DRAINAGE CALCULATIONS

For:

LUBRIZOL, ALBION ROAD

On Behalf of:

LUBRIZOL ADVANCED MATERIALS UK LTD

Project Reference: 19-093

Document Ref: 19-093-CAL-001-0

Revision: 0

Date: 20/09/19

VERIFICATION RECORD

Calculation type	Original
Category of Checking	0
Design Process	N/A

REVISION RECORD

Rev	Description	Date	Originator	Checked	Approved
0	Preliminary	20/09/19	AJH	LJH	AJH

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1.0 INTRODUCTION

Ref.

Output

1. According to the *National Planning Policy Framework* (NPPF), developers should seek opportunities to reduce the overall level of flood risk in the area and beyond. This can be achieved, for instance, through the layout and form of development, including green infrastructure and the appropriate application of sustainable drainage systems, through safeguarding land for flood risk management, or where appropriate, through designing off-site works required to protect and support development in ways that benefit the area more generally.

2. Sustainable drainage systems are designed to control surface water run off close to where it falls and mimic natural drainage, as closely as possible. They provide opportunities to:

   a. Reduce the causes and impacts of flooding;

   b. Remove pollutants from urban run-off at source;

   c. Combine water management with green space with benefits for amenity, recreation and wildlife.

3. Generally, the aim should be to discharge surface run off as high up the following hierarchy of drainage options as reasonably practicable:

   a. Into the ground (infiltration);

   b. To a surface water body;

   c. To a surface water sewer, highway drain, or another drainage system;

   d. To a combined sewer.

4. As the heavy clay soil, from which the superficial deposits are comprised of on the site, is deemed to be unsuitable for accepting water from an infiltration system, the Sustainable Urban Drainage Systems (SUDS) for the proposed development, disposes of the surface water from the site by discharging to the adjacent water course. The drainage system to the proposed development system has, therefore, been designed to meet the following criteria:

   a. To have sufficient on-site attenuation so that flooding does not occur on any part of the site for a 1 in 30 year rainfall event.

   b. To have sufficient on-site attenuation to ensure that storm water resulting from a 1 in 100 year rainfall event, plus an allowance of 40% to account for climate change and urban creep can be stored on the site without risk to people or property and without increasing the restricted flows off site.

   c. There a maximum restricted discharge of surface water from site is no greater 5 l/s/, as stipulated by BMBC's Developer Services Team.

5. It is noted, however, that, when combined with the discharge from the remainder of the site, the flooding does occur in both the 1 in 30 year and 1 in 100 year rainfall events. The nature of the sites' topography, however, is such that is no risk to either people or property in either of these situations.

MATRIX CONSULTING ENGINEERS		Project/Calc No. 19-093-CAL-001-0	
		Sheet No. ii	Rev 0
CALCULATIONS	Project Title: LUBRIZOL, ALBION ROAD	Date 20/09/19	
Subject DESIGN PARAMETERS		By AJH	Chkd LJH

Ref.			Output
	Site Information		
	Site Address:	Lubrizol	
		5 Albion Rd	
		Barnsley	
		S71 3PQ	
	Grid Reference:	SE 36432 09347	
	Easting:	436432	
	Northing:	409347	
	Latitude	53.579458	
	Longitude	-1.4512237	
	Elevation:	61	m
	Proximiy to Sea	-	kM
	Soils Information		
	GIR Report:	NONE PREPARED	
	GDR Report:	NONE PREPARED	
	Cu	-	kN/m^2
	ϕ	-	kN/m^3
	Design Sulphate Class	-	
	ACEC Class	-	
	Superstructure Information		
	Fire Resistance:	-	Hrs
	Concrete Grade:	-	N/mm^2
	Concrete Cover:	-	mm
	Steelwork Grade:	-	N/mm^2
	Steelwork Sub-grade	-	
	Consequence Class	-	

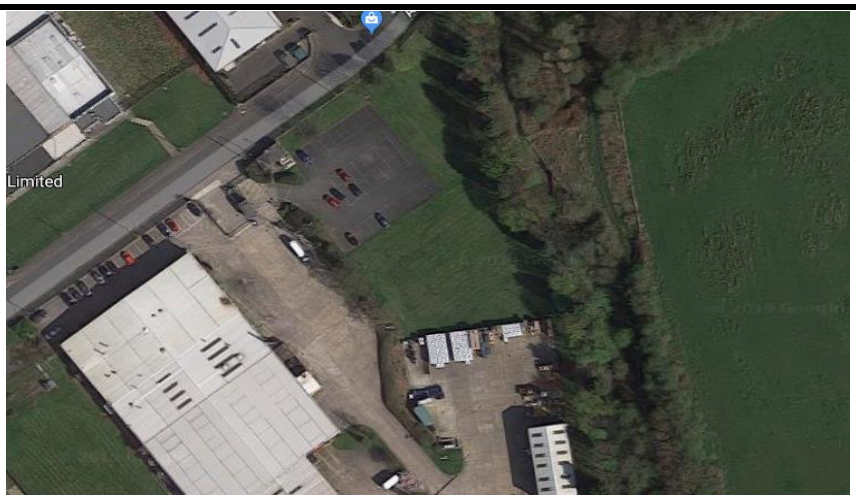


FIGURE 1 - ARIEL PHOTOGRAPH



FIGURE 2 - OS BLOCK PLAN

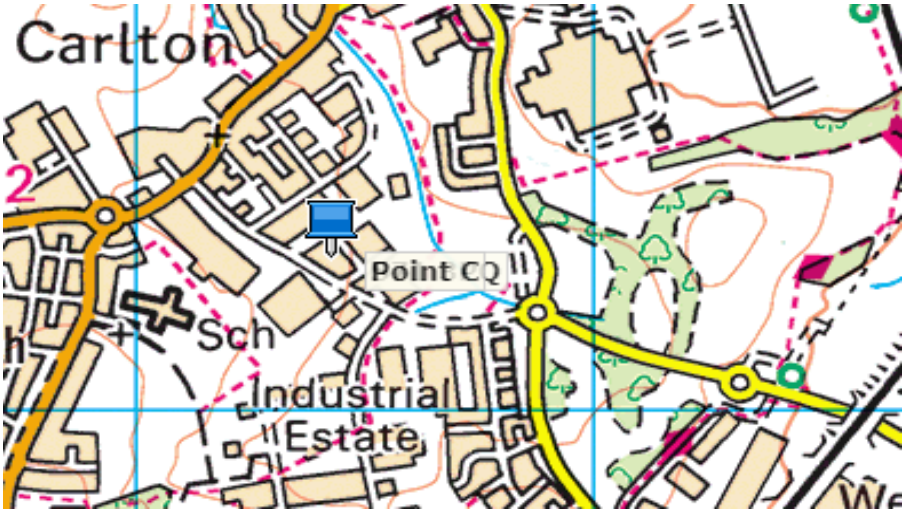
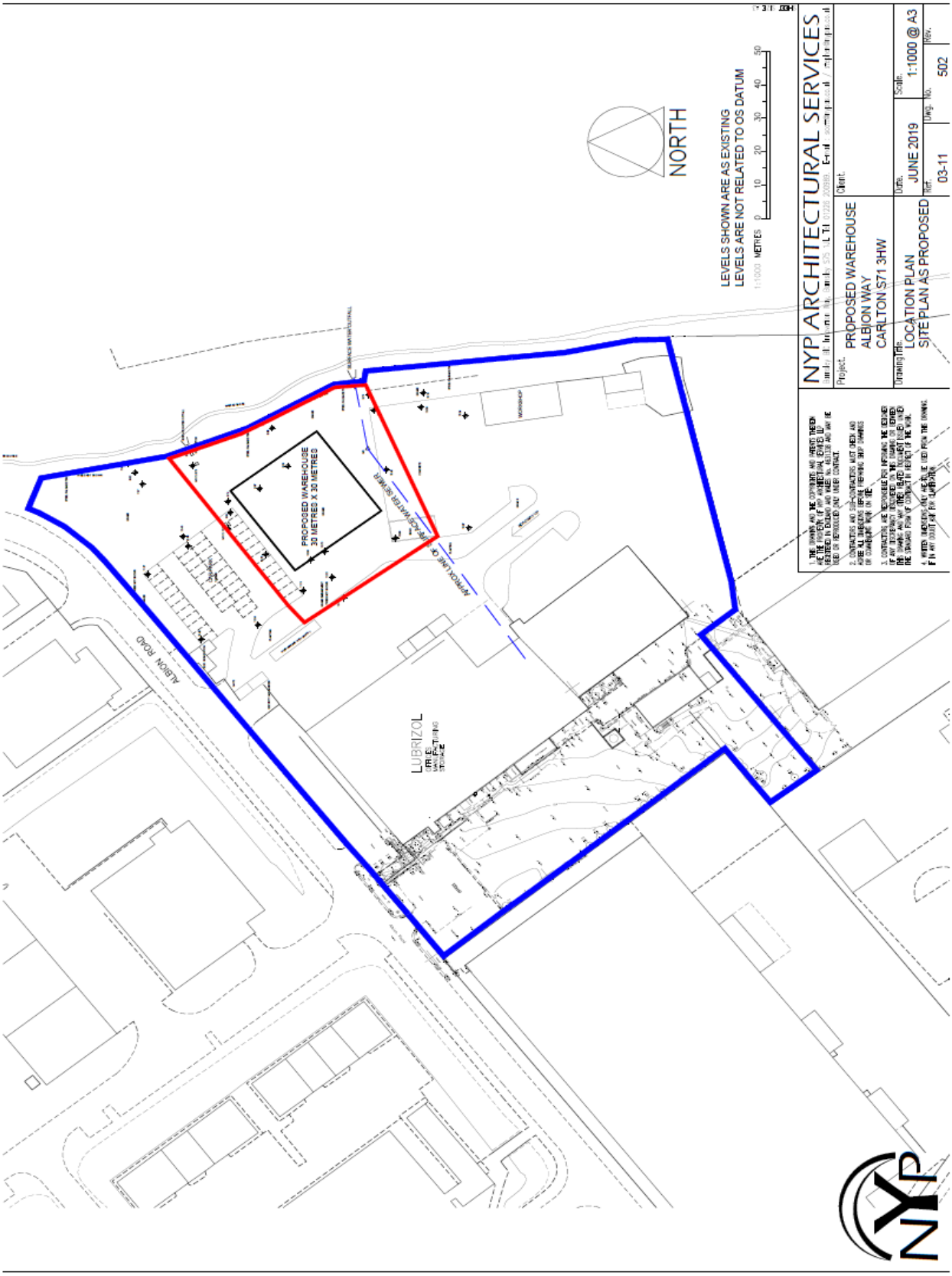


