

### Design Settings

|                                      |        |                                    |               |
|--------------------------------------|--------|------------------------------------|---------------|
| Rainfall Methodology                 | FEH-13 | Minimum Velocity (m/s)             | 1.00          |
| Return Period (years)                | 100    | Connection Type                    | Level Soffits |
| Additional Flow (%)                  | 40     | Minimum Backdrop Height (m)        | 0.200         |
| CV                                   | 0.750  | Preferred Cover Depth (m)          | 1.200         |
| Time of Entry (mins)                 | 5.00   | Include Intermediate Ground        | ✓             |
| Maximum Time of Concentration (mins) | 30.00  | Enforce best practice design rules | ✓             |
| Maximum Rainfall (mm/hr)             | 100.0  |                                    |               |

### Nodes

| Name  | Area<br>(ha) | T of E<br>(mins) | Cover<br>Level<br>(m) | Diameter<br>(mm) | Easting<br>(m) | Northing<br>(m) | Depth<br>(m) |
|-------|--------------|------------------|-----------------------|------------------|----------------|-----------------|--------------|
| 1     | 0.101        | 5.00             | 2.784                 | 1200             | 493987.503     | 101566.187      | 0.970        |
| 20    | 0.070        | 5.00             | 2.650                 | 450              | 493975.807     | 101577.062      | 0.750        |
| 3     | 0.116        | 5.00             | 2.953                 | 1200             | 493982.341     | 101586.310      | 1.231        |
| 5     |              | 5.00             | 2.715                 | 150              | 493969.018     | 101573.728      | 0.515        |
| 6     |              |                  | 2.715                 | 450              | 493941.865     | 101566.794      | 0.795        |
| 7     |              |                  | 2.715                 | 450              | 493911.789     | 101559.106      | 1.105        |
| 8     | 0.022        | 5.00             | 2.687                 | 1200             | 493903.294     | 101566.222      | 1.237        |
| 9     | 0.051        | 5.00             | 2.500                 | 450              | 493864.964     | 101567.472      | 0.784        |
| 10    | 0.016        | 5.00             | 2.600                 | 450              | 493905.645     | 101559.137      | 0.750        |
| 11    |              |                  | 2.780                 | 1200             | 493889.040     | 101559.066      | 1.430        |
| 13    | 0.015        | 5.00             | 2.715                 | 150              | 493975.485     | 101571.247      | 0.615        |
| 14    |              |                  | 2.846                 | 600              | 493982.255     | 101544.587      | 0.954        |
| 15    | 0.091        | 5.00             | 2.684                 | 600              | 493952.938     | 101536.840      | 0.944        |
| 16    | 0.106        | 5.00             | 2.699                 | 600              | 493921.024     | 101528.738      | 1.199        |
| 17    | 0.043        | 5.00             | 2.568                 | 450              | 493911.361     | 101547.078      | 0.750        |
| 19    | 0.038        | 5.00             | 2.576                 | 450              | 493869.980     | 101547.943      | 0.750        |
| 22    | 0.101        | 5.00             | 2.806                 | 1200             | 493886.816     | 101525.369      | 1.506        |
| SW900 |              |                  | 2.619                 | 1200             | 493878.000     | 101523.000      | 1.369        |
| 24    | 0.040        | 5.00             | 2.700                 | 450              | 493904.928     | 101570.521      | 0.750        |
| 23    | 0.014        | 5.00             | 2.600                 | 450              | 493929.865     | 101565.367      | 0.750        |

### Pipeline Schedule

| Link  | Length<br>(m) | Slope<br>(1:X) | Dia<br>(mm) | Link<br>Type | US CL<br>(m) | US IL<br>(m) | US Depth<br>(m) | DS CL<br>(m) | DS IL<br>(m) | DS Depth<br>(m) |
|-------|---------------|----------------|-------------|--------------|--------------|--------------|-----------------|--------------|--------------|-----------------|
| 1.000 | 20.775        | 225.8          | 225         | Circular     | 2.784        | 1.814        | 0.745           | 2.953        | 1.722        | 1.006           |
| 2.000 | 11.323        | 88.5           | 100         | Circular     | 2.650        | 1.900        | 0.650           | 2.953        | 1.772        | 1.081           |
| 1.001 | 81.560        | 299.9          | 375         | Circular     | 2.953        | 1.722        | 0.856           | 2.687        | 1.450        | 0.862           |
| 3.000 | 28.024        | 100.1          | 100         | Circular     | 2.715        | 2.200        | 0.415           | 2.715        | 1.920        | 0.695           |
| 3.001 | 31.043        | 100.1          | 100         | Circular     | 2.715        | 1.920        | 0.695           | 2.715        | 1.610        | 1.005           |
| 3.002 | 11.082        | 100.7          | 100         | Circular     | 2.715        | 1.610        | 1.005           | 2.687        | 1.500        | 1.087           |
| 1.002 | 15.949        | 159.5          | 300         | Circular     | 2.687        | 1.450        | 0.937           | 2.780        | 1.350        | 1.130           |

