
Appendix 4.12 D
Surface Water Calculations

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Appendix D. Surface Water Network Calculations

Herbata Data Centre- SID: Naas, Co. Kildare Surface Water SID	Date: 29/06/2023		
	Designed by: SP	Checked by: RK	Approved By: DOB
Report Details: Type: Junctions Storm Phase: Phase	Donnachadh O'Brien & Associates: Unit 5C, Elm House Millennium Park, Naas Co. Kildare		



Name	Junction Type	Easting (m)	Northing (m)	Cover Level (m)	Depth (m)	Invert Level (m)	Chamber Shape	Diameter (m)
SID 1.00	Manhole	686108.165	719898.590	83.750	2.885	80.865	Circular	1.200
SID 1.01	Manhole	686126.735	719893.960	83.700	2.931	80.769	Circular	1.200
SID 1.02	Manhole	686117.603	719856.785	83.650	3.264	80.386	Circular	1.200
SID 2.00	Manhole	686139.253	719899.474	83.740	2.790	80.950	Circular	1.200
SID 2.01	Manhole	686137.477	719891.348	83.740	2.862	80.878	Circular	1.200
SID 3.00	Manhole	686165.085	719896.982	83.750	2.632	81.118	Circular	1.200
SID 3.01	Manhole	686160.422	719894.347	83.740	1.500	82.240	Circular	1.200
SID 4.00	Manhole	686177.421	719881.065	83.750	2.616	81.134	Circular	1.200
SID 4.02	Manhole	686160.427	719885.385	83.730	2.732	80.998	Circular	1.200
SID 4.01	Manhole	686169.603	719883.492	83.740	2.647	81.093	Circular	1.200

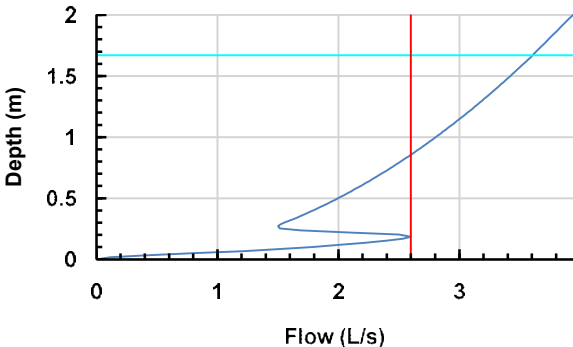
Name	Lock
SID 1.00	None
SID 1.01	None
SID 1.02	None
SID 2.00	None
SID 2.01	None
SID 3.00	None
SID 3.01	None
SID 4.00	None
SID 4.02	None
SID 4.01	None

Inlets

Junction	Inlet Name	Incoming Item(s)	Bypass Destination	Capacity Type
SID 1.00	Inlet	No Delay	(None)	No Restriction
SID 1.01	Inlet	SID 2.000 No Delay (2)	(None)	No Restriction
SID 1.02	Inlet	SID 1.000	(None)	No Restriction
SID 2.00	Inlet	No Delay (3) No Delay (8)	(None)	No Restriction
SID 2.01	Inlet	No Delay (10) No Delay (15)	(None)	No Restriction
SID 3.00	Inlet	No Delay (4)	(None)	No Restriction
SID 3.01	Inlet	No Delay (6)	(None)	No Restriction
SID 4.00	Inlet	No Delay (11)	(None)	No Restriction
SID 4.02	Inlet	SID 4.000	(None)	No Restriction
SID 4.01	Inlet	No Delay (13)	(None)	No Restriction

Herbata Data Centre- SID: Naas, Co. Kildare Surface Water SID	Date: 29/06/2023			
	Designed by: SP	Checked by: RK	Approved By: DOB	
Report Details: Type: Junctions Storm Phase: Phase	Donnachadh O'Brien & Associates: Unit 5C, Elm House Millennium Park, Naas Co. Kildare			

Outlets

Junction	Outlet Name	Outgoing Connection	Outlet Type
SID 1.00	Outlet	No Delay (1)	Orifice
	Diameter (m)	0.225	
	Coefficient of Discharge	0.600	
	Invert Level (m)	80.865	
SID 1.01	Outlet	SID 1.000	Hydro-Brake®
	Invert Level (m)	80.769	
	Design Depth (m)	1.670	
	Design Flow (L/s)	3.6	
	Objective	Minimise Upstream Storage Requirements	
	Application	Surface Water Only	
	Sump Available	☐	
	Unit Reference	CHE-0076-3600-1670-3600	
			
