | -1.496 | 0.000 | 0.01 | 9 | 41.5 |
| S18.015 | SIC36 | 15 Winter | 1 | +0% | 30/15 Summer | | | | 89.634 | -0.091 | 0.000 | 0.66 | | 41.5 |
| S18.016 | SHWB2 | 360 Winter | 1 | +0% | 30/15 Winter | | | | 88.704 | -0.096 | 0.000 | 0.10 | | 9.7 |
| S21.000 | SXX | 15 Winter | 1 | +0% | 100/15 Summer | | | | 89.898 | -0.252 | 0.000 | 0.06 | | 8.5 |
| S21.001 | Sxx | 15 Winter | 1 | +0% | 100/15 Summer | | | | 89.380 | -0.185 | 0.000 | 0.31 | | 44.8 |
| S21.002 | SHWB3 | 360 Winter | 1 | +0% | 30/15 Summer | | | | 88.704 | -0.096 | 0.000 | 0.08 | | 7.9 |
| S18.017 | SBasin B | 360 Winter | 1 | +0% | 30/30 Winter | | | | 88.704 | -0.096 | 0.000 | 0.02 | | 8.3 |
| S1.017 | S12FC | 15 Summer | 1 | +0% | 1/15 Summer | | | | 88.846 | 1.036 | 0.000 | 0.34 | | 14.1 |
| S1.018 | S14 | 1440 Winter | 1 | +0% | | | | | 87.150 | -0.132 | 0.000 | 0.36 | | 14.8 |
| S1.019 | S15 | 1440 Winter | 1 | +0% | 100/15 Summer | | | | 86.575 | -0.131 | 0.000 | 0.36 | | 14.8 |
| S22.000 | SIC40 | 15 Winter | 1 | +0% | | | | | 92.543 | -1.440 | 0.000 | 0.00 | 5 | 5.6 |
| S22.001 | SIC41 | 15 Winter | 1 | +0% | 30/15 Summer | | | | 92.340 | -0.003 | 0.000 | 0.50 | | 6.2 |
| S22.002 | SIC42 | 15 Winter | 1 | +0% | | | | | 92.324 | -1.681 | 0.000 | 0.00 | 6 | 27.7 |
| S23.000 | SIC60 | 15 Winter | 1 | +0% | | | | | 92.845 | -1.439 | 0.000 | 0.00 | 5 | 5.9 |
| S23.001 | SIC61 | 15 Winter | 1 | +0% | 30/15 Summer | | | | 92.787 | -0.070 | 0.000 | 0.46 | | 5.8 |
| S23.002 | SIC62 | 15 Winter | 1 | +0% | | | | | 92.765 | -1.772 | 0.000 | 0.00 | 7 | 14.3 |
| S23.003 | SIC63 | 15 Winter | 1 | +0% | 1/15 Summer | | | | 92.722 | 0.025 | 0.000 | 1.33 | | 14.4 |
| S23.004 | SIC64 | 15 Winter | 1 | +0% | | | | | 92.632 | -1.958 | 0.000 | 0.00 | 7 | 14.4 |
| S23.005 | SIC65 | 15 Winter | 1 | +0% | 1/15 Summer | | | | 92.526 | 0.033 | 0.000 | 1.08 | | 13.8 |
| S23.006 | SIC66 | 15 Winter | 1 | +0% | | | | | 92.459 | -1.638 | 0.000 | 0.01 | 6 | 22.6 |



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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|---------|---------------|------------|-------------------|
| S18.003 | SIC23 | OK | |
| S18.004 | SIC24 | OK | |
| S18.005 | SIC25 | SURCHARGED | |
| S19.000 | SIC37 | OK | |
| S18.006 | SIC26 | OK | |
| S18.007 | SIC27 | SURCHARGED | |
| S18.008 | SIC28 | OK | |
| S18.009 | SIC29 | SURCHARGED | |
| S18.010 | SIC30 | OK | |
| S18.011 | SIC31 | SURCHARGED | |
| S20.000 | SIC38 | OK | |
| S18.012 | SIC34 | SURCHARGED | |
| S18.013 | SIC35 | OK | |
| S18.014 | Swale | OK | |
| S18.015 | SIC36 | OK | |
| S18.016 | SHWB2 | OK | |
| S21.000 | SXX | OK | |
| S21.001 | Sxx | OK | |
| S21.002 | SHWB3 | OK | |
| S18.017 | SBasin B | OK | |
| S1.017 | S12FC | SURCHARGED | |
| S1.018 | S14 | OK | |
| S1.019 | S15 | OK | |
| S22.000 | SIC40 | OK | |
| S22.001 | SIC41 | OK | |
| S22.002 | SIC42 | OK | |
| S23.000 | SIC60 | OK | |
| S23.001 | SIC61 | OK | |
| S23.002 | SIC62 | OK | |
| S23.003 | SIC63 | SURCHARGED | |
| S23.004 | SIC64 | OK | |
| S23.005 | SIC65 | SURCHARGED | |

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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|---------|---------------|--------|-------------------|
| S23.006 | SIC66 | OK | |



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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Storm | Return Period | Climate Change | First (X) Surcharge | First (Y) Flood | First (Z) Overflow | Overflow Act. | Water Level (m) | Surcharged Depth (m) | Flooded Volume (m ³) | Flow / Cap. (l/s) | Overflow (l/s) | Half Drain Time (mins) | Pipe Flow (l/s) |
|---------|------------|-------------|---------------|----------------|---------------------|-----------------|--------------------|---------------|-----------------|----------------------|----------------------------------|-------------------|----------------|------------------------|-----------------|
| S23.007 | SIC67 | 15 Winter | 1 | +0% | 1/15 Summer | | | | 92.296 | 0.217 | 0.000 | 0.79 | | | 19.9 |
| S22.003 | SIC43 | 15 Winter | 1 | +0% | | | | | 92.032 | -1.185 | 0.000 | 0.02 | | 6 | 41.6 |
| S22.004 | SIC44 | 15 Winter | 1 | +0% | 1/15 Summer | 100/30 Winter | | | 91.997 | 0.563 | 0.000 | 1.44 | | | 42.2 |
| S22.005 | SIC45 | 15 Winter | 1 | +0% | | | | | 91.356 | -1.161 | 0.000 | 0.03 | | 11 | 66.6 |
| S22.006 | SIC46 | 15 Winter | 1 | +0% | 1/15 Summer | | | | 90.262 | 0.108 | 0.000 | 1.28 | | | 66.8 |
| S22.007 | SIC47 | 15 Winter | 1 | +0% | | | | | 90.038 | -1.255 | 0.000 | 0.03 | | 9 | 72.0 |
| S22.008 | SIC48 | 15 Winter | 1 | +0% | 1/15 Winter | | | | 89.583 | 0.004 | 0.000 | 1.01 | | | 70.0 |
| S22.009 | SIC49 | 30 Winter | 1 | +0% | | | | | 89.472 | -1.231 | 0.000 | 0.03 | | 12 | 77.0 |
| S22.010 | SIC50 | 30 Winter | 1 | +0% | 30/15 Summer | 100/30 Winter | | | 89.039 | -0.034 | 0.000 | 1.00 | | | 75.6 |
| S22.011 | SIC51 | 30 Winter | 1 | +0% | | | | | 88.862 | -1.294 | 0.000 | 0.04 | | 12 | 75.6 |
| S22.012 | SIC52 | 30 Winter | 1 | +0% | 30/15 Summer | | | | 88.784 | -0.041 | 0.000 | 1.00 | | | 75.2 |
| S22.013 | SIC53 | 30 Winter | 1 | +0% | | | | | 88.646 | -1.289 | 0.000 | 0.03 | | 13 | 79.3 |
| S22.014 | SIC54 | 30 Winter | 1 | +0% | 1/15 Summer | | | | 88.341 | 0.028 | 0.000 | 1.29 | | | 79.2 |
| S22.015 | SIC55 | 30 Winter | 1 | +0% | | | | | 88.200 | -1.255 | 0.000 | 0.04 | | 14 | 81.4 |
| S22.016 | SIC56 | 30 Winter | 1 | +0% | 30/15 Summer | | | | 87.971 | -0.081 | 0.000 | 0.89 | | | 81.3 |
| S22.017 | SIC57 | 30 Winter | 1 | +0% | | | | | 87.847 | -1.271 | 0.000 | 0.03 | | 16 | 93.0 |
| S22.018 | SIC58 | 30 Winter | 1 | +0% | 30/15 Summer | | | | 86.642 | -0.137 | 0.000 | 0.57 | | | 93.0 |
| S1.020 | S17 | 30 Winter | 1 | +0% | 30/15 Summer | | | | 86.109 | -0.248 | 0.000 | 0.41 | | | 107.3 |
| S1.021 | S18 | 1440 Winter | 1 | +0% | 30/15 Summer | | | | 86.056 | -0.026 | 0.000 | 0.17 | | | 24.9 |
| S1.022 | S19 | 1440 Winter | 1 | +0% | 1/1440 Winter | | | | 86.025 | 0.001 | 0.000 | 0.16 | | | 24.9 |
| S1.023 | SHWD2 | 1440 Summer | 1 | +0% | | | | | 85.950 | 0.000 | 0.000 | 0.17 | | | 29.4 |
| S24.000 | SXX | 15 Winter | 1 | +0% | 100/15 Summer | | | | 88.139 | -0.184 | 0.000 | 0.31 | | | 26.6 |
| S24.001 | SXX | 15 Winter | 1 | +0% | | | | | 87.666 | -0.334 | 0.000 | 0.15 | | | 48.8 |
| S24.002 | SXX | 15 Winter | 1 | +0% | 100/120 Winter | | | | 86.884 | -0.316 | 0.000 | 0.19 | | | 69.9 |
| S24.003 | SXXFC | 240 Winter | 1 | +0% | 30/30 Winter | | | | 86.248 | -0.177 | 0.000 | 0.03 | | | 4.7 |
| S24.004 | SHWC2 | 1440 Winter | 1 | +0% | | | | | 86.013 | -0.337 | 0.000 | 0.02 | | | 4.2 |
| S24.005 | SBasin C | 1440 Winter | 1 | +0% | 1/600 Winter | | | | 86.013 | 0.113 | 0.000 | 0.29 | | | 4.2 |
| S24.006 | SHWD3 | 1440 Winter | 1 | +0% | 1/480 Winter | | | | 86.020 | 0.145 | 0.000 | 0.03 | | | 4.1 |
| S1.024 | SBasin D | 1440 Winter | 1 | +0% | 1/360 Winter | | | | 86.020 | 0.220 | 0.000 | 0.11 | | | 9.3 |
| S25.000 | SXX | 15 Winter | 1 | +0% | 100/15 Summer | | | | 86.330 | -0.370 | 0.000 | 0.07 | | | 26.7 |
| S26.000 | SXX | 15 Winter | 1 | +0% | 100/15 Summer | | | | 87.340 | -0.360 | 0.000 | 0.08 | | | 26.0 |
| S27.000 | SXX | 15 Winter | 1 | +0% | 100/15 Summer | | | | 87.837 | -0.213 | 0.000 | 0.18 | | | 26.3 |
| S27.001 | SXX | 15 Winter | 1 | +0% | 30/15 Summer | 100/15 Summer | | | 87.139 | -0.151 | 0.000 | 0.48 | | | 48.5 |



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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|---------|---------------|-------------|-------------------|
| S23.007 | SIC67 | SURCHARGED | |
| S22.003 | SIC43 | OK | |
| S22.004 | SIC44 | SURCHARGED | 1 |
| S22.005 | SIC45 | OK | |
| S22.006 | SIC46 | SURCHARGED | |
| S22.007 | SIC47 | OK | |
| S22.008 | SIC48 | SURCHARGED | |
| S22.009 | SIC49 | OK | |
| S22.010 | SIC50 | OK | 1 |
| S22.011 | SIC51 | OK | |
| S22.012 | SIC52 | OK | |
| S22.013 | SIC53 | OK | |
| S22.014 | SIC54 | SURCHARGED | |
| S22.015 | SIC55 | OK | |
| S22.016 | SIC56 | OK | |
| S22.017 | SIC57 | OK | |
| S22.018 | SIC58 | OK | |
| S1.020 | S17 | OK | |
| S1.021 | S18 | OK | |
| S1.022 | S19 | SURCHARGED | |
| S1.023 | SHWD2 | SURCHARGED* | |
| S24.000 | SXX | OK | |
| S24.001 | SXX | OK | |
| S24.002 | SXX | OK | |
| S24.003 | SXXFC | OK | |
| S24.004 | SHWC2 | OK* | |
| S24.005 | SBasin C | SURCHARGED | |
| S24.006 | SHWD3 | SURCHARGED | |
| S1.024 | SBasin D | SURCHARGED | |
| S25.000 | SXX | OK | |
| S26.000 | SXX | OK | |
| S27.000 | SXX | OK | |