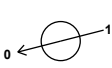
| Link  | US<br>Node | Dia<br>(mm) | Node<br>Type | MH<br>Type | DS<br>Node | Dia<br>(mm) | Node<br>Type | MH<br>Type |
|-------|------------|-------------|--------------|------------|------------|-------------|--------------|------------|
| 1.000 | 1          | 1200        | Manhole      | Adoptable  | 3          | 1200        | Manhole      | Adoptable  |
| 2.000 | 20         | 450         | Junction     |            | 3          | 1200        | Manhole      | Adoptable  |
| 1.001 | 3          | 1200        | Manhole      | Adoptable  | 8          | 1200        | Manhole      | Adoptable  |
| 3.000 | 5          | 150         | Manhole      | Adoptable  | 6          | 450         | Manhole      | Adoptable  |
| 3.001 | 6          | 450         | Manhole      | Adoptable  | 7          | 450         | Manhole      | Adoptable  |
| 3.002 | 7          | 450         | Manhole      | Adoptable  | 8          | 1200        | Manhole      | Adoptable  |
| 1.002 | 8          | 1200        | Manhole      | Adoptable  | 11         | 1200        | Manhole      | Adoptable  |

**Pipeline Schedule**

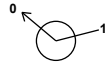
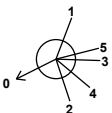
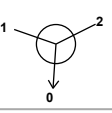
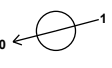
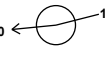
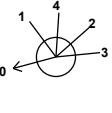
| Link   | Length<br>(m) | Slope<br>(1:X) | Dia<br>(mm) | Link<br>Type | US CL<br>(m) | US IL<br>(m) | US Depth<br>(m) | DS CL<br>(m) | DS IL<br>(m) | DS Depth<br>(m) |
|--------|---------------|----------------|-------------|--------------|--------------|--------------|-----------------|--------------|--------------|-----------------|
| 7.000  | 25.501        | 95.9           | 100         | Circular     | 2.500        | 1.716        | 0.684           | 2.780        | 1.450        | 1.230           |
| 5.000  | 7.465         | 31.4           | 100         | Circular     | 2.600        | 1.850        | 0.650           | 2.687        | 1.612        | 0.975           |
| 1.003  | 33.770        | 675.4          | 450         | Circular     | 2.780        | 1.350        | 0.980           | 2.806        | 1.300        | 1.056           |
| 8.000  | 27.506        | 132.2          | 150         | Circular     | 2.715        | 2.100        | 0.465           | 2.846        | 1.892        | 0.804           |
| 8.001  | 30.323        | 200.0          | 225         | Circular     | 2.846        | 1.892        | 0.729           | 2.684        | 1.740        | 0.719           |
| 8.002  | 32.926        | 200.0          | 225         | Circular     | 2.684        | 1.740        | 0.719           | 2.699        | 1.575        | 0.899           |
| 8.003  | 34.373        | 171.9          | 300         | Circular     | 2.699        | 1.500        | 0.899           | 2.806        | 1.300        | 1.206           |
| 9.000  | 32.768        | 100.0          | 100         | Circular     | 2.568        | 1.818        | 0.650           | 2.806        | 1.490        | 1.216           |
| 10.000 | 28.161        | 100.0          | 100         | Circular     | 2.576        | 1.826        | 0.650           | 2.806        | 1.544        | 1.162           |
| 1.004  | 9.129         | 182.6          | 150         | Circular     | 2.806        | 1.300        | 1.356           | 2.619        | 1.250        | 1.219           |
| 6.000  | 4.599         | 100.0          | 100         | Circular     | 2.700        | 1.950        | 0.650           | 2.687        | 1.904        | 0.683           |
| 4.000  | 26.585        | 100.0          | 100         | Circular     | 2.600        | 1.850        | 0.650           | 2.687        | 1.584        | 1.003           |

