

Land between Royston Road and Cambridge Road, Barkway

To	Ellie Miller SuDS and Watercourses Support Officer	Date: 02/12/2024
Cc	Joe Wellborn (Redrow) Shuan Pentlow (Redrow)	Ref: 4929/002/ TN01 – Rev B

1. This Technical Note has been prepared to respond to the objection received from Hertfordshire County Council in regard to the reserved Matters Application ref: 24/01883/RM at Land between Royston Road and Cambridge Road, Barkway dated 7th October 2024.
2. The application is for the approval of reserved matters comprising: details of the siting, design and external appearance of the development, and the landscaping of the site in respect of the approved outline planning permission ref: 18/01502/OP for the development of 140 dwellings and a new shop on the land between Royston Road and Cambridge Road, Barkway.
3. Comments from a Technical Review were provided and an response from the designer Robert West has also been included below.

Hertfordshire County Council Comment 1

'We note that the basin volume is higher at the reserved matters stage (originally 3030m³), the LLFA is concerned that no supporting evidence of updated infiltration testing (as mentioned in the technical Note completed May 2024), calculations and commentary outlining how this alternative drainage strategy will work. The LLFA is also concerned that no updated calculations have been provided for all rainfall return periods up to and including the 1% AEP plus appropriate climate change allowance event or if the number of deep bore soakaways is sufficient (hence the storage and layout of the development would not change). Further information is required.'

Designers Response

The basins have been sized based on the impermeable areas of the detailed site layout and have increased where necessary to accommodate the 1:100 plus 40% storm events with adequate freeboard. Also as discussed later in this document additional storage has been provided to accommodate for the half drain times of the systems being longer than 24hrs for the 1:100 plus 40%cc storms.

Updated infiltration testing was undertaken by RPS and a report produced on 13th May 2024. This report confirmed that shallow infiltration was not a suitable means to drain the site however deep-bore soakaways were deemed to be acceptable within the chalk beneath the impermeable Lowersoft

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Formation. The report suggests that the upper 5m of chalk layer should be avoided and that any deep-bore soakaways should penetrate the chalk by at least 5m, meaning that soakaways will only be feasible by boreholes. For more information, please see Section 4.3 of the RPS report provided. Included at the end of this report is a Borehole location and depth plan within the supporting information to support the design.

Calculations for the new drainage system were produced and issued previously which demonstrate no flooding for return periods up to and including the 1:100 plus 40% climate change event. These are included within the supporting information to this Technical Note.

As a commentary on the proposed drainage system, the site has been split into two separate systems, the east and west system. Each has attenuation basins to provide adequate storage before surface water is discharged to ground via deep-bore soakaways.

Surface Water System 1

System 1 provides drainage for Plots 41 – 117 together with associated access road and hard standing areas with a total catchment area of 18,586m² including 10% urban creep. System 1 drains surface water to ground via an array of 22 deep-bore soakaways which are located along the northern boundary of the site with storage provided by 3 attenuation basins in the centre of the site adjacent to the exiting bridleway. Surface water from all access roads, hardstanding and dwellings in this area drains through a traditional gravity pipe network before being discharged into the attenuation basins. The attenuation basin provides sufficient storage to accommodate the 1 in 100-year storm event plus 40% to account for climate change including over the minimum of 300mm freeboard required.

As noted above system 1 comprises 3 attenuation basins.

Basin A (System 1) is proposed with the following specification:

- Base: 443m²
- Area: 923m²
- Max. Volume: 1,348.58m³
- Water Volume: 768.84m³ (1:100+40%)
- Max Water Depth: 1.305m (1:100+40%)
- (695mm Freeboard)
- Water Volume: 319.21m³ (1:10)
- Max Water Depth: 0.625m (1:10)
- (1,375mm Freeboard)
- Max Side Slopes 1:3

Basin B (System 1) is proposed with the following specification:

- Base: 213m²
- Area: 1,152m²
- Max. Volume: 1,093.5m³
- Water Volume: 545.45m³ (1:100+40%)
- Max Water Depth: 1.309m (1:100+40%)
- (691mm Freeboard)
- Water Volume: 192.53m³ (1:10)
- Max Water Depth: 0.629m (1:10)
- (1,371mm Freeboard)

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- Max Side Slopes 1:3
-

Basin C (System 1) is proposed with the following specification:

- Base: 158m²
- Area: 919m²
- Max. Volume: 442.543m³
- Water Volume: 97m³ (1:100+40%)
- Max Water Depth: 0.405m (1:100+40%)
- (695mm Freeboard)
- Water Volume: 0.00m³ (1:10)
- Max Water Depth: 0.00m (1:10)
- (1,100mm Freeboard)
- Max Side Slopes 1:3

The total storage available within System 1 within Basins a, B and C is 2,165m³ allowing for a 300mm freeboard. As can be seen above the actual volume of water that requires attenuating for the 1:100 +40% event is 1,411m³, therefore there is a residual 754m³ of storage available within the system while still allowing for 300mm of freeboard for each basin.

The calculations provided confirm the number of deep-bore soakaways required for each system.

System 1 requires 22 No. deep-bore soakaways. The number, depth and location of these can also be found on the drainage plans.

Node S86 Deep Bore Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	139.343	Borehole Diameter	0.300
Side Inf Coefficient (m/hr)	0.09000	Time to half empty (mins)	489	Borehole Depth (m)	21.500
Safety Factor	3.0	Diameter (m)	1.800	Inf Depth (m)	19.800
Porosity	1.00	Depth (m)		Number Required	<u>22</u>

Surface Water System 2

System 2 provides drainage for Plots 1 – 40 and 118 - 140 together with associated access road and hard standing areas with a total catchment area of 15,312m² including 10% urban creep. System 2 drains surface water to ground via an array of 18 deep-bore soakaways which are located along the eastern boundary of the site with storage provided by 1 attenuation basin in the north eastern corner of the site. Surface water from all access roads, hardstanding and dwellings in this area drains through a traditional gravity pipe network before being discharged into the attenuation basin. The attenuation basin provides sufficient storage to accommodate the 1 in 100-year storm event plus 40% to account for climate change including over the minimum of 300mm freeboard required.

Basin D (System 2) is proposed with the following specification:

- Base: 585m²
- Area: 1,870m²
- Max. Volume: 2,091m³
- Water Volume: 1,095m³ (1:100+40%)

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- Max Water Depth: 1.277m (1:100+40%)
- (723mm Freeboard)
- Water Volume: 389.5m³ (1:10)
- Max Water Depth: 0.558m (1:10)
- (1.442mm Freeboard)
- Max Side Slopes 1:3

The total storage available within System 2 within Basin D is 1,633m³ allowing for a 300mm freeboard. As can be seen above the actual volume of water that requires attenuating for the 1:100 +40% event is 1,095m³, therefore there is a residual 538m³ of storage available within the system while still allowing for 300mm of freeboard.

The calculations provided confirm the number of deep-bore soakaways required for each system.

System 2 requires 18 No. deep-bore soakaways. The number, depth and location of these can also be found on the drainage plans.

Node S88 Deep Bore Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	135.355	Borehole Diameter	0.300
Side Inf Coefficient (m/hr)	0.09000	Time to half empty (mins)	390	Borehole Depth (m)	22.000
Safety Factor	3.0	Diameter (m)	1.800	Inf Depth (m)	18.700
Porosity	1.00	Depth (m)		Number Required	18

I trust the above information now satisfies you that the storage and layout of the development is appropriate.

Hertfordshire County Council Comment 2

'We are concerned that original strategy has not been taken forward to discharge to the surface water sewer at 20.7 l/s and where the overall discharge point on the reserved matters application is unclear. The alternative strategy appears to have been taken forward for discharge to deep infiltration (to an unknown depth or if water quality and pollution measures can be put in place in above ground SuDS features). Further information is required.'

Designers Response

Apologies however we believe some wires may have been crossed here. As far as we are aware there was never a drainage strategy that involved discharge of surface water to a sewer. There are no surface water sewers within the vicinity of the site. We think this comment may be a mistake.

In regard to the depth that the deep-bore soakaways will be discharging this is indicated on the proposed drainage layouts on each borehole.

Pollution measure have been provided for each system in the form of above ground SuDS features. These will come from the forebays into each basin and the basins themselves. As shown on the

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construction details below a Reno mattress will act as a filter drain on the inlet to the basin together with the pollution mitigation provide by the basin itself this will mitigate the pollution risk.

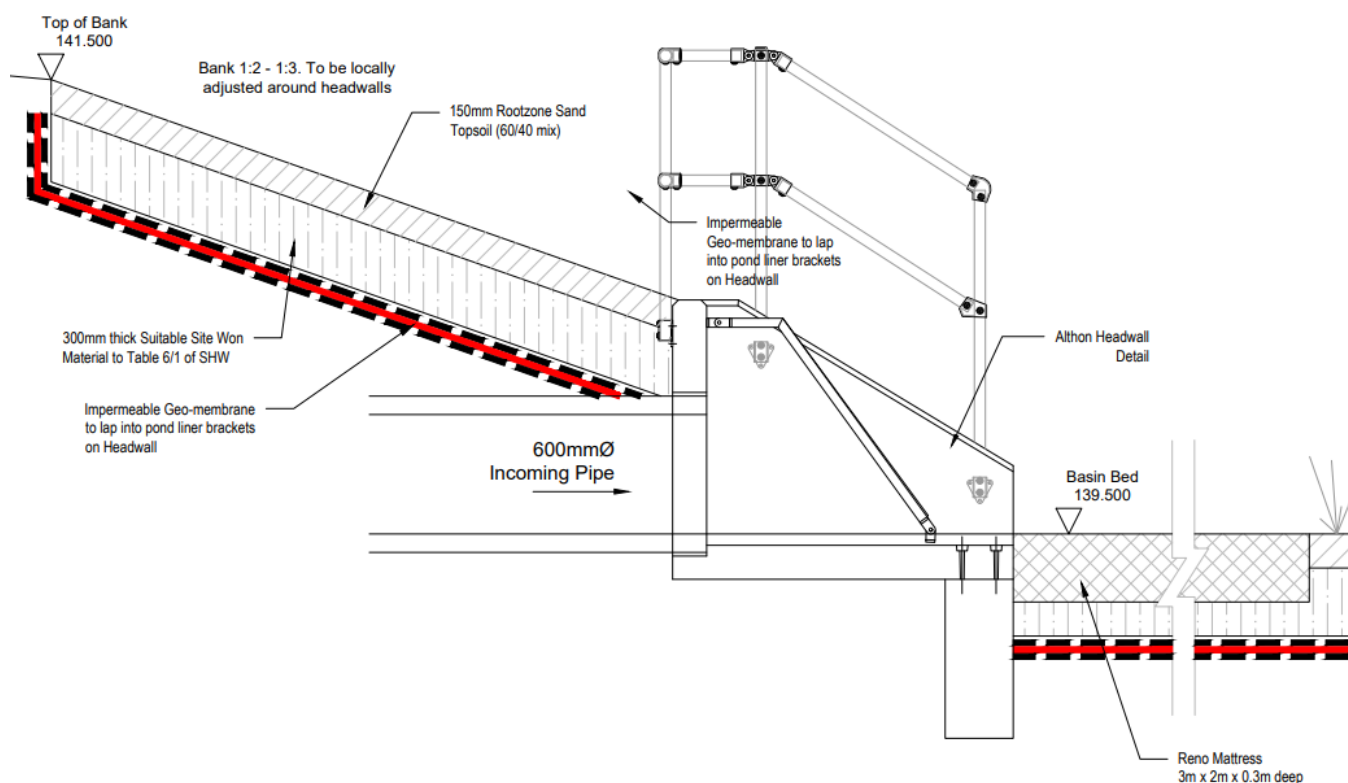


Table 26.2 in Chapter 26 of CIRIA report C753 The SuDS Manual provides Pollution Hazard Indices for varying land types. Those of relevance to the development proposals are as follows:

Land Use	Pollution Hazard Level	Total Suspended Solid (TSS)	Metals	Hydrocarbons
Residential Roofs	Very Low	0.2	0.2	0.05
Individual property driveways, residential car park, low-traffic roads	Low	0.5	0.4	0.4
Non-residential car parking with frequent change (e.g. hospitals, retail), all roads except low traffic	Medium	0.7	0.6	0.7

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roads, trunk roads and motorways				
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Based on the above the highest Pollution Hazard rating for the site would be Medium Risk.

Where multiple drainage components are used in series the individual mitigation index of secondary and tertiary components is lowered by 50% due to reduced performance associated with primary treatment.

SuDS Type	Total Suspended Solid (TSS)	Metals	Hydrocarbons
Filter drain	0.4	0.4	0.4
Detention basin	0.6	0.5	0.6

The surface water drainage design will combine the use of filter drains and detention basins and will meet the target treatment level required as follows:

SuDS Type	Total Suspended Solid (TSS)	Metals	Hydrocarbons
Filter drain	0.4	0.4	0.4
Detention basin	0.3	0.25	0.3
Total Treatment	0.7	0.65	0.7

Hertfordshire County Council Comment 3

'We do not believe sufficient information on the primary and alternative strategy has been provided. We would want to see reasoning as to what has changed, why it has changed and how this would affect the system overall. Further information is required.'

Designers Response

As noted above, after testing, shallow infiltration was ruled out as a suitable means to discharge surface water from the site due to the impermeability of shallow soils and the top 5m of the chalk. There are no watercourses on the site to discharge surface water and there are also no surface water sewers in the vicinity of the site. This left two options, the existing foul sewer or deep infiltration. Due to the drawback of discharging into a foul sewer and risk of sewer flooding this may cause the deep infiltration strategy was adopted. Testing undertaken proves this to be a viable method to discharge surface water and the design was developed to accommodate the 1:100 plus 40% CC storm on site before being discharged to ground.