SID 2.00	Outlet	No Delay (9)	Orifice
	Diameter (m)	0.100	
	Coefficient of Discharge	0.600	
	Invert Level (m)	80.950	
SID 2.01	Outlet	SID 2.000	Free Discharge
SID 3.00	Outlet	No Delay (5)	Orifice
	Diameter (m)	0.225	
	Coefficient of Discharge	0.600	
	Invert Level (m)	81.118	
SID 3.01	Outlet	No Delay (7)	Orifice
	Diameter (m)	0.225	
	Coefficient of Discharge	0.600	
	Invert Level (m)	82.240	
SID 4.00	Outlet	No Delay (12)	Orifice
	Diameter (m)	0.225	
	Coefficient of Discharge	0.600	
	Invert Level (m)	81.134	
SID 4.02	Outlet	No Delay (14)	Orifice
	Diameter (m)	0.225	
	Coefficient of Discharge	0.600	
	Invert Level (m)	80.998	
SID 4.01	Outlet	SID 4.000	Free Discharge

Herbata Data Centre- SID: Naas, Co. Kildare Surface Water SID	Date: 29/06/2023		
	Designed by: SP	Checked by: RK	Approved By: DOB
Report Details: Type: Stormwater Controls Storm Phase: Phase	Donnachadh O'Brien & Associates: Unit 5C, Elm House Millennium Park, Naas Co. Kildare		





SID TR. 1.0

Type : Infiltration Trench

Dimensions

Exceedance Level (m)	83.750
Depth (m)	2.885
Base Level (m)	80.865
Freeboard (mm)	1885
Porosity (%)	40
Length (m)	69.446
Long. Slope (1:X)	125.00
Width (m)	1.500
Total Volume (m³)	43.324

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	225
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (19)
	Catchment Area
	Catchment Area (11)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	No Delay
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	1000.0
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Herbata Data Centre- SID: Naas, Co. Kildare Surface Water SID	Date: 29/06/2023		
	Designed by: SP	Checked by: RK	Approved By: DOB
Report Details: Type: Stormwater Controls Storm Phase: Phase	Donnachadh O'Brien & Associates: Unit 5C, Elm House Millennium Park, Naas Co. Kildare		





SID TR. 1.1

Type : Infiltration Trench

Dimensions

Exceedance Level (m)	83.700
Depth (m)	2.931
Base Level (m)	80.769
Freeboard (mm)	1931
Porosity (%)	40
Length (m)	19.183
Long. Slope (1:X)	125.00
Width (m)	1.500
Total Volume (m³)	11.967

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	225
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (20)
Bypass Destination	No Delay (1)
Capacity Type	(None)
	No Restriction

Outlets

Outlet

Outgoing Connection	No Delay (2)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	1000.0
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Herbata Data Centre- SID: Naas, Co. Kildare Surface Water SID	Date: 29/06/2023		
	Designed by: SP	Checked by: RK	Approved By: DOB
Report Details: Type: Stormwater Controls Storm Phase: Phase	Donnachadh O'Brien & Associates: Unit 5C, Elm House Millennium Park, Naas Co. Kildare		





SID TR. 2.0

Type : Infiltration Trench

Dimensions

Exceedance Level (m)	83.740
Depth (m)	2.790
Base Level (m)	80.950
Freeboard (mm)	1490
Porosity (%)	40
Length (m)	61.483
Long. Slope (1:X)	116.00
Width (m)	1.500
Total Volume (m³)	49.424

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	225
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (21)
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (25) Catchment Area (13)
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (2)

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (12) Catchment Area (2)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	No Delay (3)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	1000.0
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Herbata Data Centre- SID: Naas, Co. Kildare Surface Water SID	Date: 29/06/2023		
	Designed by: SP	Checked by: RK	Approved By: DOB
Report Details: Type: Stormwater Controls Storm Phase: Phase	Donnachadh O'Brien & Associates: Unit 5C, Elm House Millennium Park, Naas Co. Kildare		





SID TR. 3.0

Type : Infiltration Trench

Dimensions

Exceedance Level (m)	83.750
Depth (m)	2.632
Base Level (m)	81.118
Freeboard (mm)	1332
Porosity (%)	40
Length (m)	59.419
Long. Slope (1:X)	160.00
Width (m)	1.500
Total Volume (m³)	47.764

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	225
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (4)
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (22)
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (2)

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (23) Catchment Area (14)
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (3)

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (24)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	No Delay (4)
Outlet Type	Under Drain

