

Appendix D

Greenfield Run-off Calculation

Surface Water Attenuation Calculation

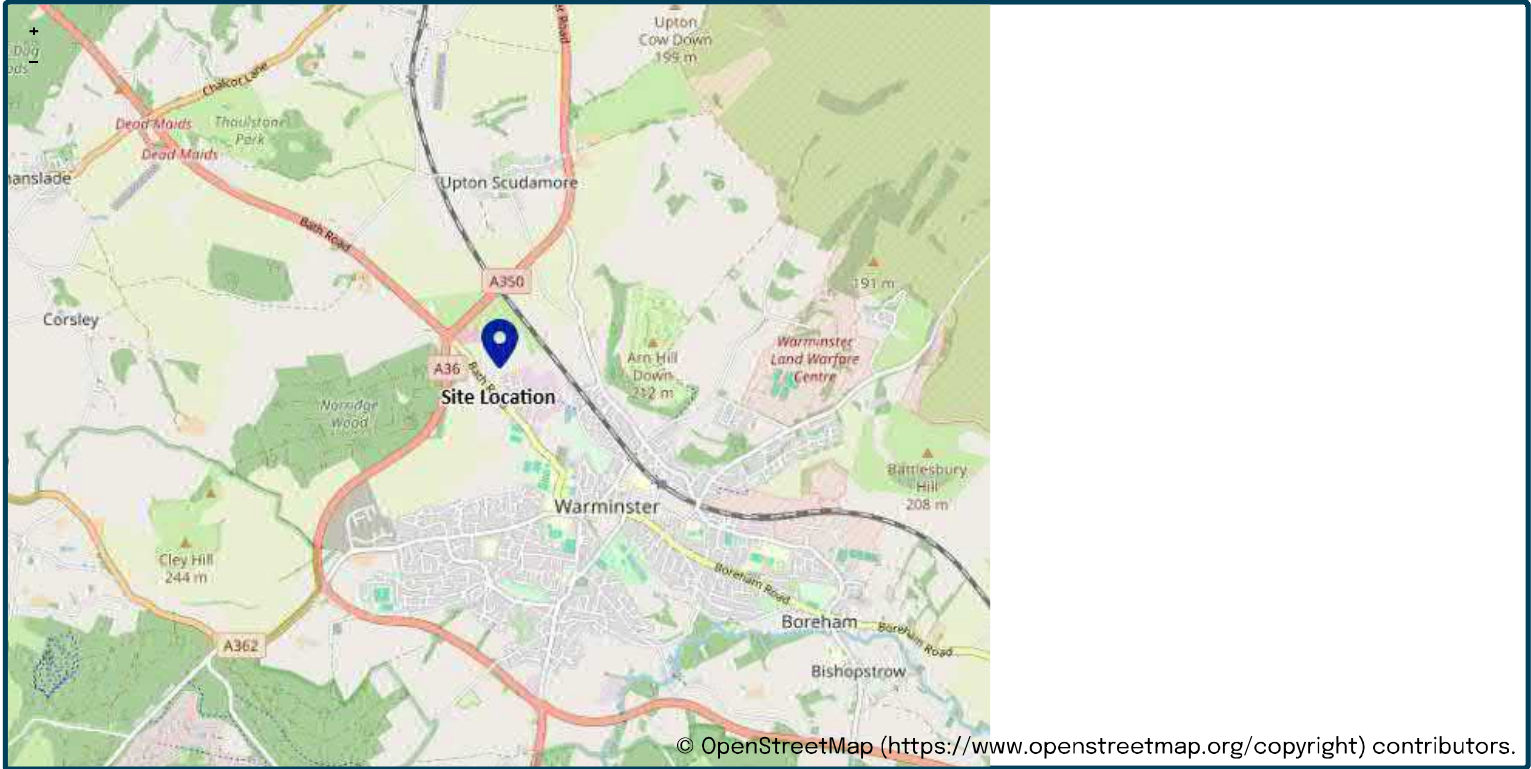
This is an estimation of the greenfield runoff rates that are used to meet normal best practice criteria in line with Environment Agency guidance “Rainfall runoff management for developments”, SC030219 (2013), the SuDS Manual C753 (CIRIA, 2015) and the non-statutory standards for SuDS (Defra, 2015). This information on greenfield runoff rates may be the basis for setting consents for the drainage of surface water runoff from sites.

Project details

Date	28/10/2025
Calculated by	ND
Reference	Bath Road, Warminster
Model version	2.2.1

Location

Site name	Bath Road,
Site location	Warminster



Site easting (British National Grid)	386420
Site northing (British National Grid)	146095

Site details

Total site area (ha)	0.210	ha
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Greenfield runoff

Method

Method	FEH statistical (2025)
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FEH statistical (2025)

	My value		Map value
SAAR9120 (mm)	941	mm	
BFIHOST19scaled	0.881		
QMed-QBar conversion	1.075	☐	1.075
QMed (l/s)	0.2	l/s	
QBar (FEH statistical 2025) (l/s)	0.2	l/s	

Growth curve factors

	My value		Map value
Hydrological region	8	☐	8
1 year growth factor	0.78		
2 year growth factor	0.93		
10 year growth factor	1.49		
30 year growth factor	1.95		
100 year growth factor	2.43		
200 year growth factor	2.78		

Results

Method	FEH statistical (2025)	
Flow rate 1 year (l/s)	0.1	l/s
Flow rate 2 year (l/s)	0.2	l/s
Flow rate 10 years (l/s)	0.3	l/s
Flow rate 30 years (l/s)	0.4	l/s
Flow rate 100 years (l/s)	0.5	l/s
Flow rate 200 years (l/s)	0.5	l/s

Please note runoff estimation is subject to significant uncertainty. Results are therefore normally reported to only 1 decimal place. Where 2 decimal places are provided, this does not indicate accuracy to this level, it has been adopted to prevent ‘zero’ figures from being reported. Outputs less than 0.01 l/s are reported as 0.01 l/s.

Disclaimer

This report was produced using the Greenfield runoff rate estimation tool (2.2.1) developed by HR Wallingford and available at uksuds.com (<https://www.uksuds.com/>). The use of this tool is subject to the UK SuDS terms and conditions and licence agreement, which can both be found at uksuds.com/terms-conditions (<https://www.uksuds.com/terms-conditions>). The outputs from this tool have been used to estimate Greenfield runoff rates. The use of these results is the responsibility of the users of this tool. No liability will be accepted by HR Wallingford, the Environment Agency, Centre for Ecology and Hydrology, Wallingford Hydrosolutions or any other organisation for the use of these data in the design or operational characteristics of any drainage scheme.

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.213	5.00	119.550	35.584	65.826	1.600

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

Storm Durations

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

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	40	0	0
100	45	10	0

Node Depth/Area 1 Online Hydro-Brake® Control

Flap Valve	x	Objective	(HE) Minimise upstream storage
Replaces Downstream Link	x	Sump Available	✓
Invert Level (m)	117.950	Product Number	CTL-SHE-0061-1500-0800-1500
Design Depth (m)	0.800	Min Outlet Diameter (m)	0.075
Design Flow (l/s)	1.5	Min Node Diameter (mm)	1200

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	117.950
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.95	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	230.0	230.0	0.800	230.0	273.0	0.801	0.0	273.0

Results for 2 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
480 minute winter	Depth/Area 1	344	118.086	0.136	4.3	29.6097	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
480 minute winter	Depth/Area 1	Hydro-Brake®	1.4	40.4				

Results for 30 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
480 minute winter	Depth/Area 1	464	118.440	0.490	12.0	107.1081	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
480 minute winter	Depth/Area 1	Hydro-Brake®	1.5	50.6

Results for 100 year +45% CC +10% A 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
960 minute winter	Depth/Area 1	915	118.719	0.769	10.3	168.0948	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
960 minute winter	Depth/Area 1	Hydro-Brake®	1.5	88.5

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.008	5.00	122.200	35.589	65.826	0.600

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	40	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.200	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	121.600	Diameter (m)	0.023		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	121.600
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	48

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	58.0	58.0	0.470	58.0	70.7	0.471	0.0	70.7

Results for 2 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
120 minute winter	Depth/Area 1	84	121.636	0.036	0.4	0.6214	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m ³)
120 minute winter	Depth/Area 1	Orifice	0.2	1.1

Results for 30 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
120 minute winter	Depth/Area 1	90	121.725	0.125	1.2	2.1807	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
120 minute winter	Depth/Area 1	Orifice	0.4	3.4				

Results for 100 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
120 minute winter	Depth/Area 1	92	121.790	0.190	1.8	3.3045	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m ³)
120 minute winter	Depth/Area 1	Orifice	0.5	5.0

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.007	5.00	121.200	35.612	65.877	0.300

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.160	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	120.900	Diameter (m)	0.024		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	120.900
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	13.5	13.5	0.200	24.0	24.4	0.201	0.0	24.4

Results for 2 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
120 minute winter	Depth/Area 1	82	120.933	0.033	0.3	0.4759	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
120 minute winter	Depth/Area 1	Orifice	0.2	1.0				

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
60 minute winter	Depth/Area 1	47	120.977	0.077	1.2	1.2014	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
60 minute winter	Depth/Area 1	Orifice	0.3	1.7				

Results for 100 year +45% CC +10% A 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
60 minute winter	Depth/Area 1	55	121.056	0.156	2.5	2.7357	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
60 minute winter	Depth/Area 1	Orifice	0.5	3.7				

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.013	5.00	122.800	35.589	65.826	0.600

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	40	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.400	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	122.200	Diameter (m)	0.019		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	122.200
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	208

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	52.0	52.0	0.470	52.0	64.0	0.471	0.0	64.0

Results for 2 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
240 minute winter	Depth/Area 1	172	122.277	0.077	0.4	1.1946	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
240 minute winter	Depth/Area 1	Orifice	0.2	2.5

Results for 30 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
120 minute winter	Depth/Area 1	110	122.468	0.267	2.0	4.1729	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
120 minute winter	Depth/Area 1	Orifice	0.4	5.3

Results for 100 year +45% CC +10% A 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
180 minute winter	Depth/Area 1	144	122.606	0.406	2.1	6.3316	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
180 minute winter	Depth/Area 1	Orifice	0.5	8.1

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.015	5.00	123.050	35.589	65.837	0.600

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	40	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.410	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	122.450	Diameter (m)	0.019		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	122.450
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	252

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	65.0	65.0	0.470	65.0	78.4	0.471	0.0	78.4

Results for 2 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
240 minute winter	Depth/Area 1	176	122.528	0.078	0.5	1.5173	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
240 minute winter	Depth/Area 1	Orifice	0.2	2.7

Results for 30 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
240 minute winter	Depth/Area 1	184	122.717	0.267	1.4	5.1978	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
240 minute winter	Depth/Area 1	Orifice	0.4	7.2

Results for 100 year +45% CC +10% A 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
240 minute winter	Depth/Area 1	188	122.844	0.394	2.0	7.6770	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
240 minute winter	Depth/Area 1	Orifice	0.5	9.3				

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.012	5.00	123.100	35.612	65.877	0.900

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

Storm Durations

15	30	60	120	180	240	360	480	600	720	960	1440
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Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	40	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.410	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	122.200	Diameter (m)	0.019		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	122.200
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	108

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	36.0	36.0	0.600	36.0	48.8	0.601	0.0	48.8

Results for 2 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
180 minute winter	Depth/Area 1	124	122.289	0.089	0.5	0.9598	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
180 minute winter	Depth/Area 1	Orifice	0.2	2.0

Results for 30 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
180 minute winter	Depth/Area 1	136	122.528	0.328	1.4	3.5396	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
180 minute winter	Depth/Area 1	Orifice	0.4	5.8

Results for 100 year +45% CC +10% A 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
180 minute winter	Depth/Area 1	140	122.700	0.500	2.0	5.3977	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
180 minute winter	Depth/Area 1	Orifice	0.5	8.2				

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.022	5.00	123.420	35.612	65.845	0.620

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

Storm Durations

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

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	40	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.540	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	122.800	Diameter (m)	0.018		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	122.800
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	74.0	74.0	0.600	74.0	92.3	0.601	0.0	92.3