FIGURE 3 - OS LOCATION PLAN (SCALE1:2500)

MATRIX CONSULTING ENGINEERS		Project/Calc No. 19-093-CAL-001-0	
		Sheet No. vi	Rev 0
SKETCH	Project LUBRIZOL, ALBION ROAD	Date 20/09/19	
Subject ARCHITECTURAL DRAWINGS		By AJH	Chkd LJH



Andrew Hoyland

From: Andrew Hoyland
Sent: 20 September 2019 15:12
To: wayneatkins@barnsley.gov.uk
Cc: stephen woodcock
Subject: 19-093 - Lubrizol, Albion Way - Planning Reference IG/ 2019/0823
Attachments: 03-11-502 site as proposed.pdf

Wayne,

With respect to the storm water discharge into the water course on the north-eastern boundary of the site, we confirm that you require the maximum rate from the new development, as detailed on the attached drawings, to not exceed 5 L/s.

I trust that this proves satisfactory. Should you have any queries, however, please do not hesitate to contact me.

Regards

Andrew Hoyland BSc (Hons) DIS CEng MIStructE MCIHT
Managing Director

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2.0 DESIGNER'S RISK ASSESSMENT

MATRIX CONSULTING ENGINEERS

Project/Calc No.	
19-093-CAL-001-0	
Sheet No.	Rev
D1	0

CALCULATIONS

Project Title: LUBRIZOL, ALBION ROAD

20/09/19

Subject: DESIGNER'S RISK ASSESSMENT

By: AJH | Chkd: LJH

LOCATION	HAZARD	Probability	Severity	Risk	Available Control Measures	Residual Risk	Action by	Procedure	Output
General	Being struck by moving plant or materials.	High	Medium	High	Exclude pedestrians from the vicinity of the works. Barriers / fences to be erected accordingly. Adopt suitable traffic management system.	Low	Contractor	Contractor to implement suitable scheme	
General	Members of the general public, the client and others coming in to conflict with construction work.	High	Medium	High	Secure site, net scaffolding, use rubbish chutes, exclude pedestrians from the vicinity of the works, adopt suitable vehicle and pedestrian traffic management systems.	Low	Contractor	Contractor to implement suitable scheme	
General	Exposure to building dust	Medium	High	High	Prevent dust by using wet cutting and vacuum extraction on tools; use a vacuum cleaner rather than sweeping; use a suitable, well-fitting mask.	Medium	Contractor	Contractor to implement suitable scheme	
General	Contact with protected/ priority species of fauna and flora.	Medium	High	High	Be vigilant and take precautions as necessary to avoid affecting protected/ priority species of fauna and flora.	Medium	Contractor	Contractor to implement suitable scheme	
General	Hot works	Medium	High	High	Suitably trained staff to undertake any hot works required and suitable protection methods put in place	Medium	Contractor	Contractor to implement suitable scheme	
General	Hazardous substances	High	Low	Medium	Suitable PPE to be worn including protective gloves. Masks to prevent inhaling of hazardous chemicals. Washing facilities to be present on-site	Low	Contractor	Contractor to implement suitable scheme	
General	Contact with hazardous animal waste.	Medium	Medium	Medium	Suitable PPE to be worn including protective gloves. Masks to prevent inhaling of hazardous substances. Washing facilities to be present on-site	Medium	Contractor	Contractor to implement suitable scheme	
General	Contact with discarded needles and sharp objects	Medium	High	High	Suitable PPE to be worn including protective gloves to prevent injury from contaminated objects. Washing facilities to be present on-site	Medium	Contractor	Contractor to implement suitable scheme	

General	Contact with services.	Medium	High	High	Carry out survey to establish position of live services, protect and divert if necessary.	Medium	Contractor	Contractor to implement suitable scheme	
Drainage works	Contact with services.	Medium	High	High	Carry out survey to establish position of live services, protect and divert if necessary.	Medium	Contractor	Contractor to implement suitable scheme	
Drainage works	Falling into open excavation.	High	Medium	High	Provide barriers / fences to be erected accordingly. Place warning signs in prominent positions	Low	Contractor	Contractor to implement suitable scheme	
Drainage works	Collapse of excavation.	High	Medium	High	Provide suitably designed and coordinated temporary excavation support or batter back excavation sides as necessary.	Low	Contractor	Contractor to implement suitable scheme	
Drainage works	Collapse of excavation.	High	Medium	High	Do not position or move plant or store materials, including excavation arisings, adjacent to open excavations such that the means of ensuring the excavation stability is affected.	Low	Contractor	Contractor to implement suitable scheme	
Drainage works	Objects and material falling into excavations	High	Medium	High	Do not store materials adjacent to or above an open exaction which can be dislodged and fall into the excavation.	Low	Contractor	Contractor to implement suitable scheme	
Drainage works	Unsafe excavations.	High	Medium	High	Excavations to be inspected in accordance with Regulation 22 and 24 by a competent person.	Low	Contractor	Contractor to implement suitable scheme	
Drainage works	Affecting buried services	Medium	High	High	Utilise buried services information and position access scaffolds to avoid loading services. Provide spreader plates to ensure load applied to the surrounding ground are within the allowable bearing pressure.	Medium	Designer/ Contractor	Contractor to implement suitable scheme	
Drainage works	Electrocution by live electrical cables	Medium	High	High	All works to be supervised by appropriately experienced and qualified competent technical staff. Suitable protective measures to be implemented including encapsulation of the electrical equipment during the works. Consult buried services information.	Medium	Contractor	Suitable Scheme to be implemented.	

Drainage works	Undermining existing structures	Medium	High	High	Carry out trial pits to ascertain nature and condition of the existing structural foundations if not identified in the contract drawings. Report the findings to the designers. Implement appropriately designed and coordinated temporary works scheme.	Medium	Contractor	Contractor to implement suitable scheme	

3.0 PROPOSED SURFACE WATER RUN-OFF DESIGN

Drainage Design Report

Flow

v6.0

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Network	Storm Network
Filename	\\MatrixServer\Matrix\Projects\Projects\19-093 - Albion Way, Carlton\04 - Design\19-093-FLO-013-0.pfd
Username	Andrew Hoyland (ahoyland@matrixce.co.uk)
Last analysed	20/09/2019 15:27:45
Report produced on	20/09/2019 15:28:46

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Rainfall Methodology	FSR
Return Period (years)	1
Additional Flow (%)	0
FSR Region	England and Wales
M5-60 (mm)	18.000
Ratio-R	0.350
CV	0.750
Time of Entry (mins)	5.00
Maximum Time of Concentration (mins)	30.00
Maximum Rainfall (mm/hr)	50.0
Minimum Velocity (m/s)	1.00
Connection Type	Level Soffits
Minimum Backdrop Height (m)	0.200
Preferred Cover Depth (m)	1.200
Enforce best practice design rules	

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Name	Area (ha)	T of E (mins)	Add Inflow (l/s)	Cover Level (m)	Node Type	Manhole Type	Diameter (mm)	Width (mm)	Easting (m)	Northing (m)	Depth (m)	Notes
S1a	0.025	5.00		55.000	Manhole	Adoptable	1500				1.800	
S1	0.025	5.00		55.000	Manhole	Adoptable	1500				1.928	
S2a	0.025	5.00		55.000	Manhole	Adoptable	1500				1.800	
S2	0.025	5.00		55.000	Manhole	Adoptable	1500				1.864	
O/F				53.116	Manhole	Adoptable	1200				1.350	

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	Name	US Node	DS Node	Length (m)	ks (mm) / n	Velocity Equation	US IL (m)	DS IL (m)	Fall (m)	Slope (1:X)	Dia (mm)	Link Type	T of C (mins)	Rain (mm/hr)	Con Offset (m)	Min DS IL (m)
	1.000	S1a	S1	37.000	0.600	Colebrook-White	53.200	53.072	0.128	289.1	600	Circular	5.00	46.1		
?	1.001	S1	O/F	10.000	0.600	Colebrook-White	53.072	51.766	1.306	7.7	150	Circular	6.27	41.8		
	2.000	S2a	S2	37.000	0.600	Colebrook-White	53.200	53.136	0.064	578.1	600	Circular	5.61	43.9		
	2.001	S2	S1	37.000	0.600	Colebrook-White	53.136	53.072	0.064	578.1	600	Circular	6.23	41.9		

