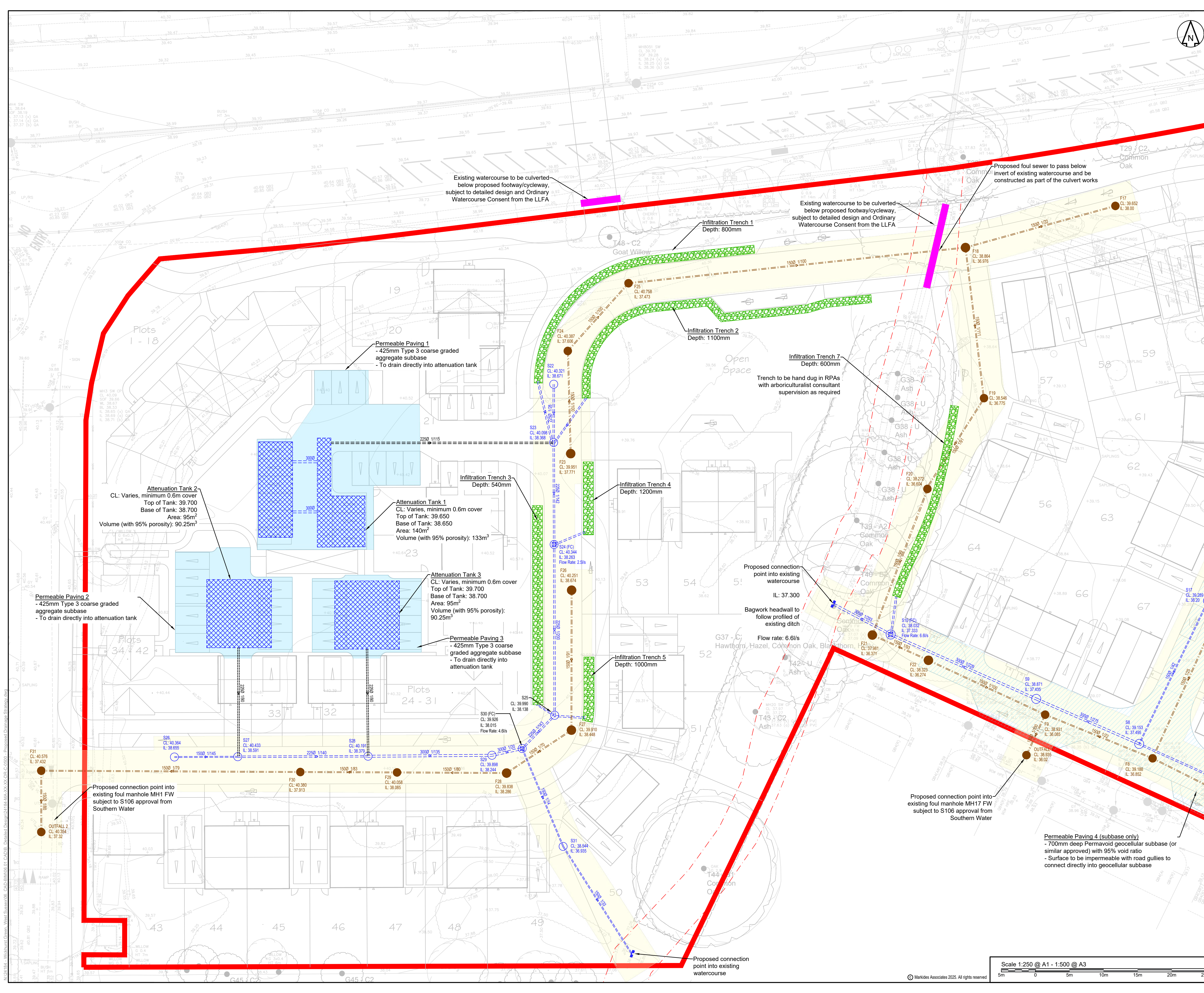




DO NOT SCALE OFF THIS DRAWING

Notes:

- This drawing is not to be used for construction; it is preliminary and intended for informational purposes only. It is subject to change during the design process.
- All dimensions in metres unless otherwise stated.
- Proposed works are based on the topographic survey provided by MK Surveys, (ref: 34921.dwg) dated October 2024.
- This drawing is based upon drawing number 24.1945.1000T Wickhurst Green - Proposed Site Layout, supplied by FNC. Markides Associates shall not be liable for any inaccuracies or deficiencies.
- No deviation from the details shown on this drawing is permitted without prior approval from the Engineer.

Key:

- Proposed Adoptable Surface Water Drainage
- Proposed Adoptable Surface Water Chamber
- Proposed Adoptable Surface Water Flow Control
- Proposed Adoptable Foul Water Drainage
- Proposed Adoptable Foul Water Chamber
- Proposed Private Surface Water Drainage
- Proposed Filter Strip
- Proposed Permeable Paving
- Proposed Permeable Subbase
- Proposed Attenuation Tank
- 6m Adopted Sewer Easement
- 3m Watercourse Easement
- Culverted Watercourse
- Allowable Flooding Zone
- Proposed Bagwork Headwall

Revision History					
Rev	Comment	Current Revision	By	Chkd	Appr
P01	ISSUED FOR INFORMATION		BB	HJ	HJ
DRAFT	DRAFT FOR COMMENT		BB	HJ	HJ

Current Revision					
Rev	Comment	Current Revision	By	Chkd	Appr
P01	ISSUED FOR INFORMATION		BB	HJ	HJ
Rev	Comment		BB	HJ	HJ