Hertfordshire County Council Comment 4

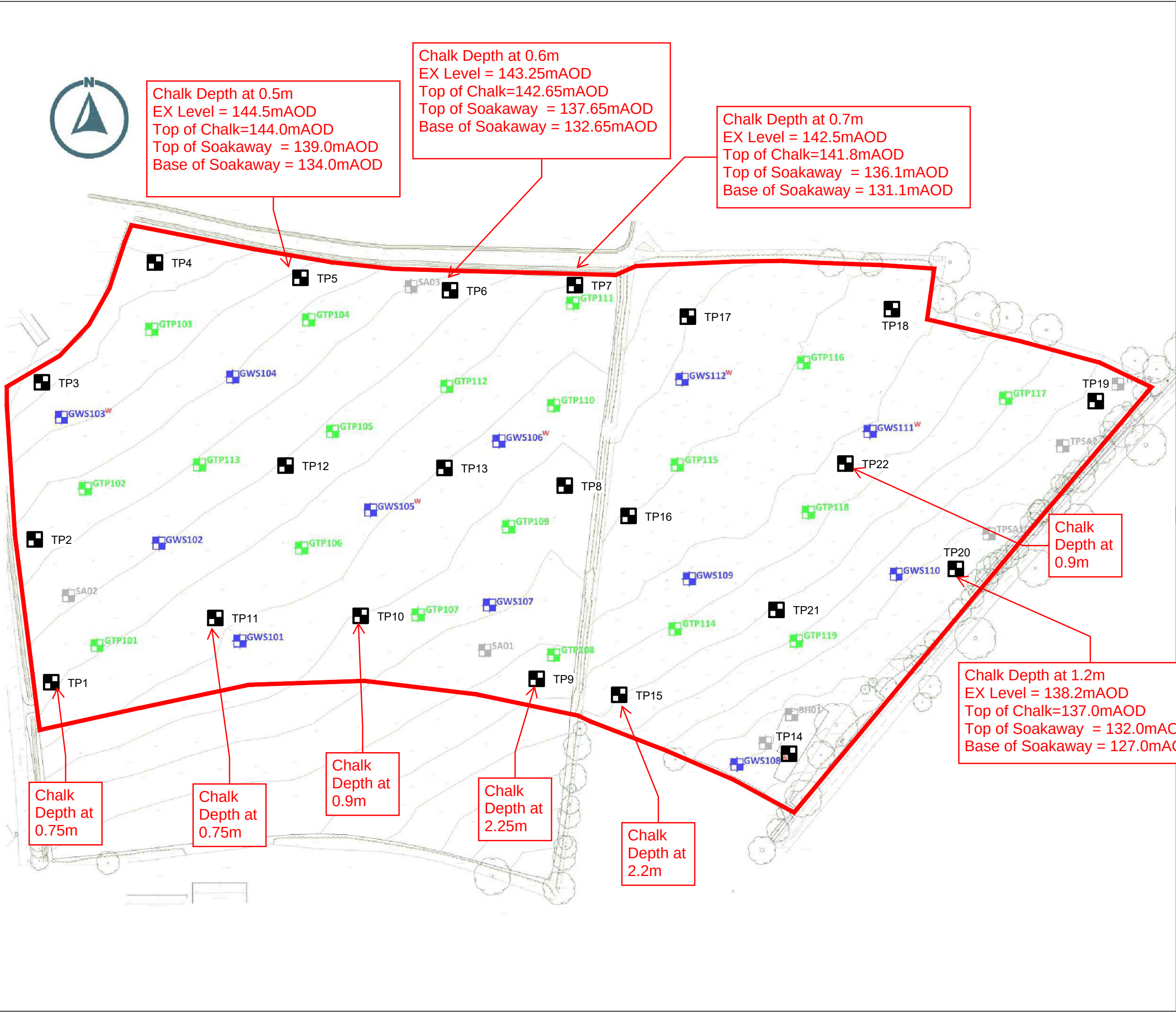
'For information any storage feature would need a ½ drain down time of 48 hours for a lined system (e.g. discharge to a surface water sewer) or within 24 hours for an infiltration system. Additional mitigation measures with additional storage would be required if this could not be met. For the avoidance of doubt the ½ drain down time of 24 hours or 48 hours would be for the 1% AEP plus climate change rainfall event.'

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Designers Response

Due to the relatively low infiltration rates applied to the deep-bore soakaways and factors of safety applied the calculations confirm half drain times for the basins to be above 24 hrs for an infiltrating system. Therefore, additional mitigation measures in the form of storage have been provided within the design. As noted above the systems have residual storage of 754m³ for System 1 and 538m³ for System 2. This storage is more than enough to accommodate a 1:10 year storm event directly after the 1:100 plus 40% cc event with the 1:10 event for System 1 generating 512m³ and the 1:10 event for System 2 generating 390m³.

The design is within accordance with the approved FRA and CIRIA guidance and provides a half drain time of less than 24hrs for the 1:10 return periods. For storms that exceed this return period additional storage is available for subsequent storm events.



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KEY:

 TP1 INDICATES TRIAL PIT LOCATIONS BY RPS DATED MARCH 2024

P01	First Issue	RS	PA	05.03.24
Rev	Description	By	Apr	Date



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Redrow Homes

Royston Road,
Barkway

Title Trial Pit Location Plan

RPS Project Number	Scale @ A3	Date Created
BMK23256	N.T.S.	05 March 2024
Task Team Manager	Information Author	Task Information Manager
PA	RS	PA
Status	S2 (Suitable for Information)	
Document Number	Revision	
BMK23256-RPS-SI-00-DR-S-0050	P01	
Project Code - Originator - Vol/Sys - Level/Loc - Type - Role - Drawing Number		
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Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	S1	S12	21.481	0.600	143.249	143.106	0.143	150.2	150	5.44	50.0
2.000	S11	S12	20.803	0.600	143.793	143.031	0.762	27.3	225	5.14	50.0
1.001	S12	S2	52.129	0.600	142.956	142.782	0.174	299.6	300	6.40	50.0
3.000	S13	S14	35.768	0.600	143.600	143.376	0.224	159.7	225	5.58	50.0
3.001	S14	S15	13.148	0.600	143.376	143.174	0.202	65.1	225	5.71	50.0
3.002	S15	S2	19.688	0.600	143.174	142.857	0.317	62.1	225	5.91	50.0
1.002	S2	S3	47.151	0.600	142.707	141.916	0.791	59.6	375	6.73	50.0
4.000	S82	S3	17.884	0.600	142.384	142.141	0.243	73.6	150	5.25	50.0
1.003	S3	S4	12.740	0.600	141.841	141.613	0.228	55.9	450	6.81	50.0
5.000	S81	S4	26.161	0.600	142.210	141.913	0.297	88.1	150	5.41	50.0
1.004	S4	S5	11.093	0.600	141.613	140.881	0.732	15.2	450	6.85	50.0
6.000	S49	S50	19.160	0.600	141.436	141.234	0.202	94.9	225	5.24	50.0
6.001	S50	S51	10.640	0.600	141.159	141.124	0.035	304.0	300	5.44	50.0
6.002	S51	S52	21.858	0.600	141.049	140.990	0.059	370.5	375	5.83	50.0
6.003	S52	S5	13.087	0.600	140.990	140.956	0.034	384.9	375	6.06	50.0
1.005	S5	S6	16.662	0.600	140.881	140.843	0.038	438.5	450	7.14	50.0
1.006	S6	S7	19.084	0.600	140.843	140.587	0.256	74.5	450	7.27	50.0
7.000	S48	S44	26.415	0.600	142.489	141.765	0.724	36.5	225	5.20	50.0
7.001	S44	S45	32.299	0.600	141.765	141.242	0.523	61.8	225	5.53	50.0
7.002	S45	S42	53.873	0.600	141.092	140.912	0.180	299.3	375	6.39	50.0
8.000	S41	S42	23.533	0.600	141.506	141.137	0.369	63.8	150	5.31	50.0
7.003	S42	S46	23.421	0.600	140.912	140.754	0.158	148.2	375	6.65	50.0
7.004	S46	S7	20.748	0.600	140.754	140.662	0.092	225.5	375	6.94	50.0
1.007	S7	S8	13.575	0.600	140.437	140.394	0.043	315.7	600	7.44	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	0.817	14.4	4.4	1.200	1.580	0.032	0.0	57	0.717
2.000	2.513	99.9	10.1	1.200	1.580	0.074	0.0	48	1.623
1.001	0.903	63.8	26.2	1.580	1.246	0.193	0.0	134	0.860
3.000	1.032	41.0	9.9	1.333	1.200	0.073	0.0	75	0.853
3.001	1.623	64.5	19.4	1.200	1.275	0.143	0.0	85	1.428
3.002	1.662	66.1	21.5	1.275	1.246	0.159	0.0	88	1.491
1.002	2.350	259.6	71.2	1.246	1.200	0.526	0.0	134	2.015
4.000	1.173	20.7	2.1	1.200	1.200	0.015	0.0	32	0.751
1.003	2.724	433.2	75.6	1.200	1.200	0.558	0.0	126	2.066
5.000	1.071	18.9	5.1	1.200	1.200	0.038	0.0	54	0.915
1.004	5.242	833.7	84.5	1.200	1.728	0.623	0.0	95	3.412
6.000	1.343	53.4	11.6	1.200	1.200	0.086	0.0	71	1.076
6.001	0.896	63.4	15.6	1.200	1.281	0.115	0.0	101	0.745
6.002	0.935	103.3	21.3	1.281	1.753	0.157	0.0	115	0.743
6.003	0.917	101.3	21.3	1.753	1.728	0.157	0.0	116	0.731
1.005	0.964	153.4	110.6	1.728	1.454	0.816	0.0	283	1.046
1.006	2.356	374.8	114.5	1.454	1.400	0.845	0.0	170	2.081
7.000	2.172	86.4	10.6	1.300	1.300	0.078	0.0	53	1.489
7.001	1.667	66.3	18.9	1.300	1.350	0.139	0.0	82	1.443
7.002	1.042	115.1	34.9	1.350	1.300	0.257	0.0	141	0.916
8.000	1.261	22.3	3.4	1.200	1.300	0.025	0.0	40	0.914
7.003	1.486	164.1	42.6	1.300	1.200	0.315	0.0	130	1.256
7.004	1.202	132.8	64.7	1.200	1.400	0.477	0.0	185	1.195
1.007	1.365	385.9	181.5	1.400	1.200	1.339	0.0	289	1.345

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.008	S8	S24	30.137	0.600	140.394	139.770	0.624	48.3	600	7.58	50.0
9.000	S22	S23	20.082	0.600	140.973	140.524	0.449	44.7	150	5.22	50.0
9.001	S23	S24	34.563	0.600	140.449	140.145	0.304	113.7	225	5.69	50.0
1.009	S24	S9	21.878	0.600	139.770	139.530	0.240	91.2	600	7.72	50.0
1.010	S9	S10	18.246	0.600	139.530	139.500	0.030	608.2	600	8.03	50.0
1.012	S77	S78	54.548	0.600	139.500	139.495	0.005	10909.6	300	11.43	50.0
10.000	S80	S78	20.956	0.600	140.400	139.490	0.910	23.0	300	5.11	50.0
11.000	S16	S83	13.222	0.600	143.355	143.153	0.202	65.5	150	5.18	50.0
11.001	S83	S84	24.504	0.600	143.078	142.729	0.349	70.2	225	5.44	50.0
11.002	S84	S21	45.005	0.600	142.729	141.557	1.172	38.4	225	5.79	50.0
11.003	S21	S19	33.413	0.600	141.482	140.470	1.012	33.0	300	6.00	50.0
11.004	S19	S20	9.666	0.600	140.470	139.650	0.820	11.8	300	6.03	50.0
1.014	S79	S86	19.815	0.600	139.495	139.429	0.066	300.0	300	5.37	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.008	3.509	992.3	187.8	1.200	1.300	1.385	0.0	175	2.729
9.000	1.508	26.7	4.6	1.200	1.199	0.034	0.0	42	1.130
9.001	1.225	48.7	8.7	1.199	1.300	0.064	0.0	64	0.928
1.009	2.551	721.2	198.5	1.300	1.154	1.465	0.0	214	2.193
1.010	0.980	277.1	221.1	1.154	1.400	1.632	0.0	407	1.083
1.012	0.141	10.0	0.0	1.700	1.705	0.000	0.0	0	0.000
10.000	3.290	232.5	0.0	0.800	1.710	0.000	0.0	0	0.000
11.000	1.245	22.0	8.8	1.200	1.250	0.065	0.0	66	1.176
11.001	1.562	62.1	10.1	1.250	1.200	0.075	0.0	61	1.157
11.002	2.117	84.2	22.4	1.200	1.250	0.165	0.0	79	1.794
11.003	2.745	194.0	27.3	1.250	1.000	0.201	0.0	75	1.954
11.004	4.603	325.4	32.5	1.000	1.550	0.240	0.0	64	2.980
1.014	0.902	63.8	0.0	1.705	3.501	0.000	0.0	0	0.000

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	21.481	150.2	150	Circular	144.599	143.249	1.200	144.836	143.106	1.580
2.000	20.803	27.3	225	Circular	145.218	143.793	1.200	144.836	143.031	1.580
1.001	52.129	299.6	300	Circular	144.836	142.956	1.580	144.328	142.782	1.246
3.000	35.768	159.7	225	Circular	145.158	143.600	1.333	144.801	143.376	1.200
3.001	13.148	65.1	225	Circular	144.801	143.376	1.200	144.674	143.174	1.275
3.002	19.688	62.1	225	Circular	144.674	143.174	1.275	144.328	142.857	1.246
1.002	47.151	59.6	375	Circular	144.328	142.707	1.246	143.491	141.916	1.200

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S1	1350	Manhole	Adoptable	S12	1200	Manhole	Adoptable
2.000	S11	1350	Manhole	Adoptable	S12	1200	Manhole	Adoptable
1.001	S12	1200	Manhole	Adoptable	S2	1350	Manhole	Adoptable
3.000	S13	1350	Manhole	Adoptable	S14	1350	Manhole	Adoptable
3.001	S14	1350	Manhole	Adoptable	S15	1350	Manhole	Adoptable
3.002	S15	1350	Manhole	Adoptable	S2	1350	Manhole	Adoptable
1.002	S2	1350	Manhole	Adoptable	S3	1350	Manhole	Adoptable

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
4.000	17.884	73.6	150	Circular	143.734	142.384	1.200	143.491	142.141	1.200
1.003	12.740	55.9	450	Circular	143.491	141.841	1.200	143.263	141.613	1.200
5.000	26.161	88.1	150	Circular	143.560	142.210	1.200	143.263	141.913	1.200
1.004	11.093	15.2	450	Circular	143.263	141.613	1.200	143.059	140.881	1.728
6.000	19.160	94.9	225	Circular	142.861	141.436	1.200	142.659	141.234	1.200
6.001	10.640	304.0	300	Circular	142.659	141.159	1.200	142.705	141.124	1.281
6.002	21.858	370.5	375	Circular	142.705	141.049	1.281	143.118	140.990	1.753
6.003	13.087	384.9	375	Circular	143.118	140.990	1.753	143.059	140.956	1.728
1.005	16.662	438.5	450	Circular	143.059	140.881	1.728	142.747	140.843	1.454
1.006	19.084	74.5	450	Circular	142.747	140.843	1.454	142.437	140.587	1.400
7.000	26.415	36.5	225	Circular	144.014	142.489	1.300	143.290	141.765	1.300
7.001	32.299	61.8	225	Circular	143.290	141.765	1.300	142.817	141.242	1.350
7.002	53.873	299.3	375	Circular	142.817	141.092	1.350	142.587	140.912	1.300
8.000	23.533	63.8	150	Circular	142.856	141.506	1.200	142.587	141.137	1.300
7.003	23.421	148.2	375	Circular	142.587	140.912	1.300	142.329	140.754	1.200
7.004	20.748	225.5	375	Circular	142.329	140.754	1.200	142.437	140.662	1.400
1.007	13.575	315.7	600	Circular	142.437	140.437	1.400	142.194	140.394	1.200
1.008	30.137	48.3	600	Circular	142.194	140.394	1.200	141.670	139.770	1.300
9.000	20.082	44.7	150	Circular	142.323	140.973	1.200	141.873	140.524	1.199
9.001	34.563	113.7	225	Circular	141.873	140.449	1.199	141.670	140.145	1.300
1.009	21.878	91.2	600	Circular	141.670	139.770	1.300	141.284	139.530	1.154
1.010	18.246	608.2	600	Circular	141.284	139.530	1.154	141.500	139.500	1.400
1.012	54.548	10909.6	300	Circular	141.500	139.500	1.700	141.500	139.495	1.705
10.000	20.956	23.0	300	Circular	141.500	140.400	0.800	141.500	139.490	1.710
11.000	13.222	65.5	150	Circular	144.705	143.355	1.200	144.553	143.153	1.250

