

20207918

45 Harrop Street

Below Ground Drainage Design

Document Control

Revision	Originator	Checked By	Reviewed By	Approved By	Issued to	Issue Date
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The above signatures confirm that:

- the **originator** has to the best of their ability produced a document of high quality work, and made any amendments as required during the checking and reviewing process
- the **checker** has completed a line by line check using source data and agreed changes to be made with the originator
- the **reviewer** has completed a high level review and agreed any changes/corrections with the originator and ensured they have been completed
- the **approver** has confirmed that the check and review has been completed by persons appropriately qualified and that the document is fit for issue

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1 Introduction

1.1 General

This design solution has been developed in relation to the above-mentioned project.

This report may be modified and updated to suit requirements and obligations of the Local Planning Authority, Environment Agency, Sewerage Undertakers and any other statutory authorities.

This strategy report aims to include the following:

- Identify available data relating to drainage at the existing site.
- Discuss Sustainable Urban Drainage Systems (SUDS) as an option for reducing surface water flood risk
- Devise an appropriate outline surface water drainage strategy to deal with any surface water runoff and include for climate change
- Demonstrate compliance of the solution via hydraulic analysis

The proposed drainage network must be capable of operating effectively following climate-change over the anticipated lifespan of the development. Residential developments are considered likely to remain for at least 100 years. According to Table 2 of DEFRA guidance on climate change, the peak rainfall intensity that is used to test the system performance must be increased by 40%. The drainage network, therefore, must be effective at managing surface water on the site for rainfall up to and including the 1 in 100 + 40% storm event.

20207918 – 45 Harrop Street
Below Ground Drainage Design

2 Introduction

2.1 Site Address

The site is located at Harrop Street, Manchester
(Grid Reference SJ 89629 96659)

2.2 Description

Site as highlighted in figure 1 below.

The site is brownfield, occupying an approximate hardstanding area of 380m².



Figure 1: Google Earth Image: Proposed Development Site

2.2.1 Geology and Groundwater

A site investigation has been completed on site as part of previous development works. Trial pit logs from the SI indicate that strata is predominately clay to depths of 3.60m BGL, no groundwater was identified during investigation. Trial pit logs can be found appended to this document. A desk study was also completed using Defra MagicMap, indicating stratum in the region to be clay.

2.2.2 Existing Site Drainage

There is an existing combined sewer network located to the rear of the proposed development. The existing combined sewer runs parallel to Harrop Street and Abbey Hey Lane, located in the alleyway between the residential plots.

3 Development Proposal

It is proposed to form 3No. residential dwellings on the plot. The impermeable area of the proposed development will be the same as the existing brownfield site area (380m²).

4 Surface Water Strategy

The following outlines the strategy developed by BDI

4.1 General

Planning Policy Statement 25: Development and Flood Risk

PPS 25 states that 'Surface water arising from a developed site should as far as is practicable, be managed in a sustainable manner to mimic the surface water flows arising from the site prior to the proposed development, while reducing the flood risk to the site itself and elsewhere, taking climate change into account.' A hierarchy of preferred options are as follows:

1. Run off managed at source via infiltration to the ground
2. Discharge to surface body of water
3. Discharge to existing surface water sewer or highway drain
4. Connection to combined sewer

4.2 Runoff Destination

Means of discharging surface water generated onsite discussed as below.

4.2.1 Infiltration – discharge to the ground on site.

Infiltration offers full source control and where viable mimics the natural behaviour of the predeveloped site. Based on site investigation and desk study, discharge of surface water via infiltration is not considered a viable option due to the low permeable nature of clays.

4.2.2 Discharge to surface water body

There are no surface water bodies or water courses within local vicinity for this option to be considered further.

The proposed development site does not lend itself to formation of new surface water bodies or detention basins to hold storm water and promote natural mechanisms such as evaporation.

4.2.3 Discharge to existing surface water sewer

There are no existing surface water sewers within the vicinity of the proposed works that would be viable to connect the proposed surface water network to.

4.2.4 Discharge to existing combined sewer

In the existing condition, it is thought that surface water runoff from site discharges into the combined sewer located between Harrop Street and Abbey Hey Lane.

It is proposed to connect the new surface water network into this combined sewer. The runoff rate from this area (which is equivalent to the existing area) will be restricted by a flow control device to provide 50% betterment of the predevelopment flow rate before being discharged into the combined sewer.

4.3 Proposed design methodology

Surface water runoff generated on impermeable surfaces is to be collected into below ground drainage pipes via rainwater pipes and gulleys and routed around the building and towards the existing connection at the front of the site. Flow is to be controlled via orifice plate in preformed chamber or similar to ensure that peak flow rate is maintained at 2.50litres/sec (additional flow has been permitted for more infrequent storm conditions though flow remains a 50% betterment).

The inherent volume of the surface water pipes and inspection chambers will offer temporary storage to runoff in storms resulting in flows that exceed permitted rates. The system is designed to prevent any flooding in all storm events and durations up to and including the 100 year event + 40% allowance for climate change.

The new surface water network onsite is to be kept private. All drainage is to be formed in accordance with current building regulations and also with Ciria C753 The SUDS Manual.

The new surface water drainage system is designed as follows:

1. Pipes are to be sized to accommodate 1 in 2 year event storm without surcharge.
2. System is to be designed not to flood any part of the site in a 1 in 100 year event design storm plus 40% allowance for climate change.

4.3.1 Correspondence with Statutory and Other Authorities

No consultation has been made with LLFA

5 Design of surface water network

Hydraulic modelling of the surface water network has been completed in software Causeway Flow. All primary storm events and durations considered to ensure site flooding does not occur as described earlier.

Flow rate has been restricted as below for the following storm periods:

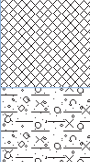
- 1 in 1 year storm – flow limited to 2.5 litres/sec
- 1 in 30 year storm – flow limited to 3.7 litres/sec
- 1 in 100 year storm – flow limited to 4.7 litres/sec

The proposed surface water system is shown on BDI drawing 20218005 C1 01 and comprises the following:

- Minimum pipe diameter, minimum fall and span of surface water carrier drains. Indicative location and depth of inspection chambers.
- Flow control (Orifice plate) on outfall chamber to restrict flow as per rates above.

Appendix A

Exploratory Hole Logs

 BROWNFIELD SOLUTIONS LTD					Trial Pit Log			No.	
								TP01	
								Sheet 1 of 1	
PROJECT NO: C4573					CO-ORDS:			Hole Type	
								TP	
PROJECT NAME: 45 HARROP STREET, GORTON					LEVEL:			Scale	
								1:25	
CLIENT: BELVERDALE BUILDING CONTRACTORS LIMITED					DATES: 30/07/20			Logged	Checked
								GRP	NS
Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description		
	Depth (m)	Type	Results						
	0.20	D ES		0.30			MADE GROUND: Soft dark greyish brown and black slightly gravelly slightly sandy clay with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to rounded of brick, concrete, ceramic, coal, clinker, slate, sandstone and limestone. Cobbles are angular to subrounded of brick, concrete and sandstone.		
	0.60	HSV	74kPa				Firm light brown mottled grey and orange slightly gravelly slightly sandy CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone and quartz. Cobbles are subangular to rounded of sandstone.	1.0	
	0.70	D ES							
	1.20	HSV	94kPa	1.10			Stiff reddish brown mottled grey slightly gravelly slightly sandy CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to rounded of sandstone and coal. Cobbles are angular to subrounded of sandstone.		
	1.50	HSV	112kPa						
	1.70	D ES							
							Becoming friable below approximately 1.90m bgl.	2.0	
				3.00			End of Trial Pit at 3.00m	3.0	
								4.0	
								5.0	
Remarks		1. Machine excavated to 3.00m bgl. 2. No groundwater encountered. 3. Pit walls stable. 4. Backfilled with arisings upon completion.						ES = Environmental Sample D = Disturbed Sample B = Bulk Sample LB = Large Bulk Sample U = Undisturbed Sample UT = Undisturbed Thin Wall Sample SPT = Standard Penetration Test PID = Photoionization Detector (ppm) PPM = Part Per Million HSV = Hand Shear Vane	

BROWNFIELD SOLUTIONS LTD						Trial Pit Log		No.	
PROJECT NO: C4573						CO-ORDS:		TP02	
								Sheet 1 of 1	
PROJECT NAME: 45 HARROP STREET, GORTON						LEVEL:		Hole Type	
								TP	
CLIENT: BELVERDALE BUILDING CONTRACTORS LIMITED						DATES: 30/07/20		Scale	
								1:25	
								Logged	Checked
								GRP	NS
Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description		
	Depth (m)	Type	Results						
	0.20	D ES		0.30			MADE GROUND: Soft dark greyish brown and black slightly gravelly slightly sandy clay with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to rounded of brick, concrete, ceramic, coal, clinker, slate, sandstone and limestone. Cobbles are angular to subrounded of brick, concrete and sandstone.		
	0.50	HSV	74kPa				Firm light brown mottled grey and orange slightly gravelly slightly sandy CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone and quartz. Cobbles are subangular to subrounded of sandstone.		
	0.80	D ES		1.00			Stiff reddish brown mottled grey slightly gravelly slightly sandy CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to rounded of sandstone and coal. Cobbles are angular to subrounded of sandstone.		
	0.90	HSV	90kPa						
	1.50	HSV	105kPa						
	2.00	D ES							
				3.10			End of Trial Pit at 3.10m		
Remarks		1. Machine excavated to 3.10m bgl. 2. No groundwater encountered. 3. Pit walls stable. 4. Backfilled with arisings upon completion.						ES = Environmental Sample D = Disturbed Sample B = Bulk Sample LB = Large Bulk Sample U = Undisturbed Sample UT = Undisturbed Thin Wall Sample SPT = Standard Penetration Test PID = Photoionization Detector (ppm) PPM = Part Per Million HSV = Hand Shear Vane	



No.	
TP03	
Sheet 1 of 1	
Hole Type	
TP	
Scale	
1:25	
Prepared	Checked
P	NS

CO-ORDS:

LEVEL:

DATES: 30/07/20

Remarks	1. Machine excavated to 3.00m bgl. 2. No groundwater encountered. 3. Pit walls stable. 4. Backfilled with arisings upon completion.	ES = Environmental Sample D = Disturbed Sample B = Bulk Sample LB = Large Bulk Sample U = Undisturbed Sample UT = Undisturbed Thin Wall Sample SPT = Standard Penetration Test PID = Photoionization Detector (ppm) PPM = Part Per Million HSV = Hand Shear Vane
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No.

TP04

Sheet 1 of 1

CO-ORDS:

LEVEL:

DATES: 30/07/20

Logged

Checked

GRP

NS

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
	Depth (m)	Type	Results					
	0.20	D ES		0.30			MADE GROUND: Soft dark greyish brown and black mottled light brown slightly gravelly slightly sandy clay with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to rounded of brick, concrete, ceramic, coal, clinker, slate, sandstone and limestone. Cobbles are angular to subrounded of brick, concrete and sandstone.	
	0.60	HSV	64kPa				Firm light brown mottled grey and orange slightly gravelly slightly sandy CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone and quartz. Cobbles are subangular to rounded of sandstone.	1.0
	0.70	D ES		0.90			Stiff reddish brown mottled grey slightly gravelly slightly sandy CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to rounded of sandstone and coal. Cobbles are angular to subrounded of sandstone.	
	1.00	HSV	104kPa				Friable between approximately 1.80 - 2.60m bgl.	2.0
	1.50	D ES HSV	111kPa				End of Trial Pit at 3.10m	3.0
				3.10			End of Trial Pit at 3.10m	
							End of Trial Pit at 3.10m	4.0
							End of Trial Pit at 3.10m	
							End of Trial Pit at 3.10m	5.0
							End of Trial Pit at 3.10m	

Remarks

1. Machine excavated to 3.10m bgl.
2. No groundwater encountered.
3. Pit walls stable.
4. Backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane



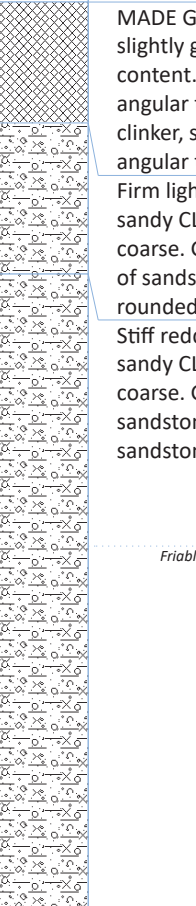
No.	
TP05	
Sheet 1 of 1	
Hole Type	
TP	
Scale	
1:25	
Prepared	Checked
P	NS

CO-ORDS:

LEVEL:

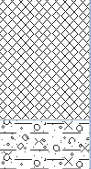
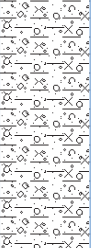
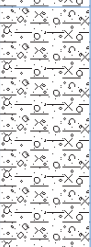
DATES: 30/07/20

Logged	Checked
GRP	NS

Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description	
	Depth (m)	Type	Results					
	0.10	D ES		0.40			MADE GROUND: Soft dark greyish brown and black slightly gravelly slightly sandy clay with medium cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to rounded of brick, concrete, ceramic, coal, clinker, slate, sandstone and limestone. Cobbles are angular to subrounded of brick, concrete and sandstone. Firm light brown mottled grey slightly gravelly slightly sandy CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone and quartz. Cobbles are subangular to rounded of sandstone. Stiff reddish brown mottled grey slightly gravelly slightly sandy CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to rounded of sandstone and coal. Cobbles are angular to subrounded of sandstone. <i>Friable between approximately 1.80 - 2.60m bgl.</i>	1.0
	0.60	D ES						
	0.70	HSV	58kPa					
	1.00	HSV	78kPa					
	1.40	HSV	106kPa					
	1.70	D ES HSV	98kPa					
	3.00							
						End of Trial Pit at 3.00m	3.0	
								4.0
								5.0

1. Machine excavated to 3.00m bgl.
2. No groundwater encountered.
3. Pit walls stable.
4. Backfilled with arisings upon completion.