| Link   | US<br>Node | Dia<br>(mm) | Node<br>Type | MH<br>Type | DS<br>Node | Dia<br>(mm) | Node<br>Type | MH<br>Type |
|--------|------------|-------------|--------------|------------|------------|-------------|--------------|------------|
| 7.000  | 9          | 450         | Manhole      | Adoptable  | 11         | 1200        | Manhole      | Adoptable  |
| 5.000  | 10         | 450         | Manhole      | Adoptable  | 8          | 1200        | Manhole      | Adoptable  |
| 1.003  | 11         | 1200        | Manhole      | Adoptable  | 22         | 1200        | Manhole      | Adoptable  |
| 8.000  | 13         | 150         | Manhole      | Adoptable  | 14         | 600         | Manhole      | Adoptable  |
| 8.001  | 14         | 600         | Manhole      | Adoptable  | 15         | 600         | Manhole      | Adoptable  |
| 8.002  | 15         | 600         | Manhole      | Adoptable  | 16         | 600         | Manhole      | Adoptable  |
| 8.003  | 16         | 600         | Manhole      | Adoptable  | 22         | 1200        | Manhole      | Adoptable  |
| 9.000  | 17         | 450         | Manhole      | Adoptable  | 22         | 1200        | Manhole      | Adoptable  |
| 10.000 | 19         | 450         | Manhole      | Adoptable  | 22         | 1200        | Manhole      | Adoptable  |
| 1.004  | 22         | 1200        | Manhole      | Adoptable  | SW900      | 1200        | Manhole      | Adoptable  |
| 6.000  | 24         | 450         | Manhole      | Adoptable  | 8          | 1200        | Manhole      | Adoptable  |
| 4.000  | 23         | 450         | Manhole      | Adoptable  | 8          | 1200        | Manhole      | Adoptable  |

**Manhole Schedule**

| Node | Easting<br>(m) | Northing<br>(m) | CL<br>(m) | Depth<br>(m) | Dia<br>(mm) | Connections                                                                          | Link | IL<br>(m) | Dia<br>(mm) |     |
|------|----------------|-----------------|-----------|--------------|-------------|--------------------------------------------------------------------------------------|------|-----------|-------------|-----|
| 1    | 493987.503     | 101566.187      | 2.784     | 0.970        | 1200        |  | 0    | 1.000     | 1.814       | 225 |
| 20   | 493975.807     | 101577.062      | 2.650     | 0.750        | 450         |  | 0    | 2.000     | 1.900       | 100 |
| 3    | 493982.341     | 101586.310      | 2.953     | 1.231        | 1200        |  | 1    | 2.000     | 1.772       | 100 |
|      |                |                 |           |              |             |                                                                                      | 2    | 1.000     | 1.722       | 225 |
| 5    | 493969.018     | 101573.728      | 2.715     | 0.515        | 150         |  | 0    | 1.001     | 1.722       | 375 |
|      |                |                 |           |              |             |                                                                                      | 0    | 3.000     | 2.200       | 100 |
| 6    | 493941.865     | 101566.794      | 2.715     | 0.795        | 450         |  | 1    | 3.000     | 1.920       | 100 |
|      |                |                 |           |              |             |                                                                                      | 0    | 3.001     | 1.920       | 100 |

**Manhole Schedule**

| Node | Easting<br>(m) | Northing<br>(m) | CL<br>(m) | Depth<br>(m) | Dia<br>(mm) | Connections                                                                          | Link                                                           | IL<br>(m)                                          | Dia<br>(mm)                            |
|------|----------------|-----------------|-----------|--------------|-------------|--------------------------------------------------------------------------------------|----------------------------------------------------------------|----------------------------------------------------|----------------------------------------|
| 7    | 493911.789     | 101559.106      | 2.715     | 1.105        | 450         |    | 1<br>3.001                                                     | 1.610                                              | 100                                    |
| 8    | 493903.294     | 101566.222      | 2.687     | 1.237        | 1200        |    | 1 6.000<br>2 5.000<br>3 4.000<br>4 3.002<br>5 1.001<br>0 1.002 | 1.904<br>1.612<br>1.584<br>1.500<br>1.450<br>1.450 | 100<br>100<br>100<br>100<br>375<br>300 |
| 9    | 493864.964     | 101567.472      | 2.500     | 0.784        | 450         |    | 0<br>7.000                                                     | 1.716                                              | 100                                    |
| 10   | 493905.645     | 101559.137      | 2.600     | 0.750        | 450         |    | 0<br>5.000                                                     | 1.850                                              | 100                                    |
| 11   | 493889.040     | 101559.066      | 2.780     | 1.430        | 1200        |   | 1 7.000<br>2 1.002<br>0 1.003                                  | 1.450<br>1.350<br>1.350                            | 100<br>300<br>450                      |
| 13   | 493975.485     | 101571.247      | 2.715     | 0.615        | 150         |  | 0<br>8.000                                                     | 2.100                                              | 150                                    |
| 14   | 493982.255     | 101544.587      | 2.846     | 0.954        | 600         |  | 1<br>8.000                                                     | 1.892                                              | 150                                    |
| 15   | 493952.938     | 101536.840      | 2.684     | 0.944        | 600         |  | 0<br>8.001                                                     | 1.892                                              | 225                                    |
| 16   | 493921.024     | 101528.738      | 2.699     | 1.199        | 600         |  | 1<br>8.001                                                     | 1.740                                              | 225                                    |
| 17   | 493911.361     | 101547.078      | 2.568     | 0.750        | 450         |  | 0<br>8.002                                                     | 1.740                                              | 225                                    |
| 19   | 493869.980     | 101547.943      | 2.576     | 0.750        | 450         |  | 1<br>8.002                                                     | 1.575                                              | 225                                    |
| 22   | 493886.816     | 101525.369      | 2.806     | 1.506        | 1200        |  | 1 10.000<br>2 9.000<br>3 8.003<br>4 1.003<br>0 1.004           | 1.544<br>1.490<br>1.300<br>1.300<br>1.300          | 100<br>100<br>300<br>450<br>150        |