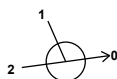
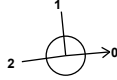
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
4.000	S82	1350	Manhole	Adoptable	S3	1350	Manhole	Adoptable
1.003	S3	1350	Manhole	Adoptable	S4	1350	Manhole	Adoptable
5.000	S81	1350	Manhole	Adoptable	S4	1350	Manhole	Adoptable
1.004	S4	1350	Manhole	Adoptable	S5	1200	Manhole	Adoptable
6.000	S49	1350	Manhole	Adoptable	S50	1350	Manhole	Adoptable
6.001	S50	1350	Manhole	Adoptable	S51	1350	Manhole	Adoptable
6.002	S51	1350	Manhole	Adoptable	S52	1200	Manhole	Adoptable
6.003	S52	1200	Manhole	Adoptable	S5	1200	Manhole	Adoptable
1.005	S5	1200	Manhole	Adoptable	S6	1350	Manhole	Adoptable
1.006	S6	1350	Manhole	Adoptable	S7	1350	Manhole	Adoptable
7.000	S48	1350	Manhole	Adoptable	S44	1350	Manhole	Adoptable
7.001	S44	1350	Manhole	Adoptable	S45	1350	Manhole	Adoptable
7.002	S45	1350	Manhole	Adoptable	S42	1350	Manhole	Adoptable
8.000	S41	1350	Manhole	Adoptable	S42	1350	Manhole	Adoptable
7.003	S42	1350	Manhole	Adoptable	S46	1350	Manhole	Adoptable
7.004	S46	1350	Manhole	Adoptable	S7	1350	Manhole	Adoptable
1.007	S7	1350	Manhole	Adoptable	S8	1350	Manhole	Adoptable
1.008	S8	1350	Manhole	Adoptable	S24	1350	Manhole	Adoptable
9.000	S22	1350	Manhole	Adoptable	S23	1350	Manhole	Adoptable
9.001	S23	1350	Manhole	Adoptable	S24	1350	Manhole	Adoptable
1.009	S24	1350	Manhole	Adoptable	S9	1350	Manhole	Adoptable
1.010	S9	1350	Manhole	Adoptable	S10	1200	Manhole	Adoptable
1.012	S77	1350	Manhole	Adoptable	S78	1350	Manhole	Adoptable
10.000	S80	1350	Manhole	Adoptable	S78	1350	Manhole	Adoptable
11.000	S16	1350	Manhole	Adoptable	S83	1350	Manhole	Adoptable

Pipeline Schedule

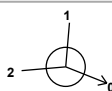
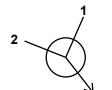
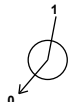
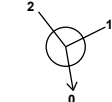
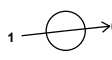
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
11.001	24.504	70.2	225	Circular	144.553	143.078	1.250	144.154	142.729	1.200
11.002	45.005	38.4	225	Circular	144.154	142.729	1.200	143.032	141.557	1.250
11.003	33.413	33.0	300	Circular	143.032	141.482	1.250	141.770	140.470	1.000
11.004	9.666	11.8	300	Circular	141.770	140.470	1.000	141.500	139.650	1.550
1.014	19.815	300.0	300	Circular	141.500	139.495	1.705	143.230	139.429	3.501

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
11.001	S83	1350	Manhole	Adoptable	S84	1350	Manhole	Adoptable
11.002	S84	1350	Manhole	Adoptable	S21	1350	Manhole	Adoptable
11.003	S21	1350	Manhole	Adoptable	S19	1350	Manhole	Adoptable
11.004	S19	1350	Manhole	Adoptable	S20	1350	Manhole	Adoptable
1.014	S79	1200	Manhole	Adoptable	S86	1200	Manhole	Adoptable

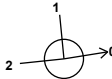
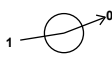
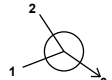
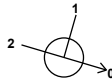
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S1	538300.259	236233.963	144.599	1.350	1350		0	1.000	143.249	150
S11	538313.195	236255.880	145.218	1.425	1350		0	2.000	143.793	225
S12	538321.548	236236.828	144.836	1.880	1200		1	2.000	143.031	225
							2	1.000	143.106	150
							0	1.001	142.956	300
S13	538370.620	236311.985	145.158	1.558	1350		0	3.000	143.600	225
S14	538373.940	236276.371	144.801	1.425	1350		1	3.000	143.376	225
							0	3.001	143.376	225
S15	538371.242	236263.503	144.674	1.500	1350		1	3.001	143.174	225
							0	3.002	143.174	225
S2	538373.193	236243.912	144.328	1.621	1350		1	3.002	142.857	225
							2	1.001	142.782	300
							0	1.002	142.707	375
S82	538421.682	236265.774	143.734	1.350	1350		0	4.000	142.384	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections		Link	IL (m)	Dia (mm)	
S3	538420.170	236247.954	143.491	1.650	1350		1	4.000	142.141	150	
							2	1.002	141.916	375	
							0	1.003	141.841	450	
S81	538442.509	236267.206	143.560	1.350	1350		0	5.000	142.210	150	
S4	538432.008	236243.245	143.263	1.650	1350			1	5.000	141.913	150
S49	538482.582	236271.011	142.861	1.425	1350	0		2	1.003	141.613	450
								0	1.004	141.613	450
S49	538482.582	236271.011	142.861	1.425	1350		0	6.000	141.436	225	
S50	538478.987	236252.191	142.659	1.500	1350			1	6.000	141.234	225
S51	538472.072	236244.104	142.705	1.656	1350	0		0	6.001	141.159	300
							1	6.001	141.124	300	
S52	538450.545	236240.314	143.118	2.128	1200		1	6.001	141.124	300	
							0	6.002	141.049	375	
S5	538438.824	236234.493	143.059	2.178	1200		1	6.002	141.049	375	
							2	1.004	140.990	375	
							0	6.003	140.990	375	
S6	538441.646	236218.072	142.747	1.904	1350		1	6.003	140.956	375	
							2	1.004	140.881	450	
							0	1.005	140.881	450	
S48	538321.124	236208.043	144.014	1.525	1350		1	1.005	140.843	450	
							0	1.006	140.843	450	
S48	538321.124	236208.043	144.014	1.525	1350		0	7.000	142.489	225	
S44	538323.982	236181.783	143.290	1.525	1350			1	7.000	141.765	225
S45	538356.080	236185.378	142.817	1.725	1350	0		0	7.001	141.765	225
							1	7.001	141.242	225	
S41	538407.381	236214.386	142.856	1.350	1350		1	7.001	141.242	225	
							0	7.002	141.092	375	
S41	538407.381	236214.386	142.856	1.350	1350		0	8.000	141.506	150	

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S42	538409.663	236190.964	142.587	1.675	1350		1	8.000	141.137	150
							2	7.002	140.912	375
							0	7.003	140.912	375
S46	538432.790	236194.664	142.329	1.575	1350		1	7.003	140.754	375
							0	7.004	140.754	375
S7	538452.146	236202.136	142.437	2.000	1350		1	7.004	140.662	375
							2	1.006	140.587	450
							0	1.007	140.437	600
S8	538463.298	236194.396	142.194	1.800	1350		1	1.007	140.394	600
							0	1.008	140.394	600
S22	538482.371	236224.714	142.323	1.350	1350					
							0	9.000	140.973	150
S23	538501.647	236219.082	141.873	1.424	1350		1	9.000	140.524	150
							0	9.001	140.449	225
S24	538492.194	236185.837	141.670	1.900	1350		1	9.001	140.145	225
							2	1.008	139.770	600
							0	1.009	139.770	600
S9	538513.171	236179.624	141.284	1.754	1350		1	1.009	139.530	600
							0	1.010	139.530	600
S10	538529.280	236188.193	141.500	2.000	1200		1	1.010	139.500	600
S77	538548.573	236255.111	141.500	2.000	1350					
							0	1.012	139.500	300
S80	538571.508	236308.540	141.500	1.100	1350					
							0	10.000	140.400	300
S78	538550.580	236309.622	141.500	2.010	1350		1	10.000	139.490	300
							2	1.012	139.495	300
S16	538411.391	236311.968	144.705	1.350	1350					
							0	11.000	143.355	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S83	538424.301	236309.112	144.553	1.475	1350	1 0 11.000 143.153 150			
S84	538448.683	236306.668	144.154	1.425	1350	1 0 11.001 142.729 225			
S21	538493.681	236305.882	143.032	1.550	1350	1 0 11.002 141.557 225			
S19	538525.767	236296.558	141.770	1.300	1350	1 0 11.003 140.470 300			
S20	538528.392	236305.861	141.500	1.998	1350	1 0 11.004 139.650 300			
S79	538512.655	236310.784	141.500	2.005	1200	0 1 1.014 139.495 300			
S86	538492.851	236311.416	143.230	3.801	1200	1 0 1.014 139.429 300			

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Detailed
FSR Region	England and Wales	Skip Steady State	x
M5-60 (mm)	20.000	Drain Down Time (mins)	2000
Ratio-R	0.400	Additional Storage (m³/ha)	0.0
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	Check Discharge Volume	x

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
10	0	0	0
30	0	0	0
100	0	0	0
100	40	0	0

Node S79 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	70.000
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	139.495	Main Channel Slope (1:X)	9999.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.010

Inlets

S78 | S20

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)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	262.6	0.0	0.600	490.0	0.0	1.200	742.0	0.0	1.800	1017.9	0.0
0.100	298.3	0.0	0.700	530.3	0.0	1.300	786.3	0.0	1.900	1066.2	0.0
0.200	335.3	0.0	0.800	571.3	0.0	1.400	831.3	0.0	2.000	1427.1	0.0
0.300	373.0	0.0	0.900	613.0	0.0	1.500	876.9	0.0			
0.400	411.3	0.0	1.000	655.3	0.0	1.600	923.2	0.0			
0.500	450.3	0.0	1.100	698.3	0.0	1.700	970.2	0.0			

Node S80 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	2.0	Invert Level (m)	140.400
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	1140

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)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	158.5	0.0	0.300	278.1	0.0	0.600	404.1	0.0	0.900	535.5	0.0
0.100	197.2	0.0	0.400	319.5	0.0	0.700	447.3	0.0	1.000	580.5	0.0
0.200	237.4	0.0	0.500	361.5	0.0	0.800	491.1	0.0	1.100	915.8	0.0

Node S77 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	100.000
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	139.500	Main Channel Slope (1:X)	9999.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.010

Inlets

S10

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)	Depth (m)	Area (m ²)	Inf Area (m ²)
0.000	515.0	0.0	0.600	667.6	0.0	1.200	835.0	0.0	1.800	1016.8	0.0
0.100	539.0	0.0	0.700	694.5	0.0	1.300	864.3	0.0	1.900	1048.5	0.0
0.200	563.9	0.0	0.800	721.7	0.0	1.400	894.0	0.0	2.000	1080.7	0.0
0.300	589.2	0.0	0.900	749.5	0.0	1.500	924.1	0.0			
0.400	614.9	0.0	1.000	777.6	0.0	1.600	954.6	0.0			
0.500	641.0	0.0	1.100	806.1	0.0	1.700	985.6	0.0			

Node S86 Deep Bore Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	139.343	Borehole Diameter	0.300
Side Inf Coefficient (m/hr)	0.09000	Time to half empty (mins)	489	Borehole Depth (m)	21.500
Safety Factor	3.0	Diameter (m)	1.800	Inf Depth (m)	19.800
Porosity	1.00	Depth (m)		Number Required	22

Results for 10 year Critical Storm Duration. Lowest mass balance: 99.31%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	10	143.336	0.087	8.9	0.1239	0.0000	OK
15 minute winter	S11	10	143.861	0.068	20.3	0.0977	0.0000	OK
15 minute winter	S12	11	143.165	0.209	52.2	0.2362	0.0000	OK
15 minute winter	S13	10	143.709	0.109	19.9	0.1564	0.0000	OK
15 minute winter	S14	10	143.514	0.138	38.8	0.1973	0.0000	OK
15 minute winter	S15	11	143.315	0.141	42.3	0.2014	0.0000	OK
15 minute winter	S2	11	142.911	0.204	137.6	0.2919	0.0000	OK
15 minute winter	S82	10	142.431	0.047	4.2	0.0666	0.0000	OK
15 minute winter	S3	11	142.051	0.210	146.7	0.3010	0.0000	OK
15 minute winter	S81	10	142.290	0.080	10.3	0.1149	0.0000	OK
15 minute winter	S4	11	141.756	0.143	164.0	0.2047	0.0000	OK
15 minute winter	S49	10	141.545	0.109	23.3	0.1561	0.0000	OK
15 minute winter	S50	11	141.325	0.166	30.9	0.2372	0.0000	OK
15 minute winter	S51	11	141.293	0.244	41.6	0.3494	0.0000	OK
15 minute winter	S52	11	141.281	0.291	38.9	0.3289	0.0000	OK
15 minute winter	S5	11	141.273	0.392	211.2	0.4429	0.0000	OK
15 minute winter	S6	11	141.124	0.281	217.4	0.4025	0.0000	OK
15 minute winter	S48	10	142.565	0.075	21.3	0.1080	0.0000	OK
15 minute winter	S44	10	141.890	0.125	37.7	0.1791	0.0000	OK
15 minute winter	S45	10	141.307	0.215	69.0	0.3072	0.0000	OK
15 minute winter	S41	10	141.564	0.058	6.9	0.0832	0.0000	OK
15 minute winter	S42	11	141.125	0.213	83.2	0.3048	0.0000	OK
15 minute winter	S46	11	141.064	0.310	124.7	0.4431	0.0000	OK
15 minute winter	S7	11	140.832	0.395	345.3	0.5648	0.0000	OK
15 minute winter	S8	11	140.664	0.270	356.1	0.3868	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	S1	1.000	S12	8.6	0.841	0.593	0.2201
15 minute winter	S11	2.000	S12	20.2	1.610	0.202	0.3580
15 minute winter	S12	1.001	S2	50.6	1.065	0.793	2.4735
15 minute winter	S13	3.000	S14	19.6	0.878	0.477	0.7976
15 minute winter	S14	3.001	S15	38.1	1.483	0.590	0.3379
15 minute winter	S15	3.002	S2	42.4	1.699	0.641	0.4907
15 minute winter	S2	1.002	S3	138.5	2.349	0.533	2.7799
15 minute winter	S82	4.000	S3	4.1	0.902	0.198	0.0815
15 minute winter	S3	1.003	S4	146.9	2.545	0.339	0.7386
15 minute winter	S81	5.000	S4	10.0	1.071	0.529	0.2452
15 minute winter	S4	1.004	S5	164.1	1.709	0.197	1.0522
15 minute winter	S49	6.000	S50	23.0	1.254	0.430	0.3507
15 minute winter	S50	6.001	S51	30.1	0.876	0.475	0.4301
15 minute winter	S51	6.002	S52	38.9	0.664	0.377	1.8325
15 minute winter	S52	6.003	S5	41.8	0.550	0.413	1.2497
15 minute winter	S5	1.005	S6	209.9	1.665	1.369	2.0882
15 minute winter	S6	1.006	S7	216.6	2.282	0.578	1.8348
15 minute winter	S48	7.000	S44	21.1	1.235	0.245	0.4536
15 minute winter	S44	7.001	S45	36.7	1.680	0.554	0.7091
15 minute winter	S45	7.002	S42	68.5	1.069	0.595	3.4891
15 minute winter	S41	8.000	S42	6.7	1.090	0.302	0.1454
15 minute winter	S42	7.003	S46	83.1	1.023	0.506	1.8963
15 minute winter	S46	7.004	S7	124.4	1.385	0.937	1.8567
15 minute winter	S7	1.007	S8	344.3	2.160	0.892	2.1697
15 minute winter	S8	1.008	S24	354.8	2.263	0.358	4.7396