ES = Environmental Sample
D = Disturbed Sample
B = Bulk Sample
LB = Large Bulk Sample
U = Undisturbed Sample
UT = Undisturbed Thin Wall Sample
SPT = Standard Penetration Test
PID = Photoionization Detector (ppm)
PPM = Part Per Million
HSV = Hand Shear Vane

 BROWNFIELD SOLUTIONS LTD					Trial Pit Log		No.
							TP06
							Sheet 1 of 1
PROJECT NO: C4573					CO-ORDS:		Hole Type
							TP
PROJECT NAME: 45 HARROP STREET, GORTON					LEVEL:		Scale
							1:25
CLIENT: BELVERDALE BUILDING CONTRACTORS LIMITED					DATES: 30/07/20		Logged
							Checked
							GRP
							NS
Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m OD)	Legend	Stratum Description
	Depth (m)	Type	Results				
	0.20	D ES		0.40			MADE GROUND: Soft dark greyish brown and black slightly gravelly slightly sandy clay with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to rounded of brick, concrete, ceramic, coal, clinker, slate, sandstone and limestone. Cobbles are angular to subrounded of brick, concrete and sandstone.
	0.60	HSV	70kPa				
	0.90	D ES		1.40			Firm light brown mottled grey slightly gravelly slightly sandy CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, subangular to subrounded of sandstone and quartz. Cobbles are subangular to rounded of sandstone.
	1.00	HSV	74kPa				
	1.50	HSV	102kPa	2.0			Stiff reddish brown mottled grey slightly gravelly slightly sandy CLAY with low cobble content. Sand is fine to coarse. Gravel is fine to coarse, angular to rounded of sandstone and coal. Cobbles are angular to subrounded of sandstone.
	1.90	HSV	102kPa				
	2.30	D ES		3.60			Becoming friable below approximately 2.50m bgl.
	3.00	D					
	3.50	D					
							End of Trial Pit at 3.60m
Remarks		1. Machine excavated to 3.60m bgl. 2. No groundwater encountered. 3. Pit walls stable. 4. Backfilled with arisings upon completion.					ES = Environmental Sample D = Disturbed Sample B = Bulk Sample LB = Large Bulk Sample U = Undisturbed Sample UT = Undisturbed Thin Wall Sample SPT = Standard Penetration Test PID = Photoionization Detector (ppm) PPM = Part Per Million HSV = Hand Shear Vane

Appendix B

Existing Runoff Rate Estimation

Project Harrop Street Drainage				Job no. 20207918	
Calcs for Existing 1 in 1 Year Storm Runoff Rate Estimation				Start page no./Revision 1	
Calcs by DA	Calcs date 05/02/2021	Checked by	Checked date	Approved by	Approved date

DESIGN RAINFALL

In accordance with the Wallingford Procedure

Tedds calculation version 2.0.01

Design rainfall intensity

Location of catchment area	Manchester
Storm duration	D = 5 min
Return period	Period = 1 yr
Ratio 60 min to 2 day rainfall of 5 yr return period	r = 0.360
5-year return period rainfall of 60 minutes duration	M5_60min = 18.0 mm
Increase of rainfall intensity due to global warming	p _{climate} = 0 %
Factor Z1 (Wallingford procedure)	Z1 = 0.36
Rainfall for 5min storm with 5 year return period	M5_5min _i = Z1 × M5_60min = 6.5 mm
Factor Z2 (Wallingford procedure)	Z2 = 0.62
Rainfall for 5min storm with 1 year return period	M1_5min = Z2 × M5_5min _i = 4.0 mm
Design rainfall intensity	I _{max} = M1_5min / D = 48.0 mm/hr

Maximum surface water runoff

Catchment area	A _{catch} = 380 m ²
Percentage of area that is impermeable	p = 100 %
Maximum surface water runoff	Q _{max} = A _{catch} × p × I _{max} = 5.1 l/s

Project Harrop Street Drainage				Job no. 20207918	
Calcs for Existing 1 in 30 Year Storm Runoff Rate Estimation				Start page no./Revision 1	
Calcs by DA	Calcs date 05/02/2021	Checked by	Checked date	Approved by	Approved date

DESIGN RAINFALL

In accordance with the Wallingford Procedure

Tedds calculation version 2.0.01

Design rainfall intensity

Location of catchment area	Manchester
Storm duration	D = 5 min
Return period	Period = 30 yr
Ratio 60 min to 2 day rainfall of 5 yr return period	r = 0.360
5-year return period rainfall of 60 minutes duration	M5_60min = 18.0 mm
Increase of rainfall intensity due to global warming	p _{climate} = 0 %
Factor Z1 (Wallingford procedure)	Z1 = 0.36
Rainfall for 5min storm with 5 year return period	M5_5min _i = Z1 × M5_60min = 6.5 mm
Factor Z2 (Wallingford procedure)	Z2 = 1.45
Rainfall for 5min storm with 30 year return period	M30_5min = Z2 × M5_5min _i = 9.4 mm
Design rainfall intensity	I _{max} = M30_5min / D = 112.4 mm/hr

Maximum surface water runoff

Catchment area	A _{catch} = 380 m²
Percentage of area that is impermeable	p = 100 %
Maximum surface water runoff	Q _{max} = A _{catch} × p × I _{max} = 11.9 l/s

Project Harrop Street Drainage				Job no. 20207918	
Calcs for Existing 1 in 100 Year Storm Runoff Rate Estimation				Start page no./Revision 1	
Calcs by DA	Calcs date 05/02/2021	Checked by	Checked date	Approved by	Approved date

DESIGN RAINFALL

In accordance with the Wallingford Procedure

Tedds calculation version 2.0.01

Design rainfall intensity

Location of catchment area	Manchester
Storm duration	D = 5 min
Return period	Period = 100 yr
Ratio 60 min to 2 day rainfall of 5 yr return period	r = 0.360
5-year return period rainfall of 60 minutes duration	M5_60min = 18.0 mm
Increase of rainfall intensity due to global warming	p _{climate} = 0 %
Factor Z1 (Wallingford procedure)	Z1 = 0.36
Rainfall for 5min storm with 5 year return period	M5_5min _i = Z1 × M5_60min = 6.5 mm
Factor Z2 (Wallingford procedure)	Z2 = 1.83
Rainfall for 5min storm with 100 year return period	M100_5min = Z2 × M5_5min _i = 11.8 mm
Design rainfall intensity	I _{max} = M100_5min / D = 142.0 mm/hr

Maximum surface water runoff

Catchment area	A _{catch} = 380 m ²
Percentage of area that is impermeable	p = 100 %
Maximum surface water runoff	Q _{max} = A _{catch} × p × I _{max} = 15.0 l/s

Appendix C

Hydraulic Model Calculations

Design Settings

Rainfall Methodology	FSR	Maximum Time of Concentration (mins)	30.00
Return Period (years)	1	Maximum Rainfall (mm/hr)	50.0
Additional Flow (%)	0	Minimum Velocity (m/s)	0.70
FSR Region	England and Wales	Connection Type	Level Soffits
M5-60 (mm)	18.000	Minimum Backdrop Height (m)	0.200
Ratio-R	0.360	Preferred Cover Depth (m)	0.400
CV	0.750	Include Intermediate Ground	x
Time of Entry (mins)	5.00	Enforce best practice design rules	✓

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Diameter (mm)	Depth (m)
RWP1	0.007	5.00	0.000		0.500
Node1			0.000		0.560
Node2		5.00	0.000		0.500
RWP2	0.006	5.00	0.000		0.646
Node3		5.00	0.000		0.500
ICS01	0.005	5.00	0.000	450	0.729
ICS02	0.006	5.00	0.000	450	0.859
RWP3	0.007	5.00	0.000		0.952
Node4		5.00	0.000		0.500
RWP4	0.007	5.00	0.000		0.500
ICS03			0.000	500	1.011
Outfall			0.000	1200	1.031

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)
Pipe 1.01a	RWP1	Node1	6.000	0.600	-0.500	-0.560	0.060	100.0	100	5.13	46.3
Pipe 1.01b	Node1	RWP2	8.551	0.600	-0.560	-0.646	0.086	100.0	100	5.32	45.6
Pipe 1.01c	RWP2	ICS01	8.300	0.600	-0.646	-0.729	0.083	100.0	100	5.50	44.9
Pipe 1.02	ICS01	ICS02	13.000	0.600	-0.729	-0.859	0.130	100.0	100	5.78	44.0
Pipe 1.03a	ICS02	RWP3	9.300	0.600	-0.859	-0.952	0.093	100.0	100	5.98	43.3
Pipe 1.03b	RWP3	ICS03	5.863	0.600	-0.952	-1.011	0.059	100.0	100	6.11	42.9
Pipe 1.04	RWP4	ICS03	8.888	0.600	-0.500	-0.589	0.089	100.0	100	5.19	46.1
Store1	Node2	Node1	4.250	0.600	-0.500	-0.542	0.042	100.0	100	5.09	46.4

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)
Pipe 1.01a	0.769	6.0	0.9	0.400	0.460	0.007	0.0	26	0.551
Pipe 1.01b	0.769	6.0	0.9	0.460	0.546	0.007	0.0	25	0.541
Pipe 1.01c	0.769	6.0	1.6	0.546	0.629	0.013	0.0	35	0.645
Pipe 1.02	0.769	6.0	2.1	0.629	0.759	0.018	0.0	41	0.702
Pipe 1.03a	0.769	6.0	2.8	0.759	0.852	0.024	0.0	48	0.756
Pipe 1.03b	0.769	6.0	3.6	0.852	0.911	0.031	0.0	56	0.804
Pipe 1.04	0.769	6.0	0.9	0.400	0.489	0.007	0.0	25	0.541
Store1	0.769	6.0	0.0	0.400	0.442	0.000	0.0	0	0.000

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)
Store2	Node3	RWP2	4.250	0.600	-0.500	-0.542	0.042	100.0	100	5.09	46.4
Store3	Node4	RWP3	4.820	0.600	-0.500	-0.548	0.048	100.0	100	5.10	46.4
Outfall	ICS03	Outfall	2.000	0.600	-1.011	-1.031	0.020	100.0	100	6.15	42.7

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)
Store2	0.769	6.0	0.0	0.400	0.442	0.000	0.0	0	0.000
Store3	0.769	6.0	0.0	0.400	0.448	0.000	0.0	0	0.000
Outfall	0.769	6.0	4.4	0.911	0.931	0.038	0.0	64	0.840

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)
Pipe 1.01a	6.000	100.0	100	Circular	0.000	-0.500	0.400	0.000	-0.560	0.460
Pipe 1.01b	8.551	100.0	100	Circular	0.000	-0.560	0.460	0.000	-0.646	0.546
Pipe 1.01c	8.300	100.0	100	Circular	0.000	-0.646	0.546	0.000	-0.729	0.629
Pipe 1.02	13.000	100.0	100	Circular	0.000	-0.729	0.629	0.000	-0.859	0.759
Pipe 1.03a	9.300	100.0	100	Circular	0.000	-0.859	0.759	0.000	-0.952	0.852
Pipe 1.03b	5.863	100.0	100	Circular	0.000	-0.952	0.852	0.000	-1.011	0.911
Pipe 1.04	8.888	100.0	100	Circular	0.000	-0.500	0.400	0.000	-0.589	0.489
Store1	4.250	100.0	100	Circular	0.000	-0.500	0.400	0.000	-0.542	0.442
Store2	4.250	100.0	100	Circular	0.000	-0.500	0.400	0.000	-0.542	0.442
Store3	4.820	100.0	100	Circular	0.000	-0.500	0.400	0.000	-0.548	0.448
Outfall	2.000	100.0	100	Circular	0.000	-1.011	0.911	0.000	-1.031	0.931

Link	US Node	Dia (mm)	Node Type	MH Type	DS Node	Dia (mm)	Node Type	MH Type
Pipe 1.01a	RWP1		Junction		Node1		Junction	
Pipe 1.01b	Node1		Junction		RWP2		Junction	
Pipe 1.01c	RWP2		Junction		ICS01	450	Manhole	Adoptable
Pipe 1.02	ICS01	450	Manhole	Adoptable	ICS02	450	Manhole	Adoptable
Pipe 1.03a	ICS02	450	Manhole	Adoptable	RWP3		Junction	
Pipe 1.03b	RWP3		Junction		ICS03	500	Manhole	Adoptable
Pipe 1.04	RWP4		Junction		ICS03	500	Manhole	Adoptable
Store1	Node2		Junction		Node1		Junction	
Store2	Node3		Junction		RWP2		Junction	
Store3	Node4		Junction		RWP3		Junction	
Outfall	ICS03	500	Manhole	Adoptable	Outfall	1200	Manhole	Adoptable