Herbata Data Centre- SID: Naas, Co. Kildare Surface Water SID	Date: 29/06/2023		
	Designed by: SP	Checked by: RK	Approved By: DOB
Report Details: Type: Stormwater Controls Storm Phase: Phase	Donnachadh O'Brien & Associates: Unit 5C, Elm House Millennium Park, Naas Co. Kildare		



Advanced

Conductivity (m/hr)	1000.0
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Infiltration Trench 6

Type : Infiltration Trench

Dimensions

Exceedance Level (m)	83.750
Depth (m)	2.664
Base Level (m)	81.086
Freeboard (mm)	1334
Porosity (%)	40
Length (m)	3.999
Long. Slope (1:X)	160.00
Width (m)	1.500
Total Volume (m³)	3.287

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	225
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (9)
Bypass Destination	No Delay (5)
Capacity Type	(None)
	No Restriction

Outlets

Outlet

Outgoing Connection	No Delay (6)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	1000.0
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Herbata Data Centre- SID: Naas, Co. Kildare Surface Water SID	Date: 29/06/2023		
	Designed by: SP	Checked by: RK	Approved By: DOB
Report Details: Type: Stormwater Controls Storm Phase: Phase	Donnachadh O'Brien & Associates: Unit 5C, Elm House Millennium Park, Naas Co. Kildare		





SID TR. 3.1

Type : Infiltration Trench

Dimensions

Exceedance Level (m)	83.740
Depth (m)	2.790
Base Level (m)	80.950
Freeboard (mm)	1790
Porosity (%)	40
Length (m)	21.196
Long. Slope (1:X)	160.00
Width (m)	1.500
Total Volume (m³)	13.223

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	225
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (10)
Bypass Destination	No Delay (7)
Capacity Type	(None)
	No Restriction

Outlets

Outlet

Outgoing Connection	No Delay (8)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	1000.0
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Herbata Data Centre- SID: Naas, Co. Kildare Surface Water SID	Date: 29/06/2023		
	Designed by: SP	Checked by: RK	Approved By: DOB
Report Details: Type: Stormwater Controls Storm Phase: Phase	Donnachadh O'Brien & Associates: Unit 5C, Elm House Millennium Park, Naas Co. Kildare		





SID TR. 4.0

Type : Infiltration Trench

Dimensions

Exceedance Level (m)	83.750
Depth (m)	2.616
Base Level (m)	81.134
Freeboard (mm)	1616
Porosity (%)	40
Length (m)	71.768
Long. Slope (1:X)	200.00
Width (m)	1.500
Total Volume (m³)	44.773

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	225
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (28)
	Catchment Area (15)
	Catchment Area (5)
	Catchment Area (16)
	Catchment Area (17)
	Catchment Area (7)
Bypass Destination	(None)
Capacity Type	No Restriction

Inlet (1)

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (18)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	No Delay (11)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	1000.0
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Herbata Data Centre- SID: Naas, Co. Kildare Surface Water SID	Date: 29/06/2023		
	Designed by: SP	Checked by: RK	Approved By: DOB
Report Details: Type: Stormwater Controls Storm Phase: Phase	Donnachadh O'Brien & Associates: Unit 5C, Elm House Millennium Park, Naas Co. Kildare		





SID TR. 4.1

Type : Infiltration Trench

Dimensions

Exceedance Level (m)	83.740
Depth (m)	2.647
Base Level (m)	81.093
Freeboard (mm)	1647
Porosity (%)	40
Length (m)	6.338
Long. Slope (1:X)	200.00
Width (m)	1.500
Total Volume (m³)	3.954

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	225
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (29)
Bypass Destination	No Delay (12)
Capacity Type	(None)
	No Restriction

Outlets

Outlet

Outgoing Connection	No Delay (13)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	1000.0
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Herbata Data Centre- SID: Naas, Co. Kildare Surface Water SID	Date: 29/06/2023		
	Designed by: SP	Checked by: RK	Approved By: DOB
Report Details: Type: Stormwater Controls Storm Phase: Phase	Donnachadh O'Brien & Associates: Unit 5C, Elm House Millennium Park, Naas Co. Kildare		





SID TR. 4.2

Type : Infiltration Trench

Dimensions

Exceedance Level (m)	83.720
Depth (m)	2.842
Base Level (m)	80.878
Freeboard (mm)	1842
Porosity (%)	40
Length (m)	21.814
Long. Slope (1:X)	200.00
Width (m)	1.500
Total Volume (m³)	13.609