Results for 10 year Critical Storm Duration. Lowest mass balance: 99.31%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S22	10	141.035	0.062	9.2	0.0893	0.0000	OK
15 minute winter	S23	11	140.543	0.094	17.4	0.1342	0.0000	OK
15 minute winter	S24	11	140.156	0.386	375.7	0.5520	0.0000	OK
1440 minute winter	S9	1350	140.053	0.522	21.2	0.7476	0.0000	OK
1440 minute winter	S10	1380	140.051	0.551	29.6	0.6234	0.0000	OK
1440 minute winter	S77	1380	140.051	0.551	14.7	0.7888	0.0000	SURCHARGED
15 minute summer	S80	1	140.400	0.000	0.0	0.0000	0.0000	OK
1440 minute winter	S78	1380	140.051	0.561	9.3	0.8024	0.0000	OK
15 minute winter	S16	10	143.466	0.111	17.8	0.1582	0.0000	OK
15 minute winter	S83	10	143.166	0.088	20.1	0.1256	0.0000	OK
15 minute winter	S84	10	142.847	0.118	44.6	0.1694	0.0000	OK
15 minute winter	S21	11	141.594	0.112	53.2	0.1608	0.0000	OK
15 minute winter	S19	11	140.570	0.100	63.3	0.1435	0.0000	OK
1440 minute winter	S20	1380	140.050	0.548	3.1	0.7846	0.0000	OK
1440 minute winter	S79	1380	140.050	0.555	8.5	0.6280	0.0000	SURCHARGED
1440 minute winter	S86	1380	140.050	0.621	7.9	74.0500	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	S22	9.000	S23	9.1	1.338	0.340	0.1359
15 minute winter	S23	9.001	S24	17.0	1.109	0.349	0.5304
15 minute winter	S24	1.009	S9	376.0	1.817	0.521	4.5598
1440 minute winter	S9	1.010	S10	29.6	0.525	0.107	4.8458
1440 minute winter	S10	Flow through pond	S77	14.7	0.050	0.001	318.5078
1440 minute winter	S77	1.012	S78	9.3	0.376	0.929	3.8412
15 minute summer	S80	10.000	S78	0.0	0.000	0.000	0.4712
1440 minute winter	S78	Flow through pond	S79	8.5	0.031	0.001	201.4180
15 minute winter	S16	11.000	S83	17.5	1.321	0.797	0.1753
15 minute winter	S83	11.001	S84	19.9	1.126	0.321	0.4347
15 minute winter	S84	11.002	S21	43.8	2.116	0.520	0.9317
15 minute winter	S21	11.003	S19	53.3	2.387	0.275	0.7464
15 minute winter	S19	11.004	S20	63.6	3.337	0.195	0.1844
1440 minute winter	S20	Flow through pond	S79	8.5	0.031	0.001	201.4180
1440 minute winter	S79	1.014	S86	7.9	0.635	0.124	1.3954
1440 minute winter	S86	Infiltration		3.4			

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.31%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	10	143.351	0.102	11.2	0.1458	0.0000	OK
15 minute winter	S11	10	143.870	0.077	25.8	0.1108	0.0000	OK
15 minute winter	S12	11	143.209	0.253	66.3	0.2866	0.0000	OK
15 minute winter	S13	10	143.726	0.125	25.2	0.1795	0.0000	OK
15 minute winter	S14	10	143.542	0.165	49.3	0.2368	0.0000	OK
15 minute winter	S15	11	143.342	0.168	53.7	0.2409	0.0000	OK
15 minute winter	S2	11	142.946	0.239	173.8	0.3414	0.0000	OK
15 minute winter	S82	10	142.437	0.053	5.4	0.0760	0.0000	OK
15 minute winter	S3	11	142.084	0.243	185.5	0.3474	0.0000	OK
15 minute winter	S81	10	142.304	0.094	13.1	0.1346	0.0000	OK
15 minute winter	S4	10	141.778	0.165	207.5	0.2365	0.0000	OK
15 minute winter	S49	10	141.563	0.127	29.6	0.1819	0.0000	OK
15 minute winter	S50	11	141.471	0.312	39.4	0.4471	0.0000	SURCHARGED
15 minute winter	S51	11	141.450	0.401	52.8	0.5742	0.0000	SURCHARGED
15 minute winter	S52	11	141.429	0.438	52.1	0.4959	0.0000	SURCHARGED
15 minute winter	S5	11	141.411	0.530	270.6	0.5999	0.0000	SURCHARGED
15 minute winter	S6	11	141.186	0.342	279.6	0.4901	0.0000	OK
15 minute winter	S48	10	142.575	0.086	27.0	0.1225	0.0000	OK
15 minute winter	S44	10	141.912	0.147	47.9	0.2105	0.0000	OK
15 minute winter	S45	10	141.344	0.252	87.5	0.3602	0.0000	OK
15 minute winter	S41	10	141.573	0.067	8.8	0.0956	0.0000	OK
15 minute winter	S42	11	141.200	0.288	105.5	0.4124	0.0000	OK
15 minute winter	S46	11	141.142	0.387	154.5	0.5545	0.0000	SURCHARGED
15 minute winter	S7	11	140.895	0.458	434.8	0.6554	0.0000	OK
15 minute winter	S8	11	140.712	0.317	446.4	0.4543	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	S1	1.000	S12	10.8	0.878	0.751	0.2739
15 minute winter	S11	2.000	S12	25.6	1.564	0.257	0.4723
15 minute winter	S12	1.001	S2	63.7	1.123	0.997	2.9314
15 minute winter	S13	3.000	S14	24.9	0.916	0.606	0.9666
15 minute winter	S14	3.001	S15	48.3	1.536	0.748	0.4134
15 minute winter	S15	3.002	S2	53.7	1.774	0.812	0.5954
15 minute winter	S2	1.002	S3	175.0	2.469	0.674	3.3412
15 minute winter	S82	4.000	S3	5.2	0.963	0.253	0.0975
15 minute winter	S3	1.003	S4	185.8	2.725	0.429	0.8893
15 minute winter	S81	5.000	S4	12.8	1.131	0.674	0.2961
15 minute winter	S4	1.004	S5	207.4	1.732	0.249	1.1714
15 minute winter	S49	6.000	S50	29.3	1.292	0.549	0.5768
15 minute winter	S50	6.001	S51	39.0	0.873	0.616	0.7493
15 minute winter	S51	6.002	S52	52.1	0.659	0.505	2.4109
15 minute winter	S52	6.003	S5	53.6	0.580	0.529	1.4435
15 minute winter	S5	1.005	S6	270.1	1.758	1.761	2.3985
15 minute winter	S6	1.006	S7	275.7	2.282	0.736	2.3385
15 minute winter	S48	7.000	S44	26.8	1.298	0.310	0.5460
15 minute winter	S44	7.001	S45	46.6	1.768	0.703	0.8559
15 minute winter	S45	7.002	S42	86.7	1.091	0.754	4.5554
15 minute winter	S41	8.000	S42	8.6	1.161	0.386	0.1745
15 minute winter	S42	7.003	S46	103.4	1.043	0.630	2.3562
15 minute winter	S46	7.004	S7	153.5	1.467	1.157	2.0890
15 minute winter	S7	1.007	S8	431.4	2.254	1.118	2.5937
15 minute winter	S8	1.008	S24	444.9	2.309	0.448	5.7690

Results for 30 year Critical Storm Duration. Lowest mass balance: 99.31%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S22	10	141.045	0.072	11.7	0.1027	0.0000	OK
15 minute winter	S23	10	140.557	0.108	22.0	0.1542	0.0000	OK
15 minute winter	S24	12	140.231	0.461	468.8	0.6598	0.0000	OK
1440 minute winter	S9	1410	140.193	0.663	25.4	0.9490	0.0000	SURCHARGED
1440 minute winter	S10	1410	140.193	0.693	32.2	0.7839	0.0000	OK
1440 minute winter	S77	1410	140.193	0.693	18.5	0.9919	0.0000	SURCHARGED
15 minute summer	S80	1	140.400	0.000	0.0	0.0000	0.0000	OK
1440 minute winter	S78	1410	140.193	0.703	10.8	1.0056	0.0000	OK
15 minute winter	S16	11	143.514	0.158	22.6	0.2268	0.0000	SURCHARGED
15 minute winter	S83	10	143.178	0.100	24.9	0.1426	0.0000	OK
15 minute winter	S84	10	142.866	0.137	56.0	0.1965	0.0000	OK
15 minute winter	S21	10	141.610	0.128	67.2	0.1832	0.0000	OK
15 minute winter	S19	11	140.585	0.115	80.1	0.1641	0.0000	OK
1440 minute winter	S20	1410	140.192	0.690	3.8	0.9878	0.0000	OK
1440 minute winter	S79	1410	140.192	0.697	9.6	0.7886	0.0000	SURCHARGED
1440 minute winter	S86	1410	140.192	0.763	8.7	82.1599	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	S22	9.000	S23	11.5	1.421	0.432	0.1627
15 minute winter	S23	9.001	S24	21.6	1.178	0.443	0.6333
15 minute winter	S24	1.009	S9	476.3	1.941	0.660	5.3609
1440 minute winter	S9	1.010	S10	32.2	0.563	0.116	5.1395
1440 minute winter	S10	Flow through pond	S77	18.5	0.055	0.002	413.9592
1440 minute winter	S77	1.012	S78	10.8	0.374	1.080	3.8412
15 minute summer	S80	10.000	S78	0.0	0.000	0.000	0.6387
1440 minute winter	S78	Flow through pond	S79	9.6	0.032	0.001	272.2828
15 minute winter	S16	11.000	S83	21.6	1.357	0.983	0.2255
15 minute winter	S83	11.001	S84	24.8	1.182	0.399	0.5186
15 minute winter	S84	11.002	S21	54.9	2.224	0.652	1.1113
15 minute winter	S21	11.003	S19	66.8	2.511	0.344	0.8913
15 minute winter	S19	11.004	S20	79.8	3.519	0.245	0.2194
1440 minute winter	S20	Flow through pond	S79	9.6	0.032	0.001	272.2828
1440 minute winter	S79	1.014	S86	8.7	0.617	0.136	1.3954
1440 minute winter	S86	Infiltration		3.4			

Results for 100 year Critical Storm Duration. Lowest mass balance: 99.31%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	11	143.462	0.213	14.6	0.3050	0.0000	SURCHARGED
15 minute winter	S11	10	143.882	0.089	33.4	0.1272	0.0000	OK
15 minute winter	S12	11	143.315	0.359	83.8	0.4055	0.0000	SURCHARGED
15 minute winter	S13	11	143.758	0.158	32.7	0.2261	0.0000	OK
15 minute winter	S14	11	143.664	0.288	63.8	0.4115	0.0000	SURCHARGED
15 minute winter	S15	11	143.433	0.259	66.5	0.3712	0.0000	SURCHARGED
15 minute winter	S2	11	142.993	0.286	220.0	0.4086	0.0000	OK
15 minute winter	S82	10	142.445	0.061	6.9	0.0874	0.0000	OK
15 minute winter	S3	11	142.126	0.284	233.9	0.4071	0.0000	OK
15 minute winter	S81	10	142.324	0.114	17.0	0.1637	0.0000	OK
15 minute winter	S4	11	141.863	0.250	262.2	0.3575	0.0000	OK
15 minute winter	S49	11	141.827	0.391	38.4	0.5589	0.0000	SURCHARGED
15 minute winter	S50	11	141.718	0.559	47.4	0.8005	0.0000	SURCHARGED
15 minute winter	S51	11	141.689	0.640	63.6	0.9160	0.0000	SURCHARGED
15 minute winter	S52	11	141.658	0.668	63.2	0.7560	0.0000	SURCHARGED
15 minute winter	S5	11	141.638	0.757	336.9	0.8560	0.0000	SURCHARGED
15 minute winter	S6	11	141.343	0.500	346.7	0.7159	0.0000	SURCHARGED
15 minute winter	S48	10	142.588	0.099	35.1	0.1415	0.0000	OK
15 minute winter	S44	11	141.996	0.231	62.3	0.3305	0.0000	SURCHARGED
15 minute winter	S45	11	141.591	0.499	113.9	0.7145	0.0000	SURCHARGED
15 minute winter	S41	10	141.581	0.075	11.4	0.1079	0.0000	OK
15 minute winter	S42	11	141.415	0.503	128.6	0.7202	0.0000	SURCHARGED
15 minute winter	S46	11	141.282	0.528	199.3	0.7553	0.0000	SURCHARGED
15 minute winter	S7	11	140.996	0.559	552.3	0.8003	0.0000	OK
15 minute winter	S8	11	140.797	0.403	570.5	0.5764	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	S1	1.000	S12	13.4	0.858	0.930	0.3782
15 minute winter	S11	2.000	S12	33.2	1.623	0.333	0.5652
15 minute winter	S12	1.001	S2	81.5	1.201	1.278	3.2995
15 minute winter	S13	3.000	S14	32.2	0.938	0.785	1.2439
15 minute winter	S14	3.001	S15	59.5	1.563	0.923	0.5229
15 minute winter	S15	3.002	S2	64.8	1.831	0.980	0.7653
15 minute winter	S2	1.002	S3	220.3	2.566	0.849	4.0434
15 minute winter	S82	4.000	S3	6.8	1.029	0.326	0.1174
15 minute winter	S3	1.003	S4	234.0	2.666	0.540	1.2482
15 minute winter	S81	5.000	S4	16.5	1.184	0.870	0.3657
15 minute winter	S4	1.004	S5	260.9	1.860	0.313	1.3799
15 minute winter	S49	6.000	S50	35.0	1.299	0.656	0.7620
15 minute winter	S50	6.001	S51	45.8	0.925	0.723	0.7493
15 minute winter	S51	6.002	S52	63.2	0.671	0.612	2.4109
15 minute winter	S52	6.003	S5	65.4	0.629	0.645	1.4435
15 minute winter	S5	1.005	S6	334.3	2.110	2.180	2.6400
15 minute winter	S6	1.006	S7	346.0	2.314	0.923	2.9563
15 minute winter	S48	7.000	S44	34.9	1.359	0.404	0.7392
15 minute winter	S44	7.001	S45	60.8	1.793	0.917	1.2846
15 minute winter	S45	7.002	S42	104.4	1.097	0.907	5.9420
15 minute winter	S41	8.000	S42	11.3	1.202	0.506	0.3114
15 minute winter	S42	7.003	S46	130.6	1.185	0.796	2.5833
15 minute winter	S46	7.004	S7	199.9	1.814	1.505	2.2206
15 minute winter	S7	1.007	S8	551.0	2.313	1.428	3.2215
15 minute winter	S8	1.008	S24	566.2	2.297	0.571	7.2754