Manhole Schedule

Node	CL (m)	Depth (m)	Dia (mm)	Connections	Link	IL (m)	Dia (mm)	
RWP1	0.000	0.500		◦				
				0	Pipe 1.01a	-0.500	100	
Node1	0.000	0.560		1	Store1	-0.542	100	
				◦	2	Pipe 1.01a	-0.560	100
				0	Pipe 1.01b	-0.560	100	
Node2	0.000	0.500		◦				
				0	Store1	-0.500	100	
RWP2	0.000	0.646		1	Store2	-0.542	100	
				◦	2	Pipe 1.01b	-0.646	100
				0	Pipe 1.01c	-0.646	100	
Node3	0.000	0.500		◦				
				0	Store2	-0.500	100	
ICS01	0.000	0.729	450	1	Pipe 1.01c	-0.729	100	
				◯				
				0	Pipe 1.02	-0.729	100	
ICS02	0.000	0.859	450	1	Pipe 1.02	-0.859	100	
				◯				
				0	Pipe 1.03a	-0.859	100	
RWP3	0.000	0.952		1	Store3	-0.548	100	
				◦	2	Pipe 1.03a	-0.952	100
				0	Pipe 1.03b	-0.952	100	
Node4	0.000	0.500		◦				
				0	Store3	-0.500	100	
RWP4	0.000	0.500		◦				
				0	Pipe 1.04	-0.500	100	
ICS03	0.000	1.011	500	1	Pipe 1.04	-0.589	100	
				◯	2	Pipe 1.03b	-1.011	100
				0	Outfall	-1.011	100	
Outfall	0.000	1.031	1200	1	Outfall	-1.031	100	
				◯				

Simulation Settings

Rainfall Methodology	FSR	Skip Steady State	x
FSR Region	England and Wales	Drain Down Time (mins)	240
M5-60 (mm)	18.000	Additional Storage (m ³ /ha)	0.0
Ratio-R	0.360	Check Discharge Rate(s)	x
Winter CV	0.840	Check Discharge Volume	x
Analysis Speed	Normal		

Storm Durations

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

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
1	0	0	0
30	0	0	0
100	40	0	0

Node ICS03 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.260	Discharge Coefficient	0.600
Replaces Downstream Link	✓	Design Flow (l/s)	2.5		
Invert Level (m)	-1.011	Diameter (m)	0.049		

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	RWP1	10	-0.474	0.026	0.9	0.0000	0.0000	OK
15 minute winter	Node1	11	-0.535	0.025	0.9	0.0000	0.0000	OK
15 minute winter	Node2	1	-0.500	0.000	0.0	0.0000	0.0000	OK
15 minute winter	RWP2	11	-0.611	0.035	1.6	0.0000	0.0000	OK
15 minute winter	Node3	1	-0.500	0.000	0.0	0.0000	0.0000	OK
15 minute winter	ICS01	11	-0.688	0.041	2.2	0.0065	0.0000	OK
15 minute winter	ICS02	14	-0.715	0.144	2.8	0.0229	0.0000	SURCHARGED
15 minute winter	RWP3	14	-0.723	0.229	3.2	0.0000	0.0000	SURCHARGED
15 minute winter	Node4	1	-0.500	0.000	0.0	0.0000	0.0000	OK
15 minute winter	RWP4	10	-0.474	0.026	0.9	0.0000	0.0000	OK
15 minute winter	ICS03	14	-0.731	0.280	3.0	0.0549	0.0000	SURCHARGED
15 minute winter	Outfall	1	-1.031	0.000	2.5	0.0000	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	RWP1	Pipe 1.01a	Node1	0.9	0.558	0.144	0.0094	
15 minute winter	Node1	Pipe 1.01b	RWP2	0.9	0.432	0.142	0.0170	
15 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0005	
15 minute winter	RWP2	Pipe 1.01c	ICS01	1.6	0.572	0.258	0.0226	
15 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
15 minute winter	ICS01	Pipe 1.02	ICS02	2.1	0.616	0.355	0.0697	
15 minute winter	ICS02	Pipe 1.03a	RWP3	2.3	0.562	0.380	0.0728	
15 minute winter	RWP3	Pipe 1.03b	ICS03	2.2	0.353	0.360	0.0459	
15 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
15 minute winter	RWP4	Pipe 1.04	ICS03	0.9	0.541	0.141	0.0140	
15 minute winter	ICS03	Orifice	Outfall	2.5				2.1

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	RWP1	24	-0.403	0.097	1.6	0.0000	0.0000	OK
30 minute winter	Node1	24	-0.404	0.156	1.7	0.0000	0.0000	SURCHARGED
30 minute winter	Node2	24	-0.404	0.096	0.8	0.0000	0.0000	OK
30 minute winter	RWP2	24	-0.405	0.241	2.9	0.0000	0.0000	SURCHARGED
30 minute winter	Node3	24	-0.405	0.095	0.8	0.0000	0.0000	OK
30 minute winter	ICS01	24	-0.410	0.319	3.4	0.0508	0.0000	SURCHARGED
30 minute winter	ICS02	23	-0.421	0.438	3.5	0.0697	0.0000	SURCHARGED
30 minute winter	RWP3	23	-0.436	0.516	3.7	0.0000	0.0000	SURCHARGED
30 minute winter	Node4	23	-0.436	0.064	0.5	0.0000	0.0000	OK
30 minute winter	RWP4	23	-0.452	0.048	1.6	0.0000	0.0000	OK
30 minute winter	ICS03	23	-0.453	0.558	4.5	0.1094	0.0000	SURCHARGED
15 minute winter	Outfall	1	-1.031	0.000	3.6	0.0000	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	RWP1	Pipe 1.01a	Node1	1.6	0.655	0.265	0.0467	
30 minute winter	Node1	Pipe 1.01b	RWP2	1.5	0.480	0.255	0.0669	
30 minute winter	Node2	Store1	Node1	-0.8	-0.200	-0.129	0.0331	
30 minute winter	RWP2	Pipe 1.01c	ICS01	2.4	0.606	0.397	0.0649	
30 minute winter	Node3	Store2	RWP2	-0.8	-0.216	-0.140	0.0329	
30 minute winter	ICS01	Pipe 1.02	ICS02	2.5	0.582	0.421	0.1017	
30 minute winter	ICS02	Pipe 1.03a	RWP3	2.4	0.528	0.399	0.0728	
30 minute winter	RWP3	Pipe 1.03b	ICS03	3.0	0.380	0.492	0.0459	
30 minute winter	Node4	Store3	RWP3	-0.5	-0.185	-0.081	0.0317	
30 minute winter	RWP4	Pipe 1.04	ICS03	1.6	0.641	0.267	0.0512	
30 minute winter	ICS03	Orifice	Outfall	3.7				6.9

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	RWP1	25	-0.023	0.477	3.0	0.0000	0.0000	FLOOD RISK
30 minute winter	Node1	25	-0.024	0.536	2.5	0.0000	0.0000	FLOOD RISK
30 minute winter	Node2	25	-0.024	0.476	1.4	0.0000	0.0000	FLOOD RISK
30 minute winter	RWP2	25	-0.026	0.620	3.6	0.0000	0.0000	FLOOD RISK
30 minute winter	Node3	25	-0.026	0.474	1.3	0.0000	0.0000	FLOOD RISK
30 minute winter	ICS01	25	-0.032	0.697	3.5	0.1108	0.0000	FLOOD RISK
30 minute winter	ICS02	25	-0.050	0.809	3.5	0.1286	0.0000	FLOOD RISK
30 minute winter	RWP3	25	-0.074	0.878	5.4	0.0000	0.0000	FLOOD RISK
30 minute winter	Node4	25	-0.074	0.426	1.1	0.0000	0.0000	FLOOD RISK
30 minute winter	RWP4	25	-0.100	0.400	3.0	0.0000	0.0000	FLOOD RISK
30 minute winter	ICS03	25	-0.102	0.909	5.2	0.1781	0.0000	FLOOD RISK
15 minute winter	Outfall	1	-1.031	0.000	4.6	0.0000	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	RWP1	Pipe 1.01a	Node1	2.4	0.712	0.404	0.0469	
30 minute winter	Node1	Pipe 1.01b	RWP2	1.7	0.494	0.282	0.0669	
30 minute winter	Node2	Store1	Node1	-1.4	-0.339	-0.231	0.0333	
30 minute winter	RWP2	Pipe 1.01c	ICS01	2.3	0.597	0.381	0.0649	
30 minute winter	Node3	Store2	RWP2	-1.3	-0.330	-0.220	0.0333	
30 minute winter	ICS01	Pipe 1.02	ICS02	2.4	0.589	0.399	0.1017	
30 minute winter	ICS02	Pipe 1.03a	RWP3	3.0	0.549	0.489	0.0728	
30 minute winter	RWP3	Pipe 1.03b	ICS03	3.8	0.486	0.630	0.0459	
30 minute winter	Node4	Store3	RWP3	-1.1	-0.266	-0.183	0.0377	
30 minute winter	RWP4	Pipe 1.04	ICS03	2.4	0.687	0.403	0.0695	
30 minute winter	ICS03	Orifice	Outfall	4.7				12.6

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	RWP1	10	-0.474	0.026	0.9	0.0000	0.0000	OK
15 minute winter	Node1	11	-0.535	0.025	0.9	0.0000	0.0000	OK
15 minute winter	Node2	1	-0.500	0.000	0.0	0.0000	0.0000	OK
15 minute winter	RWP2	11	-0.611	0.035	1.6	0.0000	0.0000	OK
15 minute winter	Node3	1	-0.500	0.000	0.0	0.0000	0.0000	OK
15 minute winter	ICS01	11	-0.688	0.041	2.2	0.0065	0.0000	OK
15 minute winter	ICS02	14	-0.715	0.144	2.8	0.0229	0.0000	SURCHARGED
15 minute winter	RWP3	14	-0.723	0.229	3.2	0.0000	0.0000	SURCHARGED
15 minute winter	Node4	1	-0.500	0.000	0.0	0.0000	0.0000	OK
15 minute winter	RWP4	10	-0.474	0.026	0.9	0.0000	0.0000	OK
15 minute winter	ICS03	14	-0.731	0.280	3.0	0.0549	0.0000	SURCHARGED
15 minute winter	Outfall	1	-1.031	0.000	2.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	RWP1	Pipe 1.01a	Node1	0.9	0.558	0.144	0.0094	
15 minute winter	Node1	Pipe 1.01b	RWP2	0.9	0.432	0.142	0.0170	
15 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0005	
15 minute winter	RWP2	Pipe 1.01c	ICS01	1.6	0.572	0.258	0.0226	
15 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
15 minute winter	ICS01	Pipe 1.02	ICS02	2.1	0.616	0.355	0.0697	
15 minute winter	ICS02	Pipe 1.03a	RWP3	2.3	0.562	0.380	0.0728	
15 minute winter	RWP3	Pipe 1.03b	ICS03	2.2	0.353	0.360	0.0459	
15 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
15 minute winter	RWP4	Pipe 1.04	ICS03	0.9	0.541	0.141	0.0140	
15 minute winter	ICS03	Orifice	Outfall	2.5				2.1

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	RWP1	18	-0.477	0.023	0.7	0.0000	0.0000	OK
30 minute winter	Node1	18	-0.537	0.023	0.7	0.0000	0.0000	OK
30 minute winter	Node2	1	-0.500	0.000	0.0	0.0000	0.0000	OK
30 minute winter	RWP2	18	-0.615	0.031	1.3	0.0000	0.0000	OK
30 minute winter	Node3	1	-0.500	0.000	0.0	0.0000	0.0000	OK
30 minute winter	ICS01	18	-0.692	0.037	1.8	0.0058	0.0000	OK
30 minute winter	ICS02	22	-0.739	0.120	2.3	0.0191	0.0000	SURCHARGED
30 minute winter	RWP3	22	-0.746	0.206	2.7	0.0000	0.0000	SURCHARGED
30 minute winter	Node4	1	-0.500	0.000	0.0	0.0000	0.0000	OK
30 minute winter	RWP4	18	-0.477	0.023	0.7	0.0000	0.0000	OK
30 minute winter	ICS03	22	-0.753	0.258	2.6	0.0505	0.0000	SURCHARGED
30 minute winter	Outfall	1	-1.031	0.000	2.4	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	RWP1	Pipe 1.01a	Node1	0.7	0.519	0.116	0.0081	
30 minute winter	Node1	Pipe 1.01b	RWP2	0.7	0.405	0.114	0.0146	
30 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0003	
30 minute winter	RWP2	Pipe 1.01c	ICS01	1.3	0.542	0.210	0.0194	
30 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
30 minute winter	ICS01	Pipe 1.02	ICS02	1.7	0.581	0.288	0.0665	
30 minute winter	ICS02	Pipe 1.03a	RWP3	2.0	0.517	0.333	0.0728	
30 minute winter	RWP3	Pipe 1.03b	ICS03	2.0	0.317	0.331	0.0459	
30 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
30 minute winter	RWP4	Pipe 1.04	ICS03	0.7	0.511	0.115	0.0121	
30 minute winter	ICS03	Orifice	Outfall	2.4				2.8