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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|-----------|-----------------------|---------------|---------------------------|
| S27.001 | SXX | OK | 4 |



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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Storm | Return Period | Climate Change | First (X) Surcharge | First (Y) Flood | First (Z) Overflow | Overflow Act. | Water | Surcharged | Flooded | Flow / Overflow (l/s) | Half Drain Time (mins) | Pipe Flow (l/s) |
|---------|---------------|-------------|------------------|-------------------|------------------------|--------------------|-----------------------|------------------|--------------|--------------|-----------------------------|-----------------------------|------------------------------|-----------------------|
| | | | | | | | | | Level (m) | Depth (m) | Volume (m ³) | | | |
| S26.001 | SXX | 15 Winter | 1 | +0% | 100/15 Summer | 100/15 Summer | | 86.782 | -0.268 | 0.000 | 0.34 | | 96.9 | |
| S28.000 | SXX | 15 Winter | 1 | +0% | 100/15 Summer | | | 87.350 | -0.200 | 0.000 | 0.24 | | 26.3 | |
| S28.001 | SXX | 15 Winter | 1 | +0% | 100/15 Summer | | | 86.602 | -0.333 | 0.000 | 0.15 | | 48.8 | |
| S26.002 | SXX | 15 Winter | 1 | +0% | 30/15 Summer | 100/15 Winter | | 86.252 | -0.283 | 0.000 | 0.53 | | 162.1 | |
| S26.003 | SXX | 15 Winter | 1 | +0% | 30/15 Summer | 100/15 Winter | | 86.065 | -0.320 | 0.000 | 0.43 | | 156.1 | |
| S25.001 | SXX | 1440 Winter | 1 | +0% | 30/15 Summer | | | 85.962 | -0.208 | 0.000 | 0.04 | | 11.7 | |
| S25.002 | SXXFC | 1440 Winter | 1 | +0% | 1/30 Summer | | | 85.962 | 0.463 | 0.000 | 0.10 | | 1.3 | |
| S1.025 | S20FC | 1440 Winter | 1 | +0% | 1/15 Summer | | | 86.014 | 0.604 | 0.000 | 0.62 | | 7.0 | |
| S1.026 | SHWE2 | 1440 Winter | 1 | +0% | | | | 85.814 | -0.886 | 0.000 | 0.00 | | 7.0 | |
| S29.000 | SXX | 1440 Winter | 1 | +0% | 1/15 Summer | | | 85.811 | 0.191 | 0.000 | 0.04 | | 1.4 | |
| S29.001 | SXXFC | 1440 Winter | 1 | +0% | 1/15 Summer | | | 85.811 | 0.371 | 0.000 | 0.10 | | 1.3 | |
| S1.027 | SHWF3 | 1440 Winter | 1 | +0% | | | | 85.814 | -0.886 | 0.000 | 0.00 | | 6.0 | |
| S1.028 | SHWF1 | 1440 Winter | 1 | +0% | 1/15 Summer | | | 85.813 | 0.522 | 0.000 | 0.42 | | 5.5 | |
| S1.029 | S21FC | 1440 Winter | 1 | +0% | 1/15 Summer | | | 85.802 | 0.552 | 0.000 | 0.51 | | 5.5 | |
| S1.030 | SHWG1 | 600 Summer | 1 | +0% | | | | 85.164 | -0.836 | 0.000 | 0.00 | | 5.5 | |
| S1.031 | SHWO3 | 480 Winter | 1 | +0% | | | | 85.095 | -0.075 | 0.000 | 0.51 | | 5.5 | |
| S1.032 | S21A | 480 Winter | 1 | +0% | | | | 85.058 | -0.082 | 0.000 | 0.43 | | 5.5 | |

| PN | US/MH Name | Status | Level Exceeded |
|---------|---------------|------------|-------------------|
| S26.001 | SXX | OK | 2 |
| S28.000 | SXX | OK | |
| S28.001 | SXX | OK | |
| S26.002 | SXX | OK | 1 |
| S26.003 | SXX | OK | 1 |
| S25.001 | SXX | OK | |
| S25.002 | SXXFC | SURCHARGED | |
| S1.025 | S20FC | SURCHARGED | |
| S1.026 | SHWE2 | OK | |
| S29.000 | SXX | SURCHARGED | |



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1 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| | US/MH | | Level |
|-----------|--------------|---------------|-----------------|
| PN | Name | Status | Exceeded |
| S29.001 | SXXFC | SURCHARGED | |
| S1.027 | SHWF3 | | OK |
| S1.028 | SHWF1 | SURCHARGED* | |
| S1.029 | S21FC | SURCHARGED | |
| S1.030 | SHWG1 | | OK |
| S1.031 | SHWO3 | | OK* |
| S1.032 | S21A | | OK |



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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 9 Number of Storage Structures 40 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 20.000 Cv (Summer) 0.750
 Region England and Wales Ratio R 0.405 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 450.0 DVD Status ON
 Analysis Timestep 2.5 Second Increment (Extended) Inertia Status ON
 DTS Status OFF

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
 Return Period(s) (years) 1, 30, 100
 Climate Change (%) 0, 0, 40

| PN | US/MH Name | Storm | Return Period | Climate Change | First (X) Surcharge | First (Y) Flood | First (Z) Overflow | Overflow Act. | Water Surcharged Flooded | | | Half Drain Time (mins) | Pipe Flow (l/s) | |
|--------|---------------|-------------|------------------|-------------------|------------------------|--------------------|-----------------------|------------------|--------------------------|--------------|-----------------------------|------------------------------|-----------------------|-------------------------|
| | | | | | | | | | Level (m) | Depth (m) | Volume (m ³) | | | Flow / Cap. (l/s) |
| S1.000 | S1 | 15 Winter | 30 | +0% | 100/15 Summer | 100/15 Winter | | | 93.250 | -0.075 | 0.000 | 0.75 | | 45.5 |
| S2.000 | SXX | 15 Winter | 30 | +0% | 100/15 Summer | | | | 92.940 | -0.235 | 0.000 | 0.29 | | 59.3 |
| S1.001 | S2 | 15 Winter | 30 | +0% | 30/15 Summer | | | | 92.401 | 0.046 | 0.000 | 1.28 | | 149.8 |
| S1.002 | S3 | 15 Winter | 30 | +0% | 100/15 Summer | | | | 92.163 | -0.101 | 0.000 | 0.96 | | 160.0 |
| S1.003 | S4 | 15 Winter | 30 | +0% | 100/15 Summer | | | | 91.955 | -0.248 | 0.000 | 0.41 | | 158.0 |
| S1.004 | S5 | 15 Winter | 30 | +0% | 100/15 Summer | | | | 91.601 | -0.124 | 0.000 | 0.72 | | 172.5 |
| S1.005 | S6 | 15 Winter | 30 | +0% | 30/15 Winter | | | | 91.433 | 0.058 | 0.000 | 0.96 | | 232.1 |
| S1.006 | SXX | 15 Winter | 30 | +0% | 30/15 Summer | | | | 91.009 | 0.084 | 0.000 | 1.19 | | 237.2 |
| S1.007 | SXX | 1440 Winter | 30 | +0% | 30/15 Summer | | | | 90.901 | 0.156 | 0.000 | 0.07 | | 14.5 |
| S1.008 | SXX | 1440 Winter | 30 | +0% | 30/120 Winter | | | | 90.901 | 0.187 | 0.000 | 0.09 | | 18.2 |



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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| | US/MH | | Level |
|--------|-------|------------|----------|
| PN | Name | Status | Exceeded |
| S1.000 | S1 | OK | 1 |
| S2.000 | SXX | OK | |
| S1.001 | S2 | SURCHARGED | |
| S1.002 | S3 | OK | |
| S1.003 | S4 | OK | |
| S1.004 | S5 | OK | |
| S1.005 | S6 | SURCHARGED | |
| S1.006 | SXX | SURCHARGED | |
| S1.007 | SXX | SURCHARGED | |
| S1.008 | SXX | SURCHARGED | |



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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Storm | Return Period | Climate Change | First (X) Surchage | First (Y) Flood | First (Z) Overflow | Overflow Act. | Water Level (m) | Surcharged Depth (m) | Flooded Volume (m ³) | Flow / Overflow Cap. (l/s) | Half Drain Time (mins) | Pipe Flow (l/s) |
|--------|------------|-------------|---------------|----------------|--------------------|-----------------|--------------------|---------------|-----------------|----------------------|----------------------------------|----------------------------|------------------------|-----------------|
| S1.009 | SXX | 1440 Winter | 30 | +0% | 30/120 Winter | | | | 90.900 | 0.222 | 0.000 | 0.05 | | 18.8 |
| S1.010 | S7 | 1440 Winter | 30 | +0% | 30/60 Winter | | | | 90.901 | 0.401 | 0.000 | 0.07 | | 20.1 |
| S1.011 | SHWA2 | 1440 Summer | 30 | +0% | | | | | 90.450 | 0.000 | 0.000 | 0.07 | | 25.4 |
| S3.000 | S22 | 15 Winter | 30 | +0% | 30/15 Summer | 100/15 Winter | | | 91.423 | 0.098 | 0.000 | 1.09 | | 60.1 |
| S3.001 | S23 | 1440 Winter | 30 | +0% | 30/1440 Winter | | | | 90.901 | 0.026 | 0.000 | 0.02 | | 4.7 |
| S3.002 | SHWA3 | 1440 Winter | 30 | +0% | 1/180 Winter | | | | 90.901 | 0.751 | 0.000 | 0.05 | | 4.6 |
| S1.012 | SBasin A | 1440 Winter | 30 | +0% | 1/15 Summer | | | | 90.901 | 1.051 | 0.000 | 0.10 | | 1.7 |
| S1.013 | S8FC | 1440 Winter | 30 | +0% | 1/15 Summer | | | | 90.895 | 1.081 | 0.000 | 0.04 | | 1.6 |
| S1.014 | S9 | 30 Winter | 30 | +0% | 100/15 Summer | | | | 89.507 | -0.058 | 0.000 | 0.39 | | 28.2 |
| S4.000 | SXX | 15 Winter | 30 | +0% | 100/15 Summer | | | | 93.269 | -0.091 | 0.000 | 0.64 | | 27.7 |
| S4.001 | SXX | 30 Winter | 30 | +0% | 30/15 Summer | | | | 93.079 | 0.119 | 0.000 | 0.93 | | 59.3 |
| S4.002 | S24 | 30 Winter | 30 | +0% | 1/15 Summer | | | | 93.039 | 0.559 | 0.000 | 2.03 | | 13.9 |
| S4.003 | S25 | 15 Winter | 30 | +0% | 30/15 Summer | | | | 92.322 | 0.022 | 0.000 | 1.00 | | 94.1 |
| S5.000 | SXX | 15 Winter | 30 | +0% | 100/15 Summer | | | | 92.940 | -0.160 | 0.000 | 0.44 | | 42.9 |
| S5.001 | SXX | 15 Winter | 30 | +0% | 100/15 Summer | | | | 92.773 | -0.077 | 0.000 | 0.91 | | 93.7 |
| S5.002 | SXX | 60 Winter | 30 | +0% | 1/15 Summer | | | | 92.632 | 0.274 | 0.000 | 1.26 | | 13.1 |
| S4.004 | S26 | 15 Winter | 30 | +0% | 100/15 Summer | | | | 91.794 | -0.081 | 0.000 | 0.87 | | 104.5 |
| S6.000 | S31 | 15 Winter | 30 | +0% | 100/15 Summer | | | | 93.037 | -0.088 | 0.000 | 0.65 | | 26.6 |
| S6.001 | S32 | 15 Winter | 30 | +0% | 100/15 Summer | | | | 92.693 | -0.085 | 0.000 | 0.67 | | 51.6 |
| S4.005 | S27 | 15 Winter | 30 | +0% | 100/15 Summer | | | | 91.015 | -0.110 | 0.000 | 0.82 | | 210.4 |
| S7.000 | S250 | 15 Winter | 30 | +0% | 100/15 Summer | | | | 92.216 | -0.125 | 0.000 | 0.40 | | 36.5 |
| S7.001 | S251 | 15 Winter | 30 | +0% | 30/15 Summer | | | | 91.371 | 0.378 | 0.000 | 1.87 | | 66.6 |
| S8.000 | S256xx | 15 Winter | 30 | +0% | | | | | 93.197 | -0.153 | 0.000 | 0.22 | | 17.6 |
| S8.001 | S256xx | 15 Winter | 30 | +0% | 100/15 Summer | | | | 91.898 | -0.102 | 0.000 | 0.57 | | 36.4 |
| S8.002 | S256xx | 15 Winter | 30 | +0% | 100/15 Summer | | | | 91.544 | -0.106 | 0.000 | 0.54 | | 56.4 |
| S8.003 | S256 | 30 Winter | 30 | +0% | 100/15 Summer | | | | 91.046 | -0.044 | 0.000 | 0.66 | | 42.6 |
| S8.004 | S257 | 30 Winter | 30 | +0% | 30/15 Winter | | | | 91.000 | 0.022 | 0.000 | 0.38 | | 23.4 |
| S7.002 | S252 | 15 Summer | 30 | +0% | 30/15 Summer | | | | 91.019 | 0.129 | 0.000 | 0.51 | | 52.5 |
| S9.000 | S253xx | 120 Winter | 30 | +0% | 30/30 Winter | | | | 90.982 | 0.152 | 0.000 | 0.17 | 118 | 16.3 |
| S7.003 | S253 | 120 Winter | 30 | +0% | 30/15 Summer | | | | 91.004 | 0.238 | 0.000 | 0.25 | | 21.1 |
| S7.004 | S254 | 120 Winter | 30 | +0% | 30/15 Summer | | | | 91.017 | 0.284 | 0.000 | 0.18 | | 17.1 |
| S7.005 | S255FC | 15 Summer | 30 | +0% | 1/15 Summer | | | | 91.029 | 0.511 | 0.000 | 0.26 | | 9.8 |
| S7.006 | S28A | 60 Winter | 30 | +0% | 100/15 Summer | | | | 90.268 | -0.150 | 0.000 | 0.24 | | 9.8 |