Results for 2 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
240 minute winter	Depth/Area 1	176	122.911	0.110	0.7	2.4530	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
240 minute winter	Depth/Area 1	Orifice	0.2	3.6				

Results for 30 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
240 minute winter	Depth/Area 1	192	123.183	0.383	2.1	8.5125	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
240 minute winter	Depth/Area 1	Orifice	0.4	8.6				

Results for 100 year +45% CC +10% A 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
360 minute winter	Depth/Area 1	280	123.365	0.565	2.2	12.5443	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
360 minute winter	Depth/Area 1	Orifice	0.5	13.0

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.023	5.00	123.550	35.618	65.877	0.600

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

Storm Durations

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

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.430	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	122.950	Diameter (m)	0.019		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	122.950
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	109.0	109.0	0.470	109.0	126.4	0.471	0.0	126.4

Results for 2 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
480 minute winter	Depth/Area 1	320	123.034	0.084	0.5	2.7473	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
480 minute winter	Depth/Area 1	Orifice	0.2	5.1				

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
360 minute winter	Depth/Area 1	272	123.142	0.192	1.2	6.2789	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
360 minute winter	Depth/Area 1	Orifice	0.3	7.8				

Results for 100 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
360 minute winter	Depth/Area 1	288	123.366	0.416	2.3	13.6157	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m ³)
360 minute winter	Depth/Area 1	Orifice	0.5	12.5

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.006	5.00	122.500	35.612	65.877	0.600

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

Storm Durations

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

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.200	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	121.900	Diameter (m)	0.023		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	121.900
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	24

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	41.8	41.8	0.470	41.8	52.6	0.471	0.0	52.6

Results for 2 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
120 minute winter	Depth/Area 1	80	121.933	0.033	0.3	0.4163	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m ³)
120 minute winter	Depth/Area 1	Orifice	0.2	0.9

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
60 minute winter	Depth/Area 1	48	121.979	0.079	1.0	0.9918	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
60 minute winter	Depth/Area 1	Orifice	0.3	1.5				

Results for 100 year +45% CC +10% A 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
60 minute winter	Depth/Area 1	49	122.078	0.178	2.2	2.2341	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
60 minute winter	Depth/Area 1	Orifice	0.5	3.1				

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.007	5.00	121.600	35.612	65.877	0.300

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

Storm Durations

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

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	0	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.130	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.5		
Invert Level (m)	121.300	Diameter (m)	0.026		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	121.300
Side Inf Coefficient (m/hr)	0.00000	Porosity	1.00	Time to half empty (mins)	

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	16.8	16.8	0.200	29.5	29.9	0.201	0.0	29.9

Results for 2 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
120 minute winter	Depth/Area 1	82	121.328	0.028	0.3	0.5023	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)
120 minute winter	Depth/Area 1	Orifice	0.2	1.0

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
60 minute winter	Depth/Area 1	47	121.364	0.064	1.2	1.2049	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
60 minute winter	Depth/Area 1	Orifice	0.3	1.7				

Results for 100 year +45% CC +10% A 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
60 minute winter	Depth/Area 1	55	121.430	0.130	2.5	2.7085	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
60 minute winter	Depth/Area 1	Orifice	0.5	3.7				

Design Settings

Rainfall Methodology	FEH-22	Minimum Velocity (m/s)	1.00
Return Period (years)	2	Connection Type	Level Soffits
Additional Flow (%)	0	Minimum Backdrop Height (m)	0.200
CV	0.750	Preferred Cover Depth (m)	1.200
Time of Entry (mins)	5.00	Include Intermediate Ground	✓
Maximum Time of Concentration (mins)	30.00	Enforce best practice design rules	✓
Maximum Rainfall (mm/hr)	50.0		

Nodes

Name	Area (ha)	T of E (mins)	Cover Level (m)	Easting (m)	Northing (m)	Depth (m)
Depth/Area 1	0.003	5.00	121.350	35.589	65.826	0.600

Simulation Settings

Rainfall Methodology	FEH-22	Analysis Speed	Normal	Starting Level (m)	
Rainfall Events	Singular	Skip Steady State	x	Check Discharge Rate(s)	x
Summer CV	0.750	Drain Down Time (mins)	240	Check Discharge Volume	x
Winter CV	0.840	Additional Storage (m³/ha)	0.0		

Storm Durations

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

Return Period (years)	Climate Change (CC %)	Additional Area (A %)	Additional Flow (Q %)
2	0	0	0
30	40	0	0
100	45	10	0

Node Depth/Area 1 Online Orifice Control

Flap Valve	x	Design Depth (m)	0.120	Discharge Coefficient	0.600
Replaces Downstream Link	x	Design Flow (l/s)	0.3		
Invert Level (m)	120.750	Diameter (m)	0.020		

Node Depth/Area 1 Depth/Area Storage Structure

Base Inf Coefficient (m/hr)	0.00000	Safety Factor	1.0	Invert Level (m)	120.750
Side Inf Coefficient (m/hr)	0.00000	Porosity	0.30	Time to half empty (mins)	0

Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)	Depth (m)	Area (m²)	Inf Area (m²)
0.000	30.0	30.0	0.470	30.0	39.1	0.471	0.0	39.1

Results for 2 year Critical Storm Duration. Lowest mass balance: 100.00%

Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m ³)	Flood (m ³)	Status
360 minute winter	Depth/Area 1	224	120.772	0.022	0.1	0.1995	0.0000	OK

Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m ³)
360 minute winter	Depth/Area 1	Orifice	0.1	0.5

Results for 30 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
60 minute winter	Depth/Area 1	46	120.826	0.076	0.7	0.6821	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
60 minute winter	Depth/Area 1	Orifice	0.2	1.0				

Results for 100 year +45% CC +10% A Critical Storm Duration. Lowest mass balance: 100.00%

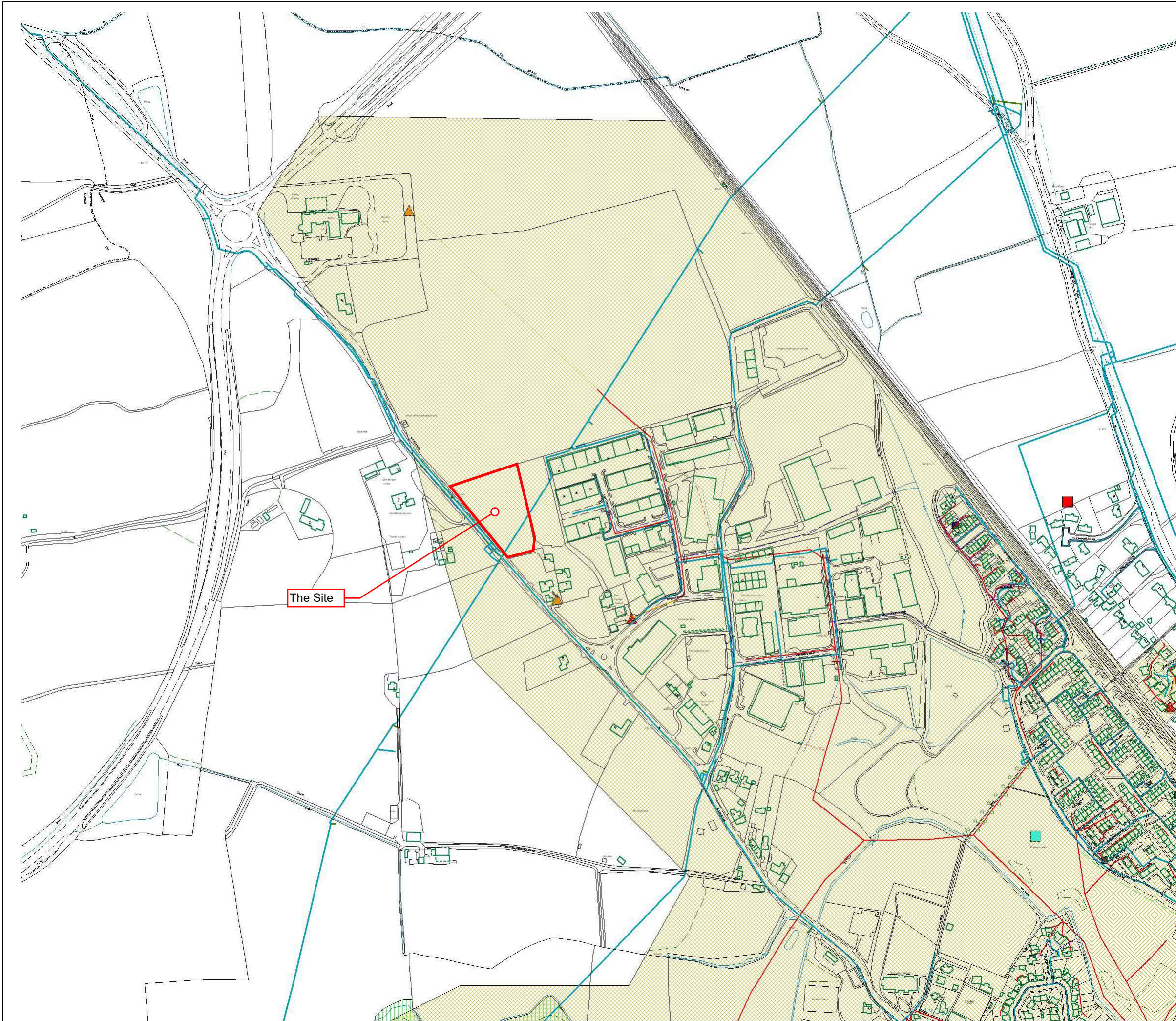
Node Event	US Node	Peak (mins)	Level (m)	Depth (m)	Inflow (l/s)	Node Vol (m³)	Flood (m³)	Status
60 minute winter	Depth/Area 1	48	120.868	0.118	1.1	1.0596	0.0000	OK
Link Event (Upstream Depth)	US Node	Link	Outflow (l/s)	Discharge Vol (m³)				
60 minute winter	Depth/Area 1	Orifice	0.3	1.6				