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	RWP1	33	-0.481	0.019	0.5	0.0000	0.0000	OK
60 minute winter	Node1	33	-0.541	0.019	0.5	0.0000	0.0000	OK
60 minute winter	Node2	1	-0.500	0.000	0.0	0.0000	0.0000	OK
60 minute winter	RWP2	34	-0.620	0.026	0.9	0.0000	0.0000	OK
60 minute winter	Node3	1	-0.500	0.000	0.0	0.0000	0.0000	OK
60 minute winter	ICS01	34	-0.699	0.030	1.2	0.0048	0.0000	OK
60 minute winter	ICS02	38	-0.809	0.050	1.6	0.0079	0.0000	OK
60 minute winter	RWP3	38	-0.812	0.140	2.0	0.0000	0.0000	SURCHARGED
60 minute winter	Node4	1	-0.500	0.000	0.0	0.0000	0.0000	OK
60 minute winter	RWP4	33	-0.480	0.020	0.5	0.0000	0.0000	OK
60 minute winter	ICS03	38	-0.818	0.193	2.2	0.0379	0.0000	SURCHARGED
60 minute winter	Outfall	1	-1.031	0.000	2.1	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	RWP1	Pipe 1.01a	Node1	0.5	0.472	0.083	0.0063	
60 minute winter	Node1	Pipe 1.01b	RWP2	0.5	0.371	0.080	0.0112	
60 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
60 minute winter	RWP2	Pipe 1.01c	ICS01	0.9	0.496	0.146	0.0148	
60 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
60 minute winter	ICS01	Pipe 1.02	ICS02	1.2	0.532	0.195	0.0366	
60 minute winter	ICS02	Pipe 1.03a	RWP3	1.5	0.523	0.252	0.0544	
60 minute winter	RWP3	Pipe 1.03b	ICS03	1.7	0.317	0.284	0.0459	
60 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
60 minute winter	RWP4	Pipe 1.04	ICS03	0.5	0.463	0.082	0.0095	
60 minute winter	ICS03	Orifice	Outfall	2.1				3.8

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	RWP1	58	-0.485	0.015	0.3	0.0000	0.0000	OK
120 minute winter	Node1	60	-0.545	0.015	0.3	0.0000	0.0000	OK
120 minute winter	Node2	2	-0.500	0.000	0.0	0.0000	0.0000	OK
120 minute winter	RWP2	64	-0.625	0.021	0.6	0.0000	0.0000	OK
120 minute winter	Node3	2	-0.500	0.000	0.0	0.0000	0.0000	OK
120 minute winter	ICS01	64	-0.704	0.025	0.8	0.0039	0.0000	OK
120 minute winter	ICS02	64	-0.830	0.029	1.1	0.0046	0.0000	OK
120 minute winter	RWP3	66	-0.891	0.061	1.4	0.0000	0.0000	OK
120 minute winter	Node4	2	-0.500	0.000	0.0	0.0000	0.0000	OK
120 minute winter	RWP4	66	-0.485	0.015	0.3	0.0000	0.0000	OK
120 minute winter	ICS03	66	-0.892	0.119	1.6	0.0233	0.0000	SURCHARGED
120 minute winter	Outfall	2	-1.031	0.000	1.5	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	RWP1	Pipe 1.01a	Node1	0.3	0.404	0.050	0.0045	
120 minute winter	Node1	Pipe 1.01b	RWP2	0.3	0.352	0.050	0.0084	
120 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
120 minute winter	RWP2	Pipe 1.01c	ICS01	0.6	0.444	0.099	0.0112	
120 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
120 minute winter	ICS01	Pipe 1.02	ICS02	0.8	0.477	0.132	0.0218	
120 minute winter	ICS02	Pipe 1.03a	RWP3	1.1	0.495	0.181	0.0313	
120 minute winter	RWP3	Pipe 1.03b	ICS03	1.3	0.267	0.212	0.0376	
120 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
120 minute winter	RWP4	Pipe 1.04	ICS03	0.3	0.401	0.050	0.0067	
120 minute winter	ICS03	Orifice	Outfall	1.5				4.6

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	RWP1	80	-0.487	0.013	0.2	0.0000	0.0000	OK
180 minute winter	Node1	84	-0.548	0.012	0.2	0.0000	0.0000	OK
180 minute winter	Node2	4	-0.500	0.000	0.0	0.0000	0.0000	OK
180 minute winter	RWP2	88	-0.629	0.017	0.4	0.0000	0.0000	OK
180 minute winter	Node3	4	-0.500	0.000	0.0	0.0000	0.0000	OK
180 minute winter	ICS01	96	-0.708	0.021	0.6	0.0034	0.0000	OK
180 minute winter	ICS02	96	-0.834	0.025	0.8	0.0039	0.0000	OK
180 minute winter	RWP3	96	-0.925	0.027	1.0	0.0000	0.0000	OK
180 minute winter	Node4	4	-0.500	0.000	0.0	0.0000	0.0000	OK
180 minute winter	RWP4	88	-0.487	0.013	0.2	0.0000	0.0000	OK
180 minute winter	ICS03	100	-0.929	0.082	1.2	0.0160	0.0000	OK
180 minute winter	Outfall	4	-1.031	0.000	1.2	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	RWP1	Pipe 1.01a	Node1	0.2	0.371	0.033	0.0034	
180 minute winter	Node1	Pipe 1.01b	RWP2	0.2	0.301	0.033	0.0063	
180 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
180 minute winter	RWP2	Pipe 1.01c	ICS01	0.4	0.432	0.066	0.0088	
180 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
180 minute winter	ICS01	Pipe 1.02	ICS02	0.6	0.444	0.099	0.0176	
180 minute winter	ICS02	Pipe 1.03a	RWP3	0.8	0.495	0.133	0.0150	
180 minute winter	RWP3	Pipe 1.03b	ICS03	1.0	0.289	0.166	0.0252	
180 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
180 minute winter	RWP4	Pipe 1.04	ICS03	0.2	0.355	0.033	0.0050	
180 minute winter	ICS03	Orifice	Outfall	1.2				4.5

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	RWP1	112	-0.487	0.013	0.2	0.0000	0.0000	OK
240 minute winter	Node1	116	-0.548	0.012	0.2	0.0000	0.0000	OK
240 minute winter	Node2	4	-0.500	0.000	0.0	0.0000	0.0000	OK
240 minute winter	RWP2	124	-0.629	0.017	0.4	0.0000	0.0000	OK
240 minute winter	Node3	4	-0.500	0.000	0.0	0.0000	0.0000	OK
240 minute winter	ICS01	128	-0.710	0.019	0.5	0.0031	0.0000	OK
240 minute winter	ICS02	128	-0.836	0.023	0.7	0.0037	0.0000	OK
240 minute winter	RWP3	128	-0.926	0.026	0.9	0.0000	0.0000	OK
240 minute winter	Node4	4	-0.500	0.000	0.0	0.0000	0.0000	OK
240 minute winter	RWP4	120	-0.487	0.013	0.2	0.0000	0.0000	OK
240 minute winter	ICS03	132	-0.938	0.073	1.1	0.0142	0.0000	OK
240 minute winter	Outfall	4	-1.031	0.000	1.1	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	RWP1	Pipe 1.01a	Node1	0.2	0.371	0.033	0.0034	
240 minute winter	Node1	Pipe 1.01b	RWP2	0.2	0.307	0.033	0.0063	
240 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
240 minute winter	RWP2	Pipe 1.01c	ICS01	0.4	0.432	0.066	0.0082	
240 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
240 minute winter	ICS01	Pipe 1.02	ICS02	0.5	0.413	0.083	0.0158	
240 minute winter	ICS02	Pipe 1.03a	RWP3	0.7	0.471	0.116	0.0138	
240 minute winter	RWP3	Pipe 1.03b	ICS03	0.9	0.289	0.149	0.0226	
240 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
240 minute winter	RWP4	Pipe 1.04	ICS03	0.2	0.355	0.033	0.0050	
240 minute winter	ICS03	Orifice	Outfall	1.1				4.8

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	RWP1	128	-0.491	0.009	0.1	0.0000	0.0000	OK
360 minute winter	Node1	128	-0.551	0.009	0.1	0.0000	0.0000	OK
360 minute winter	Node2	8	-0.500	0.000	0.0	0.0000	0.0000	OK
360 minute winter	RWP2	248	-0.633	0.013	0.2	0.0000	0.0000	OK
360 minute winter	Node3	8	-0.500	0.000	0.0	0.0000	0.0000	OK
360 minute winter	ICS01	144	-0.714	0.015	0.3	0.0024	0.0000	OK
360 minute winter	ICS02	144	-0.842	0.017	0.4	0.0028	0.0000	OK
360 minute winter	RWP3	144	-0.933	0.019	0.5	0.0000	0.0000	OK
360 minute winter	Node4	8	-0.500	0.000	0.0	0.0000	0.0000	OK
360 minute winter	RWP4	128	-0.491	0.009	0.1	0.0000	0.0000	OK
360 minute winter	ICS03	144	-0.970	0.041	0.6	0.0080	0.0000	OK
360 minute winter	Outfall	8	-1.031	0.000	0.6	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	RWP1	Pipe 1.01a	Node1	0.1	0.294	0.017	0.0021	
360 minute winter	Node1	Pipe 1.01b	RWP2	0.1	0.346	0.017	0.0039	
360 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
360 minute winter	RWP2	Pipe 1.01c	ICS01	0.2	0.354	0.033	0.0054	
360 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
360 minute winter	ICS01	Pipe 1.02	ICS02	0.3	0.362	0.050	0.0108	
360 minute winter	ICS02	Pipe 1.03a	RWP3	0.4	0.404	0.066	0.0092	
360 minute winter	RWP3	Pipe 1.03b	ICS03	0.5	0.251	0.083	0.0120	
360 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
360 minute winter	RWP4	Pipe 1.04	ICS03	0.1	0.288	0.017	0.0031	
360 minute winter	ICS03	Orifice	Outfall	0.6				5.1

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	RWP1	176	-0.491	0.009	0.1	0.0000	0.0000	OK
480 minute winter	Node1	176	-0.551	0.009	0.1	0.0000	0.0000	OK
480 minute winter	Node2	8	-0.500	0.000	0.0	0.0000	0.0000	OK
480 minute winter	RWP2	312	-0.633	0.013	0.2	0.0000	0.0000	OK
480 minute winter	Node3	8	-0.500	0.000	0.0	0.0000	0.0000	OK
480 minute winter	ICS01	200	-0.714	0.015	0.3	0.0024	0.0000	OK
480 minute winter	ICS02	200	-0.842	0.017	0.4	0.0028	0.0000	OK
480 minute winter	RWP3	200	-0.933	0.019	0.5	0.0000	0.0000	OK
480 minute winter	Node4	8	-0.500	0.000	0.0	0.0000	0.0000	OK
480 minute winter	RWP4	176	-0.491	0.009	0.1	0.0000	0.0000	OK
480 minute winter	ICS03	200	-0.970	0.041	0.6	0.0080	0.0000	OK
480 minute winter	Outfall	8	-1.031	0.000	0.6	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	RWP1	Pipe 1.01a	Node1	0.1	0.294	0.017	0.0021	
480 minute winter	Node1	Pipe 1.01b	RWP2	0.1	0.346	0.017	0.0039	
480 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
480 minute winter	RWP2	Pipe 1.01c	ICS01	0.2	0.355	0.033	0.0054	
480 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
480 minute winter	ICS01	Pipe 1.02	ICS02	0.3	0.362	0.050	0.0108	
480 minute winter	ICS02	Pipe 1.03a	RWP3	0.4	0.404	0.066	0.0092	
480 minute winter	RWP3	Pipe 1.03b	ICS03	0.5	0.251	0.083	0.0120	
480 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
480 minute winter	RWP4	Pipe 1.04	ICS03	0.1	0.288	0.017	0.0031	
480 minute winter	ICS03	Orifice	Outfall	0.6				5.7

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	RWP1	240	-0.491	0.009	0.1	0.0000	0.0000	OK
600 minute winter	Node1	240	-0.551	0.009	0.1	0.0000	0.0000	OK
600 minute winter	Node2	15	-0.500	0.000	0.0	0.0000	0.0000	OK
600 minute winter	RWP2	375	-0.633	0.013	0.2	0.0000	0.0000	OK
600 minute winter	Node3	15	-0.500	0.000	0.0	0.0000	0.0000	OK
600 minute winter	ICS01	270	-0.714	0.015	0.3	0.0024	0.0000	OK
600 minute winter	ICS02	270	-0.842	0.017	0.4	0.0028	0.0000	OK
600 minute winter	RWP3	270	-0.933	0.019	0.5	0.0000	0.0000	OK
600 minute winter	Node4	15	-0.500	0.000	0.0	0.0000	0.0000	OK
600 minute winter	RWP4	240	-0.491	0.009	0.1	0.0000	0.0000	OK
600 minute winter	ICS03	270	-0.970	0.041	0.6	0.0080	0.0000	OK
600 minute winter	Outfall	15	-1.031	0.000	0.6	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	RWP1	Pipe 1.01a	Node1	0.1	0.290	0.017	0.0021	
600 minute winter	Node1	Pipe 1.01b	RWP2	0.1	0.283	0.017	0.0039	
600 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
600 minute winter	RWP2	Pipe 1.01c	ICS01	0.2	0.354	0.033	0.0054	
600 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
600 minute winter	ICS01	Pipe 1.02	ICS02	0.3	0.362	0.050	0.0108	
600 minute winter	ICS02	Pipe 1.03a	RWP3	0.4	0.404	0.066	0.0092	
600 minute winter	RWP3	Pipe 1.03b	ICS03	0.5	0.251	0.083	0.0120	
600 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
600 minute winter	RWP4	Pipe 1.04	ICS03	0.1	0.288	0.017	0.0031	
600 minute winter	ICS03	Orifice	Outfall	0.6				5.8