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	Name	US Node	DS Node	Vel (m/s)	Cap (l/s)	Flow (l/s)	US Depth (m)	DS Depth (m)	Minimum Depth (m)	Maximum Depth (m)	Σ Area (ha)	Σ Add Inflow (ha)	Pro Depth (mm)	Pro Velocity (m/s)	Notes
	1.000	S1a	S1	1.427	403.4	3.1	1.200	1.328	1.200	1.328	0.025	0.0	37	0.436	Fall increased to remove backdrop
?	1.001	S1	O/F	3.664	64.7	11.3	1.778	1.200	1.200	1.778	0.100	0.0	42	2.770	Velocity is more than 3 m/s
	2.000	S2a	S2	1.005	284.3	3.0	1.200	1.264	1.200	1.264	0.025	0.0	42	0.333	
	2.001	S2	S1	1.005	284.3	5.7	1.264	1.328	1.264	1.328	0.050	0.0	58	0.405	

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Link ID	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)	US Node ID	Dia (mm)	Width (mm)	Node Type	MH Type	DS Node ID	Dia (mm)	Width (mm)	Node Type	MH Type
1.000	37.000	289.1	600	Circular	55.000	53.200	1.200	55.000	53.072	1.328	S1a	1500		Manhole	Adoptable	S1	1500		Manhole	Adoptable
1.001	10.000	7.7	150	Circular	55.000	53.072	1.778	53.116	51.766	1.200	S1	1500		Manhole	Adoptable	O/F	1200		Manhole	Adoptable
2.000	37.000	578.1	600	Circular	55.000	53.200	1.200	55.000	53.136	1.264	S2a	1500		Manhole	Adoptable	S2	1500		Manhole	Adoptable
2.001	37.000	578.1	600	Circular	55.000	53.136	1.264	55.000	53.072	1.328	S2	1500		Manhole	Adoptable	S1	1500		Manhole	Adoptable

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Node ID	Easting (m)	Northing (m)	CL (m)	Depth (m)	Dia (mm)	Width (mm)	Node Type	MH Type		Link ID	IL (m)	Dia (mm)	Link Type
S1a			55.000	1.800	1500		Manhole	Adoptable					
									0	1.000	53.200	600	Circular
S1			55.000	1.928	1500		Manhole	Adoptable	1	2.001	53.072	600	Circular
									2	1.000	53.072	600	Circular
									0	1.001	53.072	150	Circular
S2a			55.000	1.800	1500		Manhole	Adoptable					
									0	2.000	53.200	600	Circular
S2			55.000	1.864	1500		Manhole	Adoptable	1	2.000	53.136	600	Circular
									0	2.001	53.136	600	Circular
O/F			53.116	1.350	1200		Manhole	Adoptable	1	1.001	51.766	150	Circular

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Rainfall Methodology	FSR		Return Period (years)	Climate Change (%)
FSR Region	England and Wales		1	40
M5-60 (mm)	18.000		30	40
Ratio-R	0.350		100	40
Summer CV	0.750			
Winter CV	0.840			
Analysis Speed	Normal			
Drain Down Time (mins)	240			
Additional Storage (m³/ha)	20.0			
Storm Durations (mins)	15			
	30			
	60			
	120			
	180			
	240			
	360			
	480			
	600			
	720			
	960			
	1440			
Check Discharge Rate(s)	x			
1 year (l/s)				
30 year (l/s)				
100 year (l/s)				
Check Discharge Volume	x			
100 year 360 minute (m³)				

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Hydro-Brake®												
Node	**Flap Valve**	**Online / Offline**	**Replaces Downstream Link**	**Loop to Node**	**Invert Level (m)**	**Design Depth (m)**	**Design Flow (l/s)**	**Objective**	**Sump Available**	**Product Number**	**Min Outlet Diameter (m)**	**Min Node Diameter (mm)**
S1	x	Online			53.072	1.000	5.0	(HE) Minimise upstream storage		CTL-SHE-0106-5000-1000-5000	0.150	1200

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Default Values			Overrides					
Entry Loss (manhole)	0.250		**Link**	**Entry Loss**	**Exit Loss**		**Node**	**Flood Risk (m)**
Exit Loss (manhole)	0.250							
Entry Loss (junction)	0.000							
Exit Loss (junction)	0.000							
Flood Risk (m)	0.300							

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Node Size	
Node Losses	
Link Size	
Minimum Diameter (mm)	150
Link Length	
Maximum Length (m)	100.000
Coordinates	
Accuracy (m)	1.000
Crossings	
Cover Depth	
Minimum Cover Depth (m)	
Maximum Cover Depth (m)	3.000
Backdrops	
Minimum Backdrop Height (m)	
Maximum Backdrop Height (m)	1.500
Full Bore Velocity	
Minimum Full Bore Velocity (m/s)	
Maximum Full Bore Velocity (m/s)	3.000
Proportional Velocity	
Return Period (years)	
Minimum Proportional Velocity (m/s)	0.750
Maximum Proportional Velocity (m/s)	3.000
Surcharged Depth	
Return Period (years)	
Maximum Surcharged Depth (m)	0.100
Flooding	
Return Period (years)	30
Discharge Rates	
1 year (l/s)	
30 year (l/s)	
100 year (l/s)	
Discharge Volume	
100 year 360 minute (m³)	

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Results for 1 year +40% Critical Storm Duration. Lowest mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	S1a	25	53.260	0.060	3.3	0.1235	0.0000	OK	1.000	S1	3.2	0.178	0.008	1.6312	
30 minute winter	S1	24	53.259	0.187	9.7	0.3789	0.0000	SURCHARGED	Hydro-Brake®	O/F	4.8				10.3
30 minute winter	S2a	24	53.260	0.060	3.3	0.1230	0.0000	OK	2.000	S2	3.2	0.258	0.011	1.0179	
30 minute winter	S2	23	53.260	0.124	6.5	0.2523	0.0000	OK	2.001	S1	4.0	0.179	0.014	2.1322	
15 minute summer	O/F	1	51.766	0.000	4.7	0.0000	0.0000	OK							

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Results for 30 year +40% Critical Storm Duration. Lowest mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	S1a	48	53.454	0.254	5.5	0.5191	0.0000	OK	1.000	S1	4.3	0.189	0.011	5.5592	
60 minute winter	S1	49	53.452	0.380	12.4	0.7700	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				32.3
60 minute winter	S2a	50	53.452	0.252	5.5	0.5151	0.0000	OK	2.000	S2	4.2	0.211	0.015	4.8455	
60 minute winter	S2	47	53.452	0.316	9.1	0.6430	0.0000	OK	2.001	S1	3.7	0.173	0.013	6.2625	
15 minute summer	O/F	1	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 100 year +40% Critical Storm Duration. Lowest mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	S1a	56	53.582	0.382	7.3	0.7820	0.0000	OK	1.000	S1	4.5	0.201	0.011	8.2141	
60 minute winter	S1	58	53.582	0.510	14.4	1.0331	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				42.6
60 minute winter	S2a	56	53.582	0.382	7.3	0.7812	0.0000	OK	2.000	S2	5.2	0.218	0.018	7.6471	
60 minute winter	S2	58	53.582	0.446	12.3	0.9083	0.0000	OK	2.001	S1	4.0	0.185	0.014	8.8814	
15 minute summer	O/F	1	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 1 year +40% 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1a	15	53.249	0.049	4.0	0.0997	0.0000	OK	1.000	S1	3.9	0.205	0.010	1.3834	
15 minute summer	S1	14	53.244	0.172	13.5	0.3493	0.0000	SURCHARGED	Hydro-Brake®	O/F	4.7				6.9
15 minute summer	S2a	11	53.248	0.048	4.0	0.0981	0.0000	OK	2.000	S2	3.8	0.300	0.013	0.7756	
15 minute summer	S2	13	53.242	0.106	7.7	0.2160	0.0000	OK	2.001	S1	5.8	0.231	0.020	1.8342	
15 minute summer	O/F	1	51.766	0.000	4.7	0.0000	0.0000	OK							

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Results for 1 year +40% 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1a	14	53.259	0.059	4.2	0.1214	0.0000	OK	1.000	S1	4.2	0.207	0.010	1.5555	
15 minute winter	S1	15	53.254	0.182	13.0	0.3683	0.0000	SURCHARGED	Hydro-Brake®	O/F	4.8				7.8
15 minute winter	S2a	17	53.253	0.053	4.2	0.1086	0.0000	OK	2.000	S2	4.0	0.298	0.014	0.9383	
15 minute winter	S2	16	53.254	0.118	8.1	0.2397	0.0000	OK	2.001	S1	5.1	0.229	0.018	2.0238	
15 minute winter	O/F	1	51.766	0.000	4.8	0.0000	0.0000	OK							

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Results for 1 year +40% 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	S1a	22	53.252	0.052	3.7	0.1068	0.0000	OK	1.000	S1	3.6	0.169	0.009	1.5167	
30 minute summer	S1	22	53.250	0.178	10.3	0.3616	0.0000	SURCHARGED	Hydro-Brake®	O/F	4.8				9.3
30 minute summer	S2a	23	53.251	0.051	3.7	0.1039	0.0000	OK	2.000	S2	3.6	0.274	0.013	0.9068	
30 minute summer	S2	23	53.251	0.115	7.3	0.2340	0.0000	OK	2.001	S1	4.2	0.187	0.015	1.9869	
30 minute summer	O/F	1	51.766	0.000	4.8	0.0000	0.0000	OK							

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Results for 1 year +40% 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	S1a	25	53.260	0.060	3.3	0.1235	0.0000	OK	1.000	S1	3.2	0.178	0.008	1.6312	
30 minute winter	S1	24	53.259	0.187	9.7	0.3789	0.0000	SURCHARGED	Hydro-Brake®	O/F	4.8				10.3
30 minute winter	S2a	24	53.260	0.060	3.3	0.1230	0.0000	OK	2.000	S2	3.2	0.258	0.011	1.0179	
30 minute winter	S2	23	53.260	0.124	6.5	0.2523	0.0000	OK	2.001	S1	4.0	0.179	0.014	2.1322	
30 minute winter	O/F	1	51.766	0.000	4.8	0.0000	0.0000	OK							