Appendix E

Wessex Water Asset Mapping

Highways Correspondence



Bath Road

BA12 8PF

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WATER MAINS

Public

Private

Public

Raw Water

Abandoned

Valve

Hydrant

PRV

Meter

SEWERS

Public - Section 104 - Private

Foul

Combined

Surface

Abandoned sewers

OTHER WESSEX PIPES

Rising Mains

Effluent Disposal Main

Overflow

NON-WESSEX PIPES

Private Rising Mains

Culverted Water Course

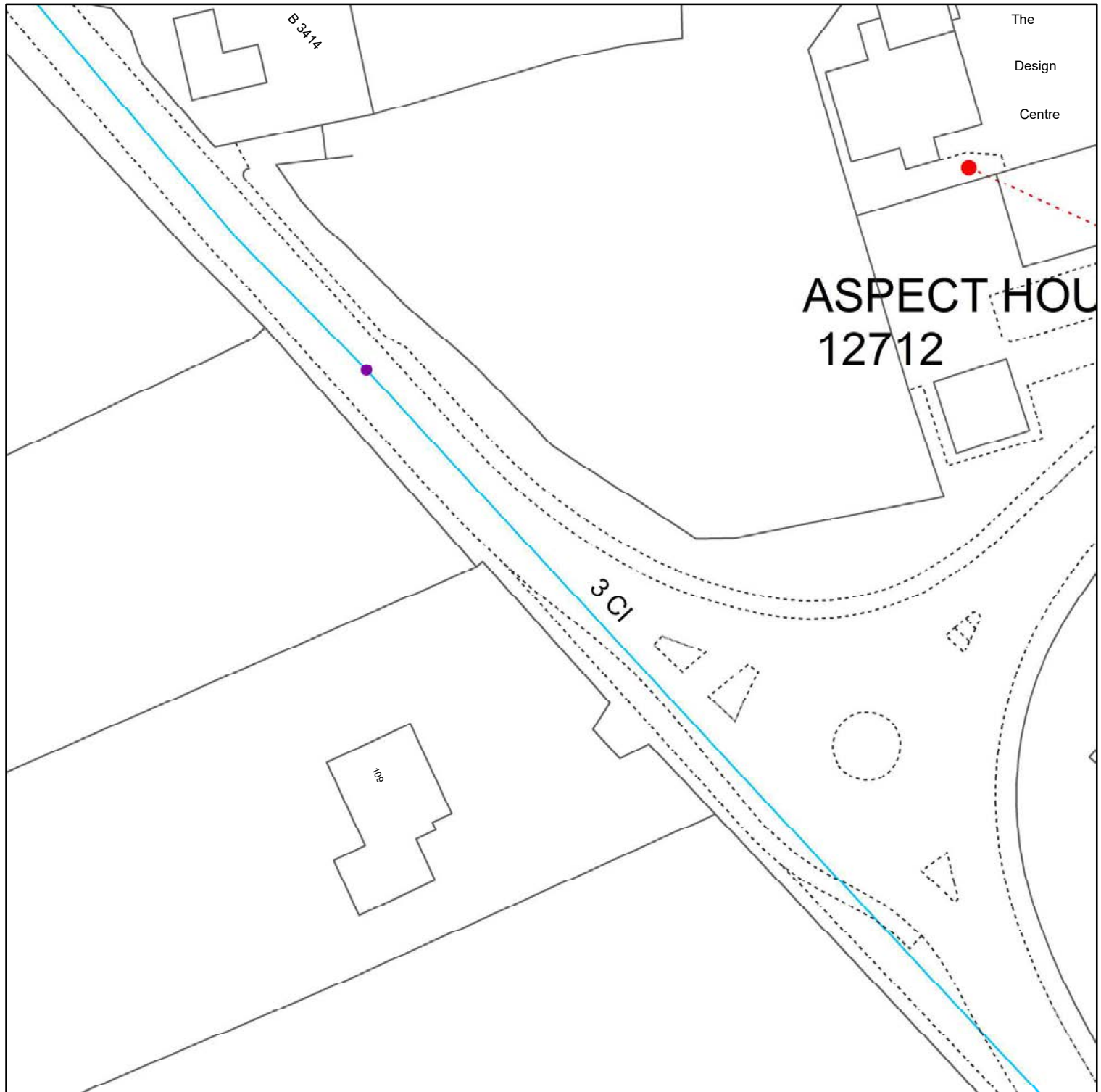
Highway Drain

Information in this plan is provided for identification purposes only. No warranty as to accuracy is given or implied. The precise route of pipe work may not exactly match that shown. Wessex Water does not accept liability for inaccuracies. Sewers and lateral drains adopted by Wessex Water under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011 are to be plotted over time and may not yet be shown.

In carrying out any works, you accept liability for the cost of any repairs to Wessex Water apparatus damaged as a result of your works. You are advised to commence excavations using hand tools only. Mechanical digging equipment should not be used until pipe work has been precisely located.

If you are considering any form of building works and pipe work is shown within the boundary of your property or a property to be purchased (or very close by) a surveyor should plot its exact position prior to commencing works or purchase. If you are proposing to build over or near Wessex Water's apparatus you should contact the Developer Services Team, tel: 01225 526333 or e-mail: developer.enquiries@wessexwater.co.uk to discuss your proposals to discuss your proposals.

Wessex Water Network Map



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WATER MAINS		SEWERS		STRATEGIC PUBLIC		PRIVATE		SECTION 104		OTHER WESSEX PIPES		NON-WESSEX / UNKNOWN	
	Distribution		Foul								Rising Mains		Private Rising Mains
	Washout		Surface								EDM		Culverted Watercourse
	Combined		Combined								Overflow		Highway Drain
	Raw Water		Abandoned								Syphon		Use Unknown
	Abandoned	Colours generally indicate the use of the sewer/drain (i.e Red - Foul, Dark Blue - Surface, Magenta - Combined/Dual Use, Light Green - Highway Drain, Mid Green - Overflow).											
	Private	Some styles of line and symbol are shown on the key in sample/typical colours.											
FITTINGS		STRUCTURES			Pumping Station - Surface		Pumping Stn - Foul/Combined						
	Hydrant		Manhole - Foul		Pumping Stn - Foul/Combined		Gully						Chamber
	Other		Manhole - Surface		Vent Column		Catchpit						Tunnel
			Manhole - Combined		Rodding Eye		Flushing Chamber						Interceptor
			Inlet		Outfall		Soakaway						
			Lamphole		Non Return Valve		Air Valve		Hatch Box		Washout		
			Bifurcation - Foul		Bifurcation - Surface								
			Bifurcation - Combined		Combined Sewage Overflow								

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OTHER STRUCTURES

Attenuation Tank
 Storage Tank

Chamber
 Tunnel
 Interceptor

Wessex Water

YTL GROUP

Date: 05/03/2021

Centre: 386479, 145966

Scale: 1:625
(when printed at A4 size)

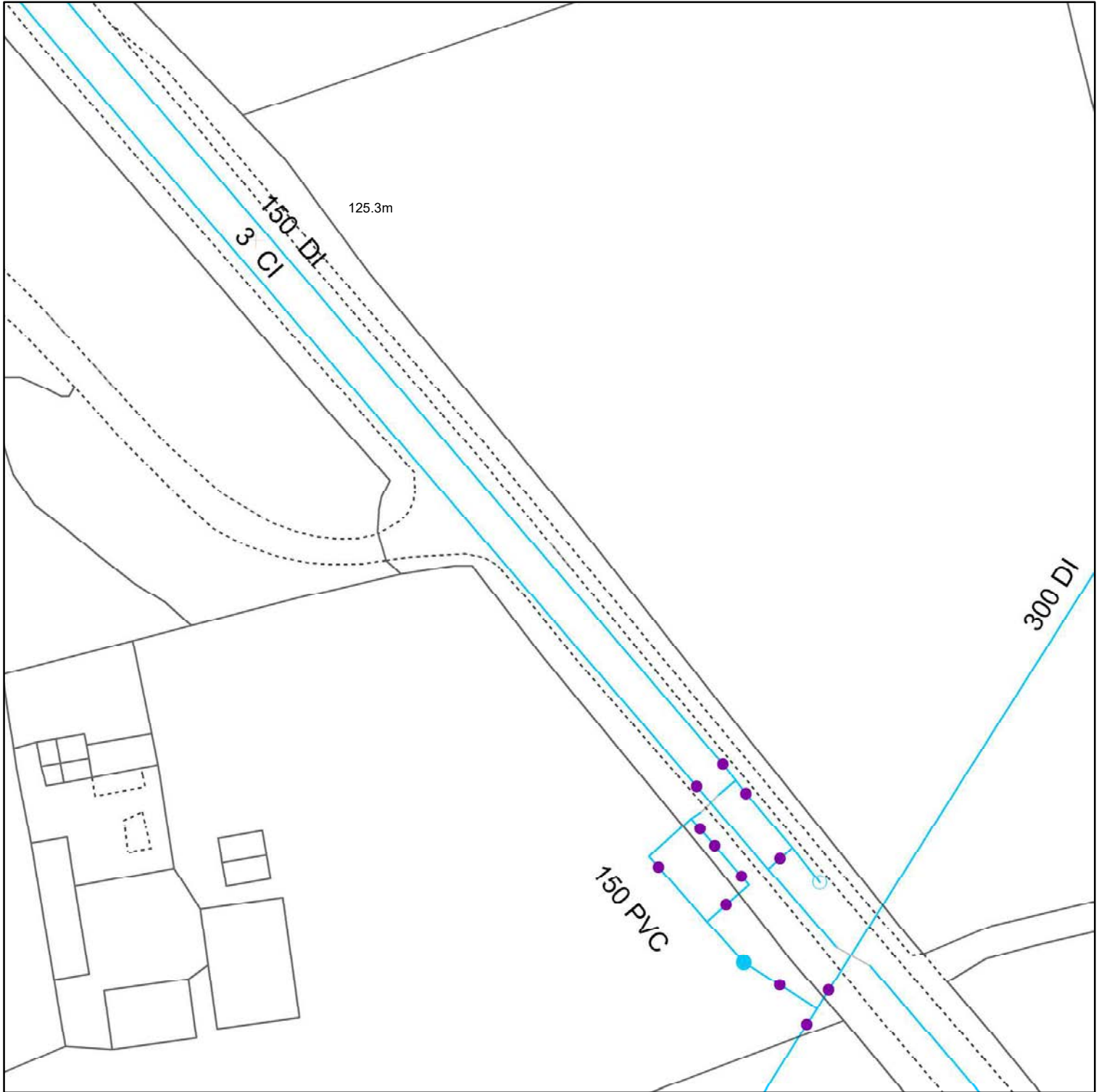
Wessex Water Network Map



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WATER MAINS	SEWERS	STRATEGIC PUBLIC	PRIVATE	SECTION 104	OTHER WESSEX PIPES	NON-WESSEX / UNKNOWN
- Distribution - Washout - Raw Water - Abandoned - Private	- Foul - Surface - Combined - Abandoned				- Rising Mains - EDM - Overflow - Syphon	- Private Rising Mains - Culverted Watercourse - Highway Drain - Use Unknown - Status Unknown
FITTINGS - Hydrant - Other	STRUCTURES - Manhole - Foul - Manhole - Surface - Manhole - Combined - Inlet - Outfall - Lamphole - Bifurcation - Foul - Bifurcation - Surface - Bifurcation - Combined - Combined Sewage Overflow			- Pumping Station - Surface - Pumping Stn - Foul/Combined - Gully - Vent Column - Rodding Eye - Catchpit - Flushing Chamber - Soakaway - Non Return Valve - Air Valve - Hatch Box - Washout	OTHER STRUCTURES - Attenuation Tank - Storage Tank - Chamber - Tunnel - Interceptor	Wessex Water YTL GROUP YTL
Information in this map is provided for identification purposes only. No warranty as to accuracy is given or implied. The precise route of pipe work may not exactly match that shown. Wessex Water does not accept liability for inaccuracies. Sewers and lateral drains adopted by Wessex Water under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011 are to be plotted over time and may not yet be shown. In carrying out any works, you accept liability for the cost of any repairs to Wessex Water apparatus damaged as a result of your works. You are advised to commence excavations using hand tools only. Mechanical digging equipment should not be used until pipe work has been precisely located. If you are considering any form of building works and pipe work is shown within the boundary of your property or a property to be purchased (or very close by) a surveyor should plot its exact position prior to commencing works or purchase. If you are proposing to build over or near Wessex Water's apparatus you should contact the Developer Services Team, tel: 01225 526333 or e-mail: developer.enquiries@wessexwater.co.uk to discuss your proposals. Details of assets within Wessex Water's land ownership are unavailable through this service.						Date: 05/03/2021 Centre: 386441, 146056 Scale: 1:625 (when printed at A4 size)