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	RWP1	285	-0.491	0.009	0.1	0.0000	0.0000	OK
720 minute winter	Node1	285	-0.551	0.009	0.1	0.0000	0.0000	OK
720 minute winter	Node2	15	-0.500	0.000	0.0	0.0000	0.0000	OK
720 minute winter	RWP2	435	-0.633	0.013	0.2	0.0000	0.0000	OK
720 minute winter	Node3	15	-0.500	0.000	0.0	0.0000	0.0000	OK
720 minute winter	ICS01	330	-0.714	0.015	0.3	0.0024	0.0000	OK
720 minute winter	ICS02	330	-0.842	0.017	0.4	0.0028	0.0000	OK
720 minute winter	RWP3	330	-0.933	0.019	0.5	0.0000	0.0000	OK
720 minute winter	Node4	15	-0.500	0.000	0.0	0.0000	0.0000	OK
720 minute winter	RWP4	285	-0.491	0.009	0.1	0.0000	0.0000	OK
720 minute winter	ICS03	330	-0.970	0.041	0.6	0.0080	0.0000	OK
720 minute winter	Outfall	15	-1.031	0.000	0.6	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	RWP1	Pipe 1.01a	Node1	0.1	0.290	0.017	0.0021	
720 minute winter	Node1	Pipe 1.01b	RWP2	0.1	0.289	0.017	0.0039	
720 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
720 minute winter	RWP2	Pipe 1.01c	ICS01	0.2	0.354	0.033	0.0054	
720 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
720 minute winter	ICS01	Pipe 1.02	ICS02	0.3	0.362	0.050	0.0108	
720 minute winter	ICS02	Pipe 1.03a	RWP3	0.4	0.404	0.066	0.0092	
720 minute winter	RWP3	Pipe 1.03b	ICS03	0.5	0.251	0.083	0.0120	
720 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
720 minute winter	RWP4	Pipe 1.04	ICS03	0.1	0.288	0.017	0.0031	
720 minute winter	ICS03	Orifice	Outfall	0.6				6.3

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	RWP1	405	-0.491	0.009	0.1	0.0000	0.0000	OK
960 minute winter	Node1	405	-0.551	0.009	0.1	0.0000	0.0000	OK
960 minute winter	Node2	15	-0.500	0.000	0.0	0.0000	0.0000	OK
960 minute winter	RWP2	435	-0.633	0.013	0.2	0.0000	0.0000	OK
960 minute winter	Node3	15	-0.500	0.000	0.0	0.0000	0.0000	OK
960 minute winter	ICS01	495	-0.714	0.015	0.3	0.0024	0.0000	OK
960 minute winter	ICS02	495	-0.842	0.017	0.4	0.0028	0.0000	OK
960 minute winter	RWP3	495	-0.933	0.019	0.5	0.0000	0.0000	OK
960 minute winter	Node4	15	-0.500	0.000	0.0	0.0000	0.0000	OK
960 minute winter	RWP4	405	-0.491	0.009	0.1	0.0000	0.0000	OK
960 minute winter	ICS03	495	-0.970	0.041	0.6	0.0080	0.0000	OK
960 minute winter	Outfall	15	-1.031	0.000	0.6	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	RWP1	Pipe 1.01a	Node1	0.1	0.290	0.017	0.0021	
960 minute winter	Node1	Pipe 1.01b	RWP2	0.1	0.289	0.017	0.0039	
960 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
960 minute winter	RWP2	Pipe 1.01c	ICS01	0.2	0.354	0.033	0.0054	
960 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
960 minute winter	ICS01	Pipe 1.02	ICS02	0.3	0.362	0.050	0.0108	
960 minute winter	ICS02	Pipe 1.03a	RWP3	0.4	0.404	0.066	0.0092	
960 minute winter	RWP3	Pipe 1.03b	ICS03	0.5	0.251	0.083	0.0120	
960 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
960 minute winter	RWP4	Pipe 1.04	ICS03	0.1	0.288	0.017	0.0031	
960 minute winter	ICS03	Orifice	Outfall	0.6				5.8

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	RWP1	15	-0.412	0.088	2.1	0.0000	0.0000	OK
15 minute winter	Node1	15	-0.411	0.149	2.1	0.0000	0.0000	SURCHARGED
15 minute winter	Node2	15	-0.411	0.089	0.6	0.0000	0.0000	OK
15 minute winter	RWP2	15	-0.413	0.233	3.8	0.0000	0.0000	SURCHARGED
15 minute winter	Node3	15	-0.412	0.088	0.9	0.0000	0.0000	OK
15 minute winter	ICS01	15	-0.417	0.312	4.7	0.0496	0.0000	SURCHARGED
15 minute winter	ICS02	14	-0.427	0.432	4.7	0.0686	0.0000	SURCHARGED
15 minute winter	RWP3	14	-0.442	0.510	4.3	0.0000	0.0000	SURCHARGED
15 minute winter	Node4	14	-0.441	0.059	1.0	0.0000	0.0000	OK
15 minute winter	RWP4	14	-0.458	0.042	2.1	0.0000	0.0000	OK
15 minute winter	ICS03	14	-0.458	0.553	5.0	0.1084	0.0000	SURCHARGED
15 minute winter	Outfall	1	-1.031	0.000	3.6	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	RWP1	Pipe 1.01a	Node1	2.1	0.706	0.344	0.0454	
15 minute winter	Node1	Pipe 1.01b	RWP2	2.0	0.517	0.337	0.0669	
15 minute winter	Node2	Store1	Node1	-0.6	-0.225	-0.106	0.0322	
15 minute winter	RWP2	Pipe 1.01c	ICS01	3.3	0.635	0.548	0.0649	
15 minute winter	Node3	Store2	RWP2	-0.9	-0.178	-0.141	0.0321	
15 minute winter	ICS01	Pipe 1.02	ICS02	3.3	0.636	0.551	0.1017	
15 minute winter	ICS02	Pipe 1.03a	RWP3	2.8	0.591	0.470	0.0728	
15 minute winter	RWP3	Pipe 1.03b	ICS03	2.9	0.409	0.485	0.0459	
15 minute winter	Node4	Store3	RWP3	-1.0	-0.199	-0.160	0.0304	
15 minute winter	RWP4	Pipe 1.04	ICS03	2.1	0.690	0.342	0.0488	
15 minute winter	ICS03	Orifice	Outfall	3.6				5.2

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	RWP1	24	-0.403	0.097	1.6	0.0000	0.0000	OK
30 minute winter	Node1	24	-0.404	0.156	1.7	0.0000	0.0000	SURCHARGED
30 minute winter	Node2	24	-0.404	0.096	0.8	0.0000	0.0000	OK
30 minute winter	RWP2	24	-0.405	0.241	2.9	0.0000	0.0000	SURCHARGED
30 minute winter	Node3	24	-0.405	0.095	0.8	0.0000	0.0000	OK
30 minute winter	ICS01	24	-0.410	0.319	3.4	0.0508	0.0000	SURCHARGED
30 minute winter	ICS02	23	-0.421	0.438	3.5	0.0697	0.0000	SURCHARGED
30 minute winter	RWP3	23	-0.436	0.516	3.7	0.0000	0.0000	SURCHARGED
30 minute winter	Node4	23	-0.436	0.064	0.5	0.0000	0.0000	OK
30 minute winter	RWP4	23	-0.452	0.048	1.6	0.0000	0.0000	OK
30 minute winter	ICS03	23	-0.453	0.558	4.5	0.1094	0.0000	SURCHARGED
30 minute winter	Outfall	1	-1.031	0.000	3.7	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	RWP1	Pipe 1.01a	Node1	1.6	0.655	0.265	0.0467	
30 minute winter	Node1	Pipe 1.01b	RWP2	1.5	0.480	0.255	0.0669	
30 minute winter	Node2	Store1	Node1	-0.8	-0.200	-0.129	0.0331	
30 minute winter	RWP2	Pipe 1.01c	ICS01	2.4	0.606	0.397	0.0649	
30 minute winter	Node3	Store2	RWP2	-0.8	-0.216	-0.140	0.0329	
30 minute winter	ICS01	Pipe 1.02	ICS02	2.5	0.582	0.421	0.1017	
30 minute winter	ICS02	Pipe 1.03a	RWP3	2.4	0.528	0.399	0.0728	
30 minute winter	RWP3	Pipe 1.03b	ICS03	3.0	0.380	0.492	0.0459	
30 minute winter	Node4	Store3	RWP3	-0.5	-0.185	-0.081	0.0317	
30 minute winter	RWP4	Pipe 1.04	ICS03	1.6	0.641	0.267	0.0512	
30 minute winter	ICS03	Orifice	Outfall	3.7				6.9

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	RWP1	42	-0.452	0.048	1.1	0.0000	0.0000	OK
60 minute winter	Node1	42	-0.452	0.108	1.1	0.0000	0.0000	SURCHARGED
60 minute winter	Node2	42	-0.452	0.048	0.3	0.0000	0.0000	OK
60 minute winter	RWP2	41	-0.453	0.193	2.0	0.0000	0.0000	SURCHARGED
60 minute winter	Node3	41	-0.453	0.047	0.3	0.0000	0.0000	OK
60 minute winter	ICS01	41	-0.456	0.273	2.6	0.0434	0.0000	SURCHARGED
60 minute winter	ICS02	41	-0.467	0.392	2.9	0.0623	0.0000	SURCHARGED
60 minute winter	RWP3	40	-0.481	0.471	3.1	0.0000	0.0000	SURCHARGED
60 minute winter	Node4	40	-0.481	0.019	0.2	0.0000	0.0000	OK
60 minute winter	RWP4	33	-0.471	0.029	1.1	0.0000	0.0000	OK
60 minute winter	ICS03	40	-0.496	0.515	3.8	0.1009	0.0000	SURCHARGED
60 minute winter	Outfall	1	-1.031	0.000	3.5	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	RWP1	Pipe 1.01a	Node1	1.1	0.590	0.182	0.0346	
60 minute winter	Node1	Pipe 1.01b	RWP2	1.1	0.445	0.181	0.0669	
60 minute winter	Node2	Store1	Node1	-0.3	0.162	-0.051	0.0237	
60 minute winter	RWP2	Pipe 1.01c	ICS01	1.9	0.576	0.311	0.0649	
60 minute winter	Node3	Store2	RWP2	-0.3	0.161	-0.051	0.0234	
60 minute winter	ICS01	Pipe 1.02	ICS02	2.1	0.573	0.349	0.1017	
60 minute winter	ICS02	Pipe 1.03a	RWP3	2.3	0.499	0.387	0.0728	
60 minute winter	RWP3	Pipe 1.03b	ICS03	2.9	0.366	0.474	0.0459	
60 minute winter	Node4	Store3	RWP3	-0.2	-0.080	-0.025	0.0159	
60 minute winter	RWP4	Pipe 1.04	ICS03	1.1	0.583	0.183	0.0400	
60 minute winter	ICS03	Orifice	Outfall	3.5				8.8

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	RWP1	60	-0.477	0.023	0.7	0.0000	0.0000	OK
120 minute winter	Node1	62	-0.537	0.023	0.7	0.0000	0.0000	OK
120 minute winter	Node2	2	-0.500	0.000	0.0	0.0000	0.0000	OK
120 minute winter	RWP2	74	-0.572	0.074	1.3	0.0000	0.0000	OK
120 minute winter	Node3	2	-0.500	0.000	0.0	0.0000	0.0000	OK
120 minute winter	ICS01	74	-0.574	0.155	1.8	0.0247	0.0000	SURCHARGED
120 minute winter	ICS02	74	-0.583	0.276	2.3	0.0438	0.0000	SURCHARGED
120 minute winter	RWP3	72	-0.595	0.357	2.6	0.0000	0.0000	SURCHARGED
120 minute winter	Node4	2	-0.500	0.000	0.0	0.0000	0.0000	OK
120 minute winter	RWP4	64	-0.477	0.023	0.7	0.0000	0.0000	OK
120 minute winter	ICS03	72	-0.607	0.404	3.2	0.0792	0.0000	SURCHARGED
120 minute winter	Outfall	2	-1.031	0.000	3.1	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	RWP1	Pipe 1.01a	Node1	0.7	0.517	0.116	0.0081	
120 minute winter	Node1	Pipe 1.01b	RWP2	0.7	0.407	0.116	0.0314	
120 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0003	
120 minute winter	RWP2	Pipe 1.01c	ICS01	1.3	0.537	0.215	0.0583	
120 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
120 minute winter	ICS01	Pipe 1.02	ICS02	1.7	0.528	0.277	0.1017	
120 minute winter	ICS02	Pipe 1.03a	RWP3	2.0	0.495	0.331	0.0728	
120 minute winter	RWP3	Pipe 1.03b	ICS03	2.5	0.323	0.419	0.0459	
120 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
120 minute winter	RWP4	Pipe 1.04	ICS03	0.7	0.513	0.116	0.0121	
120 minute winter	ICS03	Orifice	Outfall	3.1				10.8