PRELIMINARY

VISTRY

MARKIDES ASSOCIATES
TRANSPORT PLANNING AND ENGINEERING

Project: **WICKHURST GREEN BROADBRIDGE HEATH**

Drawing Title: **PROPOSED DRAINAGE STRATEGY SHEET 1**

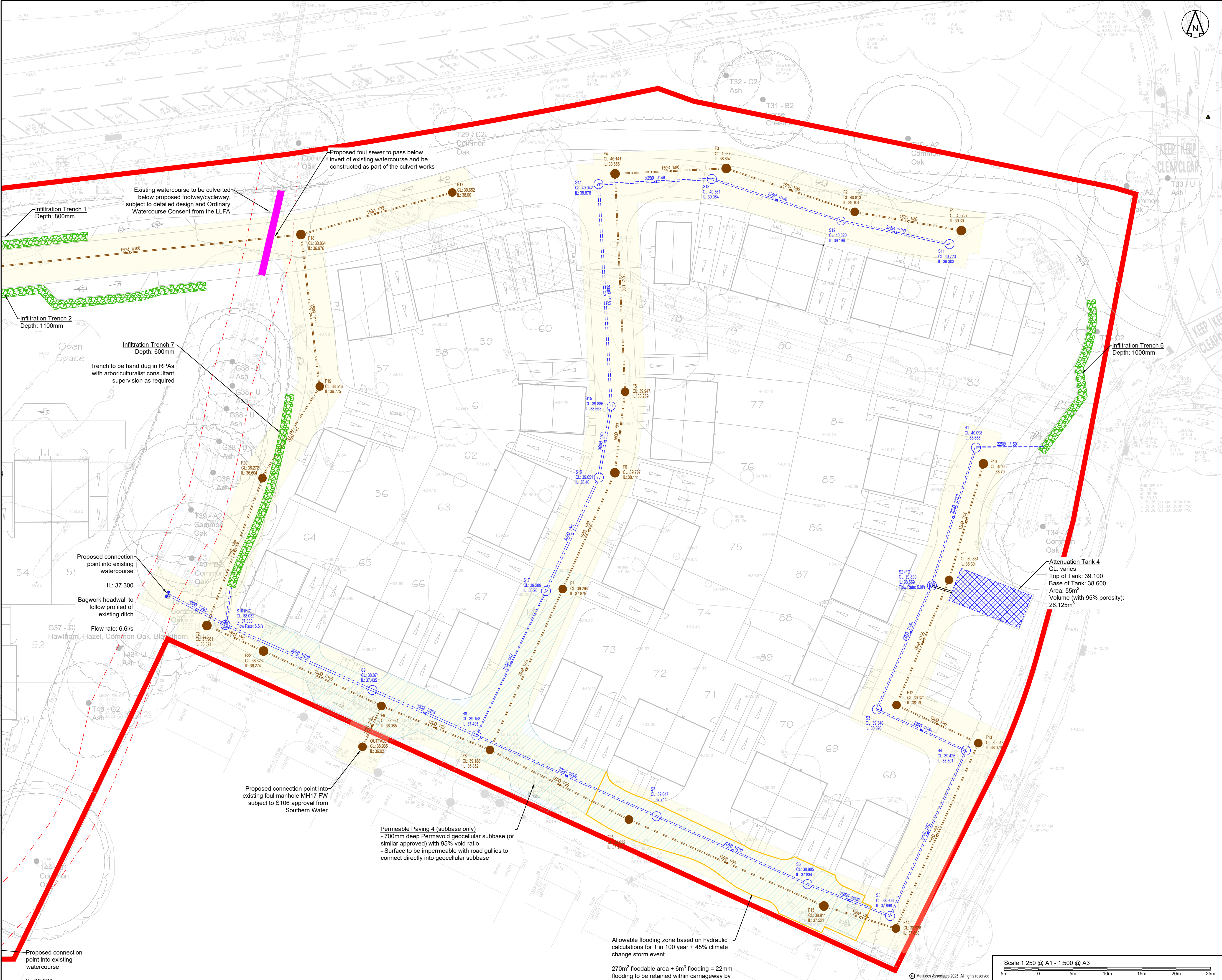
Western Parcel

Markides Associates reference: 24184

Scale 1:250 @ A1 - 1:500 @ A3

Scale bar: 5m, 0, 5m, 10m, 15m, 20m, 25m

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DO NOT SCALE OFF THIS DRAWING

Notes:

- This drawing is not to be used for construction; it is preliminary and intended for informational purposes only. It is subject to change during the design process.
- All dimensions in metres unless otherwise stated.
- Proposed works are based on the topographic survey provided by MK Surveys, (ref: 34921.dwg) dated October 2024.
- This drawing is based upon drawing number 24.1945.1000T Wickhurst Green - Proposed Site Layout, supplied by FINC, Markkides Associates shall not be liable for any inaccuracies or deficiencies.
- No deviation from the details shown on this drawing is permitted without prior approval from the Engineer.