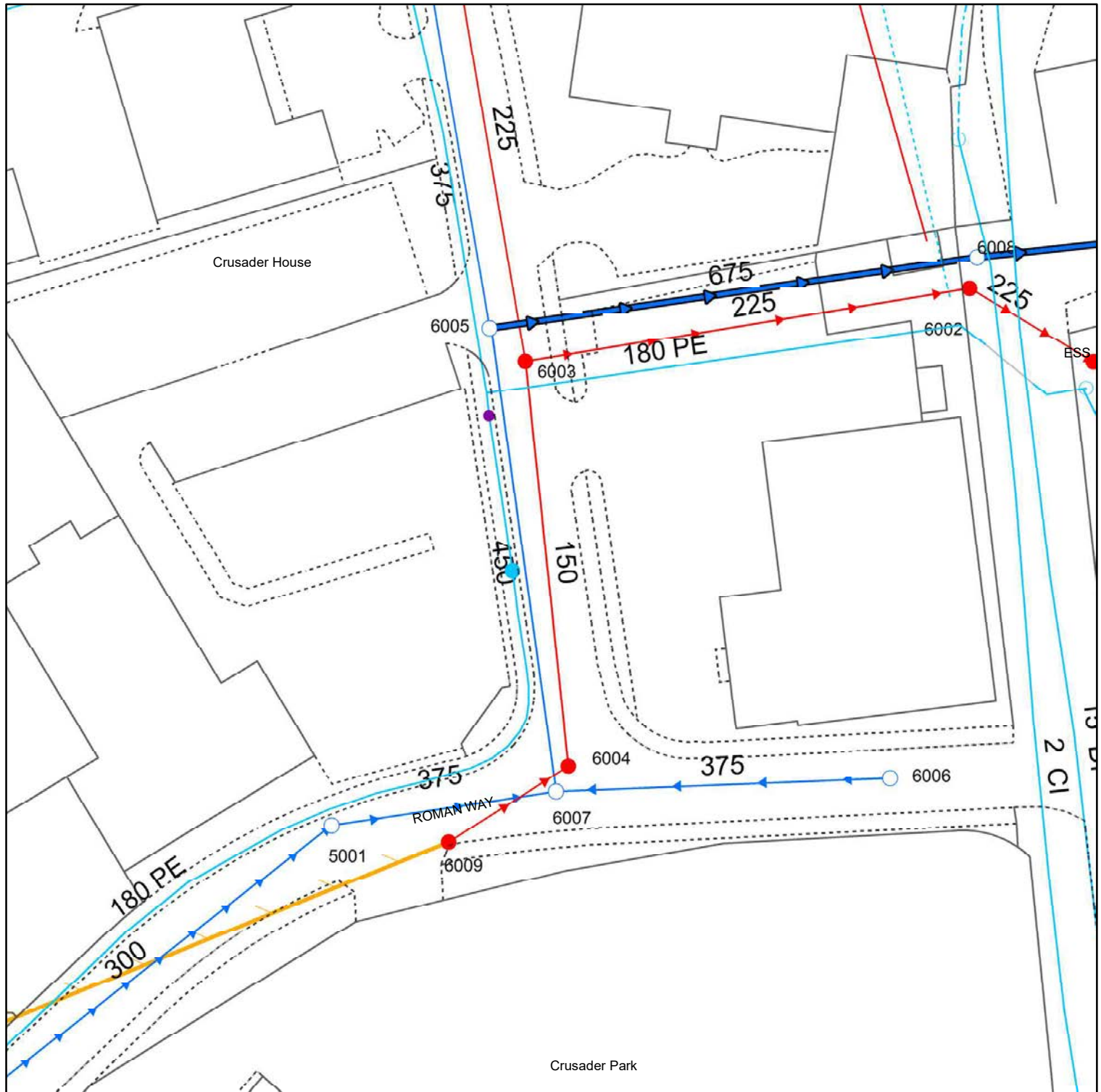
Wessex Water Network Map



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WATER MAINS	SEWERS	STRATEGIC	PUBLIC	PRIVATE	SECTION 104	OTHER WESSEX PIPES	NON-WESSEX / UNKNOWN
Distribution	Foul					Rising Mains	Private Rising Mains
Washout	Surface					EDM Effluent Disposal	Culverted Watercourse
Raw Water	Combined					Overflow	Highway Drain
Abandoned	Abandoned					Syphon	Use Unknown
Private	Colours generally indicate the use of the sewer/drain (i.e Red - Foul, Dark Blue - Surface, Magenta - Combined/Dual Use, Light Green - Highway Drain, Mid Green - Overflow).						Status Unknown
Some styles of line and symbol are shown on the key in sample/typical colours.							
FITTINGS	STRUCTURES	Pumping Station - Surface	Pumping Stn - Foul/Combined				
Hydrant	Manhole - Surface	Gully	Vent Column				
Other	Manhole - Combined	Rodding Eye	Catchpit				
	Inlet Outfall	Flushing Chamber	Soakaway				
	Lamphole	Non Return Valve	Air Valve	Hatch Box	Washout		
	Bifurcation - Foul						
	Bifurcation - Surface						
	Bifurcation - Combined						
	Combined Sewage Overflow						
Information in this map is provided for identification purposes only. No warranty as to accuracy is given or implied. The precise route of pipe work may not exactly match that shown. Wessex Water does not accept liability for inaccuracies. Sewers and lateral drains adopted by Wessex Water under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011 are to be plotted over time and may not yet be shown. In carrying out any works, you accept liability for the cost of any repairs to Wessex Water apparatus damaged as a result of your works. You are advised to commence excavations using hand tools only. Mechanical digging equipment should not be used until pipe work has been precisely located. If you are considering any form of building works and pipe work is shown within the boundary of your property or a property to be purchased (or very close by) a surveyor should plot its exact position prior to commencing works or purchase. If you are proposing to build over or near Wessex Water's apparatus you should contact the Developer Services Team, tel: 01225 526333 or e-mail: developer.enquiries@wessexwater.co.uk to discuss your proposals. Details of assets within Wessex Water's land ownership are unavailable through this service.							
						OTHER STRUCTURES Attenuation Tank Storage Tank Chamber Tunnel Interceptor	
						YTL GROUP	
						Date: 05/03/2021 Centre: 386342, 146124 Scale: 1:625 (when printed at A4 size)	

Wessex Water Network Map



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WATER MAINS	SEWERS	STRATEGIC	PUBLIC	PRIVATE	SECTION 104	OTHER WESSEX PIPES	NON-WESSEX / UNKNOWN
Distribution	Foul					Rising Mains	Private Rising Mains
Washout	Surface					EDM Effluent Disposal	CW: Culverted Watercourse
Raw Water	Combined					Overflow	Highway Drain
Abandoned	Abandoned					Syphon	Use Unknown
Private	Colours generally indicate the use of the sewer/drain (i.e Red - Foul, Dark Blue - Surface, Magenta - Combined/Dual Use, Light Green - Highway Drain, Mid Green - Overflow).						Status Unknown
Some styles of line and symbol are shown on the key in sample/typical colours.							
FITTINGS	STRUCTURES						
Hydrant	Manhole - Foul	Pumping Station - Surface					
Other	Manhole - Surface	Pumping Stn - Foul/Combined					
	Manhole - Combined	Gully					
	Inlet	Vent Column					
	Outfall	Rodding Eye					
	Lamphole	Catchpit					
	Bifurcation - Foul	Flushing Chamber					
	Bifurcation - Surface	Soakaway					
	Bifurcation - Combined	Non Return Valve					
	Combined Sewage Overflow	Air Valve					
		Hatch Box					
		Washout					
Information in this map is provided for identification purposes only. No warranty as to accuracy is given or implied. The precise route of pipe work may not exactly match that shown. Wessex Water does not accept liability for inaccuracies. Sewers and lateral drains adopted by Wessex Water under the Water Industry (Schemes for Adoption of Private Sewers) Regulations 2011 are to be plotted over time and may not yet be shown. In carrying out any works, you accept liability for the cost of any repairs to Wessex Water apparatus damaged as a result of your works. You are advised to commence excavations using hand tools only. Mechanical digging equipment should not be used until pipe work has been precisely located. If you are considering any form of building works and pipe work is shown within the boundary of your property or a property to be purchased (or very close by) a surveyor should plot its exact position prior to commencing works or purchase. If you are proposing to build over or near Wessex Water's apparatus you should contact the Developer Services Team, tel: 01225 526333 or e-mail: developer.enquiries@wessexwater.co.uk to discuss your proposals. Details of assets within Wessex Water's land ownership are unavailable through this service.							
						OTHER STRUCTURES	Chamber
						Attenuation Tank	Tunnel
						Storage Tank	Interceptor
						Date:	16/06/2021
						Centre:	386623, 146053
						Scale:	1:625 (when printed at A4 size)

Neil Doble

From: Stella Davies <Stella.Davies@wessexwater.co.uk>
Sent: 20 November 2025 12:30
To: Neil Doble
Cc: Dave Sartin
Subject: RE: WW DEV RESP PL52480 - 20-058 Bath Road, Warminster

Hello Neil,

Thank you for your email below.

In terms of surface water discharge:

- For discharge into highway drain you will need to liaise with the Highway Authority
- For discharge to NAV you will need to liaise with NAV it is Leep

For foul drainage,

- it is not in Wessex Water gift to offer you a connection into a private foul sewer network
- the nearest public foul sewer in Roman Way is FWMH ref: ST86466009, the agreed strategy would be based on connection via this manhole
- if you wish to use private sewer you need to obtain agreement from that sewer owner

We trust that the above clarifies and offers some assistance.

Note: These comments are based upon known circumstances prevailing at the time of writing. A review of the contents of this email is required where 18 months or more have elapsed since issue or in the light of significant changes likely to impact upon the response (e.g. changes in development numbers or phasing). Please email review requests to planning.liaison@wessexwater.co.uk

Best Regards,

Stella Davies
Senior Planning Liaison Engineer



Wessex Water
Operations Centre, Claverton Down, Bath BA2 7WW

Web ytl.com | wessexwater.co.uk



Disclaimer

This email (and any attachment) is intended solely for the addressee, is confidential and may be legally privileged. If you have received this email in error, please let us know immediately and delete it without reading, copying or disseminating it. We have taken every reasonable precaution to ensure that any attachment to this email has been swept for viruses. We cannot accept liability for any damage sustained as a result of software viruses or any other harmful code. You should ensure that it is virus free before opening it.

This email is being sent to you on behalf of Wessex Water Limited, a company registered in England and Wales with number 02366633. Its registered office is Wessex Water Operations Centre, Claverton Down Road, Claverton Down, Bath, BA2 7WW.

From: Neil Doble <ndoble@ima-tp.com>
Sent: 18 November 2025 08:09
To: Stella Davies <Stella.Davies@wessexwater.co.uk>
Cc: Dave Sartin <dsartin@ima-tp.com>
Subject: WW DEV RESP PL52480 - 20-058 Bath Road, Warminster

Hi Stella,

Just to update you.

- The surface water proposals are now to discharge to the southwest of the development (subject to approvals/agreement). We are looking to connect into a highway manhole which we understand connects to the west into new attenuation basins(as part of the new development to the west). We understand that the sewers downstream of the highway sewer are to be adopted under a NAV (Leep Network) and would look to apply for the upstream highway sewers to be adopted under a S102 application.
- With regards to the foul, we are now looking at discharging to the south into the existing private foul network (serving house number 46-48) which falls by gravity into a private pumping station which then is pumped into the public sewer within Roman Way. You previously accepted this option in your correspondence dated 29th October 2024 but we just wanted to update you on the current proposals for the development.

I will note to the architect's to remove the trees within the watermain easement.

If you could just confirm if you still find this acceptable and I will include your response within the latest Flood Risk Assessment.