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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|--------|---------------|-------------|-------------------|
| S1.009 | SXX | SURCHARGED | |
| S1.010 | S7 | SURCHARGED | |
| S1.011 | SHWA2 | SURCHARGED* | |
| S3.000 | S22 | SURCHARGED | 1 |
| S3.001 | S23 | SURCHARGED | |
| S3.002 | SHWA3 | SURCHARGED | |
| S1.012 | SBasin A | SURCHARGED | |
| S1.013 | S8FC | SURCHARGED | |
| S1.014 | S9 | OK | |
| S4.000 | SXX | OK | |
| S4.001 | SXX | SURCHARGED | |
| S4.002 | S24 | SURCHARGED | |
| S4.003 | S25 | SURCHARGED | |
| S5.000 | SXX | OK | |
| S5.001 | SXX | OK | |
| S5.002 | SXX | SURCHARGED | |
| S4.004 | S26 | OK | |
| S6.000 | S31 | OK | |
| S6.001 | S32 | OK | |
| S4.005 | S27 | OK | |
| S7.000 | S250 | OK | |
| S7.001 | S251 | SURCHARGED | |
| S8.000 | S256xx | OK | |
| S8.001 | S256xx | OK | |
| S8.002 | S256xx | OK | |
| S8.003 | S256 | OK | |
| S8.004 | S257 | SURCHARGED | |
| S7.002 | S252 | SURCHARGED | |
| S9.000 | S253xx | SURCHARGED | |
| S7.003 | S253 | SURCHARGED | |
| S7.004 | S254 | SURCHARGED | |
| S7.005 | S255FC | SURCHARGED | |

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|-----------|-----------------------|---------------|---------------------------|
| S7.006 | S28A | OK | |



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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Storm | Return Period | Climate Change | First (X) Surchage | First (Y) Flood | First (Z) Overflow | Overflow Act. | Water Level (m) | Surcharged Depth (m) | Flooded Volume (m ³) | Flow / Cap. (l/s) | Overflow (l/s) | Half Drain Time (mins) | Pipe Flow (l/s) |
|---------|------------|------------|---------------|----------------|--------------------|-----------------|--------------------|---------------|-----------------|----------------------|----------------------------------|-------------------|----------------|------------------------|-----------------|
| S4.006 | S28 | 15 Winter | 30 | +0% | 30/15 Winter | | | | 90.153 | 0.013 | 0.000 | 1.00 | | | 205.3 |
| S4.007 | S29 | 15 Winter | 30 | +0% | 100/15 Summer | | | | 89.771 | -0.004 | 0.000 | 0.72 | | | 175.0 |
| S1.015 | S10 | 15 Winter | 30 | +0% | 30/15 Summer | | | | 89.479 | 0.262 | 0.000 | 0.40 | | | 198.4 |
| S10.000 | S200 | 15 Winter | 30 | +0% | 100/240 Winter | | | | 89.956 | -0.174 | 0.000 | 0.36 | | | 53.9 |
| S11.000 | S21XX | 15 Summer | 30 | +0% | 100/15 Summer | | | | 90.928 | -0.100 | 0.000 | 0.00 | | | 0.0 |
| S11.001 | S22XX | 15 Winter | 30 | +0% | 100/15 Summer | | | | 90.553 | -0.122 | 0.000 | 0.43 | | | 25.9 |
| S11.002 | S23XX | 15 Winter | 30 | +0% | 100/15 Summer | | | | 89.957 | -0.099 | 0.000 | 0.60 | | | 25.8 |
| S11.003 | S24XX | 15 Winter | 30 | +0% | 100/15 Summer | | | | 89.916 | -0.046 | 0.000 | 0.96 | | | 50.4 |
| S11.004 | S25XX | 600 Winter | 30 | +0% | 100/15 Summer | | | | 89.447 | -0.030 | 0.000 | 0.06 | | | 4.5 |
| S10.001 | S201 | 600 Winter | 30 | +0% | 30/240 Winter | | | | 89.457 | 0.049 | 0.000 | 0.02 | | | 12.8 |
| S12.000 | S207 | 15 Winter | 30 | +0% | | | | | 90.333 | -0.117 | 0.000 | 0.46 | | | 29.2 |
| S12.001 | S208 | 15 Winter | 30 | +0% | 100/360 Winter | | | | 90.045 | -0.125 | 0.000 | 0.40 | | | 33.6 |
| S13.000 | SIC209XX | 600 Winter | 30 | +0% | 100/60 Winter | | | | 89.438 | -0.160 | 0.000 | 0.00 | | | 0.0 |
| S13.001 | SIC209 | 600 Winter | 30 | +0% | 100/30 Winter | | | | 89.438 | -0.047 | 0.000 | 0.04 | | 341 | 1.3 |
| S12.002 | S209 | 600 Winter | 30 | +0% | 30/600 Winter | | | | 89.451 | 0.003 | 0.000 | 0.13 | | | 5.0 |
| S14.000 | S205XX | 600 Winter | 30 | +0% | 100/30 Winter | | | | 89.439 | -0.006 | 0.000 | 0.00 | | | 0.0 |
| S14.001 | SIC205 | 600 Winter | 30 | +0% | 30/180 Winter | | | | 89.439 | 0.115 | 0.000 | 0.05 | | 505 | 1.6 |
| S12.003 | S206 | 600 Winter | 30 | +0% | 30/120 Winter | | | | 89.454 | 0.189 | 0.000 | 0.19 | | | 7.0 |
| S10.002 | S202 | 600 Winter | 30 | +0% | 30/120 Winter | | | | 89.458 | 0.270 | 0.000 | 0.03 | | | 20.6 |
| S10.003 | S203 | 600 Winter | 30 | +0% | 30/30 Winter | | | | 89.458 | 0.434 | 0.000 | 0.05 | | | 22.3 |
| S15.000 | S204XX | 600 Winter | 30 | +0% | 30/30 Winter | | | | 89.436 | 0.495 | 0.000 | 0.00 | | | 0.0 |
| S15.001 | SIC204 | 600 Winter | 30 | +0% | 30/15 Winter | | | | 89.436 | 0.591 | 0.000 | 0.08 | | | 4.3 |
| S10.004 | S204 | 600 Winter | 30 | +0% | 30/60 Summer | | | | 89.456 | 0.489 | 0.000 | 0.02 | | | 11.7 |
| S16.000 | S206XX | 600 Winter | 30 | +0% | 30/30 Summer | | | | 89.436 | 0.571 | 0.000 | 0.00 | | | 0.0 |
| S16.001 | SIC206 | 600 Winter | 30 | +0% | 30/15 Winter | | | | 89.436 | 0.644 | 0.000 | 0.08 | | | 4.1 |
| S17.000 | S205XX | 600 Winter | 30 | +0% | 30/30 Summer | | | | 89.436 | 0.546 | 0.000 | 0.00 | | | 0.0 |
| S17.001 | SIC205 | 600 Winter | 30 | +0% | 30/15 Winter | | | | 89.436 | 0.623 | 0.000 | 0.06 | | | 3.2 |
| S10.005 | S205 | 600 Winter | 30 | +0% | 1/180 Winter | | | | 89.458 | 0.699 | 0.000 | 0.02 | | | 7.8 |
| S10.006 | S206FC | 600 Winter | 30 | +0% | 1/15 Summer | | | | 89.461 | 1.064 | 0.000 | 0.05 | | | 6.7 |
| S1.016 | S11 | 600 Winter | 30 | +0% | 1/15 Summer | | | | 89.313 | 0.953 | 0.000 | 0.25 | | | 52.2 |
| S18.000 | SIC20 | 15 Winter | 30 | +0% | | | | | 94.058 | -1.445 | 0.000 | 0.00 | | 5 | 6.9 |
| S18.001 | SIC21 | 15 Winter | 30 | +0% | 100/15 Summer | | | | 93.883 | -0.036 | 0.000 | 0.39 | | | 6.9 |
| S18.002 | SIC22 | 15 Winter | 30 | +0% | | | | | 93.861 | -1.302 | 0.000 | 0.01 | | 4 | 37.3 |



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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|---------|---------------|------------|-------------------|
| S4.006 | S28 | SURCHARGED | |
| S4.007 | S29 | OK | |
| S1.015 | S10 | SURCHARGED | |
| S10.000 | S200 | OK | |
| S11.000 | S21XX | OK | |
| S11.001 | S22XX | OK | |
| S11.002 | S23XX | OK | |
| S11.003 | S24XX | OK | |
| S11.004 | S25XX | OK | |
| S10.001 | S201 | SURCHARGED | |
| S12.000 | S207 | OK | |
| S12.001 | S208 | OK | |
| S13.000 | SIC209XX | OK | |
| S13.001 | SIC209 | OK | |
| S12.002 | S209 | SURCHARGED | |
| S14.000 | S205XX | OK | |
| S14.001 | SIC205 | SURCHARGED | |
| S12.003 | S206 | SURCHARGED | |
| S10.002 | S202 | SURCHARGED | |
| S10.003 | S203 | SURCHARGED | |
| S15.000 | S204XX | SURCHARGED | |
| S15.001 | SIC204 | SURCHARGED | |
| S10.004 | S204 | SURCHARGED | |
| S16.000 | S206XX | SURCHARGED | |
| S16.001 | SIC206 | SURCHARGED | |
| S17.000 | S205XX | SURCHARGED | |
| S17.001 | SIC205 | SURCHARGED | |
| S10.005 | S205 | SURCHARGED | |
| S10.006 | S206FC | SURCHARGED | |
| S1.016 | S11 | SURCHARGED | |
| S18.000 | SIC20 | OK | |
| S18.001 | SIC21 | OK | |

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| PN | US/MH Name | Status | Level Exceeded |
|-----------|-----------------------|---------------|---------------------------|
| S18.002 | SIC22 | OK | |