Key:

- Proposed Adoptable Surface Water Drainage
- Proposed Adoptable Surface Water Chamber
- Proposed Adoptable Surface Water Flow Control
- Proposed Adoptable Foul Water Drainage
- Proposed Adoptable Foul Water Chamber
- Proposed Private Surface Water Drainage
- Proposed Filter Strip
- Proposed Permeable Paving
- Proposed Permeable Subbase
- Proposed Attenuation Tank
- 6m Adopted Sewer Easement
- 3m Watercourse Easement
- Culverted Watercourse
- Allowable Flooding Zone
- Proposed Bagwork Headwall

Revision History					
P01	ISSUED FOR INFORMATION	BB	HJ	HJ	01.05.25
DRAFT	DRAFT FOR COMMENT	BB	HJ	HJ	17.04.25
Rev	Comment	By	Chkd	Appr	Date
Current Revision					
P01	ISSUED FOR INFORMATION	BB	HJ	HJ	01.05.25
Rev	Comment	By	Chkd	Appr	Date

PRELIMINARY

VISTRY



WICKHURST GREEN
BROADBRIDGE HEATH

Proposed Drainage Strategy
SHEET 2
EASTERN PARCEL

Markkides Associates reference: 24184 1:250@A1
24184-MA-XX-DR-C-0501 - P01

APPENDIX G – PROPOSED HYDRAULIC CALCULATIONS

Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Stormwater Controls Storm Phase: West	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		





Permeable Paving 1

Type : Porous Paving

Dimensions	
Exceedance Level (m)	40.420
Depth (m)	0.575
Base Level (m)	39.845
Paving Layer Depth (mm)	150
Membrane Percolation (m/hr)	3.0
Porosity (%)	30
Length (m)	31.935
Long. Slope (1:X)	200.00
Width (m)	14.125
Total Volume (m³)	57.514

Advanced	
Conductivity (m/hr)	0.001



Permeable Paving 2

Type : Porous Paving

Dimensions	
Exceedance Level (m)	40.457
Depth (m)	0.575
Base Level (m)	39.882
Paving Layer Depth (mm)	150
Membrane Percolation (m/hr)	3.0
Porosity (%)	30
Length (m)	22.823
Long. Slope (1:X)	200.00
Width (m)	10.330
Total Volume (m³)	30.059

Advanced	
Conductivity (m/hr)	0.001

Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Stormwater Controls Storm Phase: West	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



Permeable Paving 3

Type : Porous Paving

Dimensions

Exceedance Level (m)	40.252
Depth (m)	0.575
Base Level (m)	39.677
Paving Layer Depth (mm)	150
Membrane Percolation (m/hr)	3.0
Porosity (%)	30
Length (m)	19.305
Long. Slope (1:X)	200.00
Width (m)	9.135
Total Volume (m³)	22.484

Advanced

Conductivity (m/hr)	0.001
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Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Stormwater Controls Storm Phase: West	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		





Infiltration Trench (4)

Type : Infiltration Trench

Dimensions

Exceedance Level (m)	39.918
Depth (m)	0.540
Base Level (m)	39.378
Freeboard (mm)	15
Porosity (%)	30
Length (m)	36.214
Long. Slope (1:X)	200.00
Width (m)	1.687
Total Volume (m³)	10.069

Under Drain

Height Above Base (m)	0.010
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	0.001
---------------------	-------

Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Stormwater Controls Storm Phase: West	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		





Infiltration Trench (5)

Type : Infiltration Trench

Dimensions

Exceedance Level (m)	39.883
Depth (m)	1.200
Base Level (m)	38.683
Freeboard (mm)	15
Porosity (%)	30
Length (m)	10.707
Long. Slope (1:X)	200.00
Width (m)	1.500
Total Volume (m³)	5.842

Under Drain

Height Above Base (m)	0.010
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	0.001
---------------------	-------

Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Stormwater Controls Storm Phase: West	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		





Infiltration Trench

Type : Infiltration Trench

Dimensions

Exceedance Level (m)	40.000
Depth (m)	1.100
Base Level (m)	38.900
Freeboard (mm)	0
Porosity (%)	30
Length (m)	45.290
Long. Slope (1:X)	500.00
Width (m)	1.409
Total Volume (m³)	21.619

Under Drain

Height Above Base (m)	0.010
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	0.001
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Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Stormwater Controls Storm Phase: West	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		





Infiltration Trench (1)

Type : Infiltration Trench

Dimensions

Exceedance Level (m)	40.400
Depth (m)	0.800
Base Level (m)	39.600
Freeboard (mm)	0
Porosity (%)	30
Length (m)	38.042
Long. Slope (1:X)	500.00
Width (m)	1.331
Total Volume (m³)	12.623

Under Drain

Height Above Base (m)	0.010
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	0.001
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Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Stormwater Controls Storm Phase: West	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		





Infiltration Trench (2)

Type : Infiltration Trench

Dimensions

Exceedance Level (m)	39.747
Depth (m)	1.000
Base Level (m)	38.747
Freeboard (mm)	0
Porosity (%)	30
Length (m)	9.675
Long. Slope (1:X)	200.00
Width (m)	1.462
Total Volume (m³)	4.363

Under Drain

Height Above Base (m)	0.010
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	0.001
---------------------	-------

Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Stormwater Controls Storm Phase: West	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



Attenuation Tank 2

Type : Cellular Storage

Dimensions

Exceedance Level (m)	40.535
Depth (m)	1.000
Base Level (m)	38.700
Number of Crates Long	1
Number of Crates Wide	1
Number of Crates High	1
Porosity (%)	96
Crate Length (m)	9.5
Crate Width (m)	10
Crate Height (m)	1
Total Volume (m³)	92.035



Attenuation Tank 3

Type : Cellular Storage

Dimensions

Exceedance Level (m)	40.342
Depth (m)	1.000
Base Level (m)	38.700
Number of Crates Long	1
Number of Crates Wide	1
Number of Crates High	1
Porosity (%)	95
Crate Length (m)	9.5
Crate Width (m)	10
Crate Height (m)	1
Total Volume (m³)	90.892