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Results for 1 year +40% 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	S1a	37	53.247	0.047	2.8	0.0956	0.0000	OK	1.000	S1	2.8	0.146	0.007	1.4394	
60 minute summer	S1	38	53.246	0.174	8.7	0.3527	0.0000	SURCHARGED	Hydro-Brake®	O/F	4.7				12.1
60 minute summer	S2a	40	53.249	0.049	2.8	0.1009	0.0000	OK	2.000	S2	2.7	0.242	0.010	0.8555	
60 minute summer	S2	39	53.248	0.112	5.5	0.2285	0.0000	OK	2.001	S1	3.2	0.158	0.011	1.9267	
60 minute summer	O/F	1	51.766	0.000	4.7	0.0000	0.0000	OK							

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Results for 1 year +40% 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	S1a	41	53.248	0.048	2.3	0.0990	0.0000	OK	1.000	S1	2.3	0.152	0.006	1.4602	
60 minute winter	S1	42	53.248	0.176	7.2	0.3565	0.0000	SURCHARGED	Hydro-Brake®	O/F	4.8				13.3
60 minute winter	S2a	41	53.248	0.048	2.3	0.0986	0.0000	OK	2.000	S2	2.3	0.225	0.008	0.8560	
60 minute winter	S2	42	53.248	0.112	4.6	0.2275	0.0000	OK	2.001	S1	3.2	0.147	0.011	1.9416	
60 minute winter	O/F	1	51.766	0.000	4.8	0.0000	0.0000	OK							

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Results for 1 year +40% 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	S1a	64	53.229	0.029	1.9	0.0602	0.0000	OK	1.000	S1	1.9	0.126	0.005	1.1210	
120 minute summer	S1	72	53.225	0.153	6.2	0.3107	0.0000	SURCHARGED	Hydro-Brake®	O/F	4.6				15.2
120 minute summer	S2a	64	53.235	0.035	1.9	0.0706	0.0000	OK	2.000	S2	1.9	0.212	0.007	0.5744	
120 minute summer	S2	72	53.226	0.090	3.8	0.1828	0.0000	OK	2.001	S1	2.5	0.134	0.009	1.5367	
120 minute summer	O/F	2	51.766	0.000	4.6	0.0000	0.0000	OK							

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Results for 1 year +40% 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	S1a	64	53.227	0.027	1.5	0.0543	0.0000	OK	1.000	S1	1.5	0.121	0.004	0.9946	
120 minute winter	S1	74	53.213	0.141	5.2	0.2850	0.0000	OK	Hydro-Brake®	O/F	4.5				17.1
120 minute winter	S2a	64	53.231	0.031	1.5	0.0633	0.0000	OK	2.000	S2	1.5	0.198	0.005	0.4751	
120 minute winter	S2	74	53.213	0.077	3.0	0.1569	0.0000	OK	2.001	S1	2.3	0.126	0.008	1.3185	
120 minute winter	O/F	2	51.766	0.000	4.5	0.0000	0.0000	OK							

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Results for 1 year +40% 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	S1a	96	53.227	0.027	1.5	0.0544	0.0000	OK	1.000	S1	1.5	0.108	0.004	0.9094	
180 minute summer	S1	104	53.203	0.131	5.3	0.2662	0.0000	OK	Hydro-Brake®	O/F	4.5				17.4
180 minute summer	S2a	96	53.231	0.031	1.5	0.0634	0.0000	OK	2.000	S2	1.5	0.198	0.005	0.4115	
180 minute summer	S2	104	53.204	0.068	3.0	0.1384	0.0000	OK	2.001	S1	2.3	0.126	0.008	1.1664	
180 minute summer	O/F	4	51.766	0.000	4.5	0.0000	0.0000	OK							

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Results for 1 year +40% 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	S1a	100	53.223	0.023	1.1	0.0472	0.0000	OK	1.000	S1	1.1	0.099	0.003	0.7493	
180 minute winter	S1	104	53.186	0.114	4.2	0.2311	0.0000	OK	Hydro-Brake®	O/F	4.1				19.2
180 minute winter	S2a	100	53.227	0.027	1.1	0.0553	0.0000	OK	2.000	S2	1.1	0.187	0.004	0.2904	
180 minute winter	S2	104	53.187	0.051	2.2	0.1044	0.0000	OK	2.001	S1	2.0	0.119	0.007	0.9018	
180 minute winter	O/F	4	51.766	0.000	4.1	0.0000	0.0000	OK							

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Results for 1 year +40% 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	S1a	124	53.225	0.025	1.3	0.0505	0.0000	OK	1.000	S1	1.3	0.108	0.003	0.7894	
240 minute summer	S1	132	53.191	0.119	4.6	0.2403	0.0000	OK	Hydro-Brake®	O/F	4.2				18.7
240 minute summer	S2a	124	53.229	0.029	1.3	0.0589	0.0000	OK	2.000	S2	1.3	0.195	0.004	0.3193	
240 minute summer	S2	132	53.192	0.056	2.6	0.1131	0.0000	OK	2.001	S1	2.1	0.123	0.007	0.9681	
240 minute summer	O/F	4	51.766	0.000	4.2	0.0000	0.0000	OK							

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Results for 1 year +40% 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	S1a	128	53.221	0.021	0.9	0.0431	0.0000	OK	1.000	S1	0.9	0.099	0.002	0.6124	
240 minute winter	S1	132	53.171	0.099	3.6	0.1996	0.0000	OK	Hydro-Brake®	O/F	3.5				21.6
240 minute winter	S2a	128	53.225	0.025	0.9	0.0505	0.0000	OK	2.000	S2	0.9	0.181	0.003	0.1996	
240 minute winter	S2	132	53.173	0.037	1.8	0.0746	0.0000	OK	2.001	S1	1.8	0.114	0.006	0.6863	
240 minute winter	O/F	4	51.766	0.000	3.5	0.0000	0.0000	OK							

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Results for 1 year +40% 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	S1a	184	53.222	0.022	1.0	0.0449	0.0000	OK	1.000	S1	1.0	0.088	0.002	0.6402	
360 minute summer	S1	192	53.174	0.102	3.7	0.2063	0.0000	OK	Hydro-Brake®	O/F	3.6				22.2
360 minute summer	S2a	184	53.226	0.026	1.0	0.0526	0.0000	OK	2.000	S2	1.0	0.182	0.003	0.2157	
360 minute summer	S2	192	53.176	0.040	2.0	0.0807	0.0000	OK	2.001	S1	1.8	0.117	0.006	0.7287	
360 minute summer	O/F	8	51.766	0.000	3.6	0.0000	0.0000	OK							

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Results for 1 year +40% 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	S1a	192	53.219	0.019	0.7	0.0385	0.0000	OK	1.000	S1	0.7	0.101	0.002	0.4703	
360 minute winter	S1	200	53.154	0.082	2.8	0.1654	0.0000	OK	Hydro-Brake®	O/F	2.8				24.4
360 minute winter	S2a	192	53.222	0.022	0.7	0.0450	0.0000	OK	2.000	S2	0.7	0.170	0.002	0.1553	
360 minute winter	S2	192	53.166	0.030	1.4	0.0612	0.0000	OK	2.001	S1	1.4	0.111	0.005	0.5201	
360 minute winter	O/F	8	51.766	0.000	2.8	0.0000	0.0000	OK							

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Results for 1 year +40% 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	S1a	248	53.220	0.020	0.8	0.0409	0.0000	OK	1.000	S1	0.8	0.088	0.002	0.5267	
480 minute summer	S1	248	53.160	0.088	3.2	0.1790	0.0000	OK	Hydro-Brake®	O/F	3.1				24.9
480 minute summer	S2a	248	53.223	0.023	0.8	0.0478	0.0000	OK	2.000	S2	0.8	0.176	0.003	0.1705	
480 minute summer	S2	248	53.168	0.032	1.6	0.0650	0.0000	OK	2.001	S1	1.6	0.113	0.006	0.5815	
480 minute summer	O/F	8	51.766	0.000	3.1	0.0000	0.0000	OK							

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Results for 1 year +40% 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	S1a	248	53.218	0.018	0.6	0.0360	0.0000	OK	1.000	S1	0.6	0.101	0.001	0.4080	
480 minute winter	S1	256	53.146	0.074	2.4	0.1497	0.0000	OK	Hydro-Brake®	O/F	2.4				26.5
480 minute winter	S2a	248	53.221	0.021	0.6	0.0420	0.0000	OK	2.000	S2	0.6	0.162	0.002	0.1393	
480 minute winter	S2	256	53.164	0.028	1.2	0.0571	0.0000	OK	2.001	S1	1.2	0.108	0.004	0.4525	
480 minute winter	O/F	8	51.766	0.000	2.4	0.0000	0.0000	OK							

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Results for 1 year +40% 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	S1a	315	53.219	0.019	0.7	0.0385	0.0000	OK	1.000	S1	0.7	0.068	0.002	0.4663	
600 minute summer	S1	315	53.153	0.081	2.8	0.1644	0.0000	OK	Hydro-Brake®	O/F	2.8				27.2
600 minute summer	S2a	315	53.222	0.022	0.7	0.0450	0.0000	OK	2.000	S2	0.7	0.170	0.002	0.1553	
600 minute summer	S2	315	53.166	0.030	1.4	0.0612	0.0000	OK	2.001	S1	1.4	0.112	0.005	0.5161	
600 minute summer	O/F	15	51.766	0.000	2.8	0.0000	0.0000	OK							