Results for 100 year Critical Storm Duration. Lowest mass balance: 99.31%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S22	10	141.057	0.084	15.2	0.1208	0.0000	OK
15 minute winter	S23	10	140.576	0.127	28.6	0.1818	0.0000	OK
15 minute winter	S24	11	140.492	0.722	599.6	1.0325	0.0000	SURCHARGED
1440 minute winter	S9	1410	140.391	0.861	32.9	1.2326	0.0000	SURCHARGED
1440 minute winter	S10	1410	140.391	0.891	38.3	1.0081	0.0000	OK
1440 minute winter	S77	1410	140.391	0.891	22.7	1.2755	0.0000	SURCHARGED
15 minute summer	S80	1	140.400	0.000	0.0	0.0000	0.0000	OK
1440 minute winter	S78	1410	140.391	0.901	13.5	1.2891	0.0000	OK
15 minute winter	S16	11	143.701	0.346	29.3	0.4956	0.0000	SURCHARGED
15 minute winter	S83	11	143.196	0.118	32.2	0.1686	0.0000	OK
15 minute winter	S84	11	142.896	0.167	72.1	0.2384	0.0000	OK
15 minute winter	S21	11	141.631	0.149	86.6	0.2128	0.0000	OK
15 minute winter	S19	11	140.605	0.135	103.3	0.1929	0.0000	OK
1440 minute winter	S20	1410	140.390	0.888	4.8	1.2713	0.0000	OK
1440 minute winter	S79	1410	140.390	0.895	11.6	1.0126	0.0000	SURCHARGED
1440 minute winter	S86	1410	140.390	0.961	8.9	93.4715	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	S22	9.000	S23	15.0	1.511	0.561	0.1988
15 minute winter	S23	9.001	S24	28.4	1.197	0.584	1.0651
15 minute winter	S24	1.009	S9	599.5	2.129	0.831	6.1625
1440 minute winter	S9	1.010	S10	38.3	0.594	0.138	5.1395
1440 minute winter	S10	Flow through pond	S77	22.7	0.045	0.002	556.3926
1440 minute winter	S77	1.012	S78	13.5	0.370	1.347	3.8412
15 minute summer	S80	10.000	S78	0.0	0.000	0.000	0.7379
1440 minute winter	S78	Flow through pond	S79	11.6	0.032	0.001	384.8480
15 minute winter	S16	11.000	S83	28.2	1.601	1.282	0.2304
15 minute winter	S83	11.001	S84	32.4	1.226	0.521	0.6438
15 minute winter	S84	11.002	S21	71.4	2.333	0.849	1.3781
15 minute winter	S21	11.003	S19	86.9	2.654	0.448	1.0946
15 minute winter	S19	11.004	S20	103.7	3.729	0.319	0.2689
1440 minute winter	S20	Flow through pond	S79	11.6	0.032	0.001	384.8480
1440 minute winter	S79	1.014	S86	8.9	0.622	0.140	1.3954
1440 minute winter	S86	Infiltration		3.4			

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.31%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S1	12	144.436	1.187	20.4	1.6983	0.0000	FLOOD RISK
15 minute winter	S11	12	144.387	0.594	46.8	0.8498	0.0000	SURCHARGED
15 minute winter	S12	12	144.250	1.293	108.3	1.4629	0.0000	SURCHARGED
15 minute winter	S13	12	144.872	1.272	45.8	1.8202	0.0000	FLOOD RISK
15 minute winter	S14	12	144.677	1.301	81.2	1.8616	0.0000	FLOOD RISK
15 minute winter	S15	12	144.350	1.176	81.2	1.6835	0.0000	SURCHARGED
15 minute winter	S2	12	143.799	1.092	271.8	1.5626	0.0000	SURCHARGED
15 minute winter	S82	12	142.894	0.510	9.7	0.7295	0.0000	SURCHARGED
15 minute winter	S3	12	142.857	1.016	277.0	1.4533	0.0000	SURCHARGED
15 minute winter	S81	12	142.988	0.778	23.9	1.1136	0.0000	SURCHARGED
15 minute winter	S4	12	142.688	1.075	304.5	1.5382	0.0000	SURCHARGED
15 minute winter	S49	12	142.784	1.348	53.8	1.9295	0.0000	FLOOD RISK
15 minute winter	S50	12	142.621	1.462	63.5	2.0918	0.0000	FLOOD RISK
15 minute winter	S51	12	142.574	1.525	84.7	2.1828	0.0000	FLOOD RISK
15 minute winter	S52	12	142.527	1.537	78.4	1.7388	0.0000	SURCHARGED
15 minute winter	S5	12	142.493	1.612	400.1	1.8235	0.0000	SURCHARGED
15 minute winter	S6	12	142.070	1.227	414.6	1.7553	0.0000	SURCHARGED
15 minute winter	S48	12	143.430	0.941	49.1	1.3469	0.0000	SURCHARGED
15 minute winter	S44	12	143.239	1.474	79.5	2.1099	0.0000	FLOOD RISK
15 minute winter	S45	12	142.506	1.414	137.1	2.0234	0.0000	SURCHARGED
15 minute winter	S41	12	142.390	0.884	16.0	1.2645	0.0000	SURCHARGED
15 minute winter	S42	12	142.230	1.318	161.4	1.8866	0.0000	SURCHARGED
15 minute winter	S46	12	142.014	1.260	253.4	1.8035	0.0000	SURCHARGED
15 minute winter	S7	12	141.573	1.136	668.7	1.6260	0.0000	SURCHARGED
15 minute winter	S8	12	141.302	0.908	692.1	1.2993	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	S1	1.000	S12	20.7	1.177	1.435	0.3782
15 minute winter	S11	2.000	S12	42.8	1.638	0.428	0.8274
15 minute winter	S12	1.001	S2	95.6	1.359	1.497	3.6709
15 minute winter	S13	3.000	S14	37.0	0.947	0.902	1.4225
15 minute winter	S14	3.001	S15	71.4	1.795	1.106	0.5229
15 minute winter	S15	3.002	S2	81.5	2.050	1.234	0.7830
15 minute winter	S2	1.002	S3	260.9	2.551	1.005	5.2006
15 minute winter	S82	4.000	S3	12.8	1.092	0.618	0.3148
15 minute winter	S3	1.003	S4	273.4	2.607	0.631	2.0186
15 minute winter	S81	5.000	S4	19.4	1.176	1.023	0.4606
15 minute winter	S4	1.004	S5	304.5	1.922	0.365	1.7576
15 minute winter	S49	6.000	S50	46.0	1.302	0.863	0.7620
15 minute winter	S50	6.001	S51	58.4	0.943	0.921	0.7493
15 minute winter	S51	6.002	S52	78.4	0.710	0.759	2.4109
15 minute winter	S52	6.003	S5	79.3	0.719	0.783	1.4435
15 minute winter	S5	1.005	S6	400.2	2.526	2.610	2.6400
15 minute winter	S6	1.006	S7	415.6	2.623	1.109	3.0237
15 minute winter	S48	7.000	S44	43.4	1.406	0.502	1.0506
15 minute winter	S44	7.001	S45	71.9	1.807	1.084	1.2846
15 minute winter	S45	7.002	S42	132.7	1.203	1.153	5.9420
15 minute winter	S41	8.000	S42	16.2	1.133	0.726	0.4143
15 minute winter	S42	7.003	S46	163.5	1.483	0.997	2.5833
15 minute winter	S46	7.004	S7	249.9	2.266	1.883	2.2884
15 minute winter	S7	1.007	S8	669.5	2.377	1.735	3.8238
15 minute winter	S8	1.008	S24	692.9	2.460	0.698	8.4889

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 99.31%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S22	12	141.256	0.283	21.3	0.4055	0.0000	SURCHARGED
15 minute winter	S23	12	141.013	0.564	37.5	0.8074	0.0000	SURCHARGED
15 minute winter	S24	12	140.845	1.075	733.9	1.5389	0.0000	SURCHARGED
1440 minute winter	S9	1410	140.680	1.150	50.0	1.6461	0.0000	SURCHARGED
1440 minute winter	S10	1410	140.680	1.180	45.4	1.3349	0.0000	OK
1440 minute winter	S77	1410	140.680	1.180	32.1	1.6890	0.0000	SURCHARGED
1440 minute winter	S80	1440	140.680	0.280	4.7	60.2208	0.0000	OK
1440 minute winter	S78	1440	140.681	1.191	18.9	1.7045	0.0000	OK
15 minute winter	S16	11	144.134	0.779	41.0	1.1150	0.0000	SURCHARGED
15 minute winter	S83	12	143.443	0.365	44.0	0.5222	0.0000	SURCHARGED
15 minute winter	S84	11	143.266	0.537	95.8	0.7690	0.0000	SURCHARGED
15 minute winter	S21	11	141.655	0.173	111.2	0.2481	0.0000	OK
1440 minute winter	S19	1440	140.679	0.209	6.8	0.2997	0.0000	OK
1440 minute winter	S20	1440	140.679	1.177	6.8	1.6849	0.0000	OK
1440 minute winter	S79	1440	140.679	1.184	15.6	1.3395	0.0000	SURCHARGED
1440 minute winter	S86	1440	140.679	1.250	8.9	109.9833	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	S22	9.000	S23	19.1	1.584	0.716	0.3535
15 minute winter	S23	9.001	S24	33.6	1.215	0.691	1.3746
15 minute winter	S24	1.009	S9	734.3	2.607	1.018	6.1625
1440 minute winter	S9	1.010	S10	45.4	0.669	0.164	5.1395
1440 minute winter	S10	Flow through pond	S77	32.1	0.045	0.003	783.5529
1440 minute winter	S77	1.012	S78	18.9	0.373	1.894	3.8412
1440 minute winter	S80	10.000	S78	-4.7	-0.103	-0.020	1.4549
1440 minute winter	S78	Flow through pond	S79	15.6	0.031	0.001	578.6175
15 minute winter	S16	11.000	S83	38.0	2.158	1.727	0.2328
15 minute winter	S83	11.001	S84	46.5	1.213	0.749	0.9746
15 minute winter	S84	11.002	S21	90.0	2.410	1.069	1.7898
15 minute winter	S21	11.003	S19	110.7	2.777	0.570	1.3388
1440 minute winter	S19	11.004	S20	6.8	1.285	0.021	0.5942
1440 minute winter	S20	Flow through pond	S79	15.6	0.031	0.001	578.6175
1440 minute winter	S79	1.014	S86	8.9	0.657	0.140	1.3954
1440 minute winter	S86	Infiltration		3.4			

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
1.000	S25	S26	16.051	0.600	140.605	140.498	0.107	150.0	150	5.33	50.0
1.001	S26	S54	32.586	0.600	140.498	139.817	0.681	47.9	150	5.70	50.0
2.000	S53	S54	20.872	0.600	139.969	139.817	0.152	137.3	150	5.41	50.0
1.002	S54	S27	27.719	0.600	139.742	139.619	0.123	225.4	225	6.23	50.0
1.003	S27	S28	6.284	0.600	139.619	139.591	0.028	224.4	225	6.35	50.0
1.004	S28	S29	9.974	0.600	139.591	139.547	0.044	226.7	225	6.55	50.0
1.005	S29	S30	37.953	0.600	139.547	138.779	0.768	49.4	225	6.88	50.0
3.000	S40	S30	14.697	0.600	139.234	138.854	0.380	38.7	150	5.15	50.0
1.006	S30	S57	49.667	0.600	138.704	137.430	1.274	39.0	300	7.21	50.0
4.000	S55	S56	37.281	0.600	138.398	137.872	0.526	70.9	300	5.33	50.0
4.001	S56	S57	29.558	0.600	137.872	137.430	0.442	66.9	300	5.59	50.0
1.007	S57	S32	9.336	0.600	137.355	136.420	0.935	10.0	300	7.24	50.0
5.000	S37	S38	25.771	0.600	137.624	136.625	0.999	25.8	225	5.17	50.0
5.001	S38	S32	25.963	0.600	136.475	136.345	0.130	199.7	375	5.50	50.0
1.008	S32	S33	19.636	0.600	136.195	135.840	0.355	55.3	525	7.35	50.0
1.009	S33	S34	17.705	0.600	135.840	135.723	0.117	151.3	525	7.51	50.0
1.010	S34	S35	18.136	0.600	135.723	135.688	0.035	518.2	525	7.82	50.0
1.011	S35	S62	70.842	0.600	135.688	135.553	0.135	524.8	525	9.04	50.0
1.012	S62	S89	24.920	0.600	135.553	135.503	0.050	498.4	525	9.46	50.0
6.000	S58	S59	25.490	0.600	139.763	139.593	0.170	149.9	150	5.52	50.0
7.000	S63	S59	23.825	0.600	140.410	139.650	0.760	31.3	150	5.22	50.0
6.001	S59	S60	60.719	0.600	139.500	138.596	0.904	67.2	300	6.05	50.0
8.000	S75	S76	17.556	0.600	139.437	139.229	0.208	84.4	150	5.27	50.0
8.001	S76	S60	25.679	0.600	139.154	138.671	0.483	53.2	225	5.51	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
1.000	0.818	14.5	3.8	1.200	1.745	0.028	0.0	52	0.690
1.001	1.458	25.8	3.8	1.745	1.908	0.028	0.0	39	1.048
2.000	0.855	15.1	5.9	1.200	1.908	0.044	0.0	65	0.805
1.002	0.867	34.5	13.3	1.908	1.528	0.098	0.0	97	0.813
1.003	0.868	34.5	13.3	1.528	1.390	0.098	0.0	97	0.814
1.004	0.864	34.4	15.2	1.390	1.369	0.112	0.0	105	0.839
1.005	1.865	74.1	18.7	1.369	1.200	0.138	0.0	77	1.562
3.000	1.623	28.7	7.4	1.200	1.200	0.054	0.0	52	1.364
1.006	2.525	178.5	39.0	1.200	1.200	0.287	0.0	95	2.033
4.000	1.870	132.2	24.8	1.200	1.200	0.183	0.0	88	1.444
4.001	1.925	136.1	28.8	1.200	1.200	0.213	0.0	93	1.539
1.007	5.003	353.6	69.5	1.275	1.933	0.513	0.0	89	3.910
5.000	2.586	102.8	7.4	1.125	1.140	0.054	0.0	41	1.521
5.001	1.278	141.2	10.7	1.140	1.933	0.079	0.0	69	0.763
1.008	3.016	652.8	90.0	1.933	1.583	0.664	0.0	130	2.147
1.009	1.818	393.6	93.3	1.583	1.452	0.688	0.0	173	1.501
1.010	0.977	211.5	96.1	1.452	1.891	0.709	0.0	248	0.954
1.011	0.971	210.1	110.6	1.891	2.575	0.816	0.0	270	0.982
1.012	0.996	215.7	110.6	2.575	1.472	0.816	0.0	266	1.002
6.000	0.818	14.5	8.6	1.200	1.690	0.063	0.0	83	0.854
7.000	1.804	31.9	9.1	1.200	1.633	0.067	0.0	55	1.559
6.001	1.921	135.8	30.0	1.633	1.200	0.221	0.0	95	1.551
8.000	1.095	19.3	6.4	1.200	1.200	0.047	0.0	59	0.985
8.001	1.797	71.5	11.1	1.200	1.200	0.082	0.0	59	1.310