Attenuation Tank 1

Type : Cellular Storage

Dimensions

Exceedance Level (m)	40.516
Depth (m)	1.000
Base Level (m)	38.650
Number of Crates Long	1
Number of Crates Wide	1
Number of Crates High	1
Porosity (%)	95
Crate Length (m)	14
Crate Width (m)	10
Crate Height (m)	1
Total Volume (m³)	133.866

Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Network Design Criteria Storm Phase: West	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



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 Options	Minimise Excavation
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	☐

Manhole Options

Apply Offset	☐
--------------	--------------------------

Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Outfall Details Storm Phase: West	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
Outfall	Free Discharge			

Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Stormwater Controls Storm Phase: East	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



Permeable Paving 4

Type : Porous Paving

Dimensions

Exceedance Level (m)	38.200
Depth (m)	0.851
Base Level (m)	37.349
Paving Layer Depth (mm)	150
Membrane Percolation (m/hr)	3.0
Porosity (%)	95
Length (m)	96.963
Long. Slope (1:X)	200.00
Width (m)	7.985
Total Volume (m³)	515.817

Under Drain

Height Above Base (m)	0.010
Diameter (mm)	225
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	0.001
---------------------	-------

Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Stormwater Controls Storm Phase: East	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		





Infiltration Trench 6

Type : Infiltration Trench

Dimensions

Exceedance Level (m)	39.733
Depth (m)	1.000
Base Level (m)	38.733
Freeboard (mm)	0
Porosity (%)	30
Length (m)	23.655
Long. Slope (1:X)	500.00
Width (m)	1.240
Total Volume (m³)	9.092

Under Drain

Height Above Base (m)	0.010
Diameter (mm)	150
No. of Barrels	1
Release Height (m)	0.000
Friction Scheme	Manning's n
n	0.015

Advanced

Conductivity (m/hr)	0.001
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Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Stormwater Controls Storm Phase: East	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



Attenuation Tank 4

Type : Cellular Storage

Dimensions

Exceedance Level (m)	39.880
Depth (m)	0.500
Base Level (m)	38.600
Number of Crates Long	1
Number of Crates Wide	1
Number of Crates High	1
Porosity (%)	95
Crate Length (m)	11
Crate Width (m)	5
Crate Height (m)	0.5
Total Volume (m³)	26.905

Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Network Design Criteria Storm Phase: East	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



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 Options	Minimise Excavation
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	☐

Manhole Options

Apply Offset	☐
--------------	--------------------------

Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Outfall Details Storm Phase: East	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



Outfalls

Outfall	Outfall Type	Gated	Fixed Surcharged Level (m)	Level Curve
OUTFALL 1	Free Discharge			

Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Title: Rainfall Analysis Criteria	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



Runoff Type	Dynamic
Output Interval (mins)	5
Time Step	Default
Urban Creep	Apply Global Value
Urban Creep Global Value (%)	10
Junction Flood Risk Margin (mm)	300
Perform No Discharge Analysis	☒
Rainfall Depth (mm)	1.0
Run Time (mins)	1440

Rainfall

FEH		Type: FEH
Site Location	GB 514884 130983 TQ 14884 30983	
Rainfall Version	2022	
Summer	☒	
Winter	☒	

Return Period

Return Period (years)	Increase Rainfall (%)
2.0	0.000
30.0	40.000
100.0	45.000

Storm Durations

Duration (mins)	Run Time (mins)
60	120
120	240
180	360
240	480
360	720
480	960
600	1200
720	1440
960	1920
1440	2880
2160	4320
2880	5760

Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Junctions Summary Storm Phase: West	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Outflow

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
S5	FEH: 2 years: +0 %: 2880 mins: Summer	39.77 3	38.01 5	38.668	0.654	3.9	0.740	0.000	3.8	216.271	Surcharged
S10	FEH: 2 years: +0 %: 60 mins: Winter	39.89 9	38.24 4	38.788	0.545	5.0	0.616	0.000	4.1	16.259	Surcharged
S7	FEH: 2 years: +0 %: 60 mins: Summer	40.37 0	38.65 5	38.789	0.134	2.8	0.151	0.000	2.8	3.401	OK
S4	FEH: 2 years: +0 %: 60 mins: Summer	39.83 6	38.06 3	38.789	0.726	5.3	0.821	0.000	4.6	7.547	Surcharged
S3	FEH: 2 years: +0 %: 240 mins: Summer	40.34 4	38.26 3	38.890	0.627	1.9	0.709	0.000	1.9	30.183	Surcharged
S2	FEH: 2 years: +0 %: 720 mins: Winter	40.09 7	38.36 8	38.864	0.496	2.3	0.561	0.000	1.8	68.260	Surcharged
S6	FEH: 2 years: +0 %: 720 mins: Winter	38.54 4	36.93 5	36.971	0.036	3.8	0.041	0.000	3.8	147.225	OK
S1	FEH: 2 years: +0 %: 60 mins: Winter	40.32 1	38.67 1	38.805	0.134	0.9	0.152	0.000	1.1	2.338	OK
S9	FEH: 2 years: +0 %: 60 mins: Summer	40.19 1	38.37 9	38.789	0.410	10.9	0.463	0.000	4.5	18.241	Surcharged
S8	FEH: 2 years: +0 %: 60 mins: Summer	40.43 3	38.59 1	38.788	0.198	6.3	0.224	0.000	4.6	11.732	OK
Outfall	FEH: 2 years: +0 %: 720 mins: Winter	36.86 0	36.36 0	36.395	0.035	3.8	0.000	0.000	3.8	147.225	OK

Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Junctions Summary Storm Phase: West	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Outflow