Kind regards,

Neil

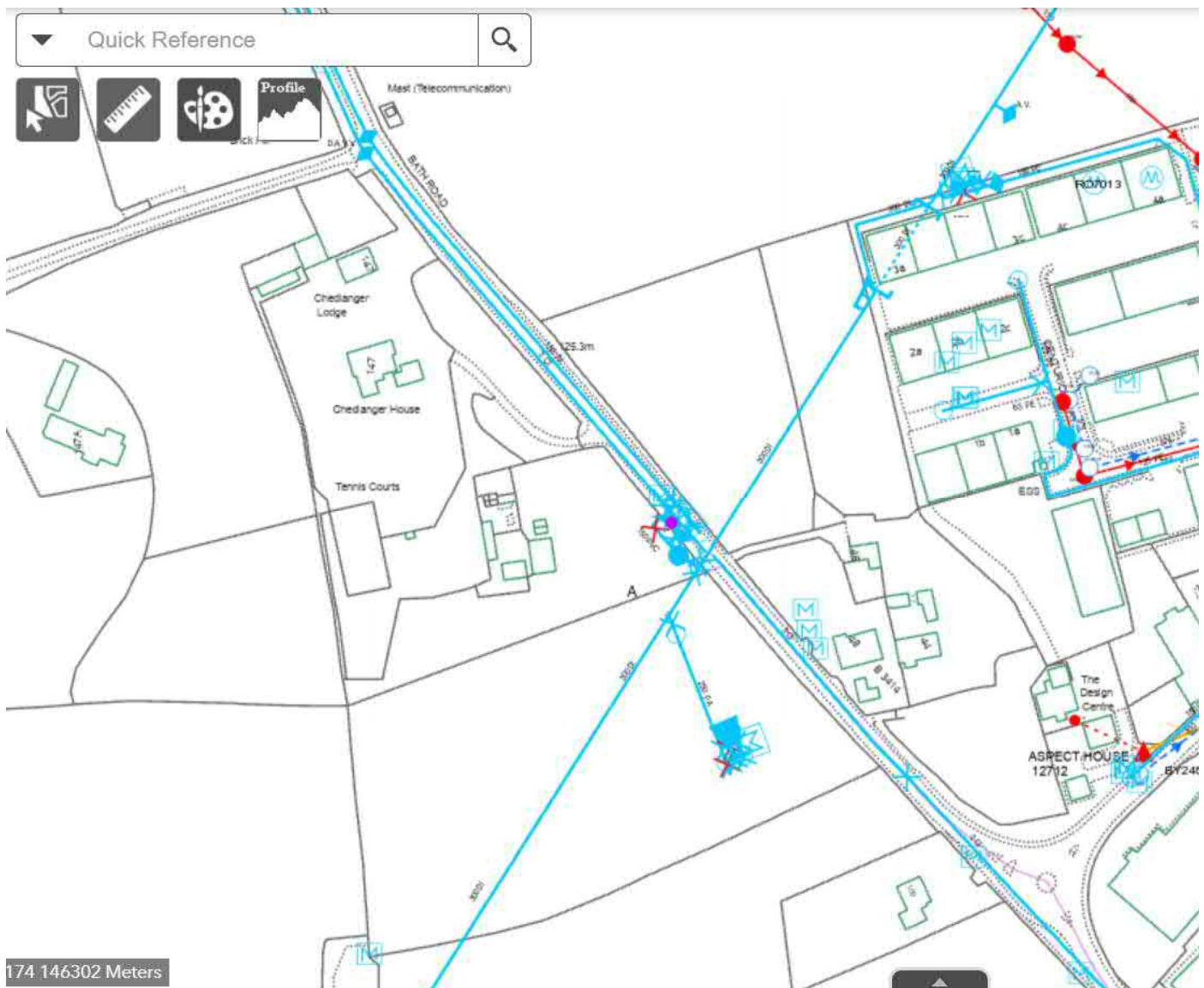
From: Stella Davies <Stella.Davies@wessexwater.co.uk>
Sent: 20 May 2025 10:47
To: Neil Doble <ndoble@ima-tp.com>
Cc: Dave Sartin <dsartin@ima-tp.com>
Subject: RE: WW DEV RESP PL52480 - 20-058 Bath Road, Warminster

Good morning, Neil,

Thank you for the below enquiry.

Foul Water

Wessex Water can offer you point of connection to the existing public sewer manhole ref ST86465103 (5103 on the below extract) located in Centurion Way (east of the site). On your plan you have shown a possible connection to a private foul drainage. Please note that any connections to a private system would need to be pursued with the owner of that system. Such a connection is outside Wessex Water control.



Developers may connect to the nearest public foul sewer at their cost on a 'size for size' basis, and Wessex Water are responsible for managing the sewer network to accommodate the additional domestic foul flows from granted development. We fund this through our infrastructure charging arrangements.

Connection is agreed by application. More information is available under the link: [Sewer connection](#)

Surface Water Drainage (rainwater falling onto, and running off, impermeable surfaces)

Surface water must be disposed of via the SuDS Hierarchy which is subject to Building Regulations and NPPF.

No surface water runoff, land drainage or ground water will be accepted into a public sewer that carries sewerage, either directly or indirectly.

As you can see from the attached map, there are no public surface water sewers on site or in the vicinity of the site.

The National Planning Policy Framework (NPPF) mandates that Sustainable Drainage Systems (SuDS) must be incorporated into new developments to manage surface water runoff, mitigate flood risks, and provide additional benefits, including enhanced water quality and green spaces. However, the proposed surface water drainage strategy fails to meet NPPF requirements regarding SuDS and sustainable development. Additionally, it omits compliance with the surface water discharge hierarchy.

In line with the drainage hierarchy outlined in Approved Document H of the Building Regulations, Planning Practice Guidance, and the necessity to address water scarcity, all surface water runoff should aim to be discharged as high up the following hierarchy as feasible:

- Rainwater reuse through harvesting or greywater recycling
- An adequate soakaway or other infiltration system
- A hybrid solution involving infiltration and discharge to a surface water body
- Discharge directly to a surface water body (e.g., an ordinary watercourse)
- Discharge to a surface water sewer, highway drain, or other drainage system

Wessex Water statement on surface water discharge can be accessed via the following link: [wwds-dev063p-surface-water-drainage-policy.pdf/](https://www.wessexwater.co.uk/dev063p-surface-water-drainage-policy.pdf/)

Review of your plan indicates connection to a Highway Drainage. Please liaise with the Wiltshire Council LLFA on the relevant agreements. Surface water drainage strategy to be agreed with the LLFA.

Proposed Layout and conflict with Wessex Water Assets

A review of the our assets map indicates the presence of an existing **300mm diameter water distribution main** crossing the site.

To accommodate this infrastructure, the development layout must be designed to include a dedicated **corridor along the water main's route**, ensuring a **minimum 5-meter standoff** on either side of the pipe.

Additionally:

- **No tree planting** is permitted within **6 meters** of the water main.
- The **mature tree canopy** and **root structure** must not interfere with Wessex Water apparatus or restrict access for maintenance and excavation along the public main.

Ensuring compliance with these requirements is essential for protecting the integrity of the water infrastructure and maintaining access for future operational needs.

The current layout shows trees encroaching the area that should be dedicated for the stand-off. This is not permitted. You would also review positioning of the dwellings.

More information about building near or over minor sewer can be found here: [Building near to or over a minor public sewer](#)

Note: These comments are based upon known circumstances prevailing at the time of writing. A review of the contents of this email is required where 18 months or more have elapsed since issue or in the light of significant changes likely to impact upon the response (e.g. changes in development numbers or phasing). Please email review requests to planning.liaison@wessexwater.co.uk

Best Regards,

Stella Davies

Senior Planning Liaison Engineer



Wessex Water
YTL GROUP

Wessex Water

Operations Centre, Claverton Down, Bath BA2 7WW

Web ytl.com | wessexwater.co.uk

From: Drainage <Drainage@wiltshire.gov.uk>
Sent: 25 March 2026 13:42
To: Neil Doble
Cc: Drainage
Subject: Re: 20-058 Bath Road / Highway Drainage Connection tbc / Warminster

Good afternoon Neil,

Please see below regarding connecting to highway assets:

There is no automatic right to connect to the highway drainage network. Before any such connection can be considered, the following hierarchy for the disposal of surface water must be fully assessed:

1. **Disposal of surface water on-site**

2. **Disposal to a watercourse**

(Note: An LDC will also be required for any connection works.)

3. **Disposal to a public surface water sewer**

4. **Disposal to a public foul sewer**

5. **Potential connection to the highway drainage network**

Wiltshire Council maintains a standing objection to proposals that rely on the highway drainage system as a primary means of surface water disposal. Connection will only be considered where the first four options have been comprehensively investigated and demonstrably proven to be unviable.

As an initial step, we strongly recommend that the proposed site is tested in accordance with **BRE365 Guidance**, to determine whether on-site infiltration—via soakaway or borehole—is feasible. This may significantly reduce the time and effort required at later stages.

If, following BRE365 testing, a connection to the highway drainage system is still to be pursued, the following evidence must be provided:

- **A full CCTV survey** of the drainage system from the proposed connect point to the outfall.
- *(This requirement applies even if the outfall is more than 1 km away.)*
- **Hydraulic modelling** demonstrating that the proposed limited discharge rate will not cause surcharging or downstream capacity issues.
- **A schedule of required remedial or improvement works** to the downstream drainage system, including:
 - Necessary repairs to ensure capacity
 - Upsizing of infrastructure where modelling shows surcharge risk
 - Evidence that any proposed upsizing will resolve the identified issues

Applicants must undertake all necessary investigation, modelling, and design work, including provision of significant on-site attenuation. This information must then be submitted as part of the supporting evidence for consideration.

Even with full supporting documentation, approval is not guaranteed. The highway drainage system exists to drain the highway, not adjacent land, and this principle remains paramount.

Where an existing connection is present, this may support the application; however, Wiltshire Council will likely require attenuation of flows to **below** the existing discharge rate, or removal of the existing connection entirely. As a privately owned asset, Wiltshire Council reserves the right to determine an appropriate connection rate to protect the functionality of the highway drainage system. All other hierarchy options must still be fully exhausted before this will be considered.

If an alternative method of surface water disposal exists, it must be investigated and evidenced first. This will generally weigh against permitting use of the highway drainage network. Supporting evidence demonstrating that infiltration is not viable—such as BRE365 test results—will also be required.

Finally, if the site is currently discharging surface water onto the highway, this may constitute an offence under **Section 163 of the Highways Act**.

Many Thanks,

Harry McCall
Drainage Engineer
Highways Asset Management and Commissioning

Wiltshire Council

From: Neil Doble <ndoble@ima-tp.com>
Sent: 19 March 2026 10:38
To: Drainage <Drainage@wiltshire.gov.uk>
Subject: FW: 20-058 Bath Road / Highway Drainage Connection tbc / Warminster

You don't often get email from ndoble@ima-tp.com. [Learn why this is important](#)
Hi,

I wonder if you could assist with our enquiry noted below as I don't appear to have received a response.

Thanks,

Neil

From: Flower, Kerry <Kerry.Flower@wiltshire.gov.uk>
Sent: 15 December 2025 11:13
To: Drainage <Drainage@wiltshire.gov.uk>
Cc: Neil Doble <ndoble@ima-tp.com>
Subject: FW: 20-058 Bath Road

Good morning

Please can you assist Mr Noble with the attached enquiry.

Kind regards

Neil Doble

From: richdesk <richdesk@leeputilities.co.uk>
Sent: 25 March 2026 09:35
To: Neil Doble
Subject: C2 Request Submitted ID: 22165
Attachments: C2 - 22165 Bath Road.png

Hello,

Thank you for your enquiry.

Our records confirm that there are Leep Utilities assets and/or cables located within the area you searched. Please take extra care when planning and carrying out works in this location.

Critical Safety Notice:

You must use approved Cable Avoidance Tools (CAT) and follow safe excavation practices in line with HSG47 – Avoiding Danger from Underground Services. This requirement applies even where assets are shown on the plan.

Key points to note:

- The attached plan is indicative only – asset positions are approximate and should not be treated as exact.
- The provided plan represent the presence of Leep Utilities assets. Additional assets (including assets from other organisations) may exist nearby that are not individually shown on our provided plan.
- The Leep Utilities Connections Map used to identify Leep Utilities assets are based on postcode areas, not individual addresses. This means that there might be assets in nearby postcodes but not the provided apparatus postcode. If you are unsure, please submit a fresh application for any other postcodes related to the planned works for your request.

Kind regards,

Leep Utilities Business Operations Support Team

Incident ID: 22165
Category: C2 REQUEST
Current Status: Assigned
Date Logged: Mar 19 2026 10:20AM
Summary: C2 Request Submitted
Details:

A new C2 has been submitted. Below are the inputs of the requester via the CSP:

Postal Address Line 1 IMA Transport Planning

Postal Address Line 2 Montreux House

Postal Address Line 3 Bath

Postal Address Line 4 Bath

Postcode for Postal Address BA1 2BT

Email address ndoble@ima-tp.com

Apparatus Postcode BA12 8PB

Northings & Eastings 386422 , 145974

Please provide any additional information or relevant queries here We understand that there are surface water and foul water sewers constructed within the area shown, which are going to be adopted by yourselves.