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Results for 1 year +40% 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	S1a	315	53.216	0.016	0.5	0.0332	0.0000	OK	1.000	S1	0.5	0.082	0.001	0.3457	
600 minute winter	S1	330	53.138	0.066	2.0	0.1336	0.0000	OK	Hydro-Brake®	O/F	2.0				28.8
600 minute winter	S2a	315	53.219	0.019	0.5	0.0387	0.0000	OK	2.000	S2	0.5	0.153	0.002	0.1224	
600 minute winter	S2	315	53.162	0.026	1.0	0.0527	0.0000	OK	2.001	S1	1.0	0.105	0.004	0.3846	
600 minute winter	O/F	15	51.766	0.000	2.0	0.0000	0.0000	OK							

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Results for 1 year +40% 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	S1a	375	53.218	0.018	0.6	0.0360	0.0000	OK	1.000	S1	0.6	0.064	0.001	0.4070	
720 minute summer	S1	375	53.146	0.074	2.4	0.1494	0.0000	OK	Hydro-Brake®	O/F	2.4				30.0
720 minute summer	S2a	375	53.221	0.021	0.6	0.0420	0.0000	OK	2.000	S2	0.6	0.162	0.002	0.1393	
720 minute summer	S2	375	53.164	0.028	1.2	0.0571	0.0000	OK	2.001	S1	1.2	0.107	0.004	0.4515	
720 minute summer	O/F	15	51.766	0.000	2.4	0.0000	0.0000	OK							

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Results for 1 year +40% 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	S1a	345	53.215	0.015	0.4	0.0301	0.0000	OK	1.000	S1	0.4	0.082	0.001	0.2835	
720 minute winter	S1	390	53.129	0.057	1.6	0.1162	0.0000	OK	Hydro-Brake®	O/F	1.6				31.0
720 minute winter	S2a	345	53.217	0.017	0.4	0.0350	0.0000	OK	2.000	S2	0.4	0.142	0.001	0.1049	
720 minute winter	S2	360	53.159	0.023	0.8	0.0476	0.0000	OK	2.001	S1	0.8	0.102	0.003	0.3168	
720 minute winter	O/F	15	51.766	0.000	1.6	0.0000	0.0000	OK							

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Results for 1 year +40% 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	S1a	495	53.216	0.016	0.5	0.0332	0.0000	OK	1.000	S1	0.5	0.082	0.001	0.3441	
960 minute summer	S1	495	53.138	0.066	2.0	0.1331	0.0000	OK	Hydro-Brake®	O/F	2.0				28.8
960 minute summer	S2a	495	53.219	0.019	0.5	0.0387	0.0000	OK	2.000	S2	0.5	0.153	0.002	0.1224	
960 minute summer	S2	495	53.162	0.026	1.0	0.0527	0.0000	OK	2.001	S1	1.0	0.105	0.004	0.3830	
960 minute summer	O/F	15	51.766	0.000	2.0	0.0000	0.0000	OK							

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Results for 1 year +40% 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	S1a	495	53.215	0.015	0.4	0.0301	0.0000	OK	1.000	S1	0.4	0.082	0.001	0.2835	
960 minute winter	S1	510	53.129	0.057	1.6	0.1162	0.0000	OK	Hydro-Brake®	O/F	1.6				36.0
960 minute winter	S2a	495	53.217	0.017	0.4	0.0350	0.0000	OK	2.000	S2	0.4	0.142	0.001	0.1049	
960 minute winter	S2	495	53.159	0.023	0.8	0.0476	0.0000	OK	2.001	S1	0.8	0.102	0.003	0.3168	
960 minute winter	O/F	15	51.766	0.000	1.6	0.0000	0.0000	OK							

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Results for 1 year +40% 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	S1a	750	53.215	0.015	0.4	0.0301	0.0000	OK	1.000	S1	0.4	0.061	0.001	0.2835	
1440 minute summer	S1	750	53.129	0.057	1.6	0.1161	0.0000	OK	Hydro-Brake®	O/F	1.6				28.8
1440 minute summer	S2a	750	53.217	0.017	0.4	0.0350	0.0000	OK	2.000	S2	0.4	0.142	0.001	0.1049	
1440 minute summer	S2	750	53.159	0.023	0.8	0.0476	0.0000	OK	2.001	S1	0.8	0.101	0.003	0.3168	
1440 minute summer	O/F	30	51.766	0.000	1.6	0.0000	0.0000	OK							

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Results for 1 year +40% 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	S1a	720	53.213	0.013	0.3	0.0267	0.0000	OK	1.000	S1	0.3	0.060	0.001	0.2217	
1440 minute winter	S1	780	53.120	0.048	1.2	0.0980	0.0000	OK	Hydro-Brake®	O/F	1.2				34.6
1440 minute winter	S2a	720	53.215	0.015	0.3	0.0309	0.0000	OK	2.000	S2	0.3	0.130	0.001	0.0859	
1440 minute winter	S2	750	53.157	0.021	0.6	0.0418	0.0000	OK	2.001	S1	0.6	0.095	0.002	0.2490	
1440 minute winter	O/F	30	51.766	0.000	1.2	0.0000	0.0000	OK							

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Results for 30 year +40% 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1a	15	53.385	0.185	10.2	0.3789	0.0000	OK	1.000	S1	9.6	0.237	0.024	3.9505	
15 minute summer	S1	16	53.378	0.306	20.6	0.6196	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				17.1
15 minute summer	S2a	17	53.384	0.184	9.8	0.3756	0.0000	OK	2.000	S2	8.2	0.352	0.029	3.2278	
15 minute summer	S2	16	53.380	0.244	17.7	0.4970	0.0000	OK	2.001	S1	7.6	0.239	0.027	4.6625	
15 minute summer	O/F	1	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 30 year +40% 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1a	20	53.405	0.205	10.4	0.4198	0.0000	OK	1.000	S1	10.5	0.247	0.026	4.5000	
15 minute winter	S1	17	53.404	0.332	20.3	0.6728	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				19.1
15 minute winter	S2a	18	53.409	0.209	10.7	0.4270	0.0000	OK	2.000	S2	9.2	0.338	0.032	3.7998	
15 minute winter	S2	19	53.404	0.268	20.6	0.5459	0.0000	OK	2.001	S1	9.3	0.253	0.033	5.1980	
15 minute winter	O/F	1	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 30 year +40% 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	S1a	29	53.411	0.211	9.0	0.4323	0.0000	OK	1.000	S1	6.4	0.213	0.016	4.6349	
30 minute summer	S1	31	53.410	0.338	16.1	0.6843	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				22.7
30 minute summer	S2a	25	53.411	0.211	9.0	0.4324	0.0000	OK	2.000	S2	7.4	0.247	0.026	3.9219	
30 minute summer	S2	26	53.410	0.274	15.7	0.5585	0.0000	OK	2.001	S1	5.5	0.185	0.019	5.3214	
30 minute summer	O/F	1	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 30 year +40% 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	S1a	30	53.446	0.246	8.1	0.5029	0.0000	OK	1.000	S1	6.0	0.221	0.015	5.3770	
30 minute winter	S1	31	53.444	0.372	16.9	0.7545	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				25.4
30 minute winter	S2a	32	53.445	0.245	8.1	0.5017	0.0000	OK	2.000	S2	6.5	0.258	0.023	4.6785	
30 minute winter	S2	29	53.443	0.307	14.2	0.6250	0.0000	OK	2.001	S1	5.9	0.197	0.021	6.0794	
30 minute winter	O/F	1	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 30 year +40% 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	S1a	44	53.419	0.219	6.8	0.4481	0.0000	OK	1.000	S1	4.4	0.182	0.011	4.8352	
60 minute summer	S1	46	53.419	0.347	13.4	0.7039	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				29.0
60 minute summer	S2a	44	53.420	0.220	6.8	0.4509	0.0000	OK	2.000	S2	4.4	0.206	0.016	4.1413	
60 minute summer	S2	48	53.419	0.283	11.2	0.5759	0.0000	OK	2.001	S1	4.1	0.159	0.014	5.5354	
60 minute summer	O/F	1	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 30 year +40% 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	S1a	48	53.454	0.254	5.5	0.5191	0.0000	OK	1.000	S1	4.3	0.189	0.011	5.5592	
60 minute winter	S1	49	53.452	0.380	12.4	0.7700	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				32.3
60 minute winter	S2a	50	53.452	0.252	5.5	0.5151	0.0000	OK	2.000	S2	4.2	0.211	0.015	4.8455	
60 minute winter	S2	47	53.452	0.316	9.1	0.6430	0.0000	OK	2.001	S1	3.7	0.173	0.013	6.2625	
60 minute winter	O/F	1	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 30 year +40% 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	S1a	80	53.403	0.203	4.5	0.4156	0.0000	OK	1.000	S1	3.3	0.161	0.008	4.5049	
120 minute summer	S1	80	53.403	0.331	10.5	0.6711	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				36.0
120 minute summer	S2a	82	53.404	0.204	4.5	0.4170	0.0000	OK	2.000	S2	3.2	0.202	0.011	3.8003	
120 minute summer	S2	82	53.403	0.267	7.4	0.5430	0.0000	OK	2.001	S1	3.3	0.138	0.012	5.1889	
120 minute summer	O/F	2	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 30 year +40% 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	S1a	90	53.427	0.227	3.5	0.4632	0.0000	OK	1.000	S1	2.5	0.155	0.006	5.0070	
120 minute winter	S1	88	53.427	0.355	8.4	0.7186	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				40.3
120 minute winter	S2a	88	53.426	0.226	3.5	0.4627	0.0000	OK	2.000	S2	2.4	0.203	0.009	4.2973	
120 minute winter	S2	86	53.427	0.291	5.9	0.5914	0.0000	OK	2.001	S1	3.1	0.143	0.011	5.7072	
120 minute winter	O/F	2	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 30 year +40% 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	S1a	116	53.377	0.177	3.4	0.3616	0.0000	OK	1.000	S1	2.5	0.147	0.006	3.9399	
180 minute summer	S1	116	53.377	0.305	8.1	0.6174	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				40.6
180 minute summer	S2a	116	53.377	0.177	3.4	0.3624	0.0000	OK	2.000	S2	2.2	0.198	0.008	3.2472	
180 minute summer	S2	116	53.377	0.241	5.5	0.4914	0.0000	OK	2.001	S1	2.8	0.125	0.010	4.6204	
180 minute summer	O/F	4	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 30 year +40% 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	S1a	124	53.384	0.184	2.6	0.3762	0.0000	OK	1.000	S1	1.9	0.126	0.005	4.0907	
180 minute winter	S1	124	53.384	0.312	6.8	0.6318	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				45.3
180 minute winter	S2a	124	53.384	0.184	2.6	0.3764	0.0000	OK	2.000	S2	1.9	0.192	0.007	3.3868	
180 minute winter	S2	124	53.384	0.248	4.4	0.5045	0.0000	OK	2.001	S1	3.0	0.127	0.010	4.7692	
180 minute winter	O/F	4	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 30 year +40% 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	S1a	148	53.352	0.152	2.9	0.3115	0.0000	OK	1.000	S1	1.9	0.131	0.005	3.4337	
240 minute summer	S1	148	53.353	0.281	7.1	0.5690	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				43.8
240 minute summer	S2a	148	53.352	0.152	2.9	0.3119	0.0000	OK	2.000	S2	2.1	0.194	0.007	2.7355	
240 minute summer	S2	148	53.353	0.217	4.9	0.4407	0.0000	OK	2.001	S1	3.0	0.121	0.010	4.0883	
240 minute summer	O/F	4	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 30 year +40% 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	S1a	156	53.342	0.142	2.1	0.2911	0.0000	OK	1.000	S1	1.7	0.120	0.004	3.2235	
240 minute winter	S1	156	53.342	0.270	6.1	0.5479	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				48.9
240 minute winter	S2a	156	53.343	0.143	2.1	0.2916	0.0000	OK	2.000	S2	1.8	0.187	0.006	2.5327	
240 minute winter	S2	156	53.342	0.206	3.7	0.4199	0.0000	OK	2.001	S1	2.6	0.119	0.009	3.8655	
240 minute winter	O/F	4	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 30 year +40% 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	S1a	208	53.308	0.108	2.2	0.2216	0.0000	OK	1.000	S1	1.7	0.091	0.004	2.5477	
360 minute summer	S1	208	53.309	0.237	6.4	0.4792	0.0000	SURCHARGED	Hydro-Brake®	O/F	4.9				48.2
360 minute summer	S2a	208	53.309	0.109	2.2	0.2221	0.0000	OK	2.000	S2	1.8	0.187	0.006	1.8772	
360 minute summer	S2	208	53.308	0.172	3.8	0.3507	0.0000	OK	2.001	S1	2.6	0.118	0.009	3.1443	
360 minute summer	O/F	8	51.766	0.000	4.9	0.0000	0.0000	OK							