### Manhole Schedule

| Node  | Easting (m) | Northing (m) | CL (m) | Depth (m) | Dia (mm) | Connections | Link  | IL (m) | Dia (mm) |
|-------|-------------|--------------|--------|-----------|----------|-------------|-------|--------|----------|
| SW900 | 493878.000  | 101523.000   | 2.619  | 1.369     | 1200     | 1           | 1.004 | 1.250  | 150      |
| 24    | 493904.928  | 101570.521   | 2.700  | 0.750     | 450      | 0           | 6.000 | 1.950  | 100      |
| 23    | 493929.865  | 101565.367   | 2.600  | 0.750     | 450      | 0           | 4.000 | 1.850  | 100      |

### Simulation Settings

|                      |        |                        |        |                            |     |
|----------------------|--------|------------------------|--------|----------------------------|-----|
| Rainfall Methodology | FEH-13 | Analysis Speed         | Normal | Additional Storage (m³/ha) | 0.0 |
| Summer CV            | 0.750  | Skip Steady State      | x      | Check Discharge Rate(s)    | x   |
| Winter CV            | 0.840  | Drain Down Time (mins) | 240    | Check Discharge Volume     | x   |

### Storm Durations

|    |     |     |     |     |      |      |      |      |       |
|----|-----|-----|-----|-----|------|------|------|------|-------|
| 15 | 60  | 180 | 360 | 600 | 960  | 2160 | 4320 | 7200 | 10080 |
| 30 | 120 | 240 | 480 | 720 | 1440 | 2880 | 5760 | 8640 |       |

| Return Period (years) | Climate Change (CC %) | Additional Area (A %) | Additional Flow (Q %) |
|-----------------------|-----------------------|-----------------------|-----------------------|
| 5                     | 0                     | 0                     | 0                     |
| 30                    | 20                    | 0                     | 0                     |
| 100                   | 40                    | 0                     | 0                     |

### Node 22 Online Hydro-Brake® Control

|                          |       |                         |                                |
|--------------------------|-------|-------------------------|--------------------------------|
| Flap Valve               | x     | Objective               | (HE) Minimise upstream storage |
| Replaces Downstream Link | ✓     | Sump Available          | ✓                              |
| Invert Level (m)         | 1.300 | Product Number          | CTL-SHE-0072-2500-1200-2500    |
| Design Depth (m)         | 1.200 | Min Outlet Diameter (m) | 0.100                          |
| Design Flow (l/s)        | 2.5   | Min Node Diameter (mm)  | 1200                           |

### Node 22 Depth/Area Storage Structure

|                             |         |               |      |                           |       |
|-----------------------------|---------|---------------|------|---------------------------|-------|
| Base Inf Coefficient (m/hr) | 0.00000 | Safety Factor | 2.0  | Invert Level (m)          | 1.300 |
| Side Inf Coefficient (m/hr) | 0.00000 | Porosity      | 0.95 | Time to half empty (mins) |       |

| Depth (m) | Area (m²) | Inf Area (m²) | Depth (m) | Area (m²) | Inf Area (m²) | Depth (m) | Area (m²) | Inf Area (m²) |
|-----------|-----------|---------------|-----------|-----------|---------------|-----------|-----------|---------------|
| 0.000     | 560.0     | 0.0           | 0.900     | 560.0     | 0.0           | 0.901     | 0.0       | 0.0           |

### Node 19 Carpark Storage Structure

|                             |         |                           |        |               |       |
|-----------------------------|---------|---------------------------|--------|---------------|-------|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m)          | 2.096  | Slope (1:X)   | 100.0 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 0      | Depth (m)     | 0.350 |
| Safety Factor               | 2.0     | Width (m)                 | 22.500 | Inf Depth (m) |       |
| Porosity                    | 0.35    | Length (m)                | 9.600  |               |       |

### Node 17 Carpark Storage Structure

|                             |         |                           |        |               |       |
|-----------------------------|---------|---------------------------|--------|---------------|-------|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m)          | 2.088  | Slope (1:X)   | 100.0 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 11     | Depth (m)     | 0.350 |
| Safety Factor               | 2.0     | Width (m)                 | 17.000 | Inf Depth (m) |       |
| Porosity                    | 0.35    | Length (m)                | 9.600  |               |       |

### Node 20 Carpark Storage Structure

|                             |         |                           |        |               |       |
|-----------------------------|---------|---------------------------|--------|---------------|-------|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m)          | 1.900  | Slope (1:X)   | 60.0  |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 17     | Depth (m)     | 0.350 |
| Safety Factor               | 2.0     | Width (m)                 | 6.250  | Inf Depth (m) |       |
| Porosity                    | 0.35    | Length (m)                | 50.000 |               |       |