Was a Leep Asset found when searching the provided map? Yes

Please provide the date the work is set to commence 19/01/2027

Apparatus Address Line 2 Bath Road

Apparatus Address Line 3 Warminster

Submit your request

Kind regards,

Leep Utilities Business Operations Support Team

richdesk

Take a look at our [website](#)

e: richdesk@leeputilities.co.uk

w: www.leeputilities.co.uk

Privacy Notice

Leep uti

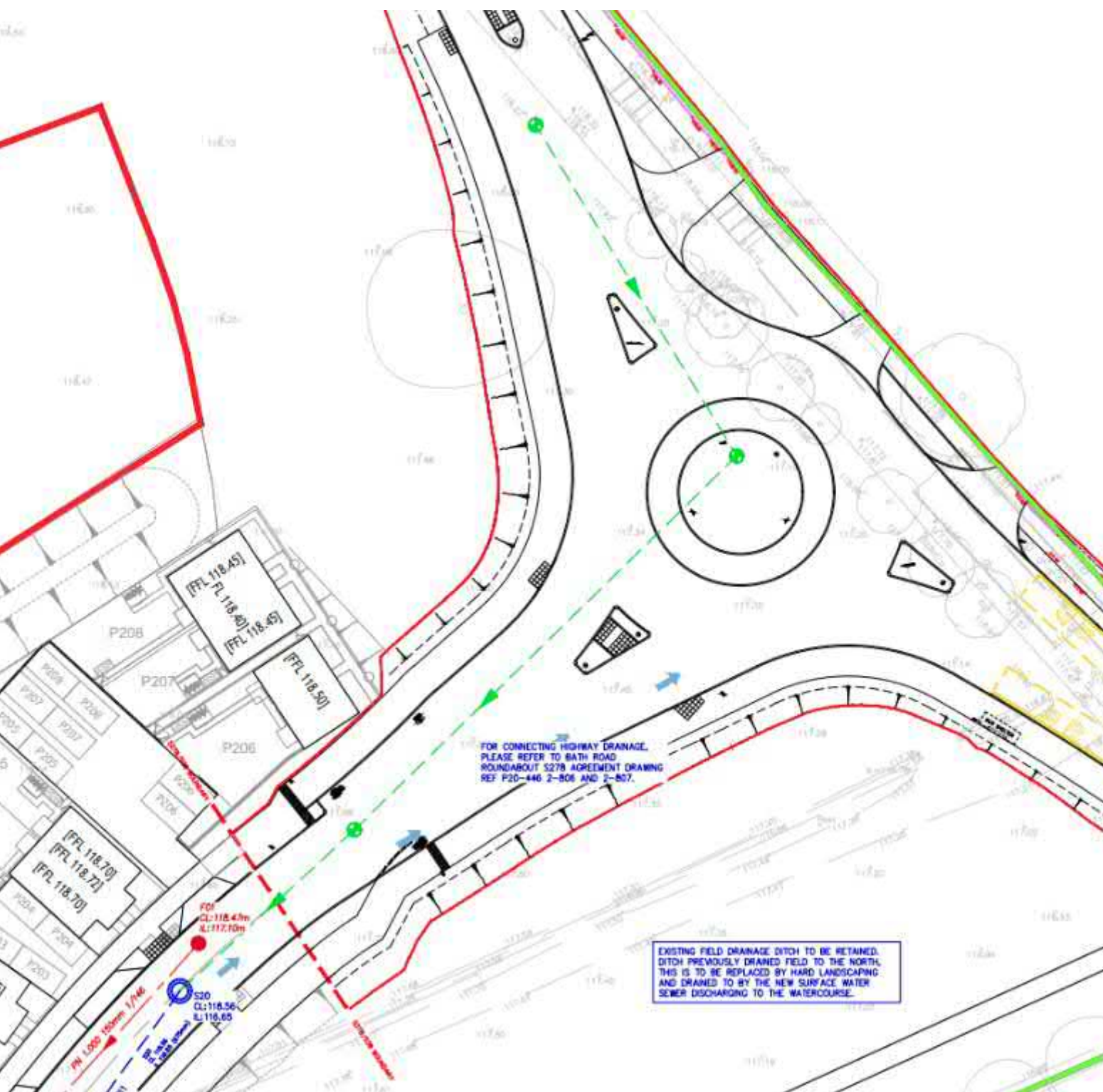


Leep Holdings (Utilities) Limited : Registered in England & Wales : Company Number 06729159 : Registered Office Metro, 33 Trafford Road, Manchester, Salford, M5 3NN

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DRAINAGE LEGEND



- | | |
|---|---|
|  | Surface water manhole to be adopted |
|  | Surface water sewer to be adopted |
|  | Surface water catchpit manhole to be adopted by Wessex Water |
|  | Surface water manhole to be adopted by County Council |
|  | Surface water highway drain to be adopted by County Council |
|  | Flood exceedance route |
|  | Foul water sewer to be adopted by Wessex Water |
|  | Foul water manhole to be adopted by Wessex Water |
|   | Maximum hydraulic modeled 1 in 100 flood extent (Drawing No. P831/05) |
|   | Maximum hydraulic modeled 1 in 100 flood extent (Drawing No. P831/05 Rev A) |
| [FFL 110.00] | Proposed finished floor level |
|    | Site Boundary |
|  | Application Boundary |
|  | 1 in 100 + 40CC Fluvial Flood Model corresponding flood levels taken from the West-of-Warminster ISIS-TUFLOW AEG, found in document number 'P831 Addendum (Part 1)' |



Appendix F

Infiltration Testing

Mr Charles Woodhead
 Greatworth Property Managers Ltd
 127a High Street
 Hungerford
 RG17 0DL

14th June 2023

Dear Mr Woodhead

Re: Brick Hill Farm, Warminster – In-situ Infiltration and Percolation Testing

As instructed we attended the above site on the 12th and 13th June 2023 to undertake four in-situ infiltration and percolation tests at the general locations indicated by your engineer, as shown on the attached annotated plan, following agreement with Mr Ellis the site owner.

Summary of Site Works

The purpose of the works was to obtain the information necessary to support any future drainage solution discharging to land and to determine if the groundwater table is likely to be an issue.

For surface water discharge design four trial pits (SA01 to SA04), as detailed in Table 1, were dug to carryout infiltration tests in accordance with the procedures outlined in BRE Digest 365 Soakaway Design 1991. This test requires the time for the water level to drop from 25% to 75% to be recorded in three consecutive tests in order to calculate the infiltration rate.

Table 1 – Soakaway Trial Pit Dimensions

Date of Test	Trial Pit ref	Pit length	Pit width	Pit depth
12 th March 2022	SA01	2.30m	0.80m	2.25m
	SA02	2.00m	0.80m	2.25m
	SA03	2.10m	0.80m	2.30m
	SA04	2.60m	0.80m	2.20m

For the design of the drainage field for septic tank discharge a further four shallow pits, as detailed in Table 2, were also dug near the soakaway trial pits in which there was a 300mm x 300mm sump in the base. This is the approach required for the BS6297 percolation test to calculate the Vp value, which also uses the time for the sump to drain from 25% to 75% repeated three times in each pit.

Table 2 – Percolation Test Pits Depths Dimensions

Date Dug	Percolation Pit ref	Base depth
12 th March 2022	PT01	1.30m
	PT02	1.35m
	PT03	1.40m
	PT04	1.50m

As can be seen from the attached selection of photographs all the trial pits revealed a layer of clayey sandy topsoil resting directly on the natural chalk apart from trial pit SA01, which revealed a thin band of clay below the topsoil.

BRE365 - Infiltration Results

Attached are copies of the infiltration record sheets that unfortunately, as summarised in the table below, show the soils are not to be suitable for a soakaway drainage solution as none of the tests were completed in the time available.

Table 3 - Summary of the Infiltration Test Results based on BRE365 Method

Trial Pit	Test Number	Depth to Base (m)	Depth to Standing Water (m)	Total Water Level Drop (m)	Total Time Taken (min)	Infiltration Rate (m/s)
SA01	Round 1	2.25	Dry	0.045	240	n/a
SA02	Round 1	2.25	Dry	0.060	240	n/a
SA03	Round 1	2.30	Dry	0.090	330	n/a
SA04	Round 1	2.20	Dry	0.070	420	n/a

Also based upon the rate the pits were draining none of them would drain within 24 hours, which is a requirement for a soakaway design. Although, the soils did allow some water to infiltrate, which based upon the surface area of the test pits and recorded level drop the infiltration rates were in the region of 2×10^{-7} m/s to 6×10^{-7} m/s.

BS6297 - Percolation Results

As part of the test procedure for the percolation test the 300mm x 300mm x 300mm sumps in the base of each pit is filled with water and left overnight prior to start test. Unfortunately, as shown in the table below and attached photographs, three of the four sumps were found to still contain water the following morning and therefore were unsuitable for being used for the test.

Table 4 - Summary of the Percolation Test Results

Test Pit	Water level drop overnight	Test Number	Time to drop from 25-75%	Vp (s/mm)
PT01	65mm	Test abandoned as sump did not drain overnight		
PT02	300mm DRY	Round 1	Only dropped a total of 68.3% in 9 hours 20 minutes	n/a
PT03	100mm	Test abandoned as sump did not drain overnight		
PT04	110mm	Test abandoned as sump did not drain overnight		

The one drained sump was refilled to start the percolation test but unfortunately did not achieve the required 75% drop in level over a period of nearly 9½ hours. Therefore, the test has to be deemed unsuccessful because the calculated Vp based upon the fall achieved is 179s/mm, which exceeds the maximum allowable 100 s/mm.

Groundwater Level

A trial pit was excavated in the lowest south-western corner of the site but as can be seen from the attached photograph, the chalk was very hard and had to be broken out as blocks. The pit was widened to provide more working room but once it reached 2.7m deep the JCB no longer had the power extend the pit any deeper, however the pit was dry.

Conclusion

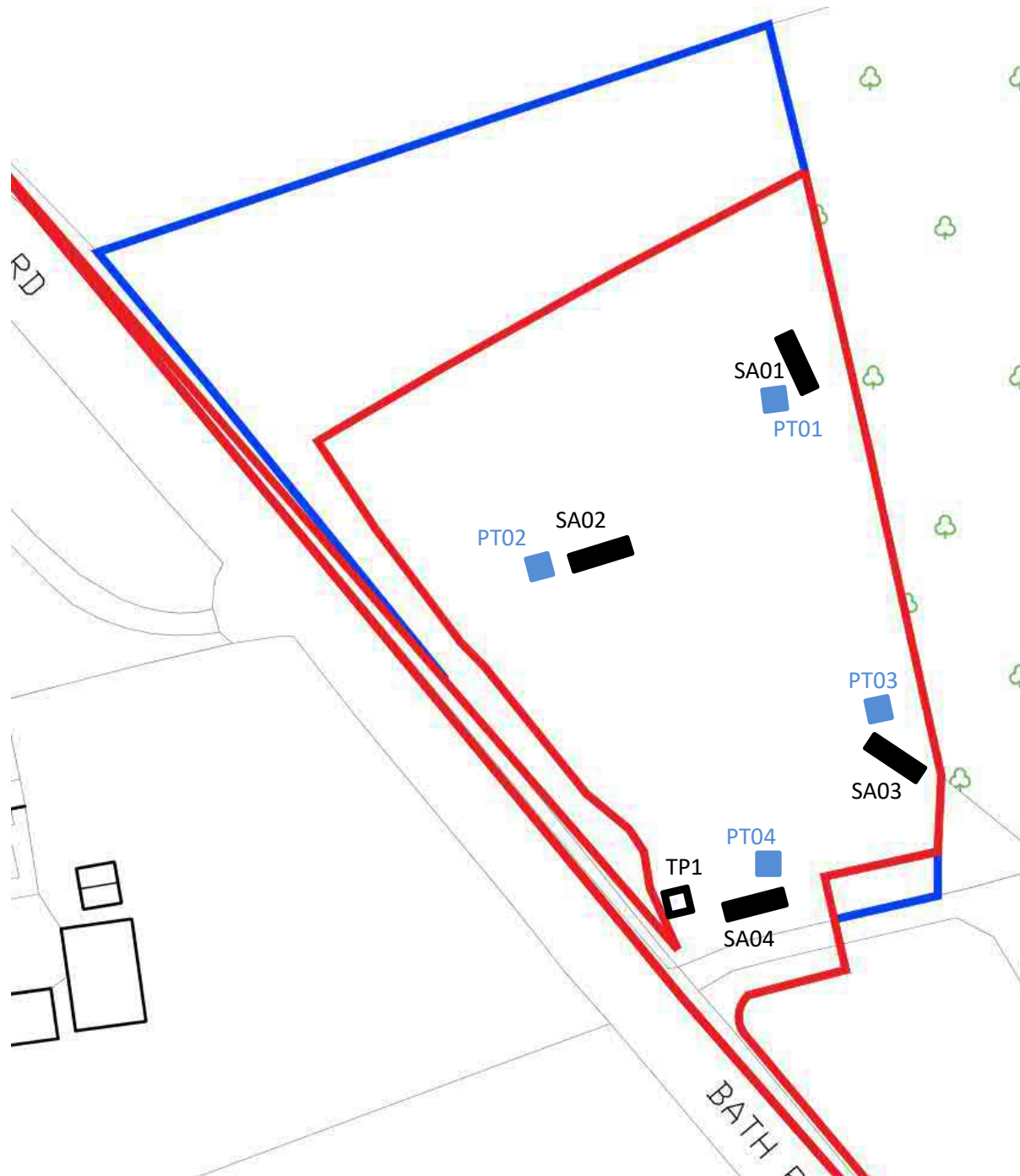
Although the natural soil is chalk and it has been shown to have limited capacity to permit the infiltration of water the rates achieved are insufficient to support the design of a soakaway drainage solution for surface water or a drainage field for the discharge from a septic tank.