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	225
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (27)
Bypass Destination	No Delay (14)
Capacity Type	(None)
	No Restriction

Outlets

Outlet

Outgoing Connection	No Delay (15)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	1000.0
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Herbata Data Centre- SID: Naas, Co. Kildare Surface Water SID	Date: 29/06/2023		
	Designed by: SP	Checked by: RK	Approved By: DOB
Report Details: Type: Stormwater Controls Storm Phase: Phase	Donnachadh O'Brien & Associates: Unit 5C, Elm House Millennium Park, Naas Co. Kildare		





SID TR. 2.1

Type : Infiltration Trench

Dimensions

Exceedance Level (m)	83.720
Depth (m)	2.842
Base Level (m)	80.878
Freeboard (mm)	1542
Porosity (%)	40
Length (m)	5.745
Long. Slope (1:X)	116.00
Width (m)	1.500
Total Volume (m³)	4.618

Under Drain

Height Above Base (m)	0.050
Diameter (mm)	225
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Inlets

Inlet

Inlet Type	Point Inflow
Incoming Item(s)	Catchment Area (26)
	Catchment Area (3)
	No Delay (9)
Bypass Destination	(None)
Capacity Type	No Restriction

Outlets

Outlet

Outgoing Connection	No Delay (10)
Outlet Type	Under Drain

Advanced

Conductivity (m/hr)	1000.0
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Herbata Data Centre- SID: Naas, Co. Kildare Surface Water SID	Date: 29/06/2023			DONNACHADH O'BRIEN & ASSOCIATES CONSULTING ENGINEERS
	Designed by: SP	Checked by: RK	Approved By: DOB	
Report Details: Type: Inflow Summary Storm Phase: Phase	Donnachadh O'Brien & Associates: Unit 5C, Elm House Millennium Park, Naas Co. Kildare			

Inflow Label	Connected To	Flow (L/s)	Runoff Method	Area (ha)	Percentage Impervious (%)	Urban Creep (%)	Adjusted Percentage Impervious (%)	Area Analysed (ha)
Catchment Area	SID TR. 1.0		Time of Concentration	0.059	80	0	80	0.047
Catchment Area (2)	SID TR. 2.0		Time of Concentration	0.042	80	0	80	0.034
Catchment Area (3)	SID TR. 2.1		Time of Concentration	0.019	80	0	80	0.015
Catchment Area (4)	SID TR. 3.0		Time of Concentration	0.045	80	0	80	0.036
Catchment Area (5)	SID TR. 4.0		Time of Concentration	0.002	80	0	80	0.002
Catchment Area (7)	SID TR. 4.0		Time of Concentration	0.002	80	0	80	0.002
Catchment Area (9)	Infiltration Trench 6		Time of Concentration	0.013	80	0	80	0.011
Catchment Area (10)	SID TR. 3.1		Time of Concentration	0.008	80	0	80	0.007
Catchment Area (11)	SID TR. 1.0		Time of Concentration	0.041	95	0	95	0.039
Catchment Area (12)	SID TR. 2.0		Time of Concentration	0.032	95	0	95	0.030
Catchment Area (13)	SID TR. 2.0		Time of Concentration	0.012	95	0	95	0.011
Catchment Area (14)	SID TR. 3.0		Time of Concentration	0.012	95	0	95	0.011
Catchment Area (15)	SID TR. 4.0		Time of Concentration	0.009	95	0	95	0.009
Catchment Area (16)	SID TR. 4.0		Time of Concentration	0.010	95	0	95	0.010
Catchment Area (17)	SID TR. 4.0		Time of Concentration	0.009	95	0	95	0.009
Catchment Area (18)	SID TR. 4.0		Time of Concentration	0.009	95	0	95	0.009
Catchment Area (19)	SID TR. 1.0		Time of Concentration	0.036	50	0	50	0.018
Catchment Area (20)	SID TR. 1.1		Time of Concentration	0.007	50	0	50	0.003
Catchment Area (21)	SID TR. 2.0		Time of Concentration	0.088	50	0	50	0.044
Catchment Area (22)	SID TR. 3.0		Time of Concentration	0.061	50	0	50	0.030
Catchment Area (23)	SID TR. 3.0		Time of Concentration	0.004	50	0	50	0.002
Catchment Area (24)	SID TR. 3.0		Time of Concentration	0.004	50	0	50	0.002
Catchment Area (25)	SID TR. 2.0		Time of Concentration	0.013	50	0	50	0.006
Catchment Area (26)	SID TR. 2.1		Time of Concentration	0.003	50	0	50	0.001
Catchment Area (27)	SID TR. 4.2		Time of Concentration	0.012	50	0	50	0.006
Catchment Area (28)	SID TR. 4.0		Time of Concentration	0.027	50	0	50	0.013
Catchment Area (29)	SID TR. 4.1		Time of Concentration	0.002	50	0	50	0.001
TOTAL		0.0		0.581				0.408