Links

Name	US Node	DS Node	Length (m)	ks (mm) / n	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	T of C (mins)	Rain (mm/hr)
6.002	S60	S61	27.753	0.600	138.521	138.075	0.446	62.2	375	6.25	50.0
6.003	S61	S74	43.660	0.600	138.075	137.184	0.891	49.0	375	6.53	50.0
6.004	S74	S73	18.456	0.600	137.184	137.134	0.050	369.1	375	6.86	50.0
6.005	S73	S72	15.062	0.600	137.134	137.093	0.041	367.4	375	7.12	50.0
6.006	S72	S85	14.006	0.600	137.093	135.500	1.593	8.8	375	7.16	50.0
9.000	S64	S65	23.974	0.600	140.195	139.762	0.433	55.4	225	5.23	50.0
9.001	S65	S66	18.099	0.600	139.762	139.661	0.101	179.2	225	5.54	50.0
9.002	S66	S67	14.195	0.600	139.661	139.308	0.353	40.2	225	5.65	50.0
9.003	S67	S68	9.326	0.600	139.308	139.267	0.041	227.5	225	5.83	50.0
9.004	S68	S69	38.724	0.600	139.267	138.200	1.067	36.3	225	6.13	50.0
9.005	S69	S70	15.951	0.600	138.200	136.000	2.200	7.3	225	6.18	50.0
1.014	S87	S88	43.371	0.600	135.500	135.355	0.145	299.1	300	5.80	50.0

Name	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Σ Area (ha)	Σ Add Inflow (l/s)	Pro Depth (mm)	Pro Velocity (m/s)
6.002	2.300	254.0	51.9	1.200	1.200	0.383	0.0	115	1.824
6.003	2.593	286.4	60.4	1.200	1.200	0.445	0.0	116	2.070
6.004	0.937	103.5	64.6	1.200	1.566	0.477	0.0	215	0.986
6.005	0.939	103.7	73.0	1.566	1.791	0.538	0.0	233	1.014
6.006	6.140	678.2	75.4	1.791	1.625	0.556	0.0	84	4.112
9.000	1.761	70.0	9.5	1.200	1.200	0.070	0.0	56	1.240
9.001	0.973	38.7	13.6	1.200	1.200	0.101	0.0	92	0.889
9.002	2.069	82.3	17.5	1.200	1.199	0.129	0.0	70	1.648
9.003	0.863	34.3	22.6	1.199	1.214	0.166	0.0	133	0.919
9.004	2.178	86.6	22.6	1.214	1.125	0.166	0.0	78	1.835
9.005	4.890	194.4	25.1	1.125	1.275	0.185	0.0	54	3.388
1.014	0.904	63.9	0.0	1.700	2.703	0.000	0.0	0	0.000

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.000	16.051	150.0	150	Circular	141.955	140.605	1.200	142.393	140.498	1.745
1.001	32.586	47.9	150	Circular	142.393	140.498	1.745	141.875	139.817	1.908
2.000	20.872	137.3	150	Circular	141.319	139.969	1.200	141.875	139.817	1.908
1.002	27.719	225.4	225	Circular	141.875	139.742	1.908	141.372	139.619	1.528
1.003	6.284	224.4	225	Circular	141.372	139.619	1.528	141.206	139.591	1.390
1.004	9.974	226.7	225	Circular	141.206	139.591	1.390	141.141	139.547	1.369
1.005	37.953	49.4	225	Circular	141.141	139.547	1.369	140.204	138.779	1.200
3.000	14.697	38.7	150	Circular	140.584	139.234	1.200	140.204	138.854	1.200

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.000	S25	1350	Manhole	Adoptable	S26	1200	Manhole	Adoptable
1.001	S26	1200	Manhole	Adoptable	S54	1200	Manhole	Adoptable
2.000	S53	1350	Manhole	Adoptable	S54	1200	Manhole	Adoptable
1.002	S54	1200	Manhole	Adoptable	S27	1200	Manhole	Adoptable
1.003	S27	1200	Manhole	Adoptable	S28	1350	Manhole	Adoptable
1.004	S28	1350	Manhole	Adoptable	S29	1350	Manhole	Adoptable
1.005	S29	1350	Manhole	Adoptable	S30	1350	Manhole	Adoptable
3.000	S40	1350	Manhole	Adoptable	S30	1350	Manhole	Adoptable

Pipeline Schedule

Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
1.006	49.667	39.0	300	Circular	140.204	138.704	1.200	138.930	137.430	1.200
4.000	37.281	70.9	300	Circular	139.898	138.398	1.200	139.372	137.872	1.200
4.001	29.558	66.9	300	Circular	139.372	137.872	1.200	138.930	137.430	1.200
1.007	9.336	10.0	300	Circular	138.930	137.355	1.275	138.653	136.420	1.933
5.000	25.771	25.8	225	Circular	138.974	137.624	1.125	137.990	136.625	1.140
5.001	25.963	199.7	375	Circular	137.990	136.475	1.140	138.653	136.345	1.933
1.008	19.636	55.3	525	Circular	138.653	136.195	1.933	137.948	135.840	1.583
1.009	17.705	151.3	525	Circular	137.948	135.840	1.583	137.700	135.723	1.452
1.010	18.136	518.2	525	Circular	137.700	135.723	1.452	138.104	135.688	1.891
1.011	70.842	524.8	525	Circular	138.104	135.688	1.891	138.653	135.553	2.575
1.012	24.920	498.4	525	Circular	138.653	135.553	2.575	137.500	135.503	1.472
6.000	25.490	149.9	150	Circular	141.113	139.763	1.200	141.433	139.593	1.690
7.000	23.825	31.3	150	Circular	141.760	140.410	1.200	141.433	139.650	1.633
6.001	60.719	67.2	300	Circular	141.433	139.500	1.633	140.096	138.596	1.200
8.000	17.556	84.4	150	Circular	140.787	139.437	1.200	140.579	139.229	1.200
8.001	25.679	53.2	225	Circular	140.579	139.154	1.200	140.096	138.671	1.200
6.002	27.753	62.2	375	Circular	140.096	138.521	1.200	139.650	138.075	1.200
6.003	43.660	49.0	375	Circular	139.650	138.075	1.200	138.759	137.184	1.200
6.004	18.456	369.1	375	Circular	138.759	137.184	1.200	139.075	137.134	1.566
6.005	15.062	367.4	375	Circular	139.075	137.134	1.566	139.259	137.093	1.791
6.006	14.006	8.8	375	Circular	139.259	137.093	1.791	137.500	135.500	1.625
9.000	23.974	55.4	225	Circular	141.620	140.195	1.200	141.187	139.762	1.200
9.001	18.099	179.2	225	Circular	141.187	139.762	1.200	141.086	139.661	1.200
9.002	14.195	40.2	225	Circular	141.086	139.661	1.200	140.732	139.308	1.199
9.003	9.326	227.5	225	Circular	140.732	139.308	1.199	140.706	139.267	1.214

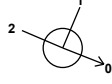
Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
1.006	S30	1350	Manhole	Adoptable	S57	1350	Manhole	Adoptable
4.000	S55	1350	Manhole	Adoptable	S56	1350	Manhole	Adoptable
4.001	S56	1350	Manhole	Adoptable	S57	1350	Manhole	Adoptable
1.007	S57	1350	Manhole	Adoptable	S32	1200	Manhole	Adoptable
5.000	S37	1350	Manhole	Adoptable	S38	1350	Manhole	Adoptable
5.001	S38	1350	Manhole	Adoptable	S32	1200	Manhole	Adoptable
1.008	S32	1200	Manhole	Adoptable	S33	1350	Manhole	Adoptable
1.009	S33	1350	Manhole	Adoptable	S34	1350	Manhole	Adoptable
1.010	S34	1350	Manhole	Adoptable	S35	1200	Manhole	Adoptable
1.011	S35	1200	Manhole	Adoptable	S62	1200	Manhole	Adoptable
1.012	S62	1200	Manhole	Adoptable	S89	1200	Manhole	Adoptable
6.000	S58	1350	Manhole	Adoptable	S59	1200	Manhole	Adoptable
7.000	S63	1350	Manhole	Adoptable	S59	1200	Manhole	Adoptable
6.001	S59	1200	Manhole	Adoptable	S60	1350	Manhole	Adoptable
8.000	S75	1350	Manhole	Adoptable	S76	1350	Manhole	Adoptable
8.001	S76	1350	Manhole	Adoptable	S60	1350	Manhole	Adoptable
6.002	S60	1350	Manhole	Adoptable	S61	1350	Manhole	Adoptable
6.003	S61	1350	Manhole	Adoptable	S74	1350	Manhole	Adoptable
6.004	S74	1350	Manhole	Adoptable	S73	1200	Manhole	Adoptable
6.005	S73	1200	Manhole	Adoptable	S72	1200	Manhole	Adoptable
6.006	S72	1200	Manhole	Adoptable	S85	1350	Manhole	Adoptable
9.000	S64	1350	Manhole	Adoptable	S65	1350	Manhole	Adoptable
9.001	S65	1350	Manhole	Adoptable	S66	1350	Manhole	Adoptable
9.002	S66	1350	Manhole	Adoptable	S67	1350	Manhole	Adoptable
9.003	S67	1350	Manhole	Adoptable	S68	1350	Manhole	Adoptable

Pipeline Schedule

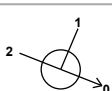
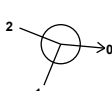
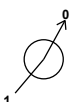
Link	Length (m)	Slope (1:X)	Dia (mm)	Link Type	US CL (m)	US IL (m)	US Depth (m)	DS CL (m)	DS IL (m)	DS Depth (m)
9.004	38.724	36.3	225	Circular	140.706	139.267	1.214	139.550	138.200	1.125
9.005	15.951	7.3	225	Circular	139.550	138.200	1.125	137.500	136.000	1.275
1.014	43.371	299.1	300	Circular	137.500	135.500	1.700	138.358	135.355	2.703

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
9.004	S68	1350	Manhole	Adoptable	S69	1350	Manhole	Adoptable
9.005	S69	1350	Manhole	Adoptable	S70	1350	Manhole	Adoptable
1.014	S87	1350	Manhole	Adoptable	S88	1200	Manhole	Adoptable

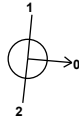
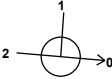
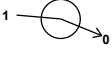
Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S25	538453.930	236173.954	141.955	1.350	1350				
						0	1.000	140.605	150
S26	538458.025	236189.474	142.393	1.895	1200		1	1.000	140.498
						0	1.001	140.498	150
S53	538483.784	236160.231	141.319	1.350	1350				
						0	2.000	139.969	150
S54	538489.310	236180.358	141.875	2.133	1200		1	2.000	139.817
						2	1.001	139.817	150
						0	1.002	139.742	225
S27	538515.923	236172.605	141.372	1.753	1200		1	1.002	139.619
						0	1.003	139.619	225
S28	538517.943	236178.555	141.206	1.615	1350		1	1.003	139.591
						0	1.004	139.591	225
S29	538527.619	236176.136	141.141	1.594	1350		1	1.004	139.547
						0	1.005	139.547	225
S40	538568.233	236174.754	140.584	1.350	1350		0	3.000	139.234
S30	538562.516	236161.215	140.204	1.500	1350		1	3.000	138.854
						2	1.005	138.779	225
						0	1.006	138.704	300

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)
S55	538624.133	236207.296	139.898	1.500	1350	 0	4.000	138.398	300
S56	538620.263	236170.216	139.372	1.500	1350	 1	4.000	137.872	300
S57	538608.724	236143.003	138.930	1.575	1350	 0	4.001	137.872	300
						1	4.001	137.430	300
						2	1.006	137.430	300
						0	1.007	137.355	300
S37	538583.893	236125.743	138.974	1.350	1350	 0	5.000	137.624	225
S38	538607.565	236115.556	137.990	1.515	1350	 1	5.000	136.625	225
S32	538617.410	236139.580	138.653	2.458	1200	0	5.001	136.475	375
						 1	5.001	136.345	375
						2	1.007	136.420	300
						0	1.008	136.195	525
S33	538636.967	236137.819	137.948	2.108	1350	 1	1.008	135.840	525
						0	1.009	135.840	525
S34	538654.652	236138.661	137.700	1.977	1350	 1	1.009	135.723	525
						0	1.010	135.723	525
S35	538665.471	236153.216	138.104	2.416	1200	 1	1.010	135.688	525
						0	1.011	135.688	525
S62	538711.185	236207.335	138.653	3.100	1200	 1	1.011	135.553	525
						0	1.012	135.553	525
S89	538723.194	236229.170	137.500	1.997	1200	 1	1.012	135.503	525
S58	538570.351	236209.923	141.113	1.350	1350	 0	6.000	139.763	150
S63	538575.460	236258.972	141.760	1.350	1350	 0	7.000	140.410	150

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections		Link	IL (m)	Dia (mm)
S59	538573.189	236235.255	141.433	1.933	1200		1	7.000	139.650	150
							2	6.000	139.593	150
							0	6.001	139.500	300
S75	538643.950	236271.036	140.787	1.350	1350		0	8.000	139.437	150
S76	538635.438	236255.681	140.579	1.425	1350		1	8.000	139.229	150
							0	8.001	139.154	225
S60	538633.686	236230.062	140.096	1.575	1350		1	8.001	138.671	225
							2	6.001	138.596	300
							0	6.002	138.521	375
S61	538661.333	236227.642	139.650	1.575	1350		1	6.002	138.075	375
							0	6.003	138.075	375
S74	538701.767	236211.171	138.759	1.575	1350		1	6.003	137.184	375
							0	6.004	137.184	375
S73	538708.716	236228.269	139.075	1.941	1200		1	6.004	137.134	375
							0	6.005	137.134	375
S72	538710.601	236243.213	139.259	2.166	1200		1	6.005	137.093	375
							0	6.006	137.093	375
S85	538724.467	236241.238	137.500	2.000	1350		1	6.006	135.500	375
S64	538621.249	236302.596	141.620	1.425	1350		0	9.000	140.195	225
S65	538645.079	236305.222	141.187	1.425	1350			1	9.000	139.762
								0	9.001	139.762
S66	538662.935	236302.269	141.086	1.425	1350		1	9.001	139.661	225
								0	9.002	139.661
S67	538672.437	236291.724	140.732	1.424	1350		1	9.002	139.308	225
								0	9.003	139.308

Manhole Schedule

Node	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
S68	538681.756	236292.092	140.706	1.439	1350	 1	9.003	139.267	225	
						0	9.004	139.267	225	
S69	538719.212	236282.265	139.550	1.350	1350	 1	9.004	138.200	225	
						0	9.005	138.200	225	
S70	538732.209	236273.018	137.500	1.992	1350	 1	9.005	136.000	225	
S87	538726.787	236229.383	137.500	2.000	1350	 0	0	1.014	135.500	300
S88	538704.892	236191.944	138.358	3.003	1200	 1	1	1.014	135.355	300

Simulation Settings

Rainfall Methodology	FSR	Analysis Speed	Detailed
FSR Region	England and Wales	Skip Steady State	x
M5-60 (mm)	20.000	Drain Down Time (mins)	2000
Ratio-R	0.400	Additional Storage (m³/ha)	0.0
Summer CV	0.750	Check Discharge Rate(s)	x
Winter CV	0.840	Check Discharge Volume	x