I hope the above and attached are sufficiently detailed but if you have any queries or would like to discuss the results further then please do not hesitate to contact me.

Yours sincerely

A handwritten signature in blue ink, appearing to read "R. Blaney", with a horizontal line extending from the end.

Richard Blaney
for Forge Environmental Management Ltd



KEY

- Location of BRE365 infiltration test pit
- Position of BS6297 percolation test pit
- Trial Pit position

PROJECT	CLIENT	Date : 14 th June 2023	 The Forge Lower Vagg Chilthorne Domer Yeovil Somerset BA21 3PY Tel : 01935 840 346
Brick Hill Farm, Warminster	Greatworth Property Managers Ltd	Scale : Not To Scale	
DRAWING TITLE		DRAWING No.	
Infiltration and Percolation Test Locations		BRI384.D/001	



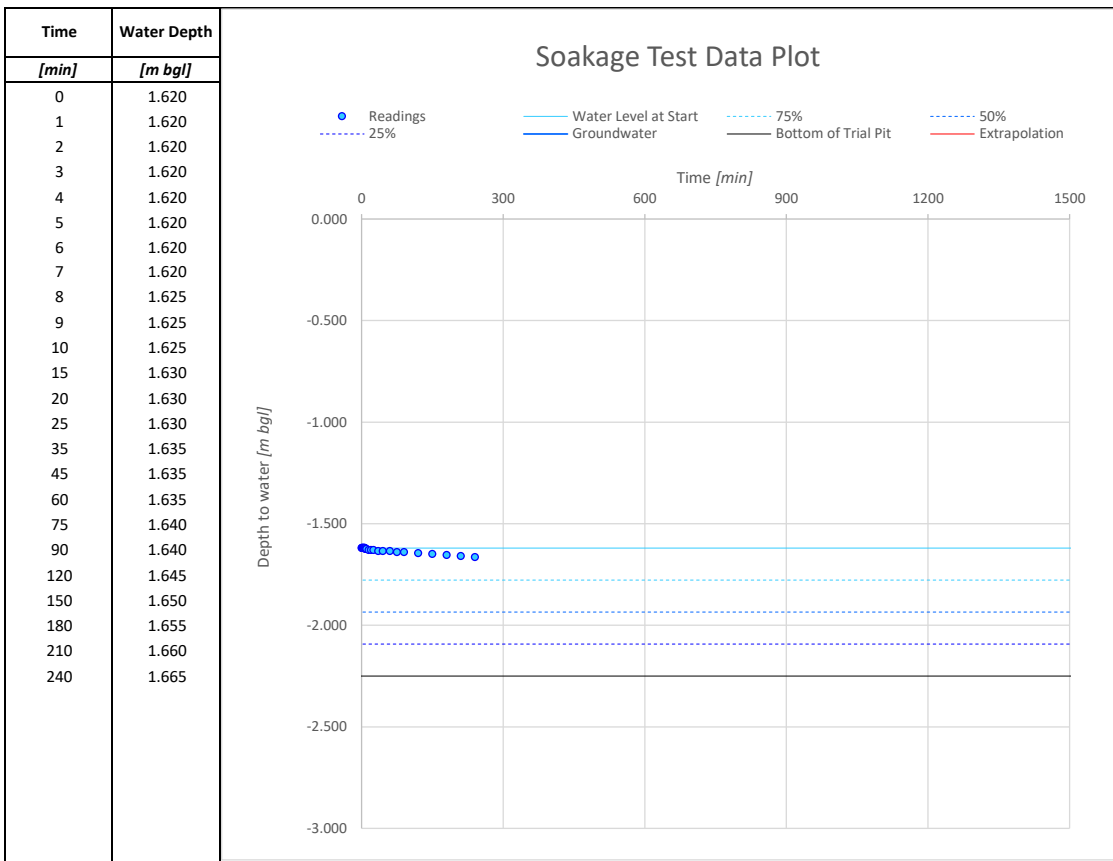
SOIL INFILTRATION RATE

Client: Greatworth Property Managers Ltd
Project Title: Brick Hill Farm, Warminster
Project No: BRI384.S

Trial Pit No: SA01
Test No: 1
Date: 12th June 2023
Logged by: RB

Length [m]: 2.30
Depth [m]: 2.25
Width [m]: 0.80
Groundwater [m bgl]:

Ground	Conditions	from - to [m bgl]		Description
		0.000	0.300	Dark Brown clayey silty SAND (Topsoil)
		0.300	0.600	Brown sandy CLAY
		0.600	2.250	White CHALK



Soil Infiltration Rate [m/s]:
$$f = \frac{V_{p75-25}}{a_{s50} \times t_{p75-25}}$$

with:

V_{p75-25} as Effective Storage Volume of water between 75% and 25% effective storage depth [m³] **0.58**

a_{s50} as Internal Surface Area of the soakage trial pit up to 50% storage depth including the base area [m²] **3.79**

t_{p75-25} as Time for the water level to fall from 75% to 25% effective storage depth [s] **n/a**

Soil Infiltration Rate [m/s]: **n/a**

Remarks: Result could not be calculated. Soakage test failed.



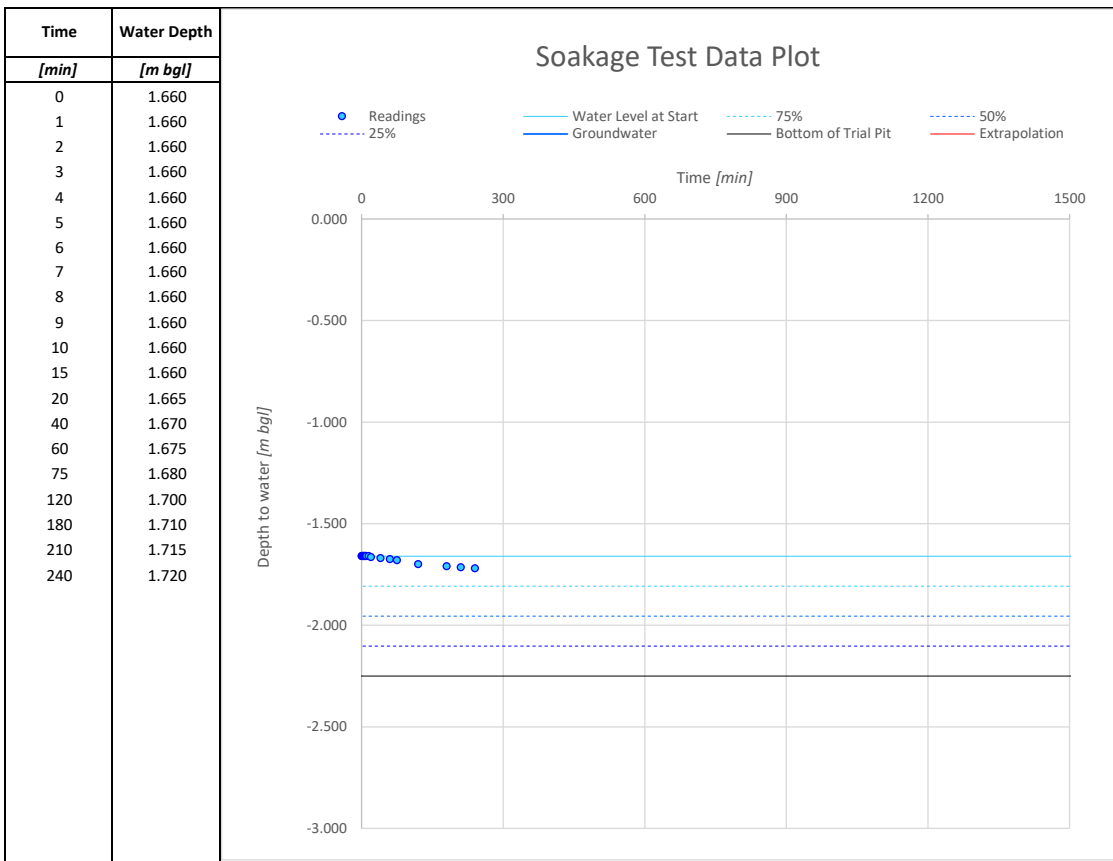
SOIL INFILTRATION RATE

Client: Greatworth Property Managers Ltd
Project Title: Brick Hill Farm, Warminster
Project No: BRI384.S

Trial Pit No: SA02
Test No: 1
Date: 12th June 2023
Logged by: RB

Length [m]: 2.00
Depth [m]: 2.25
Width [m]: 0.80
Groundwater [m bgl]:

Ground	Conditions	from - to [m bgl]		Description
		0.000	0.250	Dark Brown clayey silty SAND (Topsoil)
		0.250	2.250	White CHALK



Soil Infiltration Rate [m/s]:
$$f = \frac{V_{p75-25}}{a_{s50} \times t_{p75-25}}$$

with:

V_{p75-25} as Effective Storage Volume of water between 75% and 25% effective storage depth [m³] **0.47**

a_{s50} as Internal Surface Area of the soakage trial pit up to 50% storage depth including the base area [m²] **3.25**

t_{p75-25} as Time for the water level to fall from 75% to 25% effective storage depth [s] **n/a**

Soil Infiltration Rate [m/s]: **n/a**

Remarks: Result could not be calculated. Soakage test failed.



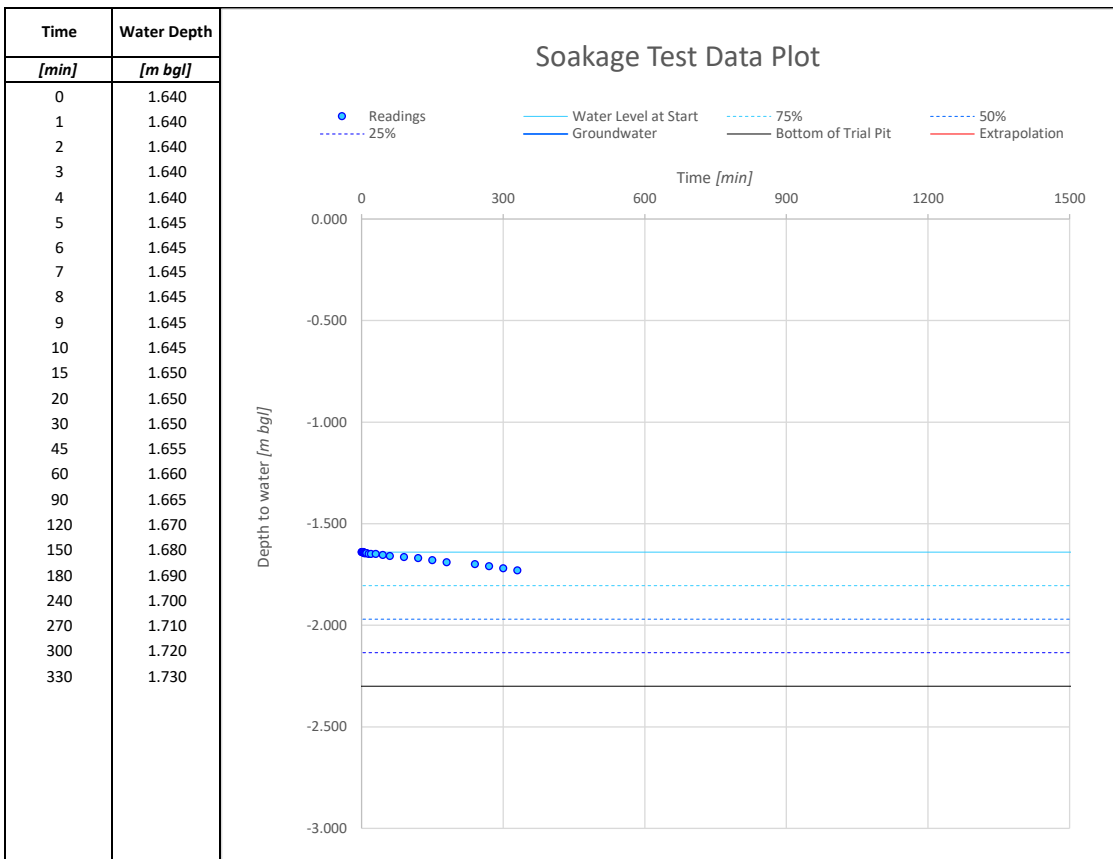
SOIL INFILTRATION RATE

Client: Greatworth Property Managers Ltd
Project Title: Brick Hill Farm, Warminster
Project No: BRI384.S