### Node 9 Carpark Storage Structure

|                             |         |                           |        |               |       |
|-----------------------------|---------|---------------------------|--------|---------------|-------|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m)          | 1.986  | Slope (1:X)   | 100.0 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) |        | Depth (m)     | 0.350 |
| Safety Factor               | 2.0     | Width (m)                 | 27.500 | Inf Depth (m) |       |
| Porosity                    | 0.35    | Length (m)                | 10.000 |               |       |

### Node 10 Carpark Storage Structure

|                             |         |                           |        |               |       |
|-----------------------------|---------|---------------------------|--------|---------------|-------|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m)          | 2.120  | Slope (1:X)   | 100.0 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) | 0      | Depth (m)     | 0.350 |
| Safety Factor               | 2.0     | Width (m)                 | 25.000 | Inf Depth (m) |       |
| Porosity                    | 0.35    | Length (m)                | 6.200  |               |       |

### Node 24 Carpark Storage Structure

|                             |         |                           |        |               |       |
|-----------------------------|---------|---------------------------|--------|---------------|-------|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m)          | 1.950  | Slope (1:X)   | 100.0 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) |        | Depth (m)     | 0.350 |
| Safety Factor               | 2.0     | Width (m)                 | 30.000 | Inf Depth (m) |       |
| Porosity                    | 1.00    | Length (m)                | 10.000 |               |       |

### Node 23 Carpark Storage Structure

|                             |         |                           |        |               |       |
|-----------------------------|---------|---------------------------|--------|---------------|-------|
| Base Inf Coefficient (m/hr) | 0.00000 | Invert Level (m)          | 1.850  | Slope (1:X)   | 100.0 |
| Side Inf Coefficient (m/hr) | 0.00000 | Time to half empty (mins) |        | Depth (m)     | 0.350 |
| Safety Factor               | 2.0     | Width (m)                 | 17.500 | Inf Depth (m) |       |
| Porosity                    | 1.00    | Length (m)                | 6.200  |               |       |

**Results for 5 year Critical Storm Duration. Lowest mass balance: 99.20%**

| Node Event        | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|-------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 15 minute winter  | 1       | 10          | 1.960     | 0.146     | 23.2         | 0.1653        | 0.0000     | OK         |
| 15 minute winter  | 20      | 13          | 2.185     | 0.285     | 16.1         | 2.2549        | 0.0000     | SURCHARGED |
| 15 minute winter  | 3       | 10          | 1.905     | 0.183     | 57.0         | 0.2070        | 0.0000     | OK         |
| 15 minute summer  | 5       | 1           | 2.200     | 0.000     | 0.0          | 0.0000        | 0.0000     | OK         |
| 15 minute summer  | 6       | 1           | 1.920     | 0.000     | 0.0          | 0.0000        | 0.0000     | OK         |
| 600 minute winter | 7       | 585         | 1.698     | 0.088     | 0.0          | 0.0141        | 0.0000     | OK         |
| 600 minute winter | 8       | 585         | 1.699     | 0.248     | 9.0          | 0.2811        | 0.0000     | OK         |
| 15 minute winter  | 9       | 13          | 2.023     | 0.307     | 11.7         | 0.7020        | 0.0000     | SURCHARGED |
| 15 minute winter  | 10      | 10          | 1.891     | 0.041     | 3.6          | 0.0066        | 0.0000     | OK         |
| 600 minute winter | 11      | 585         | 1.698     | 0.348     | 10.1         | 0.3941        | 0.0000     | OK         |
| 15 minute winter  | 13      | 10          | 2.150     | 0.050     | 3.5          | 0.0009        | 0.0000     | OK         |
| 15 minute winter  | 14      | 11          | 1.938     | 0.046     | 3.4          | 0.0130        | 0.0000     | OK         |
| 15 minute winter  | 15      | 11          | 1.875     | 0.135     | 23.9         | 0.0382        | 0.0000     | OK         |
| 600 minute winter | 16      | 585         | 1.698     | 0.198     | 5.1          | 0.0562        | 0.0000     | OK         |
| 15 minute winter  | 17      | 12          | 2.108     | 0.290     | 9.8          | 0.1670        | 0.0000     | SURCHARGED |
| 15 minute winter  | 19      | 11          | 2.072     | 0.246     | 8.8          | 0.0390        | 0.0000     | SURCHARGED |
| 600 minute winter | 22      | 585         | 1.698     | 0.398     | 19.1         | 212.4520      | 0.0000     | SURCHARGED |
| 15 minute summer  | SW900   | 1           | 1.250     | 0.000     | 2.1          | 0.0000        | 0.0000     | OK         |
| 30 minute winter  | 24      | 24          | 1.998     | 0.048     | 7.1          | 3.4162        | 0.0000     | OK         |
| 30 minute winter  | 23      | 23          | 1.882     | 0.032     | 2.5          | 0.8909        | 0.0000     | OK         |