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| PN | US/MH Name | Storm | Return Period | Climate Change | First (X) Surchage | First (Y) Flood | First (Z) Overflow | Overflow Act. | Water Level (m) | Surcharged Depth (m) | Flooded Volume (m ³) | Flow / Cap. (l/s) | Overflow (l/s) | Half Drain Time (mins) | Pipe Flow (l/s) |
|---------|------------|------------|---------------|----------------|--------------------|-----------------|--------------------|---------------|-----------------|----------------------|----------------------------------|-------------------|----------------|------------------------|-----------------|
| S18.003 | SIC23 | 15 Winter | 30 | +0% | 30/15 Summer | | | | 93.708 | 0.682 | 0.000 | 1.16 | | | 22.8 |
| S18.004 | SIC24 | 15 Winter | 30 | +0% | | | | | 93.545 | -0.685 | 0.000 | 0.01 | | 10 | 34.2 |
| S18.005 | SIC25 | 15 Winter | 30 | +0% | 1/15 Summer | | | | 93.539 | 0.999 | 0.000 | 1.44 | | | 28.5 |
| S19.000 | SIC37 | 15 Winter | 30 | +0% | | | | | 93.244 | -0.658 | 0.000 | 0.02 | | 9 | 51.5 |
| S18.006 | SIC26 | 15 Winter | 30 | +0% | | | | | 93.233 | -0.392 | 0.000 | 0.03 | | 8 | 59.4 |
| S18.007 | SIC27 | 15 Winter | 30 | +0% | 1/15 Summer | | | | 93.223 | 1.031 | 0.000 | 4.78 | | | 51.9 |
| S18.008 | SIC28 | 15 Winter | 30 | +0% | | | | | 92.648 | -0.864 | 0.000 | 0.03 | | 17 | 52.0 |
| S18.009 | SIC29 | 15 Winter | 30 | +0% | 1/15 Summer | | | | 92.642 | 0.439 | 0.000 | 1.57 | | | 52.5 |
| S18.010 | SIC30 | 15 Winter | 30 | +0% | | | | | 92.542 | -0.944 | 0.000 | 0.01 | | 18 | 62.5 |
| S18.011 | SIC31 | 15 Winter | 30 | +0% | 1/15 Summer | | | | 92.512 | 0.466 | 0.000 | 1.68 | | | 61.8 |
| S20.000 | SIC38 | 15 Winter | 30 | +0% | | | | | 92.939 | -1.452 | 0.000 | 0.00 | | 5 | 15.4 |
| S18.012 | SIC34 | 15 Winter | 30 | +0% | 1/15 Summer | | | | 92.258 | 0.301 | 0.000 | 2.36 | | | 74.9 |
| S18.013 | SIC35 | 15 Winter | 30 | +0% | | | | | 91.966 | -2.234 | 0.000 | 0.23 | | 10 | 74.9 |
| S18.014 | Swale | 15 Winter | 30 | +0% | | | | | 91.034 | -1.398 | 0.000 | 0.02 | | 15 | 74.8 |
| S18.015 | SIC36 | 15 Winter | 30 | +0% | 30/15 Summer | | | | 89.793 | 0.068 | 0.000 | 1.17 | | | 74.0 |
| S18.016 | SHWB2 | 600 Winter | 30 | +0% | 30/15 Winter | | | | 89.301 | 0.501 | 0.000 | 0.15 | | | 14.2 |
| S21.000 | SXX | 15 Winter | 30 | +0% | 100/15 Summer | | | | 89.927 | -0.223 | 0.000 | 0.15 | | | 21.0 |
| S21.001 | Sxx | 15 Winter | 30 | +0% | 100/15 Summer | | | | 89.491 | -0.074 | 0.000 | 0.92 | | | 133.5 |
| S21.002 | SHWB3 | 600 Winter | 30 | +0% | 30/15 Summer | | | | 89.301 | 0.501 | 0.000 | 0.12 | | | 11.7 |
| S18.017 | SBasin B | 600 Winter | 30 | +0% | 30/30 Winter | | | | 89.301 | 0.501 | 0.000 | 0.02 | | | 8.2 |
| S1.017 | S12FC | 600 Winter | 30 | +0% | 1/15 Summer | | | | 89.303 | 1.493 | 0.000 | 0.36 | | | 14.8 |
| S1.018 | S14 | 720 Winter | 30 | +0% | | | | | 87.150 | -0.132 | 0.000 | 0.36 | | | 14.8 |
| S1.019 | S15 | 720 Winter | 30 | +0% | 100/15 Summer | | | | 86.575 | -0.131 | 0.000 | 0.36 | | | 14.8 |
| S22.000 | SIC40 | 15 Winter | 30 | +0% | | | | | 92.735 | -1.248 | 0.000 | 0.00 | | 5 | 13.5 |
| S22.001 | SIC41 | 15 Winter | 30 | +0% | 30/15 Summer | | | | 92.721 | 0.379 | 0.000 | 1.19 | | | 14.8 |
| S22.002 | SIC42 | 15 Winter | 30 | +0% | | | | | 92.693 | -1.312 | 0.000 | 0.01 | | 19 | 73.2 |
| S23.000 | SIC60 | 15 Winter | 30 | +0% | | | | | 93.357 | -0.927 | 0.000 | 0.00 | | 7 | 11.8 |
| S23.001 | SIC61 | 15 Winter | 30 | +0% | 30/15 Summer | | | | 93.356 | 0.499 | 0.000 | 0.75 | | | 9.5 |
| S23.002 | SIC62 | 15 Winter | 30 | +0% | | | | | 93.325 | -1.213 | 0.000 | 0.00 | | 13 | 31.9 |
| S23.003 | SIC63 | 15 Winter | 30 | +0% | 1/15 Summer | | | | 93.320 | 0.623 | 0.000 | 2.42 | | | 26.3 |
| S23.004 | SIC64 | 15 Winter | 30 | +0% | | | | | 93.203 | -1.388 | 0.000 | 0.00 | | 13 | 26.0 |
| S23.005 | SIC65 | 15 Winter | 30 | +0% | 1/15 Summer | | | | 93.198 | 0.705 | 0.000 | 1.65 | | | 21.1 |
| S23.006 | SIC66 | 15 Winter | 30 | +0% | | | | | 93.043 | -1.053 | 0.000 | 0.02 | | 15 | 40.8 |



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| PN | US/MH Name | Status | Level Exceeded |
|---------|---------------|------------|-------------------|
| S18.003 | SIC23 | SURCHARGED | |
| S18.004 | SIC24 | OK | |
| S18.005 | SIC25 | FLOOD RISK | |
| S19.000 | SIC37 | OK | |
| S18.006 | SIC26 | FLOOD RISK | |
| S18.007 | SIC27 | FLOOD RISK | |
| S18.008 | SIC28 | OK | |
| S18.009 | SIC29 | SURCHARGED | |
| S18.010 | SIC30 | OK | |
| S18.011 | SIC31 | SURCHARGED | |
| S20.000 | SIC38 | OK | |
| S18.012 | SIC34 | SURCHARGED | |
| S18.013 | SIC35 | OK | |
| S18.014 | Swale | OK | |
| S18.015 | SIC36 | SURCHARGED | |
| S18.016 | SHWB2 | SURCHARGED | |
| S21.000 | SXX | OK | |
| S21.001 | Sxx | OK | |
| S21.002 | SHWB3 | SURCHARGED | |
| S18.017 | SBasin B | SURCHARGED | |
| S1.017 | S12FC | SURCHARGED | |
| S1.018 | S14 | OK | |
| S1.019 | S15 | OK | |
| S22.000 | SIC40 | OK | |
| S22.001 | SIC41 | SURCHARGED | |
| S22.002 | SIC42 | OK | |
| S23.000 | SIC60 | OK | |
| S23.001 | SIC61 | SURCHARGED | |
| S23.002 | SIC62 | OK | |
| S23.003 | SIC63 | SURCHARGED | |
| S23.004 | SIC64 | OK | |
| S23.005 | SIC65 | SURCHARGED | |

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| PN | US/MH Name | Status | Level Exceeded |
|-----------|-----------------------|---------------|---------------------------|
| S23.006 | SIC66 | OK | |



Date 17/10/2024 17:18

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| PN | US/MH Name | Storm | Return Period | Climate Change | First (X) Surge | First (Y) Flood | First (Z) Overflow | Overflow Act. | Water Level (m) | Surcharged Depth (m) | Flooded Volume (m ³) | Flow / Cap. (l/s) | Overflow (l/s) | Half Drain Time (mins) | Pipe Flow (l/s) |
|---------|------------|-------------|---------------|----------------|-----------------|-----------------|--------------------|---------------|-----------------|----------------------|----------------------------------|-------------------|----------------|------------------------|-----------------|
| S23.007 | SIC67 | 15 Winter | 30 | +0% | 1/15 Summer | | | | 93.032 | 0.953 | 0.000 | 1.04 | | | 26.3 |
| S22.003 | SIC43 | 30 Winter | 30 | +0% | | | | | 92.574 | -0.643 | 0.000 | 0.03 | | 17 | 61.2 |
| S22.004 | SIC44 | 30 Winter | 30 | +0% | 1/15 Summer | 100/30 Winter | | | 92.536 | 1.102 | 0.000 | 1.87 | | | 54.8 |
| S22.005 | SIC45 | 15 Winter | 30 | +0% | | | | | 91.809 | -0.708 | 0.000 | 0.06 | | 20 | 131.4 |
| S22.006 | SIC46 | 15 Winter | 30 | +0% | 1/15 Summer | | | | 91.016 | 0.862 | 0.000 | 2.32 | | | 120.6 |
| S22.007 | SIC47 | 15 Winter | 30 | +0% | | | | | 90.304 | -0.989 | 0.000 | 0.05 | | 12 | 133.8 |
| S22.008 | SIC48 | 30 Winter | 30 | +0% | 1/15 Winter | | | | 90.160 | 0.581 | 0.000 | 1.85 | | | 127.9 |
| S22.009 | SIC49 | 30 Winter | 30 | +0% | | | | | 89.902 | -0.801 | 0.000 | 0.06 | | 25 | 149.0 |
| S22.010 | SIC50 | 30 Winter | 30 | +0% | 30/15 Summer | 100/30 Winter | | | 89.835 | 0.762 | 0.000 | 1.91 | | | 144.3 |
| S22.011 | SIC51 | 30 Winter | 30 | +0% | | | | | 89.407 | -0.748 | 0.000 | 0.08 | | 11 | 144.3 |
| S22.012 | SIC52 | 30 Winter | 30 | +0% | 30/15 Summer | | | | 89.391 | 0.566 | 0.000 | 1.93 | | | 145.0 |
| S22.013 | SIC53 | 30 Winter | 30 | +0% | | | | | 89.065 | -0.870 | 0.000 | 0.06 | | 12 | 154.2 |
| S22.014 | SIC54 | 30 Winter | 30 | +0% | 1/15 Summer | | | | 89.005 | 0.692 | 0.000 | 2.53 | | | 155.3 |
| S22.015 | SIC55 | 30 Winter | 30 | +0% | | | | | 88.631 | -0.824 | 0.000 | 0.08 | | 17 | 161.0 |
| S22.016 | SIC56 | 30 Winter | 30 | +0% | 30/15 Summer | | | | 88.576 | 0.524 | 0.000 | 1.76 | | | 161.8 |
| S22.017 | SIC57 | 30 Winter | 30 | +0% | | | | | 88.194 | -0.923 | 0.000 | 0.06 | | 16 | 194.9 |
| S22.018 | SIC58 | 30 Winter | 30 | +0% | 30/15 Summer | | | | 87.066 | 0.287 | 0.000 | 1.19 | | | 193.2 |
| S1.020 | S17 | 30 Winter | 30 | +0% | 30/15 Summer | | | | 86.477 | 0.120 | 0.000 | 0.81 | | | 209.9 |
| S1.021 | S18 | 1440 Winter | 30 | +0% | 30/15 Summer | | | | 86.460 | 0.378 | 0.000 | 0.26 | | | 37.7 |
| S1.022 | S19 | 1440 Winter | 30 | +0% | 1/1440 Winter | | | | 86.455 | 0.431 | 0.000 | 0.25 | | | 37.8 |
| S1.023 | SHWD2 | 15 Summer | 30 | +0% | | | | | 85.950 | 0.000 | 0.000 | 1.11 | | | 187.5 |
| S24.000 | SXX | 15 Winter | 30 | +0% | 100/15 Summer | | | | 88.223 | -0.100 | 0.000 | 0.75 | | | 64.1 |
| S24.001 | SXX | 15 Winter | 30 | +0% | | | | | 87.750 | -0.250 | 0.000 | 0.39 | | | 128.5 |
| S24.002 | SXX | 15 Winter | 30 | +0% | 100/120 Winter | | | | 86.990 | -0.210 | 0.000 | 0.54 | | | 194.3 |
| S24.003 | SXXFC | 360 Winter | 30 | +0% | 30/30 Winter | | | | 86.713 | 0.288 | 0.000 | 0.03 | | | 4.9 |
| S24.004 | SHWC2 | 1440 Summer | 30 | +0% | | | | | 86.350 | 0.000 | 0.000 | 0.02 | | | 4.9 |
| S24.005 | SBasin C | 1440 Winter | 30 | +0% | 1/600 Winter | | | | 86.435 | 0.535 | 0.000 | 0.30 | | | 4.3 |
| S24.006 | SHWD3 | 1440 Winter | 30 | +0% | 1/480 Winter | | | | 86.450 | 0.575 | 0.000 | 0.03 | | | 4.3 |
| S1.024 | SBasin D | 1440 Winter | 30 | +0% | 1/360 Winter | | | | 86.450 | 0.650 | 0.000 | 0.11 | | | 9.0 |
| S25.000 | SXX | 1440 Winter | 30 | +0% | 100/15 Summer | | | | 86.396 | -0.304 | 0.000 | 0.01 | | | 3.0 |
| S26.000 | SXX | 15 Winter | 30 | +0% | 100/15 Summer | | | | 87.391 | -0.309 | 0.000 | 0.21 | | | 63.7 |
| S27.000 | SXX | 15 Winter | 30 | +0% | 100/15 Summer | | | | 87.893 | -0.157 | 0.000 | 0.45 | | | 64.6 |
| S27.001 | SXX | 15 Winter | 30 | +0% | 30/15 Summer | 100/15 Summer | | | 87.477 | 0.187 | 0.000 | 1.31 | | | 131.0 |