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
S5	FEH: 30 years: +40 %: 360 mins: Winter	39.773	38.015	39.321	1.306	5.5	1.478	0.000	4.3	168.204	Surcharged
S10	FEH: 30 years: +40 %: 60 mins: Summer	39.899	38.244	39.174	0.930	25.3	1.052	0.000	4.3	34.890	Surcharged
S7	FEH: 30 years: +40 %: 60 mins: Summer	40.370	38.655	39.175	0.520	9.1	0.588	0.000	8.6	10.754	Surcharged
S4	FEH: 30 years: +40 %: 60 mins: Summer	39.836	38.063	39.174	1.111	15.5	1.257	0.000	13.5	21.581	Surcharged
S3	FEH: 30 years: +40 %: 960 mins: Summer	40.344	38.263	39.362	1.099	1.9	1.243	0.000	1.9	165.875	Surcharged
S2	FEH: 30 years: +40 %: 2160 mins: Summer	40.097	38.368	39.262	0.894	2.4	1.011	0.000	1.8	213.181	Surcharged
S6	FEH: 30 years: +40 %: 360 mins: Winter	38.544	36.935	36.973	0.038	4.3	0.043	0.000	4.3	161.713	OK
S1	FEH: 30 years: +40 %: 120 mins: Summer	40.321	38.671	39.331	0.660	3.6	0.747	0.000	3.5	11.577	Surcharged
S9	FEH: 30 years: +40 %: 60 mins: Winter	40.191	38.379	39.175	0.796	31.8	0.901	0.000	5.1	50.126	Surcharged
S8	FEH: 30 years: +40 %: 60 mins: Winter	40.433	38.591	39.175	0.584	24.2	0.661	0.000	3.5	35.769	Surcharged
Outfall	FEH: 30 years: +40 %: 360 mins: Winter	36.860	36.360	36.397	0.037	4.3	0.000	0.000	4.3	161.713	OK

Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Junctions Summary Storm Phase: West	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Outflow

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
S5	FEH: 100 years: +45 %: 360 mins: Winter	39.773	38.015	39.564	1.549	8.1	1.752	0.000	4.6	188.525	Flood Risk
S10	FEH: 100 years: +45 %: 60 mins: Summer	39.899	38.244	39.373	1.129	34.3	1.277	0.000	5.9	47.571	Surcharged
S7	FEH: 100 years: +45 %: 60 mins: Summer	40.370	38.655	39.374	0.719	12.2	0.813	0.000	11.5	14.332	Surcharged
S4	FEH: 100 years: +45 %: 60 mins: Summer	39.836	38.063	39.373	1.310	20.7	1.482	0.000	17.1	28.306	Surcharged
S3	FEH: 100 years: +45 %: 240 mins: Winter	40.344	38.263	39.723	1.459	2.6	1.651	0.000	1.9	40.099	Surcharged
S2	FEH: 100 years: +45 %: 360 mins: Winter	40.097	38.368	39.962	1.594	8.1	1.803	0.000	2.5	88.346	Flood Risk
S6	FEH: 100 years: +45 %: 360 mins: Winter	38.544	36.935	36.975	0.040	4.6	0.045	0.000	4.6	173.913	OK
S1	FEH: 100 years: +45 %: 60 mins: Summer	40.321	38.671	39.424	0.753	4.8	0.851	0.000	4.7	11.995	Surcharged
S9	FEH: 100 years: +45 %: 60 mins: Winter	40.191	38.379	39.373	0.994	42.2	1.125	0.000	6.7	68.636	Surcharged
S8	FEH: 100 years: +45 %: 60 mins: Winter	40.433	38.591	39.373	0.783	31.4	0.885	0.000	3.6	48.806	Surcharged
Outfall	FEH: 100 years: +45 %: 360 mins: Winter	36.860	36.360	36.399	0.039	4.6	0.000	0.000	4.6	173.913	OK

Wickhurst Green:		Date: 02/05/2025		
		Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Stormwater Controls Summary Storm Phase: West		Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



**FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max.
US 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
Infiltration Trench (4)	FEH: 2 years: +0 %: 120 mins: Summer	39.667	39.462	0.108	0.084	2.1	2.202	0.000	0.000	1.0	4.067	78.130	OK
Infiltration Trench (5)	FEH: 2 years: +0 %: 360 mins: Winter	38.892	38.891	0.156	0.209	0.2	0.877	0.000	0.000	0.2	1.836	84.989	OK
Infiltration Trench	FEH: 2 years: +0 %: 180 mins: Summer	39.149	38.976	0.158	0.076	1.8	2.703	0.000	0.000	0.8	4.958	87.498	OK
Attenuation Tank 2	FEH: 2 years: +0 %: 240 mins: Summer	38.825	38.825	0.125	0.125	6.0	11.396	0.000	0.000	0.9	12.121	87.618	OK
Attenuation Tank 3	FEH: 2 years: +0 %: 240 mins: Summer	38.825	38.825	0.125	0.125	6.0	11.270	0.000	0.000	0.9	12.449	87.601	OK
Attenuation Tank 1	FEH: 2 years: +0 %: 360 mins: Winter	38.892	38.892	0.242	0.242	5.7	32.172	0.000	0.000	1.7	33.316	75.967	OK
Permeable Paving 1	FEH: 2 years: +0 %: 2880 mins: Summer	40.141	39.923	0.137	0.078	0.4	16.860	0.000	0.000	0.1	1.663	70.686	OK
Permeable Paving 2	FEH: 2 years: +0 %: 2880 mins: Summer	40.132	39.982	0.136	0.101	0.2	9.002	0.000	0.000	0.0	0.634	70.052	OK
Permeable Paving 3	FEH: 2 years: +0 %: 2880 mins: Winter	39.911	39.753	0.138	0.077	0.1	6.189	0.000	0.000	0.0	1.107	72.472	OK
Infiltration Trench (1)	FEH: 2 years: +0 %: 120 mins: Summer	39.850	39.681	0.174	0.081	2.1	2.299	0.000	0.000	1.0	4.011	81.790	OK
Infiltration Trench (2)	FEH: 2 years: +0 %: 60 mins: Summer	38.869	38.808	0.073	0.061	0.7	0.283	0.000	0.000	0.5	0.772	93.505	OK