| Link Event<br>(Upstream Depth) | US Node | Link         | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|--------------------------------|---------|--------------|---------|---------------|----------------|----------|---------------|--------------------|
| 15 minute winter               | 1       | 1.000        | 3       | 22.8          | 0.732          | 0.662    | 0.6429        |                    |
| 15 minute winter               | 20      | 2.000        | 3       | 9.6           | 1.227          | 1.495    | 0.0886        |                    |
| 15 minute winter               | 3       | 1.001        | 8       | 56.7          | 0.958          | 0.493    | 4.9068        |                    |
| 15 minute summer               | 5       | 3.000        | 6       | 0.0           | 0.000          | 0.000    | 0.0000        |                    |
| 15 minute summer               | 6       | 3.001        | 7       | 0.0           | 0.000          | 0.000    | 0.0754        |                    |
| 600 minute winter              | 7       | 3.002        | 8       | 0.0           | -0.009         | -0.008   | 0.0840        |                    |
| 600 minute winter              | 8       | 1.002        | 11      | 8.9           | 0.549          | 0.101    | 1.0591        |                    |
| 15 minute winter               | 9       | 7.000        | 11      | 8.1           | 1.038          | 1.316    | 0.1995        |                    |
| 15 minute winter               | 10      | 5.000        | 8       | 3.6           | 1.170          | 0.333    | 0.0280        |                    |
| 600 minute winter              | 11      | 1.003        | 22      | 9.7           | 0.526          | 0.079    | 4.7311        |                    |
| 15 minute winter               | 13      | 8.000        | 14      | 3.4           | 0.730          | 0.223    | 0.1305        |                    |
| 15 minute winter               | 14      | 8.001        | 15      | 3.4           | 0.230          | 0.092    | 0.4642        |                    |
| 15 minute winter               | 15      | 8.002        | 16      | 23.3          | 0.973          | 0.637    | 0.7894        |                    |
| 600 minute winter              | 16      | 8.003        | 22      | 5.1           | 0.608          | 0.060    | 2.0604        |                    |
| 15 minute winter               | 17      | 9.000        | 22      | 7.7           | 0.990          | 1.282    | 0.2480        |                    |
| 15 minute winter               | 19      | 10.000       | 22      | 7.6           | 0.973          | 1.258    | 0.2127        |                    |
| 600 minute winter              | 22      | Hydro-Brake® | SW900   | 2.3           |                |          |               | 92.0               |
| 30 minute winter               | 24      | 6.000        | 8       | 2.5           | 0.699          | 0.407    | 0.0162        |                    |
| 30 minute winter               | 23      | 4.000        | 8       | 1.3           | 0.611          | 0.219    | 0.0907        |                    |

**Results for 30 year +20% CC Critical Storm Duration. Lowest mass balance: 99.20%**

| Node Event        | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|-------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 15 minute winter  | 1       | 10          | 2.180     | 0.366     | 44.4         | 0.4140        | 0.0000     | SURCHARGED |
| 15 minute winter  | 20      | 14          | 2.407     | 0.507     | 30.7         | 7.1288        | 0.0000     | FLOOD RISK |
| 15 minute winter  | 3       | 11          | 2.010     | 0.288     | 103.3        | 0.3255        | 0.0000     | OK         |
| 15 minute summer  | 5       | 1           | 2.200     | 0.000     | 0.0          | 0.0000        | 0.0000     | OK         |
| 960 minute winter | 6       | 945         | 2.007     | 0.087     | 0.0          | 0.0139        | 0.0000     | OK         |
| 720 minute winter | 7       | 705         | 2.007     | 0.397     | 0.1          | 0.0632        | 0.0000     | SURCHARGED |
| 720 minute winter | 8       | 705         | 2.007     | 0.557     | 13.3         | 0.6303        | 0.0000     | SURCHARGED |
| 15 minute winter  | 9       | 14          | 2.081     | 0.365     | 22.5         | 4.3743        | 0.0000     | SURCHARGED |
| 720 minute winter | 10      | 705         | 2.007     | 0.157     | 0.6          | 0.0250        | 0.0000     | SURCHARGED |
| 720 minute winter | 11      | 705         | 2.007     | 0.657     | 14.2         | 0.7434        | 0.0000     | SURCHARGED |
| 15 minute winter  | 13      | 10          | 2.170     | 0.070     | 6.7          | 0.0013        | 0.0000     | OK         |
| 720 minute winter | 14      | 705         | 2.007     | 0.115     | 0.5          | 0.0326        | 0.0000     | OK         |
| 720 minute winter | 15      | 705         | 2.007     | 0.267     | 3.7          | 0.0756        | 0.0000     | SURCHARGED |
| 720 minute winter | 16      | 705         | 2.007     | 0.507     | 7.4          | 0.1436        | 0.0000     | SURCHARGED |
| 15 minute winter  | 17      | 14          | 2.183     | 0.365     | 18.8         | 2.7242        | 0.0000     | SURCHARGED |
| 15 minute winter  | 19      | 13          | 2.167     | 0.341     | 16.8         | 2.0602        | 0.0000     | SURCHARGED |
| 720 minute winter | 22      | 705         | 2.007     | 0.707     | 27.1         | 377.0692      | 0.0000     | SURCHARGED |
| 15 minute summer  | SW900   | 1           | 1.250     | 0.000     | 2.3          | 0.0000        | 0.0000     | OK         |
| 30 minute winter  | 24      | 25          | 2.018     | 0.068     | 13.7         | 6.8578        | 0.0000     | OK         |
| 720 minute winter | 23      | 720         | 2.007     | 0.157     | 1.7          | 13.7300       | 0.0000     | SURCHARGED |