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Results for 30 year +40% 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	S1a	216	53.276	0.076	1.6	0.1547	0.0000	OK	1.000	S1	1.5	0.104	0.004	1.9373	
360 minute winter	S1	216	53.276	0.204	5.3	0.4126	0.0000	SURCHARGED	Hydro-Brake®	O/F	4.9				55.2
360 minute winter	S2a	216	53.276	0.076	1.6	0.1552	0.0000	OK	2.000	S2	1.5	0.181	0.005	1.3008	
360 minute winter	S2	216	53.276	0.140	3.0	0.2843	0.0000	OK	2.001	S1	2.5	0.113	0.009	2.4779	
360 minute winter	O/F	8	51.766	0.000	4.9	0.0000	0.0000	OK							

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Results for 30 year +40% 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	S1a	264	53.266	0.066	1.7	0.1345	0.0000	OK	1.000	S1	1.7	0.104	0.004	1.7612	
480 minute summer	S1	264	53.266	0.194	5.8	0.3923	0.0000	SURCHARGED	Hydro-Brake®	O/F	4.8				53.3
480 minute summer	S2a	264	53.266	0.066	1.7	0.1348	0.0000	OK	2.000	S2	1.7	0.181	0.006	1.1367	
480 minute summer	S2	264	53.266	0.130	3.4	0.2641	0.0000	OK	2.001	S1	2.5	0.113	0.009	2.2815	
480 minute summer	O/F	8	51.766	0.000	4.8	0.0000	0.0000	OK							

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Results for 30 year +40% 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	S1a	248	53.225	0.025	1.3	0.0510	0.0000	OK	1.000	S1	1.3	0.101	0.003	1.0927	
480 minute winter	S1	272	53.223	0.151	4.9	0.3057	0.0000	SURCHARGED	Hydro-Brake®	O/F	4.6				58.0
480 minute winter	S2a	248	53.229	0.029	1.3	0.0595	0.0000	OK	2.000	S2	1.3	0.181	0.005	0.5529	
480 minute winter	S2	272	53.223	0.087	2.6	0.1776	0.0000	OK	2.001	S1	2.3	0.113	0.008	1.4929	
480 minute winter	O/F	8	51.766	0.000	4.6	0.0000	0.0000	OK							

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Results for 30 year +40% 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	S1a	330	53.232	0.032	1.4	0.0662	0.0000	OK	1.000	S1	1.4	0.068	0.003	1.2253	
600 minute summer	S1	330	53.232	0.160	5.1	0.3249	0.0000	SURCHARGED	Hydro-Brake®	O/F	4.7				53.9
600 minute summer	S2a	330	53.234	0.034	1.4	0.0689	0.0000	OK	2.000	S2	1.4	0.181	0.005	0.6556	
600 minute summer	S2	330	53.233	0.097	2.8	0.1965	0.0000	OK	2.001	S1	2.4	0.113	0.008	1.6586	
600 minute summer	O/F	15	51.766	0.000	4.7	0.0000	0.0000	OK							

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Results for 30 year +40% 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	S1a	315	53.223	0.023	1.1	0.0472	0.0000	OK	1.000	S1	1.1	0.082	0.003	0.7967	
600 minute winter	S1	315	53.191	0.119	4.3	0.2416	0.0000	OK	Hydro-Brake®	O/F	4.2				60.5
600 minute winter	S2a	315	53.227	0.027	1.1	0.0553	0.0000	OK	2.000	S2	1.1	0.181	0.004	0.3258	
600 minute winter	S2	315	53.192	0.056	2.2	0.1145	0.0000	OK	2.001	S1	2.1	0.110	0.008	0.9780	
600 minute winter	O/F	15	51.766	0.000	4.2	0.0000	0.0000	OK							

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Results for 30 year +40% 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	S1a	375	53.225	0.025	1.3	0.0510	0.0000	OK	1.000	S1	1.3	0.067	0.003	0.9981	
720 minute summer	S1	390	53.214	0.142	4.9	0.2870	0.0000	OK	Hydro-Brake®	O/F	4.6				58.1
720 minute summer	S2a	375	53.229	0.029	1.3	0.0595	0.0000	OK	2.000	S2	1.3	0.181	0.005	0.4742	
720 minute summer	S2	390	53.214	0.078	2.6	0.1590	0.0000	OK	2.001	S1	2.3	0.113	0.008	1.3348	
720 minute summer	O/F	15	51.766	0.000	4.6	0.0000	0.0000	OK							

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Results for 30 year +40% 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	S1a	345	53.221	0.021	0.9	0.0431	0.0000	OK	1.000	S1	0.9	0.082	0.002	0.6331	
720 minute winter	S1	405	53.173	0.101	3.6	0.2047	0.0000	OK	Hydro-Brake®	O/F	3.6				66.9
720 minute winter	S2a	360	53.225	0.025	0.9	0.0505	0.0000	OK	2.000	S2	0.9	0.181	0.003	0.2112	
720 minute winter	S2	405	53.175	0.039	1.8	0.0793	0.0000	OK	2.001	S1	1.8	0.110	0.006	0.7187	
720 minute winter	O/F	15	51.766	0.000	3.6	0.0000	0.0000	OK							

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Results for 30 year +40% 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	S1a	495	53.222	0.022	1.0	0.0452	0.0000	OK	1.000	S1	1.0	0.065	0.002	0.7013	
960 minute summer	S1	495	53.181	0.109	4.0	0.2201	0.0000	OK	Hydro-Brake®	O/F	3.9				61.7
960 minute summer	S2a	495	53.226	0.026	1.0	0.0530	0.0000	OK	2.000	S2	1.0	0.181	0.004	0.2583	
960 minute summer	S2	495	53.182	0.046	2.0	0.0939	0.0000	OK	2.001	S1	2.0	0.110	0.007	0.8245	
960 minute summer	O/F	15	51.766	0.000	3.9	0.0000	0.0000	OK							