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	RWP1	88	-0.481	0.019	0.5	0.0000	0.0000	OK
180 minute winter	Node1	88	-0.541	0.019	0.5	0.0000	0.0000	OK
180 minute winter	Node2	4	-0.500	0.000	0.0	0.0000	0.0000	OK
180 minute winter	RWP2	92	-0.620	0.026	0.9	0.0000	0.0000	OK
180 minute winter	Node3	4	-0.500	0.000	0.0	0.0000	0.0000	OK
180 minute winter	ICS01	92	-0.698	0.031	1.3	0.0050	0.0000	OK
180 minute winter	ICS02	104	-0.707	0.152	1.7	0.0242	0.0000	SURCHARGED
180 minute winter	RWP3	104	-0.714	0.238	2.1	0.0000	0.0000	SURCHARGED
180 minute winter	Node4	4	-0.500	0.000	0.0	0.0000	0.0000	OK
180 minute winter	RWP4	92	-0.480	0.020	0.5	0.0000	0.0000	OK
180 minute winter	ICS03	104	-0.723	0.288	2.6	0.0565	0.0000	SURCHARGED
180 minute winter	Outfall	4	-1.031	0.000	2.6	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	RWP1	Pipe 1.01a	Node1	0.5	0.469	0.083	0.0064	
180 minute winter	Node1	Pipe 1.01b	RWP2	0.5	0.374	0.083	0.0115	
180 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
180 minute winter	RWP2	Pipe 1.01c	ICS01	0.9	0.497	0.149	0.0155	
180 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
180 minute winter	ICS01	Pipe 1.02	ICS02	1.3	0.522	0.215	0.0646	
180 minute winter	ICS02	Pipe 1.03a	RWP3	1.6	0.490	0.271	0.0728	
180 minute winter	RWP3	Pipe 1.03b	ICS03	2.1	0.329	0.346	0.0459	
180 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
180 minute winter	RWP4	Pipe 1.04	ICS03	0.5	0.465	0.083	0.0096	
180 minute winter	ICS03	Orifice	Outfall	2.6				12.2

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	RWP1	112	-0.483	0.017	0.4	0.0000	0.0000	OK
240 minute winter	Node1	112	-0.543	0.017	0.4	0.0000	0.0000	OK
240 minute winter	Node2	4	-0.500	0.000	0.0	0.0000	0.0000	OK
240 minute winter	RWP2	124	-0.621	0.025	0.8	0.0000	0.0000	OK
240 minute winter	Node3	4	-0.500	0.000	0.0	0.0000	0.0000	OK
240 minute winter	ICS01	128	-0.700	0.029	1.1	0.0046	0.0000	OK
240 minute winter	ICS02	132	-0.788	0.071	1.5	0.0113	0.0000	OK
240 minute winter	RWP3	132	-0.791	0.161	1.8	0.0000	0.0000	SURCHARGED
240 minute winter	Node4	4	-0.500	0.000	0.0	0.0000	0.0000	OK
240 minute winter	RWP4	116	-0.482	0.018	0.4	0.0000	0.0000	OK
240 minute winter	ICS03	132	-0.798	0.213	2.2	0.0418	0.0000	SURCHARGED
240 minute winter	Outfall	4	-1.031	0.000	2.2	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	RWP1	Pipe 1.01a	Node1	0.4	0.439	0.066	0.0055	
240 minute winter	Node1	Pipe 1.01b	RWP2	0.4	0.354	0.066	0.0103	
240 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
240 minute winter	RWP2	Pipe 1.01c	ICS01	0.8	0.477	0.133	0.0140	
240 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
240 minute winter	ICS01	Pipe 1.02	ICS02	1.1	0.519	0.182	0.0503	
240 minute winter	ICS02	Pipe 1.03a	RWP3	1.4	0.490	0.237	0.0641	
240 minute winter	RWP3	Pipe 1.03b	ICS03	1.8	0.289	0.297	0.0459	
240 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
240 minute winter	RWP4	Pipe 1.04	ICS03	0.4	0.436	0.066	0.0082	
240 minute winter	ICS03	Orifice	Outfall	2.2				13.9

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	RWP1	168	-0.485	0.015	0.3	0.0000	0.0000	OK
360 minute winter	Node1	168	-0.545	0.015	0.3	0.0000	0.0000	OK
360 minute winter	Node2	8	-0.500	0.000	0.0	0.0000	0.0000	OK
360 minute winter	RWP2	184	-0.625	0.021	0.6	0.0000	0.0000	OK
360 minute winter	Node3	8	-0.500	0.000	0.0	0.0000	0.0000	OK
360 minute winter	ICS01	184	-0.704	0.025	0.8	0.0039	0.0000	OK
360 minute winter	ICS02	184	-0.830	0.029	1.1	0.0046	0.0000	OK
360 minute winter	RWP3	192	-0.870	0.082	1.4	0.0000	0.0000	OK
360 minute winter	Node4	8	-0.500	0.000	0.0	0.0000	0.0000	OK
360 minute winter	RWP4	168	-0.485	0.015	0.3	0.0000	0.0000	OK
360 minute winter	ICS03	192	-0.873	0.138	1.7	0.0271	0.0000	SURCHARGED
360 minute winter	Outfall	8	-1.031	0.000	1.7	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	RWP1	Pipe 1.01a	Node1	0.3	0.403	0.050	0.0045	
360 minute winter	Node1	Pipe 1.01b	RWP2	0.3	0.346	0.050	0.0084	
360 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
360 minute winter	RWP2	Pipe 1.01c	ICS01	0.6	0.444	0.099	0.0112	
360 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
360 minute winter	ICS01	Pipe 1.02	ICS02	0.8	0.477	0.133	0.0219	
360 minute winter	ICS02	Pipe 1.03a	RWP3	1.1	0.495	0.182	0.0406	
360 minute winter	RWP3	Pipe 1.03b	ICS03	1.4	0.255	0.231	0.0430	
360 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
360 minute winter	RWP4	Pipe 1.04	ICS03	0.3	0.401	0.050	0.0067	
360 minute winter	ICS03	Orifice	Outfall	1.7				14.5

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	RWP1	248	-0.485	0.015	0.3	0.0000	0.0000	OK
480 minute winter	Node1	248	-0.545	0.015	0.3	0.0000	0.0000	OK
480 minute winter	Node2	8	-0.500	0.000	0.0	0.0000	0.0000	OK
480 minute winter	RWP2	248	-0.627	0.019	0.5	0.0000	0.0000	OK
480 minute winter	Node3	8	-0.500	0.000	0.0	0.0000	0.0000	OK
480 minute winter	ICS01	248	-0.706	0.023	0.7	0.0037	0.0000	OK
480 minute winter	ICS02	248	-0.833	0.026	0.9	0.0041	0.0000	OK
480 minute winter	RWP3	248	-0.901	0.051	1.2	0.0000	0.0000	OK
480 minute winter	Node4	8	-0.500	0.000	0.0	0.0000	0.0000	OK
480 minute winter	RWP4	248	-0.485	0.015	0.3	0.0000	0.0000	OK
480 minute winter	ICS03	248	-0.902	0.109	1.5	0.0214	0.0000	SURCHARGED
480 minute winter	Outfall	8	-1.031	0.000	1.5	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	RWP1	Pipe 1.01a	Node1	0.3	0.403	0.050	0.0045	
480 minute winter	Node1	Pipe 1.01b	RWP2	0.3	0.346	0.050	0.0078	
480 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
480 minute winter	RWP2	Pipe 1.01c	ICS01	0.5	0.413	0.083	0.0101	
480 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
480 minute winter	ICS01	Pipe 1.02	ICS02	0.7	0.471	0.116	0.0194	
480 minute winter	ICS02	Pipe 1.03a	RWP3	0.9	0.495	0.149	0.0261	
480 minute winter	RWP3	Pipe 1.03b	ICS03	1.2	0.255	0.196	0.0346	
480 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
480 minute winter	RWP4	Pipe 1.04	ICS03	0.3	0.401	0.050	0.0067	
480 minute winter	ICS03	Orifice	Outfall	1.5				13.4

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	RWP1	270	-0.487	0.013	0.2	0.0000	0.0000	OK
600 minute winter	Node1	270	-0.548	0.012	0.2	0.0000	0.0000	OK
600 minute winter	Node2	15	-0.500	0.000	0.0	0.0000	0.0000	OK
600 minute winter	RWP2	285	-0.629	0.017	0.4	0.0000	0.0000	OK
600 minute winter	Node3	15	-0.500	0.000	0.0	0.0000	0.0000	OK
600 minute winter	ICS01	315	-0.708	0.021	0.6	0.0034	0.0000	OK
600 minute winter	ICS02	315	-0.834	0.025	0.8	0.0039	0.0000	OK
600 minute winter	RWP3	315	-0.925	0.027	1.0	0.0000	0.0000	OK
600 minute winter	Node4	15	-0.500	0.000	0.0	0.0000	0.0000	OK
600 minute winter	RWP4	270	-0.487	0.013	0.2	0.0000	0.0000	OK
600 minute winter	ICS03	315	-0.929	0.082	1.2	0.0160	0.0000	OK
600 minute winter	Outfall	15	-1.031	0.000	1.2	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	RWP1	Pipe 1.01a	Node1	0.2	0.356	0.033	0.0034	
600 minute winter	Node1	Pipe 1.01b	RWP2	0.2	0.305	0.033	0.0063	
600 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
600 minute winter	RWP2	Pipe 1.01c	ICS01	0.4	0.404	0.066	0.0088	
600 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
600 minute winter	ICS01	Pipe 1.02	ICS02	0.6	0.444	0.099	0.0176	
600 minute winter	ICS02	Pipe 1.03a	RWP3	0.8	0.495	0.133	0.0150	
600 minute winter	RWP3	Pipe 1.03b	ICS03	1.0	0.251	0.166	0.0252	
600 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
600 minute winter	RWP4	Pipe 1.04	ICS03	0.2	0.355	0.033	0.0050	
600 minute winter	ICS03	Orifice	Outfall	1.2				14.1

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	RWP1	330	-0.487	0.013	0.2	0.0000	0.0000	OK
720 minute winter	Node1	330	-0.548	0.012	0.2	0.0000	0.0000	OK
720 minute winter	Node2	15	-0.500	0.000	0.0	0.0000	0.0000	OK
720 minute winter	RWP2	360	-0.629	0.017	0.4	0.0000	0.0000	OK
720 minute winter	Node3	15	-0.500	0.000	0.0	0.0000	0.0000	OK
720 minute winter	ICS01	360	-0.710	0.019	0.5	0.0031	0.0000	OK
720 minute winter	ICS02	360	-0.836	0.023	0.7	0.0037	0.0000	OK
720 minute winter	RWP3	360	-0.926	0.026	0.9	0.0000	0.0000	OK
720 minute winter	Node4	15	-0.500	0.000	0.0	0.0000	0.0000	OK
720 minute winter	RWP4	330	-0.487	0.013	0.2	0.0000	0.0000	OK
720 minute winter	ICS03	375	-0.938	0.073	1.1	0.0142	0.0000	OK
720 minute winter	Outfall	15	-1.031	0.000	1.1	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	RWP1	Pipe 1.01a	Node1	0.2	0.356	0.033	0.0034	
720 minute winter	Node1	Pipe 1.01b	RWP2	0.2	0.307	0.033	0.0063	
720 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
720 minute winter	RWP2	Pipe 1.01c	ICS01	0.4	0.404	0.066	0.0082	
720 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
720 minute winter	ICS01	Pipe 1.02	ICS02	0.5	0.413	0.083	0.0158	
720 minute winter	ICS02	Pipe 1.03a	RWP3	0.7	0.471	0.116	0.0138	
720 minute winter	RWP3	Pipe 1.03b	ICS03	0.9	0.251	0.149	0.0226	
720 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
720 minute winter	RWP4	Pipe 1.04	ICS03	0.2	0.355	0.033	0.0050	
720 minute winter	ICS03	Orifice	Outfall	1.1				14.9