Wickhurst Green:		Date: 02/05/2025		
		Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Stormwater Controls Summary Storm Phase: West		Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



**FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max.
US 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
Infiltration Trench (4)	FEH: 30 years: +40 %: 60 mins: Summer	39.989	39.560	0.430	0.182	8.4	6.527	0.000	0.000	3.4	9.588	35.179	OK
Infiltration Trench (5)	FEH: 30 years: +40 %: 360 mins: Winter	39.438	39.438	0.702	0.755	0.6	3.511	0.000	0.000	0.2	2.363	39.904	OK
Infiltration Trench	FEH: 30 years: +40 %: 60 mins: Winter	39.477	39.224	0.486	0.324	7.2	7.923	0.000	0.000	1.8	5.476	63.350	OK
Attenuation Tank 2	FEH: 30 years: +40 %: 360 mins: Winter	39.322	39.322	0.622	0.622	8.4	56.703	0.000	0.000	1.1	24.040	38.390	OK
Attenuation Tank 3	FEH: 30 years: +40 %: 360 mins: Winter	39.322	39.322	0.622	0.622	8.2	56.102	0.000	0.000	1.1	24.026	38.276	OK
Attenuation Tank 1	FEH: 30 years: +40 %: 360 mins: Winter	39.439	39.439	0.789	0.789	13.1	104.895	0.000	0.000	1.5	34.803	21.642	OK
Permeable Paving 1	FEH: 30 years: +40 %: 2880 mins: Winter	40.323	39.924	0.318	0.079	0.6	36.498	0.000	0.000	0.1	6.572	36.540	OK
Permeable Paving 2	FEH: 30 years: +40 %: 2880 mins: Summer	40.314	39.985	0.318	0.103	0.5	18.668	0.000	0.000	0.1	3.857	37.896	OK
Permeable Paving 3	FEH: 30 years: +40 %: 2880 mins: Summer	40.091	39.756	0.317	0.079	0.4	12.529	0.000	0.000	0.1	4.285	44.274	OK
Infiltration Trench (1)	FEH: 30 years: +40 %: 60 mins: Summer	40.249	39.789	0.573	0.189	8.6	6.672	0.000	0.000	3.5	9.595	47.140	OK
Infiltration Trench (2)	FEH: 30 years: +40 %: 360 mins: Winter	39.323	39.322	0.527	0.575	0.5	2.338	0.000	0.000	0.2	2.831	46.416	OK

Wickhurst Green:		Date: 02/05/2025		
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Report Details: Type: Stormwater Controls Summary Storm Phase: West		Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



**FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By:
Max. US 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
Infiltration Trench (4)	FEH: 100 years: +45 %: 60 mins: Summer	40.050	39.641	0.491	0.263	11.1	7.822	0.000	0.000	4.6	12.911	22.321	OK
Infiltration Trench (5)	FEH: 100 years: +45 %: 720 mins: Summer	39.799	39.799	1.063	1.116	0.7	5.248	0.000	0.000	0.2	3.833	10.167	OK
Infiltration Trench	FEH: 100 years: +45 %: 480 mins: Winter	40.000	39.993	1.009	1.093	2.1	20.133	0.000	0.000	1.0	16.691	6.870	OK
Attenuation Tank 2	FEH: 100 years: +45 %: 360 mins: Winter	39.565	39.565	0.865	0.865	11.9	78.884	0.000	0.000	1.5	31.886	14.289	OK
Attenuation Tank 3	FEH: 100 years: +45 %: 360 mins: Winter	39.565	39.565	0.865	0.865	11.9	78.050	0.000	0.000	1.5	31.782	14.129	OK
Attenuation Tank 1	FEH: 100 years: +45 %: 480 mins: Winter	39.993	39.993	1.343	1.343	15.0	133.373	0.000	0.000	1.9	32.262	0.368	OK
Permeable Paving 1	FEH: 100 years: +45 %: 2880 mins: Summer	40.420	39.925	0.416	0.081	1.3	47.063	0.000	0.000	0.3	9.212	18.172	OK
Permeable Paving 2	FEH: 100 years: +45 %: 2880 mins: Winter	40.411	39.985	0.415	0.103	0.4	23.793	0.000	0.000	0.1	5.565	20.845	OK
Permeable Paving 3	FEH: 100 years: +45 %: 2880 mins: Summer	40.188	39.757	0.415	0.080	0.5	15.964	0.000	0.000	0.2	6.007	29.000	OK
Infiltration Trench (1)	FEH: 100 years: +45 %: 60 mins: Summer	40.327	39.883	0.651	0.283	11.4	7.927	0.000	0.000	4.8	13.013	37.197	OK
Infiltration Trench (2)	FEH: 100 years: +45 %: 360 mins: Winter	39.567	39.565	0.771	0.818	0.6	3.371	0.000	0.000	0.2	3.304	22.733	OK

Wickhurst Green:	Date: 02/05/2025		
	Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Junctions Summary Storm Phase: East	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max. Outflow