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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|---------|---------------|-------------|-------------------|
| S23.007 | SIC67 | FLOOD RISK | |
| S22.003 | SIC43 | OK | |
| S22.004 | SIC44 | FLOOD RISK | 1 |
| S22.005 | SIC45 | OK | |
| S22.006 | SIC46 | FLOOD RISK | |
| S22.007 | SIC47 | OK | |
| S22.008 | SIC48 | SURCHARGED | |
| S22.009 | SIC49 | OK | |
| S22.010 | SIC50 | FLOOD RISK | 1 |
| S22.011 | SIC51 | OK | |
| S22.012 | SIC52 | SURCHARGED | |
| S22.013 | SIC53 | OK | |
| S22.014 | SIC54 | SURCHARGED | |
| S22.015 | SIC55 | OK | |
| S22.016 | SIC56 | SURCHARGED | |
| S22.017 | SIC57 | OK | |
| S22.018 | SIC58 | SURCHARGED | |
| S1.020 | S17 | SURCHARGED | |
| S1.021 | S18 | SURCHARGED | |
| S1.022 | S19 | SURCHARGED | |
| S1.023 | SHWD2 | SURCHARGED* | |
| S24.000 | SXX | OK | |
| S24.001 | SXX | OK | |
| S24.002 | SXX | OK | |
| S24.003 | SXXFC | SURCHARGED | |
| S24.004 | SHWC2 | SURCHARGED* | |
| S24.005 | SBasin C | SURCHARGED | |
| S24.006 | SHWD3 | SURCHARGED | |
| S1.024 | SBasin D | SURCHARGED | |
| S25.000 | SXX | OK | |
| S26.000 | SXX | OK | |
| S27.000 | SXX | OK | |

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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|---------|---------------|------------|-------------------|
| S27.001 | SXX | SURCHARGED | 4 |



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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Storm | Return Period | Climate Change | First (X) Surcharge | First (Y) Flood | First (Z) Overflow | Overflow Act. | Water | Surcharged | Flooded | Flow / Overflow (l/s) | Half Drain Time (mins) | Pipe Flow (l/s) |
|---------|---------------|-------------|------------------|-------------------|------------------------|--------------------|-----------------------|------------------|--------------|--------------|-----------------------------|-----------------------------|------------------------------|-----------------------|
| | | | | | | | | | Level (m) | Depth (m) | Volume (m ³) | | | |
| S26.001 | SXX | 15 Winter | 30 | +0% | 100/15 Summer | 100/15 Summer | | | 87.042 | -0.008 | 0.000 | 0.86 | | 245.9 |
| S28.000 | SXX | 15 Winter | 30 | +0% | 100/15 Summer | | | | 87.418 | -0.132 | 0.000 | 0.58 | | 63.7 |
| S28.001 | SXX | 15 Winter | 30 | +0% | 100/15 Summer | | | | 86.724 | -0.211 | 0.000 | 0.40 | | 130.7 |
| S26.002 | SXX | 15 Winter | 30 | +0% | 30/15 Summer | 100/15 Winter | | | 86.664 | 0.129 | 0.000 | 1.33 | | 407.1 |
| S26.003 | SXX | 15 Winter | 30 | +0% | 30/15 Summer | 100/15 Winter | | | 86.471 | 0.086 | 0.000 | 1.02 | | 365.1 |
| S25.001 | SXX | 1440 Winter | 30 | +0% | 30/15 Summer | | | | 86.396 | 0.226 | 0.000 | 0.07 | | 22.9 |
| S25.002 | SXXFC | 1440 Winter | 30 | +0% | 1/30 Summer | | | | 86.396 | 0.897 | 0.000 | 0.08 | | 1.0 |
| S1.025 | S20FC | 1440 Winter | 30 | +0% | 1/15 Summer | | | | 86.445 | 1.035 | 0.000 | 0.69 | | 7.7 |
| S1.026 | SHWE2 | 1440 Winter | 30 | +0% | | | | | 86.247 | -0.453 | 0.000 | 0.00 | | 7.7 |
| S29.000 | SXX | 1440 Winter | 30 | +0% | 1/15 Summer | | | | 86.227 | 0.607 | 0.000 | 0.07 | | 2.8 |
| S29.001 | SXXFC | 1440 Winter | 30 | +0% | 1/15 Summer | | | | 86.227 | 0.787 | 0.000 | 0.16 | | 2.1 |
| S1.027 | SHWF3 | 1440 Winter | 30 | +0% | | | | | 86.245 | -0.455 | 0.000 | 0.00 | | 6.3 |
| S1.028 | SHWF1 | 1440 Winter | 30 | +0% | 1/15 Summer | | | | 86.245 | 0.954 | 0.000 | 0.42 | | 5.5 |
| S1.029 | S21FC | 1440 Winter | 30 | +0% | 1/15 Summer | | | | 86.235 | 0.985 | 0.000 | 0.51 | | 5.5 |
| S1.030 | SHWG1 | 240 Summer | 30 | +0% | | | | | 85.164 | -0.836 | 0.000 | 0.00 | | 5.5 |
| S1.031 | SHWO3 | 240 Summer | 30 | +0% | | | | | 85.095 | -0.075 | 0.000 | 0.51 | | 5.5 |
| S1.032 | S21A | 240 Summer | 30 | +0% | | | | | 85.058 | -0.082 | 0.000 | 0.43 | | 5.5 |

| PN | US/MH Name | Status | Level Exceeded |
|---------|---------------|------------|-------------------|
| S26.001 | SXX | OK | 2 |
| S28.000 | SXX | OK | |
| S28.001 | SXX | OK | |
| S26.002 | SXX | SURCHARGED | 1 |
| S26.003 | SXX | SURCHARGED | 1 |
| S25.001 | SXX | SURCHARGED | |
| S25.002 | SXXFC | SURCHARGED | |
| S1.025 | S20FC | SURCHARGED | |
| S1.026 | SHWE2 | OK | |
| S29.000 | SXX | SURCHARGED | |



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30 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| | US/MH | | Level |
|-----------|--------------|---------------|-----------------|
| PN | Name | Status | Exceeded |
| S29.001 | SXXFC | SURCHARGED | |
| S1.027 | SHWF3 | OK | |
| S1.028 | SHWF1 | SURCHARGED* | |
| S1.029 | S21FC | FLOOD RISK | |
| S1.030 | SHWG1 | OK | |
| S1.031 | SHWO3 | OK* | |
| S1.032 | S21A | OK | |



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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

Simulation Criteria

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

Number of Input Hydrographs 0 Number of Offline Controls 0 Number of Time/Area Diagrams 0
 Number of Online Controls 9 Number of Storage Structures 40 Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model FSR M5-60 (mm) 20.000 Cv (Summer) 0.750
 Region England and Wales Ratio R 0.405 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm) 450.0 DVD Status ON
 Analysis Timestep 2.5 Second Increment (Extended) Inertia Status ON
 DTS Status OFF

Profile(s) Summer and Winter
 Duration(s) (mins) 15, 30, 60, 120, 180, 240, 360, 480, 600, 720, 960, 1440
 Return Period(s) (years) 1, 30, 100
 Climate Change (%) 0, 0, 40

| PN | US/MH Name | Storm | Return Period | Climate Change | First (X) Surcharge | First (Y) Flood | First (Z) Overflow | Overflow Act. | Water | Surcharged | Flooded | Flow / Overflow Cap. | Half Drain Time (mins) | Pipe |
|--------|------------|-------------|---------------|----------------|---------------------|-----------------|--------------------|---------------|-----------|------------|--------------------------|----------------------|------------------------|------------|
| | | | | | | | | | Level (m) | Depth (m) | Volume (m ³) | | | Flow (l/s) |
| S1.000 | S1 | 15 Winter | 100 | +40% | 100/15 Summer | 100/15 Winter | | | 95.160 | 1.835 | 0.454 | 1.13 | | 68.4 |
| S2.000 | SXX | 15 Winter | 100 | +40% | 100/15 Summer | | | | 94.241 | 1.066 | 0.000 | 0.48 | | 97.3 |
| S1.001 | S2 | 15 Winter | 100 | +40% | 30/15 Summer | | | | 94.088 | 1.733 | 0.000 | 1.81 | | 211.5 |
| S1.002 | S3 | 15 Winter | 100 | +40% | 100/15 Summer | | | | 93.800 | 1.536 | 0.000 | 1.35 | | 225.5 |
| S1.003 | S4 | 15 Winter | 100 | +40% | 100/15 Summer | | | | 93.655 | 1.453 | 0.000 | 0.59 | | 225.8 |
| S1.004 | S5 | 15 Winter | 100 | +40% | 100/15 Summer | | | | 93.442 | 1.717 | 0.000 | 1.04 | | 251.7 |
| S1.005 | S6 | 15 Winter | 100 | +40% | 30/15 Winter | | | | 93.083 | 1.708 | 0.000 | 1.45 | | 350.4 |
| S1.006 | SXX | 15 Winter | 100 | +40% | 30/15 Summer | | | | 92.060 | 1.135 | 0.000 | 1.84 | | 367.3 |
| S1.007 | SXX | 1440 Winter | 100 | +40% | 30/15 Summer | | | | 91.581 | 0.836 | 0.000 | 0.14 | | 27.9 |
| S1.008 | SXX | 1440 Winter | 100 | +40% | 30/120 Winter | | | | 91.581 | 0.867 | 0.000 | 0.16 | | 33.7 |



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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| | US/MH | | Level |
|--------|-------|------------|----------|
| PN | Name | Status | Exceeded |
| S1.000 | S1 | FLOOD | 1 |
| S2.000 | SXX | FLOOD RISK | |
| S1.001 | S2 | FLOOD RISK | |
| S1.002 | S3 | FLOOD RISK | |
| S1.003 | S4 | FLOOD RISK | |
| S1.004 | S5 | FLOOD RISK | |
| S1.005 | S6 | SURCHARGED | |
| S1.006 | SXX | SURCHARGED | |
| S1.007 | SXX | SURCHARGED | |
| S1.008 | SXX | SURCHARGED | |