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Results for 30 year +40% 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	S1a	495	53.220	0.020	0.8	0.0409	0.0000	OK	1.000	S1	0.8	0.082	0.002	0.5417	
960 minute winter	S1	495	53.162	0.090	3.2	0.1830	0.0000	OK	Hydro-Brake®	O/F	3.2				69.1
960 minute winter	S2a	495	53.223	0.023	0.8	0.0479	0.0000	OK	2.000	S2	0.8	0.176	0.003	0.1706	
960 minute winter	S2	495	53.168	0.032	1.6	0.0651	0.0000	OK	2.001	S1	1.6	0.110	0.006	0.5966	
960 minute winter	O/F	15	51.766	0.000	3.2	0.0000	0.0000	OK							

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Results for 30 year +40% 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	S1a	750	53.219	0.019	0.7	0.0385	0.0000	OK	1.000	S1	0.7	0.064	0.002	0.4703	
1440 minute summer	S1	750	53.154	0.082	2.8	0.1654	0.0000	OK	Hydro-Brake®	O/F	2.8				70.1
1440 minute summer	S2a	750	53.222	0.022	0.7	0.0450	0.0000	OK	2.000	S2	0.7	0.170	0.002	0.1553	
1440 minute summer	S2	750	53.166	0.030	1.4	0.0612	0.0000	OK	2.001	S1	1.4	0.109	0.005	0.5202	
1440 minute summer	O/F	30	51.766	0.000	2.8	0.0000	0.0000	OK							

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Results for 30 year +40% 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	S1a	750	53.218	0.018	0.6	0.0360	0.0000	OK	1.000	S1	0.6	0.063	0.001	0.4083	
1440 minute winter	S1	750	53.146	0.074	2.4	0.1497	0.0000	OK	Hydro-Brake®	O/F	2.4				77.8
1440 minute winter	S2a	750	53.221	0.021	0.6	0.0420	0.0000	OK	2.000	S2	0.6	0.162	0.002	0.1393	
1440 minute winter	S2	750	53.164	0.028	1.2	0.0571	0.0000	OK	2.001	S1	1.2	0.106	0.004	0.4528	
1440 minute winter	O/F	30	51.766	0.000	2.4	0.0000	0.0000	OK							

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Results for 100 year +40% 15 minute summer. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute summer	S1a	19	53.447	0.247	13.6	0.5045	0.0000	OK	1.000	S1	10.6	0.254	0.026	5.3197	
15 minute summer	S1	17	53.439	0.367	23.3	0.7426	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				22.0
15 minute summer	S2a	16	53.443	0.243	15.0	0.4963	0.0000	OK	2.000	S2	11.7	0.351	0.041	4.5980	
15 minute summer	S2	18	53.445	0.309	24.9	0.6287	0.0000	OK	2.001	S1	10.0	0.244	0.035	6.0206	
15 minute summer	O/F	1	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 100 year +40% 15 minute winter. 255 minute analysis at 1 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	S1a	18	53.478	0.278	14.1	0.5685	0.0000	OK	1.000	S1	14.0	0.259	0.035	6.0858	
15 minute winter	S1	19	53.477	0.405	25.4	0.8208	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				24.6
15 minute winter	S2a	17	53.479	0.279	13.4	0.5706	0.0000	OK	2.000	S2	10.1	0.355	0.036	5.4016	
15 minute winter	S2	16	53.478	0.342	20.5	0.6960	0.0000	OK	2.001	S1	10.4	0.259	0.037	6.7728	
15 minute winter	O/F	1	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 100 year +40% 30 minute summer. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute summer	S1a	29	53.498	0.298	11.7	0.6086	0.0000	OK	1.000	S1	6.3	0.225	0.016	6.4936	
30 minute summer	S1	32	53.494	0.422	21.3	0.8558	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				29.6
30 minute summer	S2a	32	53.496	0.296	11.7	0.6062	0.0000	OK	2.000	S2	6.6	0.242	0.023	5.8024	
30 minute summer	S2	30	53.497	0.361	18.7	0.7351	0.0000	OK	2.001	S1	5.4	0.199	0.019	7.1888	
30 minute summer	O/F	1	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 100 year +40% 30 minute winter. 270 minute analysis at 1 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	S1a	30	53.545	0.345	10.6	0.7058	0.0000	OK	1.000	S1	8.4	0.233	0.021	7.5157	
30 minute winter	S1	30	53.545	0.473	20.8	0.9591	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				33.1
30 minute winter	S2a	29	53.546	0.346	10.6	0.7082	0.0000	OK	2.000	S2	6.7	0.260	0.024	6.8927	
30 minute winter	S2	31	53.546	0.410	16.8	0.8339	0.0000	OK	2.001	S1	6.1	0.208	0.022	8.2053	
30 minute winter	O/F	1	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 100 year +40% 60 minute summer. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute summer	S1a	49	53.522	0.322	9.0	0.6592	0.0000	OK	1.000	S1	5.5	0.196	0.014	7.0205	
60 minute summer	S1	47	53.520	0.448	15.7	0.9079	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				38.0
60 minute summer	S2a	52	53.520	0.320	9.0	0.6553	0.0000	OK	2.000	S2	5.4	0.208	0.019	6.3589	
60 minute summer	S2	50	53.521	0.385	13.9	0.7832	0.0000	OK	2.001	S1	3.7	0.172	0.013	7.7065	
60 minute summer	O/F	1	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 100 year +40% 60 minute winter. 300 minute analysis at 1 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	S1a	56	53.582	0.382	7.3	0.7820	0.0000	OK	1.000	S1	4.5	0.201	0.011	8.2141	
60 minute winter	S1	58	53.582	0.510	14.4	1.0331	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				42.6
60 minute winter	S2a	56	53.582	0.382	7.3	0.7812	0.0000	OK	2.000	S2	5.2	0.218	0.018	7.6471	
60 minute winter	S2	58	53.582	0.446	12.3	0.9083	0.0000	OK	2.001	S1	4.0	0.185	0.014	8.8814	
60 minute winter	O/F	1	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 100 year +40% 120 minute summer. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute summer	S1a	88	53.510	0.310	6.0	0.6336	0.0000	OK	1.000	S1	3.6	0.165	0.009	6.7825	
120 minute summer	S1	86	53.510	0.438	12.1	0.8871	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				47.4
120 minute summer	S2a	84	53.511	0.311	6.0	0.6350	0.0000	OK	2.000	S2	3.5	0.191	0.012	6.1381	
120 minute summer	S2	86	53.511	0.375	9.0	0.7623	0.0000	OK	2.001	S1	3.4	0.150	0.012	7.4995	
120 minute summer	O/F	2	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 100 year +40% 120 minute winter. 360 minute analysis at 2 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	S1a	92	53.562	0.362	4.6	0.7405	0.0000	OK	1.000	S1	2.8	0.163	0.007	7.8479	
120 minute winter	S1	94	53.562	0.490	9.6	0.9932	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				53.0
120 minute winter	S2a	92	53.563	0.363	4.6	0.7428	0.0000	OK	2.000	S2	2.7	0.191	0.009	7.2592	
120 minute winter	S2	94	53.562	0.426	7.0	0.8676	0.0000	OK	2.001	S1	3.2	0.153	0.011	8.5227	
120 minute winter	O/F	2	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 100 year +40% 180 minute summer. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute summer	S1a	120	53.491	0.291	4.5	0.5953	0.0000	OK	1.000	S1	2.6	0.156	0.006	6.3948	
180 minute summer	S1	120	53.491	0.419	9.6	0.8488	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				53.3
180 minute summer	S2a	120	53.491	0.291	4.5	0.5950	0.0000	OK	2.000	S2	2.4	0.192	0.008	5.7095	
180 minute summer	S2	120	53.490	0.354	6.8	0.7210	0.0000	OK	2.001	S1	3.0	0.133	0.011	7.0913	
180 minute summer	O/F	4	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 100 year +40% 180 minute winter. 420 minute analysis at 4 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	S1a	132	53.518	0.318	3.4	0.6507	0.0000	OK	1.000	S1	2.3	0.131	0.006	6.9687	
180 minute winter	S1	132	53.519	0.447	8.2	0.9048	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				59.1
180 minute winter	S2a	132	53.519	0.319	3.4	0.6515	0.0000	OK	2.000	S2	2.4	0.197	0.008	6.3183	
180 minute winter	S2	132	53.518	0.382	5.8	0.7783	0.0000	OK	2.001	S1	2.8	0.131	0.010	7.6687	
180 minute winter	O/F	4	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 100 year +40% 240 minute summer. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute summer	S1a	156	53.454	0.254	3.8	0.5202	0.0000	OK	1.000	S1	2.4	0.147	0.006	5.6104	
240 minute summer	S1	152	53.455	0.383	8.8	0.7750	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				57.1
240 minute summer	S2a	152	53.455	0.255	3.8	0.5207	0.0000	OK	2.000	S2	2.4	0.192	0.009	4.9202	
240 minute summer	S2	152	53.455	0.319	6.1	0.6489	0.0000	OK	2.001	S1	2.8	0.125	0.010	6.3226	
240 minute summer	O/F	4	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 100 year +40% 240 minute winter. 480 minute analysis at 4 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	S1a	168	53.473	0.273	2.8	0.5586	0.0000	OK	1.000	S1	1.9	0.126	0.005	6.0114	
240 minute winter	S1	168	53.473	0.401	7.1	0.8124	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				64.1
240 minute winter	S2a	168	53.473	0.273	2.8	0.5587	0.0000	OK	2.000	S2	1.9	0.188	0.007	5.3255	
240 minute winter	S2	168	53.473	0.337	4.6	0.6861	0.0000	OK	2.001	S1	2.8	0.127	0.010	6.7184	
240 minute winter	O/F	4	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 100 year +40% 360 minute summer. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute summer	S1a	216	53.397	0.197	2.8	0.4038	0.0000	OK	1.000	S1	1.9	0.091	0.005	4.3761	
360 minute summer	S1	216	53.397	0.325	7.3	0.6586	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				62.8
360 minute summer	S2a	216	53.397	0.197	2.8	0.4032	0.0000	OK	2.000	S2	1.8	0.187	0.006	3.6671	
360 minute summer	S2	216	53.397	0.261	4.6	0.5315	0.0000	OK	2.001	S1	2.7	0.116	0.010	5.0604	
360 minute summer	O/F	8	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 100 year +40% 360 minute winter. 600 minute analysis at 8 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	S1a	232	53.387	0.187	2.1	0.3821	0.0000	OK	1.000	S1	1.6	0.104	0.004	4.1535	
360 minute winter	S1	232	53.387	0.315	6.1	0.6378	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				71.5
360 minute winter	S2a	232	53.387	0.187	2.1	0.3822	0.0000	OK	2.000	S2	1.6	0.181	0.006	3.4483	
360 minute winter	S2	232	53.387	0.251	3.6	0.5105	0.0000	OK	2.001	S1	2.6	0.116	0.009	4.8346	
360 minute winter	O/F	8	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 100 year +40% 480 minute summer. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute summer	S1a	280	53.349	0.149	2.2	0.3038	0.0000	OK	1.000	S1	1.7	0.091	0.004	3.3500	
480 minute summer	S1	280	53.349	0.277	6.2	0.5604	0.0000	SURCHARGED	Hydro-Brake®	O/F	5.0				67.0
480 minute summer	S2a	280	53.349	0.149	2.2	0.3037	0.0000	OK	2.000	S2	1.7	0.182	0.006	2.6547	
480 minute summer	S2	280	53.349	0.213	3.7	0.4326	0.0000	OK	2.001	S1	2.7	0.117	0.009	3.9987	
480 minute summer	O/F	8	51.766	0.000	5.0	0.0000	0.0000	OK							