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
S14	FEH: 2 years: +0 %: 60 mins: Summer	40.17 9	38.87 8	38.964	0.086	16.2	0.123	0.000	16.2	20.259	OK
S15	FEH: 2 years: +0 %: 60 mins: Summer	39.89 0	38.66 3	38.751	0.089	17.0	0.100	0.000	17.0	21.301	OK
S16	FEH: 2 years: +0 %: 60 mins: Summer	39.65 1	38.59 3	38.686	0.093	23.1	0.134	0.000	23.1	28.825	OK
S17	FEH: 2 years: +0 %: 60 mins: Summer	39.40 2	38.47 9	38.525	0.047	23.1	0.067	0.000	23.1	28.827	OK
S10	FEH: 2 years: +0 %: 180 mins: Winter	38.01 6	37.33 3	37.620	0.287	6.6	0.411	0.000	6.6	97.616	OK
OUTFALL 1	FEH: 2 years: +0 %: 180 mins: Winter	38.09 3	37.30 0	37.364	0.064	6.6	0.000	0.000	6.6	88.867	OK
S1	FEH: 2 years: +0 %: 60 mins: Summer	40.10 1	38.66 8	38.715	0.047	4.3	0.067	0.000	4.3	5.728	OK
S2	FEH: 2 years: +0 %: 120 mins: Winter	39.89 0	38.55 9	38.695	0.136	5.0	0.194	0.000	2.9	19.423	OK
S3	FEH: 2 years: +0 %: 60 mins: Summer	39.34 0	38.39 6	38.448	0.052	4.9	0.075	0.000	4.9	12.343	OK
S4	FEH: 2 years: +0 %: 60 mins: Summer	39.42 5	38.30 1	38.341	0.039	4.9	0.056	0.000	4.9	12.316	OK
S5	FEH: 2 years: +0 %: 60 mins: Summer	38.91 6	37.86 0	38.000	0.140	4.9	0.200	0.000	4.2	12.257	OK
S20	FEH: 2 years: +0 %: 60 mins: Summer	38.64 0	37.68 8	37.746	0.059	8.1	0.084	0.000	8.0	10.056	OK
S21	FEH: 2 years: +0 %: 60 mins: Summer	38.39 1	37.48 9	37.555	0.066	8.7	0.094	0.000	8.7	10.886	OK
S19	FEH: 2 years: +0 %: 60 mins: Summer	38.97 1	37.82 7	37.888	0.062	7.0	0.088	0.000	7.0	8.690	OK
S18	FEH: 2 years: +0 %: 60 mins: Summer	39.66 0	37.98 2	38.039	0.057	6.1	0.065	0.000	6.1	7.561	OK
S11	FEH: 2 years: +0 %: 60 mins: Summer	40.76 6	39.30 3	39.360	0.057	6.1	0.082	0.000	6.1	7.577	OK
S12	FEH: 2 years: +0 %: 60 mins: Summer	40.75 9	39.19 6	39.267	0.071	9.3	0.081	0.000	9.3	11.583	OK
S13	FEH: 2 years: +0 %: 60 mins: Summer	40.43 0	39.06 4	39.135	0.071	9.3	0.102	0.000	9.3	11.578	OK

Wickhurst Green:	Date: 02/05/2025		
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Report Details: Type: Junctions Summary Storm Phase: East	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		




FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max. Outflow

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
S14	FEH: 30 years: +40 %: 60 mins: Summer	40.179	38.878	39.042	0.164	52.2	0.235	0.000	52.2	65.161	OK
S15	FEH: 30 years: +40 %: 60 mins: Summer	39.890	38.663	38.836	0.173	54.9	0.195	0.000	54.9	68.533	OK
S16	FEH: 30 years: +40 %: 60 mins: Summer	39.651	38.593	38.772	0.179	74.3	0.256	0.000	74.3	92.723	OK
S17	FEH: 30 years: +40 %: 60 mins: Summer	39.402	38.479	38.572	0.093	74.3	0.134	0.000	74.3	92.717	OK
S10	FEH: 30 years: +40 %: 120 mins: Winter	38.016	37.333	37.941	0.608	16.1	0.870	0.000	6.6	91.608	Flood Risk
OUTFALL 1	FEH: 30 years: +40 %: 120 mins: Winter	38.093	37.300	37.364	0.064	6.6	0.000	0.000	6.6	66.263	OK
S1	FEH: 30 years: +40 %: 60 mins: Summer	40.101	38.668	38.935	0.267	12.8	0.382	0.000	11.5	18.877	Surcharged
S2	FEH: 30 years: +40 %: 120 mins: Summer	39.890	38.559	38.932	0.373	15.8	0.534	0.000	5.0	55.761	Surcharged
S3	FEH: 30 years: +40 %: 60 mins: Summer	39.340	38.396	38.479	0.083	12.2	0.119	0.000	12.3	34.590	OK
S4	FEH: 30 years: +40 %: 60 mins: Summer	39.425	38.301	38.365	0.064	12.3	0.092	0.000	12.4	34.417	OK
S5	FEH: 30 years: +40 %: 60 mins: Summer	38.916	37.860	38.341	0.480	12.4	0.687	0.000	11.6	34.228	Surcharged
S20	FEH: 30 years: +40 %: 60 mins: Summer	38.640	37.688	37.836	0.149	25.9	0.213	0.000	25.9	32.394	OK
S21	FEH: 30 years: +40 %: 60 mins: Summer	38.391	37.489	37.837	0.348	28.0	0.498	0.000	28.0	34.858	Surcharged
S19	FEH: 30 years: +40 %: 60 mins: Summer	38.971	37.827	37.943	0.117	22.4	0.167	0.000	22.4	27.996	OK
S18	FEH: 30 years: +40 %: 60 mins: Summer	39.660	37.982	38.090	0.108	19.5	0.122	0.000	19.5	24.353	OK
S11	FEH: 30 years: +40 %: 60 mins: Summer	40.766	39.303	39.411	0.108	19.5	0.155	0.000	19.5	24.375	OK
S12	FEH: 30 years: +40 %: 60 mins: Summer	40.759	39.196	39.335	0.140	29.8	0.158	0.000	29.8	37.255	OK
S13	FEH: 30 years: +40 %: 60 mins: Summer	40.430	39.064	39.203	0.139	29.8	0.199	0.000	29.8	37.248	OK