| Link Event<br>(Upstream Depth) | US Node | Link         | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|--------------------------------|---------|--------------|---------|---------------|----------------|----------|---------------|--------------------|
| 15 minute winter               | 1       | 1.000        | 3       | 43.8          | 1.101          | 1.271    | 0.8262        |                    |
| 15 minute winter               | 20      | 2.000        | 3       | 12.4          | 1.591          | 1.937    | 0.0886        |                    |
| 15 minute winter               | 3       | 1.001        | 8       | 100.8         | 1.045          | 0.877    | 8.2001        |                    |
| 15 minute summer               | 5       | 3.000        | 6       | 0.0           | 0.000          | 0.000    | 0.0000        |                    |
| 960 minute winter              | 6       | 3.001        | 7       | 0.0           | -0.008         | -0.007   | 0.2342        |                    |
| 720 minute winter              | 7       | 3.002        | 8       | -0.1          | -0.020         | -0.022   | 0.0867        |                    |
| 720 minute winter              | 8       | 1.002        | 11      | 12.4          | 0.510          | 0.141    | 1.1231        |                    |
| 15 minute winter               | 9       | 7.000        | 11      | 7.9           | 1.016          | 1.289    | 0.1995        |                    |
| 720 minute winter              | 10      | 5.000        | 8       | 0.6           | 0.696          | 0.055    | 0.0584        |                    |
| 720 minute winter              | 11      | 1.003        | 22      | 13.8          | 0.562          | 0.112    | 5.3506        |                    |
| 15 minute winter               | 13      | 8.000        | 14      | 6.8           | 0.859          | 0.443    | 0.2991        |                    |
| 720 minute winter              | 14      | 8.001        | 15      | 0.5           | 0.144          | 0.014    | 0.9133        |                    |
| 720 minute winter              | 15      | 8.002        | 16      | 3.7           | 0.588          | 0.101    | 1.3095        |                    |
| 720 minute winter              | 16      | 8.003        | 22      | 7.0           | 0.657          | 0.083    | 2.4205        |                    |
| 15 minute winter               | 17      | 9.000        | 22      | 8.2           | 1.043          | 1.351    | 0.2495        |                    |
| 15 minute winter               | 19      | 10.000       | 22      | 8.2           | 1.052          | 1.362    | 0.2146        |                    |
| 720 minute winter              | 22      | Hydro-Brake® | SW900   | 2.3           |                |          |               | 99.6               |
| 30 minute winter               | 24      | 6.000        | 8       | 4.2           | 0.791          | 0.699    | 0.0245        |                    |
| 720 minute winter              | 23      | 4.000        | 8       | -1.5          | 0.435          | -0.256   | 0.2080        |                    |

**Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.20%**

| Node Event        | US Node | Peak (mins) | Level (m) | Depth (m) | Inflow (l/s) | Node Vol (m³) | Flood (m³) | Status     |
|-------------------|---------|-------------|-----------|-----------|--------------|---------------|------------|------------|
| 15 minute winter  | 1       | 10          | 2.784     | 0.970     | 65.1         | 1.0971        | 0.4138     | FLOOD      |
| 15 minute winter  | 20      | 15          | 2.615     | 0.715     | 47.4         | 14.1302       | 0.0000     | FLOOD RISK |
| 15 minute winter  | 3       | 11          | 2.445     | 0.723     | 134.4        | 0.8181        | 0.0000     | SURCHARGED |
| 960 minute winter | 5       | 945         | 2.203     | 0.003     | 0.0          | 0.0001        | 0.0000     | OK         |
| 960 minute winter | 6       | 945         | 2.203     | 0.283     | 0.2          | 0.0450        | 0.0000     | SURCHARGED |
| 960 minute winter | 7       | 945         | 2.203     | 0.593     | 0.2          | 0.0943        | 0.0000     | SURCHARGED |
| 960 minute winter | 8       | 945         | 2.203     | 0.753     | 13.8         | 0.8521        | 0.0000     | SURCHARGED |
| 960 minute winter | 9       | 945         | 2.204     | 0.488     | 2.0          | 16.2213       | 0.0000     | FLOOD RISK |
| 960 minute winter | 10      | 945         | 2.203     | 0.353     | 0.6          | 2.9033        | 0.0000     | SURCHARGED |
| 960 minute winter | 11      | 945         | 2.203     | 0.853     | 15.2         | 0.9651        | 0.0000     | SURCHARGED |
| 15 minute winter  | 13      | 11          | 2.715     | 0.615     | 9.8          | 0.0111        | 0.0840     | FLOOD      |
| 15 minute winter  | 14      | 11          | 2.649     | 0.757     | 11.1         | 0.2143        | 0.0000     | FLOOD RISK |
| 15 minute winter  | 15      | 11          | 2.633     | 0.893     | 61.7         | 0.2528        | 0.0000     | FLOOD RISK |
| 960 minute winter | 16      | 945         | 2.203     | 0.703     | 8.0          | 0.1990        | 0.0000     | SURCHARGED |
| 30 minute winter  | 17      | 25          | 2.242     | 0.424     | 21.7         | 6.1164        | 0.0000     | SURCHARGED |
| 15 minute winter  | 19      | 14          | 2.207     | 0.381     | 24.7         | 4.8219        | 0.0000     | SURCHARGED |
| 960 minute winter | 22      | 945         | 2.203     | 0.903     | 30.1         | 480.0876      | 0.0000     | SURCHARGED |
| 15 minute summer  | SW900   | 1           | 1.250     | 0.000     | 2.3          | 0.0000        | 0.0000     | OK         |
| 960 minute winter | 24      | 945         | 2.203     | 0.253     | 5.2          | 61.0931       | 0.0000     | SURCHARGED |
| 960 minute winter | 23      | 945         | 2.203     | 0.353     | 3.2          | 34.7250       | 0.0000     | SURCHARGED |

| Link Event<br>(Upstream Depth) | US Node | Link         | DS Node | Outflow (l/s) | Velocity (m/s) | Flow/Cap | Link Vol (m³) | Discharge Vol (m³) |
|--------------------------------|---------|--------------|---------|---------------|----------------|----------|---------------|--------------------|
| 15 minute winter               | 1       | 1.000        | 3       | 60.3          | 1.516          | 1.751    | 0.8262        |                    |
| 15 minute winter               | 20      | 2.000        | 3       | 14.6          | 1.871          | 2.279    | 0.0886        |                    |
| 15 minute winter               | 3       | 1.001        | 8       | 133.0         | 1.206          | 1.157    | 8.9958        |                    |
| 960 minute winter              | 5       | 3.000        | 6       | 0.0           | 0.002          | 0.002    | 0.1107        |                    |
| 960 minute winter              | 6       | 3.001        | 7       | -0.2          | -0.026         | -0.026   | 0.2429        |                    |
| 960 minute winter              | 7       | 3.002        | 8       | -0.2          | -0.029         | -0.038   | 0.0867        |                    |
| 960 minute winter              | 8       | 1.002        | 11      | 13.3          | 0.466          | 0.151    | 1.1231        |                    |
| 960 minute winter              | 9       | 7.000        | 11      | 2.0           | 0.559          | 0.317    | 0.1995        |                    |
| 960 minute winter              | 10      | 5.000        | 8       | 0.6           | 0.652          | 0.055    | 0.0584        |                    |
| 960 minute winter              | 11      | 1.003        | 22      | 15.2          | 0.552          | 0.123    | 5.3506        |                    |
| 15 minute winter               | 13      | 8.000        | 14      | 11.1          | 0.843          | 0.718    | 0.4842        |                    |
| 15 minute winter               | 14      | 8.001        | 15      | 18.3          | 0.475          | 0.501    | 1.2060        |                    |
| 15 minute winter               | 15      | 8.002        | 16      | 61.0          | 1.533          | 1.666    | 1.3095        |                    |
| 960 minute winter              | 16      | 8.003        | 22      | 7.9           | 0.651          | 0.094    | 2.4205        |                    |
| 30 minute winter               | 17      | 9.000        | 22      | 8.3           | 1.060          | 1.372    | 0.2564        |                    |
| 15 minute winter               | 19      | 10.000       | 22      | 8.5           | 1.082          | 1.401    | 0.2203        |                    |
| 960 minute winter              | 22      | Hydro-Brake® | SW900   | 2.3           |                |          |               | 136.5              |
| 960 minute winter              | 24      | 6.000        | 8       | -4.1          | 0.621          | -0.684   | 0.0360        |                    |
| 960 minute winter              | 23      | 4.000        | 8       | -2.7          | 0.431          | -0.441   | 0.2080        |                    |