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	RWP1	300	-0.491	0.009	0.1	0.0000	0.0000	OK
960 minute winter	Node1	300	-0.551	0.009	0.1	0.0000	0.0000	OK
960 minute winter	Node2	15	-0.500	0.000	0.0	0.0000	0.0000	OK
960 minute winter	RWP2	660	-0.633	0.013	0.2	0.0000	0.0000	OK
960 minute winter	Node3	15	-0.500	0.000	0.0	0.0000	0.0000	OK
960 minute winter	ICS01	345	-0.714	0.015	0.3	0.0024	0.0000	OK
960 minute winter	ICS02	345	-0.842	0.017	0.4	0.0028	0.0000	OK
960 minute winter	RWP3	345	-0.933	0.019	0.5	0.0000	0.0000	OK
960 minute winter	Node4	15	-0.500	0.000	0.0	0.0000	0.0000	OK
960 minute winter	RWP4	300	-0.491	0.009	0.1	0.0000	0.0000	OK
960 minute winter	ICS03	345	-0.970	0.041	0.6	0.0080	0.0000	OK
960 minute winter	Outfall	15	-1.031	0.000	0.6	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	RWP1	Pipe 1.01a	Node1	0.1	0.290	0.017	0.0021	
960 minute winter	Node1	Pipe 1.01b	RWP2	0.1	0.289	0.017	0.0039	
960 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
960 minute winter	RWP2	Pipe 1.01c	ICS01	0.2	0.354	0.033	0.0054	
960 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
960 minute winter	ICS01	Pipe 1.02	ICS02	0.3	0.362	0.050	0.0108	
960 minute winter	ICS02	Pipe 1.03a	RWP3	0.4	0.404	0.066	0.0092	
960 minute winter	RWP3	Pipe 1.03b	ICS03	0.5	0.251	0.083	0.0120	
960 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
960 minute winter	RWP4	Pipe 1.04	ICS03	0.1	0.288	0.017	0.0031	
960 minute winter	ICS03	Orifice	Outfall	0.6				13.9

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
15 minute winter	RWP1	16	-0.090	0.410	3.8	0.0000	0.0000	FLOOD RISK
15 minute winter	Node1	16	-0.091	0.469	3.4	0.0000	0.0000	FLOOD RISK
15 minute winter	Node2	16	-0.091	0.409	2.3	0.0000	0.0000	FLOOD RISK
15 minute winter	RWP2	16	-0.093	0.553	5.1	0.0000	0.0000	FLOOD RISK
15 minute winter	Node3	16	-0.093	0.407	2.0	0.0000	0.0000	FLOOD RISK
15 minute winter	ICS01	16	-0.099	0.630	4.8	0.1002	0.0000	FLOOD RISK
15 minute winter	ICS02	15	-0.115	0.744	5.1	0.1183	0.0000	FLOOD RISK
15 minute winter	RWP3	15	-0.136	0.816	6.0	0.0000	0.0000	FLOOD RISK
15 minute winter	Node4	15	-0.136	0.364	1.8	0.0000	0.0000	FLOOD RISK
15 minute winter	RWP4	15	-0.159	0.341	3.8	0.0000	0.0000	FLOOD RISK
15 minute winter	ICS03	15	-0.161	0.850	5.8	0.1666	0.0000	FLOOD RISK
15 minute winter	Outfall	1	-1.031	0.000	4.6	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
15 minute winter	RWP1	Pipe 1.01a	Node1	3.0	0.781	0.505	0.0469	
15 minute winter	Node1	Pipe 1.01b	RWP2	2.6	0.507	0.427	0.0669	
15 minute winter	Node2	Store1	Node1	-2.3	-0.450	-0.378	0.0333	
15 minute winter	RWP2	Pipe 1.01c	ICS01	3.3	0.664	0.549	0.0649	
15 minute winter	Node3	Store2	RWP2	-2.0	-0.392	-0.333	0.0333	
15 minute winter	ICS01	Pipe 1.02	ICS02	3.2	0.653	0.531	0.1017	
15 minute winter	ICS02	Pipe 1.03a	RWP3	2.8	0.582	0.469	0.0728	
15 minute winter	RWP3	Pipe 1.03b	ICS03	3.6	0.464	0.601	0.0459	
15 minute winter	Node4	Store3	RWP3	-1.8	-0.386	-0.301	0.0377	
15 minute winter	RWP4	Pipe 1.04	ICS03	3.3	0.737	0.553	0.0695	
15 minute winter	ICS03	Orifice	Outfall	4.6				9.5

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
30 minute winter	RWP1	25	-0.023	0.477	3.0	0.0000	0.0000	FLOOD RISK
30 minute winter	Node1	25	-0.024	0.536	2.5	0.0000	0.0000	FLOOD RISK
30 minute winter	Node2	25	-0.024	0.476	1.4	0.0000	0.0000	FLOOD RISK
30 minute winter	RWP2	25	-0.026	0.620	3.6	0.0000	0.0000	FLOOD RISK
30 minute winter	Node3	25	-0.026	0.474	1.3	0.0000	0.0000	FLOOD RISK
30 minute winter	ICS01	25	-0.032	0.697	3.5	0.1108	0.0000	FLOOD RISK
30 minute winter	ICS02	25	-0.050	0.809	3.5	0.1286	0.0000	FLOOD RISK
30 minute winter	RWP3	25	-0.074	0.878	5.4	0.0000	0.0000	FLOOD RISK
30 minute winter	Node4	25	-0.074	0.426	1.1	0.0000	0.0000	FLOOD RISK
30 minute winter	RWP4	25	-0.100	0.400	3.0	0.0000	0.0000	FLOOD RISK
30 minute winter	ICS03	25	-0.102	0.909	5.2	0.1781	0.0000	FLOOD RISK
30 minute winter	Outfall	1	-1.031	0.000	4.7	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
30 minute winter	RWP1	Pipe 1.01a	Node1	2.4	0.712	0.404	0.0469	
30 minute winter	Node1	Pipe 1.01b	RWP2	1.7	0.494	0.282	0.0669	
30 minute winter	Node2	Store1	Node1	-1.4	-0.339	-0.231	0.0333	
30 minute winter	RWP2	Pipe 1.01c	ICS01	2.3	0.597	0.381	0.0649	
30 minute winter	Node3	Store2	RWP2	-1.3	-0.330	-0.220	0.0333	
30 minute winter	ICS01	Pipe 1.02	ICS02	2.4	0.589	0.399	0.1017	
30 minute winter	ICS02	Pipe 1.03a	RWP3	3.0	0.549	0.489	0.0728	
30 minute winter	RWP3	Pipe 1.03b	ICS03	3.8	0.486	0.630	0.0459	
30 minute winter	Node4	Store3	RWP3	-1.1	-0.266	-0.183	0.0377	
30 minute winter	RWP4	Pipe 1.04	ICS03	2.4	0.687	0.403	0.0695	
30 minute winter	ICS03	Orifice	Outfall	4.7				12.6

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	RWP1	44	-0.059	0.441	2.0	0.0000	0.0000	FLOOD RISK
60 minute winter	Node1	44	-0.060	0.500	1.7	0.0000	0.0000	FLOOD RISK
60 minute winter	Node2	44	-0.060	0.440	0.8	0.0000	0.0000	FLOOD RISK
60 minute winter	RWP2	44	-0.062	0.584	2.5	0.0000	0.0000	FLOOD RISK
60 minute winter	Node3	44	-0.062	0.438	0.9	0.0000	0.0000	FLOOD RISK
60 minute winter	ICS01	44	-0.069	0.660	2.8	0.1050	0.0000	FLOOD RISK
60 minute winter	ICS02	43	-0.088	0.771	3.1	0.1227	0.0000	FLOOD RISK
60 minute winter	RWP3	43	-0.112	0.840	4.5	0.0000	0.0000	FLOOD RISK
60 minute winter	Node4	43	-0.111	0.389	0.8	0.0000	0.0000	FLOOD RISK
60 minute winter	RWP4	43	-0.136	0.364	2.0	0.0000	0.0000	FLOOD RISK
60 minute winter	ICS03	43	-0.138	0.873	4.8	0.1710	0.0000	FLOOD RISK
60 minute winter	Outfall	1	-1.031	0.000	4.6	0.0000	0.0000	OK

Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
60 minute winter	RWP1	Pipe 1.01a	Node1	1.7	0.631	0.278	0.0469	
60 minute winter	Node1	Pipe 1.01b	RWP2	1.3	0.467	0.221	0.0669	
60 minute winter	Node2	Store1	Node1	-0.8	-0.227	-0.138	0.0333	
60 minute winter	RWP2	Pipe 1.01c	ICS01	2.0	0.567	0.339	0.0649	
60 minute winter	Node3	Store2	RWP2	-0.9	-0.236	-0.146	0.0333	
60 minute winter	ICS01	Pipe 1.02	ICS02	2.3	0.536	0.380	0.1017	
60 minute winter	ICS02	Pipe 1.03a	RWP3	2.9	0.539	0.476	0.0728	
60 minute winter	RWP3	Pipe 1.03b	ICS03	3.7	0.477	0.618	0.0459	
60 minute winter	Node4	Store3	RWP3	-0.8	-0.192	-0.131	0.0377	
60 minute winter	RWP4	Pipe 1.04	ICS03	1.8	0.617	0.293	0.0695	
60 minute winter	ICS03	Orifice	Outfall	4.6				16.2

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
120 minute winter	RWP1	78	-0.207	0.293	1.3	0.0000	0.0000	FLOOD RISK
120 minute winter	Node1	78	-0.208	0.352	1.1	0.0000	0.0000	FLOOD RISK
120 minute winter	Node2	78	-0.208	0.292	0.3	0.0000	0.0000	FLOOD RISK
120 minute winter	RWP2	78	-0.210	0.436	1.8	0.0000	0.0000	FLOOD RISK
120 minute winter	Node3	78	-0.210	0.290	0.4	0.0000	0.0000	FLOOD RISK
120 minute winter	ICS01	78	-0.215	0.514	2.2	0.0817	0.0000	FLOOD RISK
120 minute winter	ICS02	78	-0.232	0.627	2.7	0.0998	0.0000	FLOOD RISK
120 minute winter	RWP3	78	-0.252	0.700	3.7	0.0000	0.0000	FLOOD RISK
120 minute winter	Node4	78	-0.252	0.248	0.4	0.0000	0.0000	FLOOD RISK
120 minute winter	RWP4	78	-0.274	0.226	1.3	0.0000	0.0000	FLOOD RISK
120 minute winter	ICS03	78	-0.275	0.736	4.3	0.1442	0.0000	FLOOD RISK
120 minute winter	Outfall	2	-1.031	0.000	4.2	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
120 minute winter	RWP1	Pipe 1.01a	Node1	1.1	0.573	0.182	0.0469	
120 minute winter	Node1	Pipe 1.01b	RWP2	1.0	0.428	0.160	0.0669	
120 minute winter	Node2	Store1	Node1	-0.3	-0.145	-0.048	0.0333	
120 minute winter	RWP2	Pipe 1.01c	ICS01	1.6	0.545	0.272	0.0649	
120 minute winter	Node3	Store2	RWP2	-0.4	-0.146	-0.059	0.0333	
120 minute winter	ICS01	Pipe 1.02	ICS02	2.1	0.543	0.346	0.1017	
120 minute winter	ICS02	Pipe 1.03a	RWP3	2.7	0.495	0.441	0.0728	
120 minute winter	RWP3	Pipe 1.03b	ICS03	3.4	0.439	0.569	0.0459	
120 minute winter	Node4	Store3	RWP3	-0.4	-0.110	-0.059	0.0377	
120 minute winter	RWP4	Pipe 1.04	ICS03	1.2	0.579	0.196	0.0695	
120 minute winter	ICS03	Orifice	Outfall	4.2				20.0

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
180 minute winter	RWP1	112	-0.341	0.159	1.0	0.0000	0.0000	SURCHARGED
180 minute winter	Node1	112	-0.342	0.218	0.9	0.0000	0.0000	SURCHARGED
180 minute winter	Node2	112	-0.342	0.158	0.2	0.0000	0.0000	SURCHARGED
180 minute winter	RWP2	112	-0.343	0.303	1.6	0.0000	0.0000	SURCHARGED
180 minute winter	Node3	112	-0.343	0.157	0.2	0.0000	0.0000	SURCHARGED
180 minute winter	ICS01	112	-0.348	0.381	1.8	0.0606	0.0000	SURCHARGED
180 minute winter	ICS02	112	-0.362	0.497	2.5	0.0790	0.0000	SURCHARGED
180 minute winter	RWP3	112	-0.379	0.573	3.3	0.0000	0.0000	SURCHARGED
180 minute winter	Node4	112	-0.379	0.121	0.2	0.0000	0.0000	SURCHARGED
180 minute winter	RWP4	112	-0.397	0.103	1.0	0.0000	0.0000	SURCHARGED
180 minute winter	ICS03	112	-0.399	0.612	3.9	0.1200	0.0000	SURCHARGED
180 minute winter	Outfall	4	-1.031	0.000	3.8	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
180 minute winter	RWP1	Pipe 1.01a	Node1	0.9	0.556	0.149	0.0469	
180 minute winter	Node1	Pipe 1.01b	RWP2	1.0	0.403	0.163	0.0669	
180 minute winter	Node2	Store1	Node1	0.2	-0.095	0.033	0.0333	
180 minute winter	RWP2	Pipe 1.01c	ICS01	1.6	0.519	0.265	0.0649	
180 minute winter	Node3	Store2	RWP2	-0.2	-0.091	-0.036	0.0333	
180 minute winter	ICS01	Pipe 1.02	ICS02	2.0	0.533	0.325	0.1017	
180 minute winter	ICS02	Pipe 1.03a	RWP3	2.4	0.490	0.402	0.0728	
180 minute winter	RWP3	Pipe 1.03b	ICS03	3.1	0.400	0.519	0.0459	
180 minute winter	Node4	Store3	RWP3	0.2	0.064	0.033	0.0377	
180 minute winter	RWP4	Pipe 1.04	ICS03	1.0	0.548	0.164	0.0695	
180 minute winter	ICS03	Orifice	Outfall	3.8				22.6