Storm Durations

15 | 30 | 60 | 120 | 180 | 240 | 360 | 480 | 600 | 720 | 960 | 1440

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
10	0	0	0
30	0	0	0
100	0	0	0
100	40	0	0

Node S87 Flow through Pond Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Main Channel Length (m)	75.000
Side Inf Coefficient (m/hr)	0.00000	Invert Level (m)	135.500	Main Channel Slope (1:X)	9999.0
Safety Factor	2.0	Time to half empty (mins)		Main Channel n	0.010

Inlets

S70 | S85 | S89

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	633.4	0.0	0.600	895.9	0.0	1.200	1185.9	0.0	1.800	1502.5	0.0
0.100	674.5	0.0	0.700	942.3	0.0	1.300	1236.8	0.0	1.900	1557.8	0.0
0.200	717.3	0.0	0.800	989.6	0.0	1.400	1288.4	0.0	2.000	2019.5	0.0
0.300	760.8	0.0	0.900	1037.6	0.0	1.500	1340.8	0.0			
0.400	805.1	0.0	1.000	1086.2	0.0	1.600	1394.0	0.0			
0.500	850.2	0.0	1.100	1135.7	0.0	1.700	1447.9	0.0			

Node S88 Deep Bore Soakaway Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Invert Level (m)	135.355	Borehole Diameter	0.300
Side Inf Coefficient (m/hr)	0.09000	Time to half empty (mins)	390	Borehole Depth (m)	22.000
Safety Factor	3.0	Diameter (m)	1.800	Inf Depth (m)	18.700
Porosity	1.00	Depth (m)		Number Required	18

Results for 10 year Critical Storm Duration. Lowest mass balance: 98.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S25	10	140.686	0.081	7.6	0.1153	0.0000	OK
15 minute winter	S26	11	140.553	0.055	7.5	0.0622	0.0000	OK
15 minute winter	S53	10	140.072	0.103	11.9	0.1476	0.0000	OK
15 minute winter	S54	11	139.895	0.153	26.1	0.1731	0.0000	OK
15 minute winter	S27	11	139.789	0.170	26.0	0.1920	0.0000	OK
15 minute winter	S28	11	139.747	0.156	29.7	0.2238	0.0000	OK
15 minute winter	S29	11	139.661	0.114	36.3	0.1636	0.0000	OK
15 minute winter	S40	10	139.315	0.081	14.9	0.1159	0.0000	OK
15 minute winter	S30	11	138.843	0.139	74.5	0.1995	0.0000	OK
15 minute winter	S55	10	138.528	0.130	49.9	0.1862	0.0000	OK
15 minute winter	S56	10	138.014	0.142	57.5	0.2029	0.0000	OK
15 minute winter	S57	11	137.507	0.152	134.3	0.2180	0.0000	OK
15 minute winter	S37	10	137.683	0.059	14.8	0.0840	0.0000	OK
15 minute winter	S38	10	136.575	0.100	21.3	0.1437	0.0000	OK
15 minute winter	S32	11	136.409	0.214	174.1	0.2420	0.0000	OK
15 minute winter	S33	12	136.193	0.353	181.1	0.5047	0.0000	OK
15 minute winter	S34	12	136.171	0.448	183.2	0.6404	0.0000	OK
15 minute winter	S35	12	136.131	0.443	207.1	0.5014	0.0000	OK
1440 minute winter	S62	1380	136.059	0.506	10.1	0.5726	0.0000	OK
1440 minute winter	S89	1380	136.063	0.560	9.6	0.6336	0.0000	OK
15 minute winter	S58	11	139.943	0.180	17.3	0.2574	0.0000	SURCHARGED
15 minute winter	S63	10	140.494	0.084	18.3	0.1208	0.0000	OK
15 minute winter	S59	11	139.640	0.140	58.6	0.1581	0.0000	OK
15 minute winter	S75	10	139.531	0.094	12.9	0.1340	0.0000	OK
15 minute winter	S76	10	139.242	0.088	22.0	0.1261	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	S25	1.000	S26	7.5	0.972	0.518	0.1240
15 minute winter	S26	1.001	S54	7.4	1.137	0.288	0.2463
15 minute winter	S53	2.000	S54	11.5	0.926	0.763	0.2612
15 minute winter	S54	1.002	S27	26.0	0.859	0.755	0.8441
15 minute winter	S27	1.003	S28	26.0	0.844	0.754	0.1935
15 minute winter	S28	1.004	S29	29.7	1.190	0.864	0.2479
15 minute winter	S29	1.005	S30	35.9	1.822	0.485	0.7487
15 minute winter	S40	3.000	S30	14.7	1.577	0.513	0.1371
15 minute winter	S30	1.006	S57	74.6	2.389	0.418	1.5516
15 minute winter	S55	4.000	S56	49.4	1.593	0.374	1.1563
15 minute winter	S56	4.001	S57	56.5	1.799	0.415	0.9288
15 minute winter	S57	1.007	S32	134.5	4.184	0.380	0.3002
15 minute winter	S37	5.000	S38	14.6	1.813	0.142	0.2079
15 minute winter	S38	5.001	S32	21.0	0.914	0.148	0.5953
15 minute winter	S32	1.008	S33	174.9	1.575	0.268	2.3149
15 minute winter	S33	1.009	S34	177.9	1.061	0.452	3.1015
15 minute winter	S34	1.010	S35	179.7	0.957	0.850	3.5427
15 minute winter	S35	1.011	S62	197.3	1.069	0.939	14.0218
1440 minute winter	S62	1.012	S89	9.6	0.369	0.045	5.3529
1440 minute winter	S89	Flow through pond	S87	11.2	0.039	0.001	416.7058
15 minute winter	S58	6.000	S59	16.4	0.953	1.136	0.4148
15 minute winter	S63	7.000	S59	18.1	1.817	0.566	0.2368
15 minute winter	S59	6.001	S60	58.1	1.841	0.428	1.9151
15 minute winter	S75	8.000	S76	12.7	1.134	0.654	0.1960
15 minute winter	S76	8.001	S60	21.6	1.549	0.302	0.3591

Results for 10 year Critical Storm Duration. Lowest mass balance: 98.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S60	11	138.696	0.175	100.3	0.2500	0.0000	OK
15 minute winter	S61	11	138.240	0.165	116.7	0.2356	0.0000	OK
15 minute winter	S74	11	137.552	0.368	125.2	0.5271	0.0000	OK
15 minute winter	S73	11	137.436	0.302	141.1	0.3416	0.0000	OK
15 minute winter	S72	11	137.221	0.128	145.7	0.1452	0.0000	OK
1440 minute winter	S85	1380	136.058	0.558	7.1	0.7985	0.0000	OK
15 minute winter	S64	10	140.275	0.079	19.1	0.1137	0.0000	OK
15 minute winter	S65	10	139.904	0.142	27.2	0.2034	0.0000	OK
15 minute winter	S66	10	139.767	0.106	34.6	0.1511	0.0000	OK
15 minute winter	S67	11	139.509	0.201	44.3	0.2876	0.0000	OK
15 minute winter	S68	11	139.392	0.125	44.2	0.1794	0.0000	OK
15 minute winter	S69	11	138.282	0.082	49.4	0.1173	0.0000	OK
1440 minute winter	S70	1380	136.057	0.550	2.4	0.7869	0.0000	OK
1440 minute winter	S87	1380	136.058	0.558	11.2	0.7981	0.0000	SURCHARGED
1440 minute winter	S88	1380	136.058	0.703	6.0	61.2502	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	S60	6.002	S61	100.7	2.081	0.397	1.3435
15 minute winter	S61	6.003	S74	117.2	1.425	0.409	3.4130
15 minute winter	S74	6.004	S73	125.3	1.205	1.211	1.8911
15 minute winter	S73	6.005	S72	141.1	2.172	1.360	0.9673
15 minute winter	S72	6.006	S85	145.8	4.593	0.215	0.6200
1440 minute winter	S85	Flow through pond	S87	11.2	0.039	0.001	416.7058
15 minute winter	S64	9.000	S65	18.9	0.973	0.270	0.4669
15 minute winter	S65	9.001	S66	26.7	1.199	0.690	0.4046
15 minute winter	S66	9.002	S67	34.3	1.194	0.417	0.3948
15 minute winter	S67	9.003	S68	44.2	1.435	1.290	0.2806
15 minute winter	S68	9.004	S69	44.5	2.491	0.514	0.6929
15 minute winter	S69	9.005	S70	49.5	3.951	0.254	0.1997
1440 minute winter	S70	Flow through pond	S87	11.2	0.039	0.001	416.7058
1440 minute winter	S87	1.014	S88	6.0	0.706	0.094	3.0542
1440 minute winter	S88	Infiltration		2.6			

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S25	10	140.698	0.093	9.6	0.1329	0.0000	OK
15 minute winter	S26	11	140.561	0.062	9.5	0.0706	0.0000	OK
15 minute winter	S53	10	140.096	0.127	15.1	0.1816	0.0000	OK
15 minute winter	S54	11	139.933	0.191	33.0	0.2156	0.0000	OK
15 minute winter	S27	11	139.821	0.202	32.5	0.2283	0.0000	OK
15 minute winter	S28	11	139.773	0.182	37.0	0.2600	0.0000	OK
15 minute winter	S29	11	139.678	0.131	45.2	0.1880	0.0000	OK
15 minute winter	S40	10	139.329	0.095	18.8	0.1353	0.0000	OK
15 minute winter	S30	11	138.864	0.160	93.6	0.2293	0.0000	OK
15 minute winter	S55	10	138.548	0.150	63.3	0.2148	0.0000	OK
15 minute winter	S56	10	138.037	0.164	73.0	0.2354	0.0000	OK
15 minute winter	S57	11	137.534	0.179	169.6	0.2564	0.0000	OK
15 minute winter	S37	10	137.691	0.067	18.8	0.0953	0.0000	OK
15 minute winter	S38	10	136.589	0.114	27.1	0.1633	0.0000	OK
15 minute winter	S32	12	136.498	0.303	220.1	0.3427	0.0000	OK
15 minute winter	S33	12	136.483	0.643	225.0	0.9206	0.0000	SURCHARGED
15 minute winter	S34	12	136.426	0.703	218.4	1.0054	0.0000	SURCHARGED
15 minute winter	S35	12	136.363	0.675	246.8	0.7633	0.0000	SURCHARGED
1440 minute winter	S62	1410	136.223	0.670	12.2	0.7577	0.0000	SURCHARGED
1440 minute winter	S89	1410	136.226	0.723	11.6	0.8180	0.0000	OK
15 minute winter	S58	11	140.081	0.318	21.9	0.4555	0.0000	SURCHARGED
15 minute winter	S63	10	140.509	0.099	23.3	0.1423	0.0000	OK
15 minute winter	S59	11	139.661	0.161	73.9	0.1821	0.0000	OK
15 minute winter	S75	10	139.549	0.112	16.4	0.1600	0.0000	OK
15 minute winter	S76	10	139.255	0.101	27.8	0.1445	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	S25	1.000	S26	9.5	1.031	0.655	0.1474
15 minute winter	S26	1.001	S54	9.4	1.122	0.363	0.3505
15 minute winter	S53	2.000	S54	14.5	0.964	0.960	0.3170
15 minute winter	S54	1.002	S27	32.5	0.888	0.942	1.0181
15 minute winter	S27	1.003	S28	32.3	0.896	0.935	0.2260
15 minute winter	S28	1.004	S29	36.9	1.251	1.074	0.2913
15 minute winter	S29	1.005	S30	44.8	1.917	0.604	0.8872
15 minute winter	S40	3.000	S30	18.6	1.658	0.647	0.1646
15 minute winter	S30	1.006	S57	93.9	2.524	0.526	1.8476
15 minute winter	S55	4.000	S56	62.7	1.676	0.474	1.3938
15 minute winter	S56	4.001	S57	71.6	1.902	0.526	1.1160
15 minute winter	S57	1.007	S32	169.9	4.374	0.480	0.3624
15 minute winter	S37	5.000	S38	18.6	1.936	0.181	0.2472
15 minute winter	S38	5.001	S32	26.6	0.976	0.188	0.8576
15 minute winter	S32	1.008	S33	216.7	1.587	0.332	3.3880
15 minute winter	S33	1.009	S34	211.6	1.089	0.538	3.8249
15 minute winter	S34	1.010	S35	217.5	1.009	1.028	3.9180
15 minute winter	S35	1.011	S62	246.0	1.139	1.171	15.3042
1440 minute winter	S62	1.012	S89	11.6	0.384	0.054	5.3835
1440 minute winter	S89	Flow through pond	S87	13.5	0.043	0.001	566.2237
15 minute winter	S58	6.000	S59	20.6	1.172	1.423	0.4319
15 minute winter	S63	7.000	S59	22.9	1.909	0.720	0.2863
15 minute winter	S59	6.001	S60	73.3	1.947	0.540	2.2868
15 minute winter	S75	8.000	S76	16.0	1.186	0.829	0.2378
15 minute winter	S76	8.001	S60	27.4	1.645	0.383	0.4286

Results for 30 year Critical Storm Duration. Lowest mass balance: 98.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S60	11	138.723	0.202	126.8	0.2893	0.0000	OK
15 minute winter	S61	11	138.263	0.188	147.6	0.2696	0.0000	OK
15 minute winter	S74	11	137.672	0.488	158.5	0.6979	0.0000	SURCHARGED
15 minute winter	S73	11	137.506	0.372	178.3	0.4209	0.0000	OK
15 minute winter	S72	11	137.239	0.146	183.9	0.1652	0.0000	OK
1440 minute winter	S85	1410	136.222	0.722	8.9	1.0329	0.0000	OK
15 minute winter	S64	10	140.285	0.090	24.2	0.1292	0.0000	OK
15 minute winter	S65	10	139.929	0.167	34.6	0.2384	0.0000	OK
15 minute winter	S66	11	139.785	0.124	43.9	0.1775	0.0000	OK
15 minute winter	S67	11	139.599	0.291	55.7	0.4163	0.0000	SURCHARGED
15 minute winter	S68	11	139.413	0.146	56.0	0.2091	0.0000	OK
15 minute winter	S69	11	138.294	0.094	62.3	0.1340	0.0000	OK
1440 minute winter	S70	1410	136.221	0.714	3.0	1.0214	0.0000	OK
1440 minute winter	S87	1410	136.222	0.722	13.5	1.0326	0.0000	SURCHARGED
1440 minute winter	S88	1410	136.221	0.866	5.8	68.9322	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	S60	6.002	S61	127.4	2.197	0.501	1.6095
15 minute winter	S61	6.003	S74	148.3	1.565	0.518	3.6176
15 minute winter	S74	6.004	S73	158.2	1.435	1.529	2.0343
15 minute winter	S73	6.005	S72	178.0	2.280	1.716	1.1285
15 minute winter	S72	6.006	S85	184.7	4.707	0.272	0.7659
1440 minute winter	S85	Flow through pond	S87	13.5	0.043	0.001	566.2237
15 minute winter	S64	9.000	S65	24.0	1.026	0.343	0.5562
15 minute winter	S65	9.001	S66	33.9	1.269	0.875	0.4851
15 minute winter	S66	9.002	S67	43.5	1.240	0.529	0.4415
15 minute winter	S67	9.003	S68	56.0	1.518	1.632	0.3127
15 minute winter	S68	9.004	S69	56.1	2.609	0.648	0.8308
15 minute winter	S69	9.005	S70	62.3	4.184	0.320	0.2375
1440 minute winter	S70	Flow through pond	S87	13.5	0.043	0.001	566.2237
1440 minute winter	S87	1.014	S88	5.8	0.761	0.090	3.0542
1440 minute winter	S88	Infiltration		2.6			