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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Storm | Return Period | Climate Change | First (X) Surchage | First (Y) Flood | First (Z) Overflow | Overflow Act. | Water Level (m) | Surcharged Depth (m) | Flooded Volume (m ³) | Flow / Cap. (l/s) | Half Drain Time (mins) | Pipe Flow (l/s) |
|--------|------------|-------------|---------------|----------------|--------------------|-----------------|--------------------|---------------|-----------------|----------------------|----------------------------------|-------------------|------------------------|-----------------|
| S1.009 | SXX | 1440 Winter | 100 | +40% | 30/120 Winter | | | | 91.581 | 0.902 | 0.000 | 0.08 | | 33.6 |
| S1.010 | S7 | 1440 Winter | 100 | +40% | 30/60 Winter | | | | 91.581 | 1.081 | 0.000 | 0.13 | | 35.0 |
| S1.011 | SHWA2 | 15 Summer | 100 | +40% | | | | | 90.450 | 0.000 | 0.000 | 1.21 | | 469.7 |
| S3.000 | S22 | 15 Winter | 100 | +40% | 30/15 Summer | 100/15 Winter | | | 92.645 | 1.320 | 0.012 | 1.92 | | 105.7 |
| S3.001 | S23 | 1440 Winter | 100 | +40% | 30/1440 Winter | | | | 91.581 | 0.706 | 0.000 | 0.04 | | 8.4 |
| S3.002 | SHWA3 | 1440 Winter | 100 | +40% | 1/180 Winter | | | | 91.581 | 1.431 | 0.000 | 0.09 | | 8.3 |
| S1.012 | SBasin A | 1440 Winter | 100 | +40% | 1/15 Summer | | | | 91.581 | 1.731 | 0.000 | 0.12 | | 1.9 |
| S1.013 | S8FC | 1440 Winter | 100 | +40% | 1/15 Summer | | | | 91.574 | 1.760 | 0.000 | 0.05 | | 1.9 |
| S1.014 | S9 | 30 Winter | 100 | +40% | 100/15 Summer | | | | 90.208 | 0.643 | 0.000 | 0.61 | | 44.3 |
| S4.000 | SXX | 15 Winter | 100 | +40% | 100/15 Summer | | | | 94.188 | 0.828 | 0.000 | 1.06 | | 46.2 |
| S4.001 | SXX | 60 Winter | 100 | +40% | 30/15 Summer | | | | 93.867 | 0.907 | 0.000 | 1.07 | | 68.6 |
| S4.002 | S24 | 30 Winter | 100 | +40% | 1/15 Summer | | | | 93.804 | 1.324 | 0.000 | 2.89 | | 19.9 |
| S4.003 | S25 | 15 Winter | 100 | +40% | 30/15 Summer | | | | 93.457 | 1.157 | 0.000 | 1.53 | | 143.3 |
| S5.000 | SXX | 15 Winter | 100 | +40% | 100/15 Summer | | | | 93.465 | 0.365 | 0.000 | 0.80 | | 78.5 |
| S5.001 | SXX | 15 Winter | 100 | +40% | 100/15 Summer | | | | 93.305 | 0.455 | 0.000 | 1.61 | | 166.5 |
| S5.002 | SXX | 60 Winter | 100 | +40% | 1/15 Summer | | | | 93.080 | 0.722 | 0.000 | 1.58 | | 16.5 |
| S4.004 | S26 | 15 Winter | 100 | +40% | 100/15 Summer | | | | 92.687 | 0.812 | 0.000 | 1.09 | | 130.6 |
| S6.000 | S31 | 15 Winter | 100 | +40% | 100/15 Summer | | | | 93.812 | 0.687 | 0.000 | 1.05 | | 42.9 |
| S6.001 | S32 | 15 Winter | 100 | +40% | 100/15 Summer | | | | 93.490 | 0.712 | 0.000 | 0.97 | | 74.1 |
| S4.005 | S27 | 15 Winter | 100 | +40% | 100/15 Summer | | | | 92.100 | 0.975 | 0.000 | 1.06 | | 270.4 |
| S7.000 | S250 | 15 Winter | 100 | +40% | 100/15 Summer | | | | 92.760 | 0.419 | 0.000 | 0.68 | | 62.3 |
| S7.001 | S251 | 15 Winter | 100 | +40% | 30/15 Summer | | | | 92.119 | 1.126 | 0.000 | 3.06 | | 108.8 |
| S8.000 | S256xx | 15 Winter | 100 | +40% | | | | | 93.224 | -0.126 | 0.000 | 0.39 | | 31.9 |
| S8.001 | S256xx | 15 Winter | 100 | +40% | 100/15 Summer | | | | 92.119 | 0.119 | 0.000 | 0.99 | | 63.3 |
| S8.002 | S256xx | 15 Winter | 100 | +40% | 100/15 Summer | | | | 91.782 | 0.132 | 0.000 | 0.92 | | 96.6 |
| S8.003 | S256 | 180 Winter | 100 | +40% | 100/15 Summer | | | | 91.772 | 0.682 | 0.000 | 0.36 | | 22.8 |
| S8.004 | S257 | 180 Winter | 100 | +40% | 30/15 Winter | | | | 91.769 | 0.791 | 0.000 | 0.26 | | 16.5 |
| S7.002 | S252 | 180 Winter | 100 | +40% | 30/15 Summer | | | | 91.766 | 0.876 | 0.000 | 0.43 | | 44.7 |
| S9.000 | S253xx | 180 Winter | 100 | +40% | 30/30 Winter | | | | 91.761 | 0.931 | 0.000 | 0.16 | | 15.0 |
| S7.003 | S253 | 180 Winter | 100 | +40% | 30/15 Summer | | | | 91.761 | 0.995 | 0.000 | 0.23 | | 19.6 |
| S7.004 | S254 | 180 Winter | 100 | +40% | 30/15 Summer | | | | 91.759 | 1.026 | 0.000 | 0.17 | | 16.4 |
| S7.005 | S255FC | 180 Winter | 100 | +40% | 1/15 Summer | | | | 91.755 | 1.237 | 0.000 | 0.26 | | 9.8 |
| S7.006 | S28A | 15 Winter | 100 | +40% | 100/15 Summer | | | | 91.117 | 0.699 | 0.000 | 0.41 | | 16.6 |



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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|--------|---------------|-------------|-------------------|
| S1.009 | SXX | SURCHARGED | |
| S1.010 | S7 | SURCHARGED | |
| S1.011 | SHWA2 | SURCHARGED* | |
| S3.000 | S22 | FLOOD | 1 |
| S3.001 | S23 | SURCHARGED | |
| S3.002 | SHWA3 | FLOOD RISK | |
| S1.012 | SBasin A | FLOOD RISK | |
| S1.013 | S8FC | FLOOD RISK | |
| S1.014 | S9 | SURCHARGED | |
| S4.000 | SXX | FLOOD RISK | |
| S4.001 | SXX | SURCHARGED | |
| S4.002 | S24 | SURCHARGED | |
| S4.003 | S25 | SURCHARGED | |
| S5.000 | SXX | SURCHARGED | |
| S5.001 | SXX | SURCHARGED | |
| S5.002 | SXX | SURCHARGED | |
| S4.004 | S26 | SURCHARGED | |
| S6.000 | S31 | SURCHARGED | |
| S6.001 | S32 | SURCHARGED | |
| S4.005 | S27 | SURCHARGED | |
| S7.000 | S250 | SURCHARGED | |
| S7.001 | S251 | SURCHARGED | |
| S8.000 | S256xx | OK | |
| S8.001 | S256xx | SURCHARGED | |
| S8.002 | S256xx | SURCHARGED | |
| S8.003 | S256 | SURCHARGED | |
| S8.004 | S257 | SURCHARGED | |
| S7.002 | S252 | SURCHARGED | |
| S9.000 | S253xx | SURCHARGED | |
| S7.003 | S253 | SURCHARGED | |
| S7.004 | S254 | SURCHARGED | |
| S7.005 | S255FC | SURCHARGED | |

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|-----------|-----------------------|---------------|---------------------------|
| S7.006 | S28A | SURCHARGED | |



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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Storm | Return Period | Climate Change | First (X) Surcharge | First (Y) Flood | First (Z) Overflow | Overflow Act. | Water Level (m) | Surcharged Depth (m) | Flooded Volume (m ³) | Flow / Overflow Cap. (l/s) | Half Drain Time (mins) | Pipe Flow (l/s) |
|---------|---------------|-------------|------------------|-------------------|------------------------|--------------------|-----------------------|------------------|-----------------------|----------------------------|--|-------------------------------------|------------------------------|-----------------------|
| S4.006 | S28 | 15 Winter | 100 | +40% | 30/15 Winter | | | | 91.151 | 1.011 | 0.000 | 1.18 | | 241.7 |
| S4.007 | S29 | 15 Winter | 100 | +40% | 100/15 Summer | | | | 90.617 | 0.842 | 0.000 | 0.99 | | 239.1 |
| S1.015 | S10 | 30 Winter | 100 | +40% | 30/15 Summer | | | | 90.113 | 0.896 | 0.000 | 0.61 | | 300.5 |
| S10.000 | S200 | 600 Winter | 100 | +40% | 100/240 Winter | | | | 90.413 | 0.283 | 0.000 | 0.06 | | 9.0 |
| S11.000 | S21XX | 15 Winter | 100 | +40% | 100/15 Summer | | | | 91.242 | 0.214 | 0.000 | 0.14 | | 1.0 |
| S11.001 | S22XX | 15 Winter | 100 | +40% | 100/15 Summer | | | | 91.278 | 0.603 | 0.000 | 0.70 | | 42.1 |
| S11.002 | S23XX | 15 Winter | 100 | +40% | 100/15 Summer | | | | 90.956 | 0.900 | 0.000 | 0.97 | | 41.8 |
| S11.003 | S24XX | 15 Winter | 100 | +40% | 100/15 Summer | | | | 90.853 | 0.891 | 0.000 | 1.58 | | 82.9 |
| S11.004 | S25XX | 600 Winter | 100 | +40% | 100/15 Summer | | | | 90.412 | 0.935 | 0.000 | 0.11 | | 8.3 |
| S10.001 | S201 | 600 Winter | 100 | +40% | 30/240 Winter | | | | 90.411 | 1.003 | 0.000 | 0.04 | | 22.8 |
| S12.000 | S207 | 600 Winter | 100 | +40% | | | | | 90.420 | -0.030 | 0.000 | 0.08 | | 4.9 |
| S12.001 | S208 | 600 Winter | 100 | +40% | 100/360 Winter | | | | 90.419 | 0.249 | 0.000 | 0.07 | | 5.6 |
| S13.000 | SIC209XX | 600 Winter | 100 | +40% | 100/60 Winter | | | | 90.418 | 0.820 | 0.000 | 0.00 | | 0.0 |
| S13.001 | SIC209 | 600 Winter | 100 | +40% | 100/30 Winter | | | | 90.418 | 0.933 | 0.000 | 0.09 | | 2.6 |
| S12.002 | S209 | 600 Winter | 100 | +40% | 30/600 Winter | | | | 90.417 | 0.969 | 0.000 | 0.21 | | 8.1 |
| S14.000 | S205XX | 600 Winter | 100 | +40% | 100/30 Winter | | | | 90.415 | 0.970 | 0.000 | 0.00 | | 0.1 |
| S14.001 | SIC205 | 600 Winter | 100 | +40% | 30/180 Winter | | | | 90.415 | 1.091 | 0.000 | 0.07 | | 2.4 |
| S12.003 | S206 | 600 Winter | 100 | +40% | 30/120 Winter | | | | 90.414 | 1.149 | 0.000 | 0.23 | | 8.3 |
| S10.002 | S202 | 600 Winter | 100 | +40% | 30/120 Winter | | | | 90.411 | 1.223 | 0.000 | 0.05 | | 30.9 |
| S10.003 | S203 | 600 Winter | 100 | +40% | 30/30 Winter | | | | 90.411 | 1.387 | 0.000 | 0.07 | | 32.8 |
| S15.000 | S204XX | 600 Winter | 100 | +40% | 30/30 Winter | | | | 90.411 | 1.470 | 0.000 | 0.00 | | 0.0 |
| S15.001 | SIC204 | 600 Winter | 100 | +40% | 30/15 Winter | | | | 90.411 | 1.566 | 0.000 | 0.08 | | 4.1 |
| S10.004 | S204 | 600 Winter | 100 | +40% | 30/60 Summer | | | | 90.411 | 1.444 | 0.000 | 0.03 | | 18.5 |
| S16.000 | S206XX | 600 Winter | 100 | +40% | 30/30 Summer | | | | 90.411 | 1.546 | 0.000 | 0.00 | | 0.0 |
| S16.001 | SIC206 | 600 Winter | 100 | +40% | 30/15 Winter | | | | 90.411 | 1.619 | 0.000 | 0.09 | | 5.0 |
| S17.000 | S205XX | 600 Winter | 100 | +40% | 30/30 Summer | | | | 90.411 | 1.521 | 0.000 | 0.00 | | 0.0 |
| S17.001 | SIC205 | 600 Winter | 100 | +40% | 30/15 Winter | | | | 90.411 | 1.598 | 0.000 | 0.07 | | 4.0 |
| S10.005 | S205 | 600 Winter | 100 | +40% | 1/180 Winter | | | | 90.411 | 1.652 | 0.000 | 0.02 | | 10.4 |
| S10.006 | S206FC | 600 Winter | 100 | +40% | 1/15 Summer | | | | 90.410 | 2.013 | 0.000 | 0.07 | | 8.7 |
| S1.016 | S11 | 1440 Winter | 100 | +40% | 1/15 Summer | | | | 90.008 | 1.648 | 0.000 | 0.25 | | 52.8 |
| S18.000 | SIC20 | 15 Winter | 100 | +40% | | | | | 94.161 | -1.342 | 0.000 | 0.00 | 5 | 12.2 |
| S18.001 | SIC21 | 15 Winter | 100 | +40% | 100/15 Summer | | | | 94.156 | 0.237 | 0.000 | 0.50 | | 8.9 |
| S18.002 | SIC22 | 15 Winter | 100 | +40% | | | | | 94.129 | -1.034 | 0.000 | 0.02 | 11 | 60.3 |