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
240 minute winter	RWP1	144	-0.449	0.051	0.8	0.0000	0.0000	OK
240 minute winter	Node1	144	-0.449	0.111	0.8	0.0000	0.0000	SURCHARGED
240 minute winter	Node2	144	-0.449	0.051	0.1	0.0000	0.0000	OK
240 minute winter	RWP2	144	-0.451	0.195	1.3	0.0000	0.0000	SURCHARGED
240 minute winter	Node3	144	-0.450	0.050	0.1	0.0000	0.0000	OK
240 minute winter	ICS01	140	-0.454	0.275	1.8	0.0437	0.0000	SURCHARGED
240 minute winter	ICS02	140	-0.466	0.393	2.2	0.0626	0.0000	SURCHARGED
240 minute winter	RWP3	140	-0.480	0.472	2.9	0.0000	0.0000	SURCHARGED
240 minute winter	Node4	140	-0.480	0.020	0.0	0.0000	0.0000	OK
240 minute winter	RWP4	120	-0.475	0.025	0.8	0.0000	0.0000	OK
240 minute winter	ICS03	140	-0.496	0.515	3.6	0.1010	0.0000	SURCHARGED
240 minute winter	Outfall	4	-1.031	0.000	3.5	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
240 minute winter	RWP1	Pipe 1.01a	Node1	0.8	0.517	0.133	0.0355	
240 minute winter	Node1	Pipe 1.01b	RWP2	0.8	0.403	0.126	0.0669	
240 minute winter	Node2	Store1	Node1	0.1	0.041	0.020	0.0246	
240 minute winter	RWP2	Pipe 1.01c	ICS01	1.4	0.518	0.226	0.0649	
240 minute winter	Node3	Store2	RWP2	-0.1	0.035	-0.018	0.0242	
240 minute winter	ICS01	Pipe 1.02	ICS02	1.7	0.522	0.289	0.1017	
240 minute winter	ICS02	Pipe 1.03a	RWP3	2.2	0.495	0.367	0.0728	
240 minute winter	RWP3	Pipe 1.03b	ICS03	2.9	0.366	0.474	0.0459	
240 minute winter	Node4	Store3	RWP3	0.0	0.013	0.006	0.0164	
240 minute winter	RWP4	Pipe 1.04	ICS03	0.8	0.530	0.133	0.0398	
240 minute winter	ICS03	Orifice	Outfall	3.5				23.6

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
360 minute winter	RWP1	184	-0.479	0.021	0.6	0.0000	0.0000	OK
360 minute winter	Node1	184	-0.539	0.021	0.6	0.0000	0.0000	OK
360 minute winter	Node2	8	-0.500	0.000	0.0	0.0000	0.0000	OK
360 minute winter	RWP2	200	-0.596	0.050	1.1	0.0000	0.0000	OK
360 minute winter	Node3	8	-0.500	0.000	0.0	0.0000	0.0000	OK
360 minute winter	ICS01	200	-0.597	0.132	1.5	0.0210	0.0000	SURCHARGED
360 minute winter	ICS02	200	-0.606	0.253	1.9	0.0402	0.0000	SURCHARGED
360 minute winter	RWP3	200	-0.618	0.334	2.5	0.0000	0.0000	SURCHARGED
360 minute winter	Node4	8	-0.500	0.000	0.0	0.0000	0.0000	OK
360 minute winter	RWP4	184	-0.479	0.021	0.6	0.0000	0.0000	OK
360 minute winter	ICS03	200	-0.629	0.382	3.0	0.0748	0.0000	SURCHARGED
360 minute winter	Outfall	8	-1.031	0.000	3.0	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
360 minute winter	RWP1	Pipe 1.01a	Node1	0.6	0.494	0.099	0.0073	
360 minute winter	Node1	Pipe 1.01b	RWP2	0.6	0.391	0.099	0.0214	
360 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0002	
360 minute winter	RWP2	Pipe 1.01c	ICS01	1.1	0.504	0.182	0.0488	
360 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
360 minute winter	ICS01	Pipe 1.02	ICS02	1.4	0.515	0.240	0.1017	
360 minute winter	ICS02	Pipe 1.03a	RWP3	2.0	0.493	0.324	0.0728	
360 minute winter	RWP3	Pipe 1.03b	ICS03	2.5	0.316	0.410	0.0459	
360 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
360 minute winter	RWP4	Pipe 1.04	ICS03	0.6	0.490	0.099	0.0109	
360 minute winter	ICS03	Orifice	Outfall	3.0				26.7

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
480 minute winter	RWP1	248	-0.481	0.019	0.5	0.0000	0.0000	OK
480 minute winter	Node1	248	-0.541	0.019	0.5	0.0000	0.0000	OK
480 minute winter	Node2	8	-0.500	0.000	0.0	0.0000	0.0000	OK
480 minute winter	RWP2	248	-0.620	0.026	0.9	0.0000	0.0000	OK
480 minute winter	Node3	8	-0.500	0.000	0.0	0.0000	0.0000	OK
480 minute winter	ICS01	248	-0.699	0.030	1.2	0.0048	0.0000	OK
480 minute winter	ICS02	248	-0.730	0.129	1.6	0.0205	0.0000	SURCHARGED
480 minute winter	RWP3	248	-0.737	0.215	2.0	0.0000	0.0000	SURCHARGED
480 minute winter	Node4	8	-0.500	0.000	0.0	0.0000	0.0000	OK
480 minute winter	RWP4	248	-0.480	0.020	0.5	0.0000	0.0000	OK
480 minute winter	ICS03	248	-0.745	0.266	2.5	0.0521	0.0000	SURCHARGED
480 minute winter	Outfall	8	-1.031	0.000	2.5	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
480 minute winter	RWP1	Pipe 1.01a	Node1	0.5	0.468	0.083	0.0064	
480 minute winter	Node1	Pipe 1.01b	RWP2	0.5	0.374	0.083	0.0115	
480 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
480 minute winter	RWP2	Pipe 1.01c	ICS01	0.9	0.499	0.149	0.0150	
480 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
480 minute winter	ICS01	Pipe 1.02	ICS02	1.2	0.515	0.199	0.0638	
480 minute winter	ICS02	Pipe 1.03a	RWP3	1.6	0.493	0.261	0.0728	
480 minute winter	RWP3	Pipe 1.03b	ICS03	2.0	0.258	0.334	0.0459	
480 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
480 minute winter	RWP4	Pipe 1.04	ICS03	0.5	0.465	0.083	0.0096	
480 minute winter	ICS03	Orifice	Outfall	2.5				29.5

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
600 minute winter	RWP1	300	-0.483	0.017	0.4	0.0000	0.0000	OK
600 minute winter	Node1	300	-0.543	0.017	0.4	0.0000	0.0000	OK
600 minute winter	Node2	15	-0.500	0.000	0.0	0.0000	0.0000	OK
600 minute winter	RWP2	300	-0.623	0.023	0.7	0.0000	0.0000	OK
600 minute winter	Node3	15	-0.500	0.000	0.0	0.0000	0.0000	OK
600 minute winter	ICS01	300	-0.701	0.028	1.0	0.0044	0.0000	OK
600 minute winter	ICS02	330	-0.803	0.056	1.3	0.0089	0.0000	OK
600 minute winter	RWP3	330	-0.806	0.146	1.7	0.0000	0.0000	SURCHARGED
600 minute winter	Node4	15	-0.500	0.000	0.0	0.0000	0.0000	OK
600 minute winter	RWP4	300	-0.482	0.018	0.4	0.0000	0.0000	OK
600 minute winter	ICS03	330	-0.812	0.199	2.1	0.0391	0.0000	SURCHARGED
600 minute winter	Outfall	15	-1.031	0.000	2.1	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
600 minute winter	RWP1	Pipe 1.01a	Node1	0.4	0.438	0.066	0.0055	
600 minute winter	Node1	Pipe 1.01b	RWP2	0.4	0.354	0.066	0.0097	
600 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
600 minute winter	RWP2	Pipe 1.01c	ICS01	0.7	0.452	0.116	0.0129	
600 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
600 minute winter	ICS01	Pipe 1.02	ICS02	1.0	0.517	0.166	0.0408	
600 minute winter	ICS02	Pipe 1.03a	RWP3	1.3	0.494	0.215	0.0574	
600 minute winter	RWP3	Pipe 1.03b	ICS03	1.7	0.251	0.281	0.0459	
600 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
600 minute winter	RWP4	Pipe 1.04	ICS03	0.4	0.436	0.066	0.0082	
600 minute winter	ICS03	Orifice	Outfall	2.1				32.1

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
720 minute winter	RWP1	315	-0.485	0.015	0.3	0.0000	0.0000	OK
720 minute winter	Node1	315	-0.545	0.015	0.3	0.0000	0.0000	OK
720 minute winter	Node2	15	-0.500	0.000	0.0	0.0000	0.0000	OK
720 minute winter	RWP2	345	-0.625	0.021	0.6	0.0000	0.0000	OK
720 minute winter	Node3	15	-0.500	0.000	0.0	0.0000	0.0000	OK
720 minute winter	ICS01	345	-0.704	0.025	0.8	0.0039	0.0000	OK
720 minute winter	ICS02	345	-0.830	0.029	1.1	0.0046	0.0000	OK
720 minute winter	RWP3	405	-0.869	0.083	1.4	0.0000	0.0000	OK
720 minute winter	Node4	15	-0.500	0.000	0.0	0.0000	0.0000	OK
720 minute winter	RWP4	315	-0.485	0.015	0.3	0.0000	0.0000	OK
720 minute winter	ICS03	405	-0.871	0.140	1.7	0.0273	0.0000	SURCHARGED
720 minute winter	Outfall	15	-1.031	0.000	1.7	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
720 minute winter	RWP1	Pipe 1.01a	Node1	0.3	0.403	0.050	0.0045	
720 minute winter	Node1	Pipe 1.01b	RWP2	0.3	0.332	0.050	0.0084	
720 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
720 minute winter	RWP2	Pipe 1.01c	ICS01	0.6	0.444	0.099	0.0112	
720 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
720 minute winter	ICS01	Pipe 1.02	ICS02	0.8	0.477	0.133	0.0219	
720 minute winter	ICS02	Pipe 1.03a	RWP3	1.1	0.494	0.182	0.0411	
720 minute winter	RWP3	Pipe 1.03b	ICS03	1.4	0.251	0.232	0.0434	
720 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
720 minute winter	RWP4	Pipe 1.04	ICS03	0.3	0.401	0.050	0.0067	
720 minute winter	ICS03	Orifice	Outfall	1.7				32.2

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

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
960 minute winter	RWP1	465	-0.485	0.015	0.3	0.0000	0.0000	OK
960 minute winter	Node1	465	-0.545	0.015	0.3	0.0000	0.0000	OK
960 minute winter	Node2	15	-0.500	0.000	0.0	0.0000	0.0000	OK
960 minute winter	RWP2	465	-0.627	0.019	0.5	0.0000	0.0000	OK
960 minute winter	Node3	15	-0.500	0.000	0.0	0.0000	0.0000	OK
960 minute winter	ICS01	465	-0.706	0.023	0.7	0.0037	0.0000	OK
960 minute winter	ICS02	465	-0.833	0.026	0.9	0.0041	0.0000	OK
960 minute winter	RWP3	525	-0.896	0.056	1.2	0.0000	0.0000	OK
960 minute winter	Node4	15	-0.500	0.000	0.0	0.0000	0.0000	OK
960 minute winter	RWP4	465	-0.485	0.015	0.3	0.0000	0.0000	OK
960 minute winter	ICS03	525	-0.897	0.114	1.5	0.0224	0.0000	SURCHARGED
960 minute winter	Outfall	15	-1.031	0.000	1.5	0.0000	0.0000	OK
Link Event	US Node	Link	DS Node	Outflow (l/s)	Velocity (m/s)	Flow/Cap	Link Vol (m³)	Discharge Vol (m³)
960 minute winter	RWP1	Pipe 1.01a	Node1	0.3	0.403	0.050	0.0045	
960 minute winter	Node1	Pipe 1.01b	RWP2	0.3	0.332	0.050	0.0078	
960 minute winter	Node2	Store1	Node1	0.0	0.000	0.000	0.0000	
960 minute winter	RWP2	Pipe 1.01c	ICS01	0.5	0.413	0.083	0.0101	
960 minute winter	Node3	Store2	RWP2	0.0	0.000	0.000	0.0000	
960 minute winter	ICS01	Pipe 1.02	ICS02	0.7	0.471	0.116	0.0194	
960 minute winter	ICS02	Pipe 1.03a	RWP3	0.9	0.495	0.149	0.0286	
960 minute winter	RWP3	Pipe 1.03b	ICS03	1.2	0.251	0.199	0.0362	
960 minute winter	Node4	Store3	RWP3	0.0	0.000	0.000	0.0000	
960 minute winter	RWP4	Pipe 1.04	ICS03	0.3	0.401	0.050	0.0067	
960 minute winter	ICS03	Orifice	Outfall	1.5				30.1