Herbata Data Centre- SID: Naas, Co. Kildare Surface Water SID	Date: 29/06/2023		
	Designed by: SP	Checked by: RK	Approved By: DOB
Report Details: Type: Network Design Criteria Storm Phase: Phase	Donnachadh O'Brien & Associates: Unit 5C, Elm House Millennium Park, Naas Co. Kildare		



Flow Options

Peak Flow Calculation	(UK) Modified Rational Method
Min. Time of Entry (mins)	5
Max. Travel Time (mins)	30

Pipe Options

Lock Slope Options	None
Design Level	Level Soffits
Min. Cover Depth (m)	1.200
Min. Slope (1:X)	500.00
Max. Slope (1:X)	40.00
Min. Velocity (m/s)	1.0
Max. Velocity (m/s)	3.0
Use Flow Restriction	☐
Reduce Channel Depths	☐

Pipe Size Library

Default

Add. Increment (mm)	75
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Diameter (mm)	Min. Slope (1:X)	Max. Slope (1:X)
100	0.00	0.00
150	0.00	0.00

Herbata Data Centre- SID: Naas, Co. Kildare Surface Water SID	Date: 29/06/2023		
	Designed by: SP	Checked by: RK	Approved By: DOB
Report Details: Type: Network Design Criteria Storm Phase: Phase	Donnachadh O'Brien & Associates: Unit 5C, Elm House Millennium Park, Naas Co. Kildare		



Manhole Options

Apply Offset

An error has occurred while processing TextBox
'txtSynchroniseManholeInvertLevelsHeader':
The expression contains object 'SynchroniseManholeInvertLevelsTitle' that is
not defined in the current context.



Manhole Size Library

Default

Diameter / Width

Connection (mm)	Diameter / Length (m)	Width (m)
0	1.200	0.000
375	1.350	0.000
500	1.500	0.000
750	1.800	0.000

Additional Sizing

Connection (mm)	900
Diameter / Length (m)	0.900
Width (m)	0.000

Depth

Depth (m)	Diameter / Length (m)	Width (m)
0.000	1.050	0.000
1.500	1.200	0.000

Access

Depth (m)	Ladder Protrusion (mm)
0.000	130
3.000	230

Benching Requirements

Landing Width (mm)	500
Benching Width (mm)	225

Herbata Data Centre- SID: Naas, Co. Kildare Surface Water SID	Date: 29/06/2023			
	Designed by: SP	Checked by: RK	Approved By: DOB	
Report Title: Rainfall Analysis Criteria	Donnachadh O'Brien & Associates: Unit 5C, Elm House Millennium Park, Naas Co. Kildare			

Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	0
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☐

Rainfall

100-Year Type: FSR

Region	Scotland And Ireland
M5-60 (mm)	16.2
Ratio R	0.287
Summer	☒
Winter	☒

Return Period

Return Period (years)	Increase Rainfall (%)
100.0	30.000

Storm Durations

Duration (mins)	Run Time (mins)
15	30
30	60
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880
2160	4320
2880	5760
4320	8640
5760	11520
7200	14400
8640	17280
10080	20160

Herbata Data Centre- SID: Naas, Co. Kildare Surface Water SID	Date: 29/06/2023			
	Designed by: SP	Checked by: RK	Approved By: DOB	
Report Details: Type: Junctions Summary Storm Phase: Phase	Donnachadh O'Brien & Associates: Unit 5C, Elm House Millennium Park, Naas Co. Kildare			