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Results for 100 year +40% 480 minute winter. 720 minute analysis at 8 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	S1a	288	53.317	0.117	1.7	0.2384	0.0000	OK	1.000	S1	1.5	0.101	0.004	2.7060	
480 minute winter	S1	288	53.317	0.245	5.6	0.4955	0.0000	SURCHARGED	Hydro-Brake®	O/F	4.9				75.3
480 minute winter	S2a	288	53.317	0.117	1.7	0.2386	0.0000	OK	2.000	S2	1.5	0.181	0.005	2.0304	
480 minute winter	S2	288	53.317	0.181	3.1	0.3675	0.0000	OK	2.001	S1	2.5	0.113	0.009	3.3155	
480 minute winter	O/F	8	51.766	0.000	4.9	0.0000	0.0000	OK							

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Results for 100 year +40% 600 minute summer. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute summer	S1a	345	53.312	0.112	1.8	0.2292	0.0000	OK	1.000	S1	1.5	0.069	0.004	2.6174	
600 minute summer	S1	345	53.312	0.240	5.6	0.4862	0.0000	SURCHARGED	Hydro-Brake®	O/F	4.9				72.4
600 minute summer	S2a	345	53.312	0.112	1.8	0.2293	0.0000	OK	2.000	S2	1.5	0.181	0.005	1.9452	
600 minute summer	S2	345	53.312	0.176	3.3	0.3583	0.0000	OK	2.001	S1	2.5	0.113	0.009	3.2198	
600 minute summer	O/F	15	51.766	0.000	4.9	0.0000	0.0000	OK							

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Results for 100 year +40% 600 minute winter. 840 minute analysis at 15 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	S1a	345	53.256	0.056	1.4	0.1138	0.0000	OK	1.000	S1	1.3	0.071	0.003	1.5911	
600 minute winter	S1	345	53.256	0.184	5.0	0.3720	0.0000	SURCHARGED	Hydro-Brake®	O/F	4.8				79.7
600 minute winter	S2a	345	53.256	0.056	1.4	0.1147	0.0000	OK	2.000	S2	1.4	0.181	0.005	0.9819	
600 minute winter	S2	345	53.256	0.120	2.8	0.2438	0.0000	OK	2.001	S1	2.5	0.110	0.009	2.0882	
600 minute winter	O/F	15	51.766	0.000	4.8	0.0000	0.0000	OK							

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Results for 100 year +40% 720 minute summer. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute summer	S1a	390	53.269	0.069	1.6	0.1413	0.0000	OK	1.000	S1	1.5	0.067	0.004	1.8221	
720 minute summer	S1	390	53.269	0.197	5.5	0.3995	0.0000	SURCHARGED	Hydro-Brake®	O/F	4.8				74.0
720 minute summer	S2a	390	53.269	0.069	1.6	0.1420	0.0000	OK	2.000	S2	1.6	0.181	0.006	1.1936	
720 minute summer	S2	390	53.269	0.133	3.2	0.2712	0.0000	OK	2.001	S1	2.4	0.113	0.009	2.3498	
720 minute summer	O/F	15	51.766	0.000	4.8	0.0000	0.0000	OK							

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Results for 100 year +40% 720 minute winter. 960 minute analysis at 15 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	S1a	360	53.224	0.024	1.2	0.0492	0.0000	OK	1.000	S1	1.2	0.082	0.003	1.0468	
720 minute winter	S1	405	53.218	0.146	4.7	0.2967	0.0000	OK	Hydro-Brake®	O/F	4.6				82.1
720 minute winter	S2a	360	53.228	0.028	1.2	0.0574	0.0000	OK	2.000	S2	1.2	0.181	0.004	0.5153	
720 minute winter	S2	405	53.219	0.083	2.4	0.1686	0.0000	OK	2.001	S1	2.3	0.110	0.008	1.4163	
720 minute winter	O/F	15	51.766	0.000	4.6	0.0000	0.0000	OK							

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Results for 100 year +40% 960 minute summer. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute summer	S1a	510	53.229	0.029	1.3	0.0590	0.0000	OK	1.000	S1	1.3	0.068	0.003	1.1727	
960 minute summer	S1	510	53.229	0.157	4.9	0.3177	0.0000	SURCHARGED	Hydro-Brake®	O/F	4.7				79.7
960 minute summer	S2a	510	53.230	0.030	1.3	0.0622	0.0000	OK	2.000	S2	1.3	0.181	0.005	0.6103	
960 minute summer	S2	510	53.229	0.093	2.6	0.1894	0.0000	OK	2.001	S1	2.3	0.113	0.008	1.5950	
960 minute summer	O/F	15	51.766	0.000	4.7	0.0000	0.0000	OK							

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Results for 100 year +40% 960 minute winter. 1200 minute analysis at 15 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	S1a	495	53.222	0.022	1.0	0.0452	0.0000	OK	1.000	S1	1.0	0.082	0.002	0.7222	
960 minute winter	S1	510	53.183	0.111	4.0	0.2251	0.0000	OK	Hydro-Brake®	O/F	4.0				91.4
960 minute winter	S2a	480	53.226	0.026	1.0	0.0530	0.0000	OK	2.000	S2	1.0	0.179	0.004	0.2720	
960 minute winter	S2	510	53.184	0.048	2.0	0.0986	0.0000	OK	2.001	S1	2.0	0.110	0.007	0.8590	
960 minute winter	O/F	15	51.766	0.000	4.0	0.0000	0.0000	OK							

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Results for 100 year +40% 1440 minute summer. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute summer	S1a	750	53.221	0.021	0.9	0.0431	0.0000	OK	1.000	S1	0.9	0.065	0.002	0.6304	
1440 minute summer	S1	750	53.173	0.101	3.6	0.2040	0.0000	OK	Hydro-Brake®	O/F	3.6				84.5
1440 minute summer	S2a	750	53.225	0.025	0.9	0.0505	0.0000	OK	2.000	S2	0.9	0.176	0.003	0.2097	
1440 minute summer	S2	750	53.175	0.039	1.8	0.0787	0.0000	OK	2.001	S1	1.8	0.110	0.006	0.7145	
1440 minute summer	O/F	30	51.766	0.000	3.6	0.0000	0.0000	OK							

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Results for 100 year +40% 1440 minute winter. 1680 minute analysis at 30 minute timestep. Mass balance: 100.00%

Event	US Node ID	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status	Link ID	DS Node ID	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
1440 minute winter	S1a	720	53.219	0.019	0.7	0.0385	0.0000	OK	1.000	S1	0.7	0.064	0.002	0.4705	
1440 minute winter	S1	780	53.154	0.082	2.8	0.1655	0.0000	OK	Hydro-Brake®	O/F	2.8				95.1
1440 minute winter	S2a	720	53.222	0.022	0.7	0.0450	0.0000	OK	2.000	S2	0.7	0.170	0.002	0.1553	
1440 minute winter	S2	750	53.166	0.030	1.4	0.0612	0.0000	OK	2.001	S1	1.4	0.109	0.005	0.5203	
1440 minute winter	O/F	30	51.766	0.000	2.8	0.0000	0.0000	OK							

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Adoptable						
Max Width (mm)	**Diameter (mm)**	**Width (mm)**		**Max Depth (m)**	**Diameter (mm)**	**Width (mm)**
374	1200			1.500	1050	
499	1350			99.999	1200	
749	1500					
900	1800					
>900	Link+900 mm					
Short Name						

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Circular						
Shape	Circular		**Dia (mm)**			
Barrels	1		100			
Height (mm)			150			
Width (mm)						
Side Slope (1:X)						
Auto Increment (mm)	75					
Preferred Cover (m)						
Steep Slope (1:X)						
Follow Ground	x					
Velocity	Default					
ks (mm) / n						
Short Name						

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