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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|---------|---------------|------------|-------------------|
| S4.006 | S28 | SURCHARGED | |
| S4.007 | S29 | SURCHARGED | |
| S1.015 | S10 | SURCHARGED | |
| S10.000 | S200 | SURCHARGED | |
| S11.000 | S21XX | SURCHARGED | |
| S11.001 | S22XX | SURCHARGED | |
| S11.002 | S23XX | FLOOD RISK | |
| S11.003 | S24XX | FLOOD RISK | |
| S11.004 | S25XX | SURCHARGED | |
| S10.001 | S201 | SURCHARGED | |
| S12.000 | S207 | OK | |
| S12.001 | S208 | SURCHARGED | |
| S13.000 | SIC209XX | SURCHARGED | |
| S13.001 | SIC209 | SURCHARGED | |
| S12.002 | S209 | SURCHARGED | |
| S14.000 | S205XX | SURCHARGED | |
| S14.001 | SIC205 | SURCHARGED | |
| S12.003 | S206 | FLOOD RISK | |
| S10.002 | S202 | FLOOD RISK | |
| S10.003 | S203 | FLOOD RISK | |
| S15.000 | S204XX | SURCHARGED | |
| S15.001 | SIC204 | FLOOD RISK | |
| S10.004 | S204 | FLOOD RISK | |
| S16.000 | S206XX | SURCHARGED | |
| S16.001 | SIC206 | SURCHARGED | |
| S17.000 | S205XX | SURCHARGED | |
| S17.001 | SIC205 | SURCHARGED | |
| S10.005 | S205 | SURCHARGED | |
| S10.006 | S206FC | SURCHARGED | |
| S1.016 | S11 | SURCHARGED | |
| S18.000 | SIC20 | OK | |
| S18.001 | SIC21 | SURCHARGED | |

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|-----------|-----------------------|---------------|---------------------------|
| S18.002 | SIC22 | OK | |



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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Storm | Return Period | Climate Change | First (X) Surchage | First (Y) Flood | First (Z) Overflow | Overflow Act. | Water Level (m) | Surcharged Depth (m) | Flooded Volume (m ³) | Flow / Overflow Cap. (l/s) | Half Drain Time (mins) | Pipe Flow (l/s) |
|---------|------------|-------------|---------------|----------------|--------------------|-----------------|--------------------|---------------|-----------------|----------------------|----------------------------------|----------------------------|------------------------|-----------------|
| S18.003 | SIC23 | 15 Winter | 100 | +40% | 30/15 Summer | | | | 94.103 | 1.077 | 0.000 | 1.62 | | 32.0 |
| S18.004 | SIC24 | 30 Winter | 100 | +40% | | | | | 93.833 | -0.396 | 0.000 | 0.01 | 23 | 40.3 |
| S18.005 | SIC25 | 30 Winter | 100 | +40% | 1/15 Summer | | | | 93.820 | 1.280 | 0.000 | 1.73 | | 34.2 |
| S19.000 | SIC37 | 30 Winter | 100 | +40% | | | | | 93.549 | -0.353 | 0.000 | 0.02 | 21 | 67.3 |
| S18.006 | SIC26 | 30 Winter | 100 | +40% | | | | | 93.526 | -0.100 | 0.000 | 0.03 | 12 | 63.5 |
| S18.007 | SIC27 | 15 Winter | 100 | +40% | 1/15 Summer | | | | 93.495 | 1.303 | 0.000 | 5.30 | | 57.5 |
| S18.008 | SIC28 | 15 Winter | 100 | +40% | | | | | 92.958 | -0.554 | 0.000 | 0.04 | 22 | 57.5 |
| S18.009 | SIC29 | 15 Winter | 100 | +40% | 1/15 Summer | | | | 92.955 | 0.752 | 0.000 | 1.73 | | 57.8 |
| S18.010 | SIC30 | 15 Winter | 100 | +40% | | | | | 92.859 | -0.627 | 0.000 | 0.01 | 31 | 76.7 |
| S18.011 | SIC31 | 15 Winter | 100 | +40% | 1/15 Summer | | | | 92.848 | 0.802 | 0.000 | 1.95 | | 71.5 |
| S20.000 | SIC38 | 15 Winter | 100 | +40% | | | | | 92.965 | -1.426 | 0.000 | 0.00 | 5 | 28.1 |
| S18.012 | SIC34 | 15 Winter | 100 | +40% | 1/15 Summer | | | | 92.540 | 0.583 | 0.000 | 2.95 | | 93.9 |
| S18.013 | SIC35 | 15 Winter | 100 | +40% | | | | | 92.091 | -2.109 | 0.000 | 0.29 | 19 | 93.8 |
| S18.014 | Swale | 15 Winter | 100 | +40% | | | | | 91.091 | -1.341 | 0.000 | 0.02 | 5 | 93.7 |
| S18.015 | SIC36 | 1440 Winter | 100 | +40% | 30/15 Summer | | | | 90.001 | 0.276 | 0.000 | 0.20 | | 12.8 |
| S18.016 | SHWB2 | 1440 Winter | 100 | +40% | 30/15 Winter | | | | 90.000 | 1.200 | 0.000 | 0.13 | | 12.7 |
| S21.000 | SXX | 15 Winter | 100 | +40% | 100/15 Summer | | | | 90.514 | 0.364 | 0.000 | 0.29 | | 41.2 |
| S21.001 | Sxx | 15 Winter | 100 | +40% | 100/15 Summer | | | | 90.420 | 0.855 | 0.000 | 1.58 | | 229.5 |
| S21.002 | SHWB3 | 1440 Winter | 100 | +40% | 30/15 Summer | | | | 90.000 | 1.200 | 0.000 | 0.11 | | 10.3 |
| S18.017 | SBasin B | 1440 Winter | 100 | +40% | 30/30 Winter | | | | 90.000 | 1.200 | 0.000 | 0.02 | | 10.5 |
| S1.017 | S12FC | 1440 Winter | 100 | +40% | 1/15 Summer | | | | 89.999 | 2.189 | 0.000 | 0.38 | | 15.6 |
| S1.018 | S14 | 1440 Winter | 100 | +40% | | | | | 87.153 | -0.129 | 0.000 | 0.38 | | 15.6 |
| S1.019 | S15 | 1440 Winter | 100 | +40% | 100/15 Summer | | | | 86.997 | 0.291 | 0.000 | 0.39 | | 15.8 |
| S22.000 | SIC40 | 15 Winter | 100 | +40% | | | | | 93.184 | -0.799 | 0.000 | 0.00 | 8 | 23.1 |
| S22.001 | SIC41 | 15 Winter | 100 | +40% | 30/15 Summer | | | | 93.178 | 0.835 | 0.000 | 2.27 | | 28.2 |
| S22.002 | SIC42 | 15 Winter | 100 | +40% | | | | | 93.053 | -0.953 | 0.000 | 0.02 | 38 | 141.3 |
| S23.000 | SIC60 | 15 Winter | 100 | +40% | | | | | 93.800 | -0.484 | 0.000 | 0.01 | 14 | 24.5 |
| S23.001 | SIC61 | 15 Winter | 100 | +40% | 30/15 Summer | | | | 93.799 | 0.942 | 0.000 | 1.13 | | 14.3 |
| S23.002 | SIC62 | 15 Winter | 100 | +40% | | | | | 93.731 | -0.807 | 0.000 | 0.01 | 30 | 61.0 |
| S23.003 | SIC63 | 15 Winter | 100 | +40% | 1/15 Summer | | | | 93.724 | 1.027 | 0.000 | 3.27 | | 35.4 |
| S23.004 | SIC64 | 30 Winter | 100 | +40% | | | | | 93.507 | -1.083 | 0.000 | 0.00 | 31 | 33.2 |
| S23.005 | SIC65 | 30 Winter | 100 | +40% | 1/15 Summer | | | | 93.504 | 1.011 | 0.000 | 1.78 | | 22.7 |
| S23.006 | SIC66 | 30 Winter | 100 | +40% | | | | | 93.318 | -0.779 | 0.000 | 0.03 | | 55.6 |



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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|---------|---------------|-------------|-------------------|
| S18.003 | SIC23 | FLOOD RISK | |
| S18.004 | SIC24 | FLOOD RISK | |
| S18.005 | SIC25 | FLOOD RISK | |
| S19.000 | SIC37 | FLOOD RISK* | |
| S18.006 | SIC26 | FLOOD RISK | |
| S18.007 | SIC27 | FLOOD RISK | |
| S18.008 | SIC28 | OK | |
| S18.009 | SIC29 | SURCHARGED | |
| S18.010 | SIC30 | OK | |
| S18.011 | SIC31 | SURCHARGED | |
| S20.000 | SIC38 | OK | |
| S18.012 | SIC34 | SURCHARGED | |
| S18.013 | SIC35 | OK | |
| S18.014 | Swale | OK | |
| S18.015 | SIC36 | SURCHARGED | |
| S18.016 | SHWB2 | FLOOD RISK | |
| S21.000 | SXX | SURCHARGED | |
| S21.001 | Sxx | SURCHARGED | |
| S21.002 | SHWB3 | FLOOD RISK | |
| S18.017 | SBasin B | FLOOD RISK | |
| S1.017 | S12FC | FLOOD RISK | |
| S1.018 | S14 | OK | |
| S1.019 | S15 | SURCHARGED | |
| S22.000 | SIC40 | OK | |
| S22.001 | SIC41 | SURCHARGED | |
| S22.002 | SIC42 | OK | |
| S23.000 | SIC60 | OK | |
| S23.001 | SIC61 | SURCHARGED | |
| S23.002 | SIC62 | OK | |
| S23.003 | SIC63 | SURCHARGED | |
| S23.004 | SIC64 | OK | |
| S23.005 | SIC65 | SURCHARGED | |

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|-----------|-----------------------|---------------|---------------------------|
| S23.006 | SIC66 | OK | |