Trial Pit No: SA02
Test No: 1
Date: 12th June 2023
Logged by: RB

Length [m]: 2.10
Depth [m]: 2.30
Width [m]: 0.80
Groundwater [m bgl]:

Ground	Conditions	from - to [m bgl]		Description
		0.000	0.450	Dark Brown clayey silty SAND (Topsoil)
		0.450	2.250	White CHALK



Soil Infiltration Rate [m/s]:
$$f = \frac{V_{p75-25}}{a_{s50} \times t_{p75-25}}$$

with:

V_{p75-25} as Effective Storage Volume of water between 75% and 25% effective storage depth [m³] **0.55**

a_{s50} as Internal Surface Area of the soakage trial pit up to 50% storage depth including the base area [m²] **3.59**

t_{p75-25} as Time for the water level to fall from 75% to 25% effective storage depth [s] **n/a**

Soil Infiltration Rate [m/s]: **n/a**

Remarks: Result could not be calculated. Soakage test failed.

Digging the pit hit very hard band in southern end was pit was extended northwards and dig continued. The test was undertaken in deeper northern section



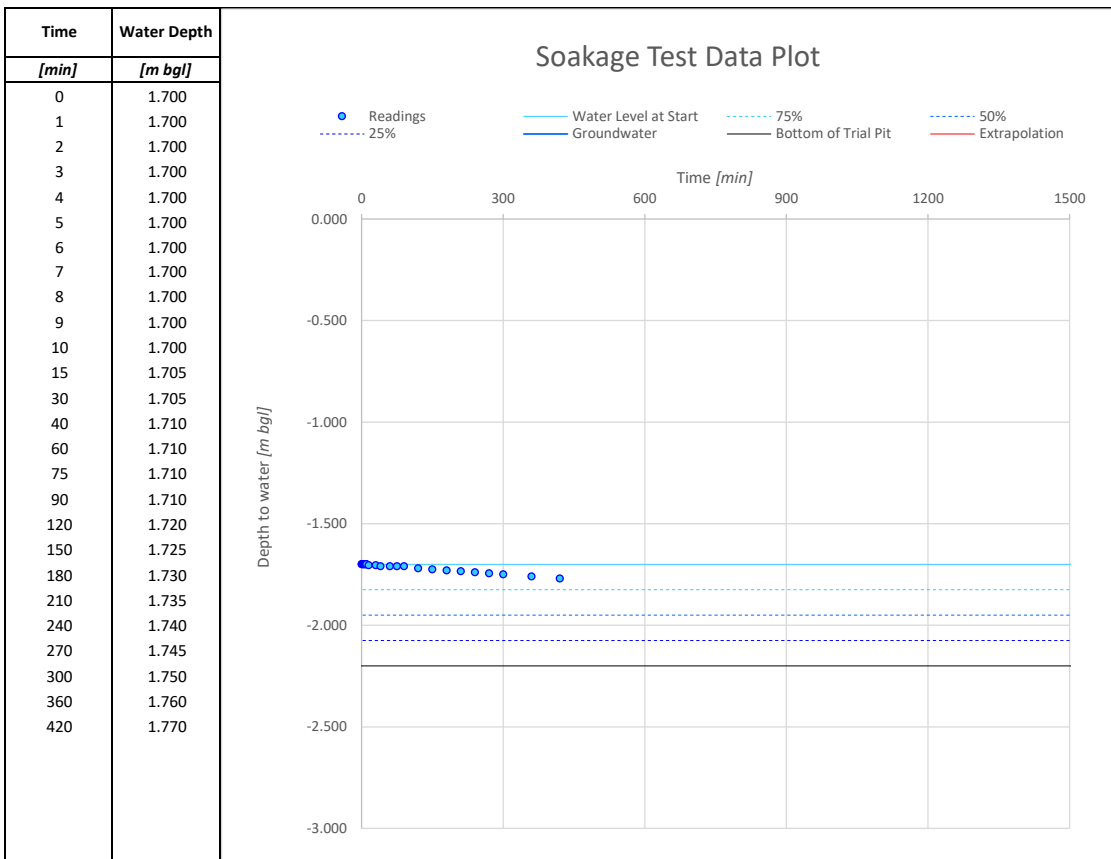
SOIL INFILTRATION RATE

Client: Greatworth Property Managers Ltd
Project Title: Brick Hill Farm, Warminster
Project No: BRI384.S

Trial Pit No: SA02
Test No: 1
Date: 12th June 2023
Logged by: RB

Length [m]: 2.60
Depth [m]: 2.20
Width [m]: 0.80
Groundwater [m bgl]:

Ground	Conditions	from - to [m bgl]		Description
		0.000	0.400	Dark Brown clayey silty SAND (Topsoil)
		0.400	2.250	White CHALK



Soil Infiltration Rate [m/s]:
$$f = \frac{V_{p75-25}}{a_{s50} \times t_{p75-25}}$$

with:

V_{p75-25} as Effective Storage Volume of water between 75% and 25% effective storage depth [m³] **0.52**

a_{s50} as Internal Surface Area of the soakage trial pit up to 50% storage depth including the base area [m²] **3.78**

t_{p75-25} as Time for the water level to fall from 75% to 25% effective storage depth [s] **n/a**

Soil Infiltration Rate [m/s]: **n/a**

Remarks: Result could not be calculated. Soakage test failed.

Digging the pit hit very hard band in southern end was pit was extended northwards and dig continued. The test was undertaken in deeper northern section



SOIL PERCOLATION RESULT

Client : Greatworth Property Managers Ltd
Date of Tests : 12th June 2023
Project Title : Brick Hill Farm, Warminster
Project No : BRI384.S

Test Pit No : SP02

Depth of pit (m) : 1.35
Depth to water level (m) :

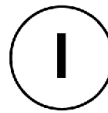
Ground Conditions	From to (m bgl)		Description
	0.000	0.400	Dark brown clayey silty SAND (topsoil)
	0.400	1.350	White CHALK

Test No	Times				Time Lapse 25-75% drop			Vp (s/mm)
	Start	25% drop	75% drop	Dry	hours	minutes	second	
1	07:25	09:17	-	-	-	-	-	n/a
2								
3								
Average Vp =								n/a

Comments

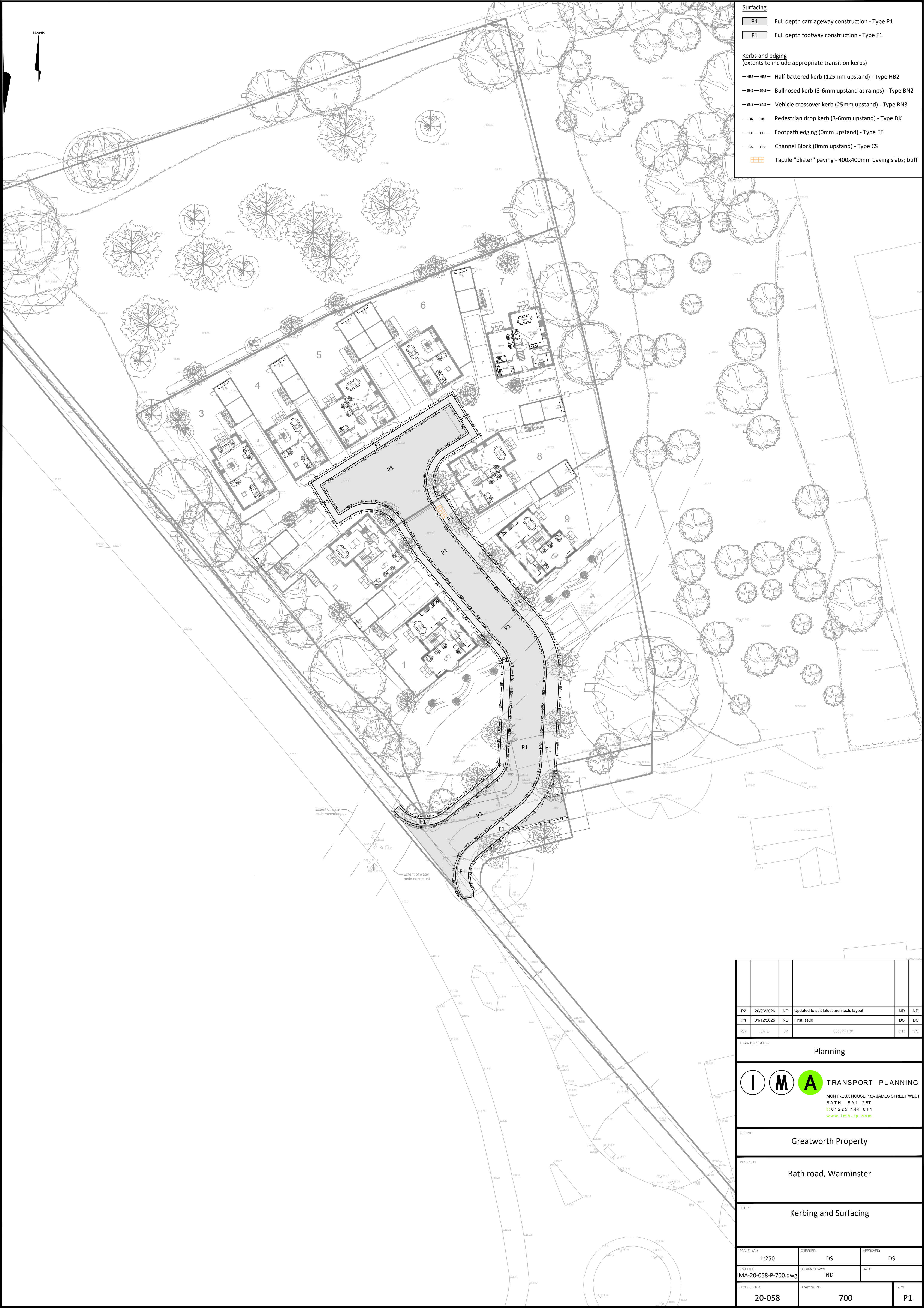
The test was run until 16:45 (9hours 20mins) when the the level had dropped to 205mm (i.e only achieved 68.3% drop). Therefore the test was abandoned.

Although not compliant with BS6297 for the fall from 25% to 68.3% the Vp = 179 > 100 = fails



Appendix G

Construction Details



Surfacing

P1

Full depth carriageway construction - Type P1

F1

Full depth footway construction - Type F1

Kerbs and edging
(extents to include appropriate transition kerbs)

HB2

Half battered kerb (125mm upstand) - Type HB2

BN2

Bullnosed kerb (3-6mm upstand at ramps) - Type BN2

BN3

Vehicle crossover kerb (25mm upstand) - Type BN3

DK

Pedestrian drop kerb (3-6mm upstand) - Type DK

EF

Footpath edging (0mm upstand) - Type EF

CS

Channel Block (0mm upstand) - Type CSTactile "blister" paving - 400x400mm paving slabs; buff