Critical Storm Per Item: Rank By: Max. Depth

Junction	Storm Event	Cover Level (m)	Invert Level (m)	Max. Level (m)	Max. Depth (m)	Max. Inflow (L/s)	Max. Resident Volume (m³)	Max. Flooded Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Status
SID 1.00	100-Year: 100 years: +30 %: 60 mins: Summer	83.750	80.865	81.741	0.876	9.9	0.990	0.000	9.1	11.133	OK
SID 1.01	100-Year: 100 years: +30 %: 120 mins: Summer	83.700	80.769	82.159	1.390	5.7	1.573	0.000	3.3	33.284	Surcharged
SID 1.02	100-Year: 100 years: +30 %: 120 mins: Summer	83.650	80.386	80.424	0.038	3.3	0.000	0.000	3.3	33.213	OK
SID 2.00	100-Year: 100 years: +30 %: 120 mins: Summer	83.740	80.950	82.177	1.227	8.6	1.387	0.000	6.0	24.932	OK
SID 2.01	100-Year: 100 years: +30 %: 120 mins: Summer	83.740	80.878	82.161	1.283	6.2	1.451	0.000	4.2	28.751	Surcharged
SID 3.00	100-Year: 100 years: +30 %: 10080 mins: Winter	83.750	81.118	82.253	1.135	9.1	1.284	0.000	8.1	100.959	OK
SID 3.01	100-Year: 100 years: +30 %: 4320 mins: Summer	83.740	82.240	82.292	0.052	4.2	0.059	0.000	4.2	27.433	OK
SID 4.00	100-Year: 100 years: +30 %: 60 mins: Summer	83.750	81.134	81.412	0.278	16.7	0.315	0.000	16.4	8.389	OK
SID 4.02	100-Year: 100 years: +30 %: 60 mins: Summer	83.730	80.998	81.414	0.416	14.4	0.471	0.000	12.4	5.103	OK
SID 4.01	100-Year: 100 years: +30 %: 60 mins: Summer	83.740	81.093	81.414	0.321	16.6	0.363	0.000	14.4	5.804	Surcharged

Herbata Data Centre- SID: Naas, Co. Kildare Surface Water SID	Date: 29/06/2023			
	Designed by: SP	Checked by: RK	Approved By: DOB	
Report Details: Type: Stormwater Controls Summary Storm Phase: Phase	Donnachadh O'Brien & Associates: Unit 5C, Elm House Millennium Park, Naas Co. Kildare			



Critical Storm Per Item: Rank By: Max. DS Depth

Stormwater Control	Storm Event	Max. US Level (m)	Max. DS Level (m)	Max. US Depth (m)	Max. DS Depth (m)	Max. Inflow (L/s)	Max. Residual Volume (m³)	Max. Flooded Volume (m³)	Total Lost Volume (m³)	Max. Outflow (L/s)	Total Discharge Volume (m³)	Percentage Available (%)	Status
SID TR. 1.0	100-Year: 100 years: +30 %: 60 mins: Summer	81.743	81.740	0.322	0.875	34.4	24.871	0.000	0.000	9.2	13.936	42.594	OK
SID TR. 1.1	100-Year: 100 years: +30 %: 60 mins: Summer	81.741	81.741	0.819	0.972	9.8	10.305	0.000	0.000	4.1	1.658	13.891	OK
SID TR. 2.0	100-Year: 100 years: +30 %: 120 mins: Summer	82.191	82.177	0.711	1.227	31.0	35.720	0.000	0.000	8.8	37.631	27.726	OK
SID TR. 3.0	100-Year: 100 years: +30 %: 7200 mins: Summer	82.246	82.246	0.757	1.128	1.2	33.561	0.000	0.000	9.2	136.589	29.736	OK
Infiltration Trench 6	100-Year: 100 years: +30 %: 5760 mins: Summer	82.259	82.286	1.148	1.200	4.1	2.764	0.000	0.000	4.6	72.022	15.905	OK
SID TR. 3.1	100-Year: 100 years: +30 %: 720 mins: Summer	81.182	81.179	0.100	0.229	1.4	2.093	0.000	0.000	1.1	4.069	84.169	OK
SID TR. 4.0	100-Year: 100 years: +30 %: 60 mins: Summer	81.673	81.412	0.180	0.278	17.7	8.290	0.000	0.000	16.7	9.178	81.485	OK
SID TR. 4.1	100-Year: 100 years: +30 %: 60 mins: Summer	81.413	81.413	0.288	0.320	16.7	1.156	0.000	0.000	16.5	6.872	70.768	OK
SID TR. 4.2	100-Year: 100 years: +30 %: 60 mins: Summer	81.415	81.415	0.428	0.537	14.7	6.318	0.000	0.000	0.0	0.000	53.576	OK
SID TR. 2.1	100-Year: 100 years: +30 %: 120 mins: Summer	82.163	82.164	1.236	1.286	8.6	4.347	0.000	0.000	6.4	29.850	5.875	OK