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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Storm | Return Period | Climate Change | First (X) Surchage | First (Y) Flood | First (Z) Overflow | Overflow Act. | Water Level (m) | Surcharged Depth (m) | Flooded Volume (m ³) | Flow / Cap. (l/s) | Half Drain Time (mins) | Pipe Flow (l/s) |
|---------|------------|-------------|---------------|----------------|--------------------|-----------------|--------------------|---------------|-----------------|----------------------|----------------------------------|-------------------|------------------------|-----------------|
| S23.007 | SIC67 | 30 Winter | 100 | +40% | 1/15 Summer | | | | 93.297 | 1.218 | 0.000 | 1.05 | | 26.5 |
| S22.003 | SIC43 | 30 Winter | 100 | +40% | | | | | 92.865 | -0.351 | 0.000 | 0.03 | 25 | 71.6 |
| S22.004 | SIC44 | 30 Winter | 100 | +40% | 1/15 Summer | 100/30 Winter | | | 92.743 | 1.309 | 1.307 | 2.01 | | 58.7 |
| S22.005 | SIC45 | 15 Winter | 100 | +40% | | | | | 91.997 | -0.520 | 0.000 | 0.08 | 37 | 177.4 |
| S22.006 | SIC46 | 15 Winter | 100 | +40% | 1/15 Summer | | | | 91.353 | 1.199 | 0.000 | 2.32 | | 120.6 |
| S22.007 | SIC47 | 30 Winter | 100 | +40% | | | | | 90.673 | -0.620 | 0.000 | 0.06 | 21 | 160.3 |
| S22.008 | SIC48 | 30 Winter | 100 | +40% | 1/15 Winter | | | | 90.621 | 1.042 | 0.000 | 2.03 | | 140.0 |
| S22.009 | SIC49 | 30 Winter | 100 | +40% | | | | | 90.339 | -0.363 | 0.000 | 0.07 | 22 | 195.6 |
| S22.010 | SIC50 | 30 Winter | 100 | +40% | 30/15 Summer | 100/30 Winter | | | 90.274 | 1.201 | 0.583 | 2.12 | | 160.4 |
| S22.011 | SIC51 | 30 Winter | 100 | +40% | | | | | 89.812 | -0.344 | 0.000 | 0.08 | 23 | 160.5 |
| S22.012 | SIC52 | 30 Winter | 100 | +40% | 30/15 Summer | | | | 89.797 | 0.972 | 0.000 | 2.19 | | 164.7 |
| S22.013 | SIC53 | 30 Winter | 100 | +40% | | | | | 89.447 | -0.489 | 0.000 | 0.06 | 25 | 174.0 |
| S22.014 | SIC54 | 30 Winter | 100 | +40% | 1/15 Summer | | | | 89.401 | 1.088 | 0.000 | 2.94 | | 180.2 |
| S22.015 | SIC55 | 30 Winter | 100 | +40% | | | | | 88.982 | -0.473 | 0.000 | 0.09 | 29 | 184.9 |
| S22.016 | SIC56 | 30 Winter | 100 | +40% | 30/15 Summer | | | | 88.953 | 0.901 | 0.000 | 2.06 | | 189.3 |
| S22.017 | SIC57 | 15 Winter | 100 | +40% | | | | | 88.570 | -0.548 | 0.000 | 0.09 | 26 | 276.8 |
| S22.018 | SIC58 | 30 Winter | 100 | +40% | 30/15 Summer | | | | 87.824 | 1.045 | 0.000 | 1.50 | | 244.5 |
| S1.020 | S17 | 1440 Winter | 100 | +40% | 30/15 Summer | | | | 86.952 | 0.595 | 0.000 | 0.22 | | 57.1 |
| S1.021 | S18 | 1440 Winter | 100 | +40% | 30/15 Summer | | | | 86.945 | 0.863 | 0.000 | 0.39 | | 57.0 |
| S1.022 | S19 | 1440 Winter | 100 | +40% | 1/1440 Winter | | | | 86.940 | 0.916 | 0.000 | 0.38 | | 57.4 |
| S1.023 | SHWD2 | 15 Summer | 100 | +40% | | | | | 85.950 | 0.000 | 0.000 | 1.54 | | 260.6 |
| S24.000 | SXX | 15 Winter | 100 | +40% | 100/15 Summer | | | | 88.628 | 0.305 | 0.000 | 1.37 | | 116.4 |
| S24.001 | SXX | 15 Winter | 100 | +40% | | | | | 87.838 | -0.162 | 0.000 | 0.70 | | 231.7 |
| S24.002 | SXX | 600 Winter | 100 | +40% | 100/120 Winter | | | | 87.497 | 0.297 | 0.000 | 0.09 | | 32.7 |
| S24.003 | SXXFC | 600 Winter | 100 | +40% | 30/30 Winter | | | | 87.495 | 1.070 | 0.000 | 0.03 | | 4.9 |
| S24.004 | SHWC2 | 1440 Summer | 100 | +40% | | | | | 86.350 | 0.000 | 0.000 | 0.02 | | 4.9 |
| S24.005 | SBasin C | 1440 Winter | 100 | +40% | 1/600 Winter | | | | 86.920 | 1.020 | 0.000 | 0.30 | | 4.4 |
| S24.006 | SHWD3 | 1440 Winter | 100 | +40% | 1/480 Winter | | | | 86.934 | 1.059 | 0.000 | 0.03 | | 4.3 |
| S1.024 | SBasin D | 1440 Winter | 100 | +40% | 1/360 Winter | | | | 86.935 | 1.135 | 0.000 | 0.12 | | 9.8 |
| S25.000 | SXX | 15 Winter | 100 | +40% | 100/15 Summer | | | | 87.049 | 0.349 | 0.000 | 0.31 | | 114.6 |
| S26.000 | SXX | 15 Summer | 100 | +40% | 100/15 Summer | | | | 88.756 | 1.056 | 0.000 | 0.32 | | 99.1 |
| S27.000 | SXX | 15 Winter | 100 | +40% | 100/15 Summer | | | | 89.412 | 1.362 | 0.000 | 0.81 | | 115.9 |
| S27.001 | SXX | 15 Winter | 100 | +40% | 30/15 Summer | 100/15 Summer | | | 88.891 | 1.601 | 14.382 | 1.94 | | 194.2 |



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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|---------|---------------|-------------|-------------------|
| S23.007 | SIC67 | FLOOD RISK | |
| S22.003 | SIC43 | FLOOD RISK | |
| S22.004 | SIC44 | FLOOD | 1 |
| S22.005 | SIC45 | OK | |
| S22.006 | SIC46 | FLOOD RISK | |
| S22.007 | SIC47 | OK | |
| S22.008 | SIC48 | FLOOD RISK | |
| S22.009 | SIC49 | FLOOD RISK | |
| S22.010 | SIC50 | FLOOD | 1 |
| S22.011 | SIC51 | FLOOD RISK | |
| S22.012 | SIC52 | FLOOD RISK | |
| S22.013 | SIC53 | OK | |
| S22.014 | SIC54 | FLOOD RISK | |
| S22.015 | SIC55 | OK | |
| S22.016 | SIC56 | FLOOD RISK | |
| S22.017 | SIC57 | OK | |
| S22.018 | SIC58 | FLOOD RISK | |
| S1.020 | S17 | SURCHARGED | |
| S1.021 | S18 | SURCHARGED | |
| S1.022 | S19 | FLOOD RISK | |
| S1.023 | SHWD2 | SURCHARGED* | |
| S24.000 | SXX | SURCHARGED | |
| S24.001 | SXX | OK | |
| S24.002 | SXX | SURCHARGED | |
| S24.003 | SXXFC | FLOOD RISK | |
| S24.004 | SHWC2 | SURCHARGED* | |
| S24.005 | SBasin C | FLOOD RISK | |
| S24.006 | SHWD3 | FLOOD RISK | |
| S1.024 | SBasin D | FLOOD RISK | |
| S25.000 | SXX | SURCHARGED | |
| S26.000 | SXX | SURCHARGED | |
| S27.000 | SXX | FLOOD RISK | |

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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| PN | US/MH Name | Status | Level Exceeded |
|---------|---------------|--------|-------------------|
| S27.001 | SXX | FLOOD | 4 |



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| PN | US/MH Name | Storm | Return Period | Climate Change | First (X) Surcharge | First (Y) Flood | First (Z) Overflow | Overflow Act. | Water Level (m) | Surcharged Depth (m) | Flooded Volume (m ³) | Flow / Overflow Cap. (l/s) | Half Drain Time (mins) | Pipe Flow (l/s) |
|---------|------------|-------------|---------------|----------------|---------------------|-----------------|--------------------|---------------|-----------------|----------------------|----------------------------------|----------------------------|------------------------|-----------------|
| S26.001 | SXX | 15 Winter | 100 | +40% | 100/15 Summer | 100/15 Summer | | | 88.558 | 1.508 | 1.923 | 1.25 | | 355.6 |
| S28.000 | SXX | 15 Winter | 100 | +40% | 100/15 Summer | | | | 88.829 | 1.279 | 0.000 | 0.94 | | 103.9 |
| S28.001 | SXX | 15 Winter | 100 | +40% | 100/15 Summer | | | | 88.223 | 1.288 | 0.000 | 0.62 | | 201.5 |
| S26.002 | SXX | 15 Winter | 100 | +40% | 30/15 Summer | 100/15 Winter | | | 87.997 | 1.462 | 0.354 | 2.00 | | 610.7 |
| S26.003 | SXX | 15 Winter | 100 | +40% | 30/15 Summer | 100/15 Winter | | | 87.401 | 1.016 | 1.542 | 1.64 | | 589.5 |
| S25.001 | SXX | 1440 Winter | 100 | +40% | 30/15 Summer | | | | 86.882 | 0.712 | 0.000 | 0.14 | | 43.1 |
| S25.002 | SXXFC | 1440 Winter | 100 | +40% | 1/30 Summer | | | | 86.882 | 1.383 | 0.000 | 0.36 | | 4.7 |
| S1.025 | S20FC | 1440 Winter | 100 | +40% | 1/15 Summer | | | | 86.929 | 1.519 | 0.000 | 0.71 | | 8.0 |
| S1.026 | SHWE2 | 1440 Winter | 100 | +40% | | | | | 86.464 | -0.236 | 0.000 | 0.00 | | 8.0 |
| S29.000 | SXX | 15 Winter | 100 | +40% | 1/15 Summer | | | | 86.612 | 0.992 | 0.000 | 2.88 | | 108.5 |
| S29.001 | SXXFC | 1440 Winter | 100 | +40% | 1/15 Summer | | | | 86.436 | 0.996 | 0.000 | 0.17 | | 2.2 |
| S1.027 | SHWF3 | 1440 Winter | 100 | +40% | | | | | 86.459 | -0.241 | 0.000 | 0.00 | | 6.5 |
| S1.028 | SHWF1 | 1440 Winter | 100 | +40% | 1/15 Summer | | | | 86.458 | 1.167 | 0.000 | 0.42 | | 5.5 |
| S1.029 | S21FC | 1440 Winter | 100 | +40% | 1/15 Summer | | | | 86.447 | 1.197 | 0.000 | 0.51 | | 5.5 |
| S1.030 | SHWG1 | 1440 Winter | 100 | +40% | | | | | 85.164 | -0.836 | 0.000 | 0.00 | | 5.5 |
| S1.031 | SHWO3 | 1440 Winter | 100 | +40% | | | | | 85.095 | -0.075 | 0.000 | 0.51 | | 5.5 |
| S1.032 | S21A | 1440 Winter | 100 | +40% | | | | | 85.058 | -0.082 | 0.000 | 0.43 | | 5.5 |

| PN | US/MH Name | Status | Level Exceeded |
|---------|------------|-------------|----------------|
| S26.001 | SXX | FLOOD | 2 |
| S28.000 | SXX | FLOOD RISK | |
| S28.001 | SXX | FLOOD RISK | |
| S26.002 | SXX | FLOOD | 1 |
| S26.003 | SXX | FLOOD | 1 |
| S25.001 | SXX | SURCHARGED | |
| S25.002 | SXXFC | FLOOD RISK | |
| S1.025 | S20FC | FLOOD RISK | |
| S1.026 | SHWE2 | FLOOD RISK* | |
| S29.000 | SXX | FLOOD RISK | |



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100 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NW3 Storm + 2A

| | US/MH | | Level |
|-----------|--------------|---------------|-----------------|
| PN | Name | Status | Exceeded |
| S29.001 | SXXFC | FLOOD RISK | |
| S1.027 | SHWF3 | FLOOD RISK* | |
| S1.028 | SHWF1 | FLOOD RISK* | |
| S1.029 | S21FC | FLOOD RISK | |
| S1.030 | SHWG1 | OK | |
| S1.031 | SHWO3 | OK* | |
| S1.032 | S21A | OK | |