Results for 100 year Critical Storm Duration. Lowest mass balance: 98.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S25	10	140.716	0.111	12.5	0.1586	0.0000	OK
15 minute winter	S26	11	140.570	0.072	12.3	0.0819	0.0000	OK
15 minute winter	S53	11	140.327	0.358	19.6	0.5123	0.0000	SURCHARGED
15 minute winter	S54	11	140.086	0.344	40.8	0.3889	0.0000	SURCHARGED
15 minute winter	S27	12	139.892	0.273	39.5	0.3090	0.0000	SURCHARGED
15 minute winter	S28	12	139.830	0.239	45.1	0.3426	0.0000	SURCHARGED
15 minute winter	S29	11	139.698	0.151	55.4	0.2154	0.0000	OK
15 minute winter	S40	10	139.350	0.116	24.5	0.1663	0.0000	OK
15 minute winter	S30	11	138.891	0.187	118.2	0.2670	0.0000	OK
15 minute winter	S55	10	138.576	0.178	82.1	0.2542	0.0000	OK
15 minute winter	S56	10	138.068	0.196	94.6	0.2806	0.0000	OK
15 minute winter	S57	11	137.607	0.252	216.6	0.3606	0.0000	OK
15 minute winter	S37	10	137.701	0.077	24.4	0.1097	0.0000	OK
15 minute winter	S38	12	137.100	0.624	35.1	0.8936	0.0000	SURCHARGED
15 minute winter	S32	12	137.087	0.892	275.7	1.0091	0.0000	SURCHARGED
15 minute winter	S33	12	136.994	1.154	274.9	1.6511	0.0000	SURCHARGED
15 minute winter	S34	12	136.899	1.176	278.5	1.6829	0.0000	SURCHARGED
15 minute winter	S35	12	136.797	1.109	317.9	1.2538	0.0000	SURCHARGED
15 minute winter	S62	12	136.442	0.889	320.1	1.0050	0.0000	SURCHARGED
1440 minute winter	S89	1440	136.425	0.922	14.8	1.0429	0.0000	OK
15 minute winter	S58	11	140.369	0.606	28.5	0.8676	0.0000	SURCHARGED
15 minute winter	S63	10	140.534	0.124	30.2	0.1776	0.0000	OK
15 minute winter	S59	11	139.691	0.191	95.1	0.2159	0.0000	OK
15 minute winter	S75	11	139.614	0.177	21.3	0.2533	0.0000	SURCHARGED
15 minute winter	S76	11	139.271	0.117	35.2	0.1671	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	S25	1.000	S26	12.3	1.094	0.852	0.1793
15 minute winter	S26	1.001	S54	12.1	1.099	0.472	0.4239
15 minute winter	S53	2.000	S54	17.4	0.989	1.151	0.3674
15 minute winter	S54	1.002	S27	39.5	0.992	1.145	1.1024
15 minute winter	S27	1.003	S28	39.4	0.991	1.141	0.2499
15 minute winter	S28	1.004	S29	44.9	1.317	1.308	0.3391
15 minute winter	S29	1.005	S30	54.8	2.003	0.740	1.0390
15 minute winter	S40	3.000	S30	24.1	1.731	0.842	0.2047
15 minute winter	S30	1.006	S57	118.5	2.650	0.664	2.2218
15 minute winter	S55	4.000	S56	81.3	1.762	0.615	1.7189
15 minute winter	S56	4.001	S57	92.8	2.009	0.682	1.3693
15 minute winter	S57	1.007	S32	214.6	4.416	0.607	0.6242
15 minute winter	S37	5.000	S38	24.1	2.077	0.235	0.6540
15 minute winter	S38	5.001	S32	36.3	0.996	0.257	2.8636
15 minute winter	S32	1.008	S33	264.7	1.597	0.405	4.2420
15 minute winter	S33	1.009	S34	270.8	1.254	0.688	3.8249
15 minute winter	S34	1.010	S35	280.6	1.299	1.327	3.9180
15 minute winter	S35	1.011	S62	320.1	1.482	1.523	15.3042
15 minute winter	S62	1.012	S89	320.9	1.486	1.488	5.3835
1440 minute winter	S89	Flow through pond	S87	17.3	0.036	0.001	766.3152
15 minute winter	S58	6.000	S59	26.5	1.505	1.833	0.4428
15 minute winter	S63	7.000	S59	29.6	1.980	0.929	0.3572
15 minute winter	S59	6.001	S60	94.9	2.059	0.699	2.7975
15 minute winter	S75	8.000	S76	20.4	1.193	1.053	0.2970
15 minute winter	S76	8.001	S60	35.1	1.747	0.491	0.5161

Results for 100 year Critical Storm Duration. Lowest mass balance: 98.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S60	11	138.761	0.240	164.0	0.3439	0.0000	OK
15 minute winter	S61	11	138.353	0.278	190.8	0.3974	0.0000	OK
15 minute winter	S74	11	137.944	0.760	201.4	1.0872	0.0000	SURCHARGED
15 minute winter	S73	11	137.672	0.538	225.3	0.6081	0.0000	SURCHARGED
15 minute winter	S72	11	137.258	0.165	232.0	0.1865	0.0000	OK
1440 minute winter	S85	1410	136.422	0.922	11.3	1.3197	0.0000	OK
15 minute winter	S64	10	140.300	0.104	31.4	0.1495	0.0000	OK
15 minute winter	S65	11	140.040	0.278	44.9	0.3978	0.0000	SURCHARGED
15 minute winter	S66	11	139.894	0.233	55.2	0.3339	0.0000	SURCHARGED
15 minute winter	S67	11	139.697	0.389	69.0	0.5566	0.0000	SURCHARGED
15 minute winter	S68	11	139.437	0.169	68.5	0.2425	0.0000	OK
15 minute winter	S69	11	138.306	0.106	76.3	0.1514	0.0000	OK
1440 minute winter	S70	1410	136.422	0.914	6.1	1.3082	0.0000	OK
1440 minute winter	S87	1410	136.422	0.922	17.3	1.3196	0.0000	SURCHARGED
1440 minute winter	S88	1410	136.422	1.067	6.2	78.3479	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	S60	6.002	S61	164.5	2.229	0.648	2.2495
15 minute winter	S61	6.003	S74	188.2	1.772	0.657	4.3182
15 minute winter	S74	6.004	S73	199.2	1.806	1.925	2.0356
15 minute winter	S73	6.005	S72	224.4	2.468	2.164	1.1819
15 minute winter	S72	6.006	S85	232.4	4.826	0.343	0.9260
1440 minute winter	S85	Flow through pond	S87	17.3	0.036	0.001	766.3152
15 minute winter	S64	9.000	S65	31.2	1.069	0.445	0.6929
15 minute winter	S65	9.001	S66	42.2	1.219	1.090	0.7198
15 minute winter	S66	9.002	S67	53.3	1.341	0.648	0.5646
15 minute winter	S67	9.003	S68	68.5	1.780	1.996	0.3351
15 minute winter	S68	9.004	S69	68.3	2.692	0.788	0.9763
15 minute winter	S69	9.005	S70	76.4	4.393	0.393	0.2773
1440 minute winter	S70	Flow through pond	S87	17.3	0.036	0.001	766.3152
1440 minute winter	S87	1.014	S88	6.2	0.796	0.097	3.0542
1440 minute winter	S88	Infiltration		2.6			

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S25	12	140.792	0.186	17.5	0.2669	0.0000	SURCHARGED
15 minute winter	S26	13	140.703	0.205	16.9	0.2322	0.0000	SURCHARGED
15 minute winter	S53	12	140.898	0.929	27.5	1.3294	0.0000	SURCHARGED
15 minute winter	S54	12	140.533	0.791	54.0	0.8946	0.0000	SURCHARGED
15 minute winter	S27	13	140.287	0.668	49.6	0.7552	0.0000	SURCHARGED
15 minute winter	S28	12	140.210	0.619	57.1	0.8854	0.0000	SURCHARGED
15 minute winter	S29	12	140.081	0.534	71.8	0.7635	0.0000	SURCHARGED
15 minute winter	S40	12	139.911	0.677	34.2	0.9693	0.0000	SURCHARGED
15 minute winter	S30	12	139.501	0.797	160.6	1.1409	0.0000	SURCHARGED
15 minute winter	S55	12	139.337	0.939	115.0	1.3433	0.0000	SURCHARGED
15 minute winter	S56	12	139.030	1.158	122.4	1.6565	0.0000	SURCHARGED
15 minute winter	S57	12	138.676	1.320	256.8	1.8896	0.0000	FLOOD RISK
15 minute winter	S37	12	137.971	0.347	34.2	0.4965	0.0000	SURCHARGED
15 minute winter	S38	12	137.886	1.411	118.7	2.0198	0.0000	FLOOD RISK
15 minute winter	S32	12	137.875	1.679	323.2	1.8995	0.0000	SURCHARGED
15 minute winter	S33	12	137.732	1.892	334.9	2.7071	0.0000	FLOOD RISK
15 minute winter	S34	12	137.587	1.864	344.8	2.6676	0.0000	FLOOD RISK
15 minute winter	S35	12	137.431	1.743	396.6	1.9712	0.0000	SURCHARGED
15 minute winter	S62	12	136.875	1.322	396.1	1.4949	0.0000	SURCHARGED
1440 minute winter	S89	1440	136.782	1.279	25.9	1.4464	0.0000	OK
15 minute winter	S58	12	141.111	1.348	39.8	1.9296	0.0000	FLOOD RISK
15 minute winter	S63	12	141.259	0.849	42.3	1.2154	0.0000	SURCHARGED
15 minute winter	S59	11	140.145	0.645	128.1	0.7298	0.0000	SURCHARGED
15 minute winter	S75	12	140.034	0.597	29.8	0.8546	0.0000	SURCHARGED
15 minute winter	S76	12	139.623	0.469	49.0	0.6708	0.0000	SURCHARGED

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	S25	1.000	S26	16.9	1.126	1.172	0.2826
15 minute winter	S26	1.001	S54	15.7	1.095	0.610	0.5737
15 minute winter	S53	2.000	S54	23.4	1.331	1.549	0.3674
15 minute winter	S54	1.002	S27	49.6	1.246	1.438	1.1024
15 minute winter	S27	1.003	S28	48.3	1.215	1.399	0.2499
15 minute winter	S28	1.004	S29	58.2	1.463	1.693	0.3967
15 minute winter	S29	1.005	S30	72.3	2.071	0.975	1.5094
15 minute winter	S40	3.000	S30	31.8	1.805	1.108	0.2587
15 minute winter	S30	1.006	S57	147.2	2.700	0.825	3.4975
15 minute winter	S55	4.000	S56	104.9	1.842	0.794	2.6253
15 minute winter	S56	4.001	S57	113.9	2.053	0.837	2.0815
15 minute winter	S57	1.007	S32	255.1	4.460	0.722	0.6574
15 minute winter	S37	5.000	S38	32.8	2.093	0.319	1.0249
15 minute winter	S38	5.001	S32	-71.4	0.997	-0.506	2.8636
15 minute winter	S32	1.008	S33	323.1	1.610	0.495	4.2420
15 minute winter	S33	1.009	S34	334.5	1.548	0.850	3.8249
15 minute winter	S34	1.010	S35	344.3	1.594	1.628	3.9180
15 minute winter	S35	1.011	S62	396.1	1.834	1.885	15.3042
15 minute winter	S62	1.012	S89	394.8	1.828	1.831	5.3835
1440 minute winter	S89	Flow through pond	S87	24.2	0.041	0.001	1168.8390
15 minute winter	S58	6.000	S59	34.1	1.939	2.360	0.4487
15 minute winter	S63	7.000	S59	37.0	2.100	1.159	0.4194
15 minute winter	S59	6.001	S60	119.4	2.077	0.880	4.2758
15 minute winter	S75	8.000	S76	27.5	1.562	1.422	0.3091
15 minute winter	S76	8.001	S60	45.5	1.793	0.637	1.0213

Results for 100 year +40% CC Critical Storm Duration. Lowest mass balance: 98.74%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	S60	12	139.400	0.879	213.6	1.2584	0.0000	SURCHARGED
15 minute winter	S61	12	139.033	0.958	234.8	1.3706	0.0000	SURCHARGED
15 minute winter	S74	12	138.315	1.131	249.8	1.6184	0.0000	SURCHARGED
15 minute winter	S73	12	137.891	0.757	283.8	0.8557	0.0000	SURCHARGED
15 minute summer	S72	10	137.280	0.187	283.2	0.2113	0.0000	OK
1440 minute winter	S85	1440	136.777	1.277	15.8	1.8278	0.0000	OK
15 minute winter	S64	12	140.744	0.549	44.0	0.7854	0.0000	SURCHARGED
15 minute winter	S65	12	140.605	0.843	56.6	1.2067	0.0000	SURCHARGED
15 minute winter	S66	12	140.372	0.711	70.6	1.0173	0.0000	SURCHARGED
15 minute winter	S67	12	140.054	0.746	89.4	1.0680	0.0000	SURCHARGED
15 minute winter	S68	12	139.677	0.410	86.6	0.5869	0.0000	SURCHARGED
15 minute winter	S69	10	138.321	0.121	94.1	0.1724	0.0000	OK
1440 minute winter	S70	1440	136.777	1.269	5.2	1.8164	0.0000	OK
1440 minute winter	S87	1440	136.777	1.277	24.2	1.8276	0.0000	SURCHARGED
1440 minute winter	S88	1440	136.777	1.422	8.1	95.0070	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)
15 minute winter	S60	6.002	S61	200.4	2.224	0.789	3.0611
15 minute winter	S61	6.003	S74	233.4	2.116	0.815	4.8156
15 minute winter	S74	6.004	S73	250.2	2.269	2.418	2.0356
15 minute winter	S73	6.005	S72	282.0	3.017	2.718	1.2433
15 minute summer	S72	6.006	S85	283.3	5.022	0.418	1.0732
1440 minute winter	S85	Flow through pond	S87	24.2	0.041	0.001	1168.8390
15 minute winter	S64	9.000	S65	38.5	1.086	0.549	0.9535
15 minute winter	S65	9.001	S66	53.5	1.345	1.382	0.7198
15 minute winter	S66	9.002	S67	67.5	1.699	0.821	0.5646
15 minute winter	S67	9.003	S68	86.6	2.177	2.525	0.3709
15 minute winter	S68	9.004	S69	83.4	2.728	0.963	1.1851
15 minute winter	S69	9.005	S70	93.6	4.595	0.482	0.3250
1440 minute winter	S70	Flow through pond	S87	24.2	0.041	0.001	1168.8390
1440 minute winter	S87	1.014	S88	8.1	0.869	0.126	3.0542
1440 minute winter	S88	Infiltration		2.6			