Wickhurst Green:	Date: 02/05/2025		
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Report Details: Type: Junctions Summary Storm Phase: East	Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By: Max. Outflow

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
S14	FEH: 100 years: +45 %: 60 mins: Summer	40.179	38.878	39.078	0.200	69.5	0.286	0.000	69.5	86.876	OK
S15	FEH: 100 years: +45 %: 60 mins: Summer	39.890	38.663	38.875	0.212	73.1	0.240	0.000	73.1	91.380	OK
S16	FEH: 100 years: +45 %: 60 mins: Summer	39.651	38.593	38.813	0.220	98.9	0.315	0.000	98.9	123.596	OK
S17	FEH: 100 years: +45 %: 60 mins: Summer	39.402	38.479	38.596	0.118	98.9	0.168	0.000	98.9	123.580	OK
S10	FEH: 100 years: +45 %: 60 mins: Summer	38.016	37.333	37.916	0.584	37.3	0.835	0.000	6.6	64.342	Flood Risk
OUTFALL 1	FEH: 100 years: +45 %: 60 mins: Summer	38.093	37.300	37.364	0.064	6.6	0.000	0.000	6.6	32.703	OK
S1	FEH: 100 years: +45 %: 60 mins: Summer	40.101	38.668	39.077	0.409	16.3	0.585	0.000	15.5	23.127	Surcharged
S2	FEH: 100 years: +45 %: 60 mins: Winter	39.890	38.559	39.187	0.628	26.5	0.899	0.000	5.2	54.482	Surcharged
S3	FEH: 100 years: +45 %: 60 mins: Summer	39.340	38.396	38.536	0.140	15.4	0.201	0.000	14.9	39.515	OK
S4	FEH: 100 years: +45 %: 60 mins: Summer	39.425	38.301	38.533	0.232	14.9	0.332	0.000	14.6	39.352	Surcharged
S5	FEH: 100 years: +45 %: 60 mins: Summer	38.916	37.860	38.527	0.667	14.6	0.955	0.000	12.6	38.793	Surcharged
S20	FEH: 100 years: +45 %: 60 mins: Summer	38.640	37.688	37.916	0.229	34.5	0.327	0.000	34.5	43.359	Surcharged
S21	FEH: 100 years: +45 %: 60 mins: Summer	38.391	37.489	37.917	0.428	37.4	0.612	0.000	37.3	46.638	Surcharged
S19	FEH: 100 years: +45 %: 60 mins: Summer	38.971	37.827	37.967	0.140	29.9	0.200	0.000	29.9	37.300	OK
S18	FEH: 100 years: +45 %: 60 mins: Summer	39.660	37.982	38.111	0.129	26.0	0.146	0.000	26.0	32.442	OK
S11	FEH: 100 years: +45 %: 60 mins: Summer	40.766	39.303	39.433	0.130	26.0	0.186	0.000	26.0	32.482	OK
S12	FEH: 100 years: +45 %: 60 mins: Summer	40.759	39.196	39.369	0.173	39.8	0.196	0.000	39.8	49.675	OK
S13	FEH: 100 years: +45 %: 60 mins: Summer	40.430	39.064	39.236	0.172	39.8	0.245	0.000	39.8	49.673	OK

Wickhurst Green:		Date: 02/05/2025		
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Report Details: Type: Stormwater Controls Summary Storm Phase: East		Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



**FEH: 2 years: Increase Rainfall (%): +0: Critical Storm Per Item: Rank By: Max.
US 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
Permeable Paving 4	FEH: 2 years: +0 %: 60 mins: Winter	38.000	37.531	0.167	0.182	46.6	73.810	0.000	0.000	5.1	12.623	85.691	OK
Infiltration Trench 6	FEH: 2 years: +0 %: 60 mins: Summer	38.838	38.831	0.058	0.098	2.3	0.686	0.000	0.000	2.0	2.759	92.453	OK
Attenuation Tank 4	FEH: 2 years: +0 %: 120 mins: Winter	38.695	38.695	0.095	0.095	2.8	4.951	0.000	0.000	1.2	4.757	81.598	OK

Wickhurst Green:		Date: 02/05/2025		
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Report Details: Type: Stormwater Controls Summary Storm Phase: East		Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



**FEH: 30 years: Increase Rainfall (%): +40: Critical Storm Per Item: Rank By: Max.
US 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
Permeable Paving 4	FEH: 30 years: +40 %: 60 mins: Winter	38.371	37.860	0.538	0.511	148.7	226.358	0.000	0.000	6.0	20.532	56.117	OK
Infiltration Trench 6	FEH: 30 years: +40 %: 60 mins: Winter	38.968	38.967	0.188	0.234	5.9	1.856	0.000	0.000	5.1	8.936	79.589	OK
Attenuation Tank 4	FEH: 30 years: +40 %: 60 mins: Winter	38.965	38.965	0.365	0.365	15.1	19.060	0.000	0.000	3.5	10.386	29.157	OK

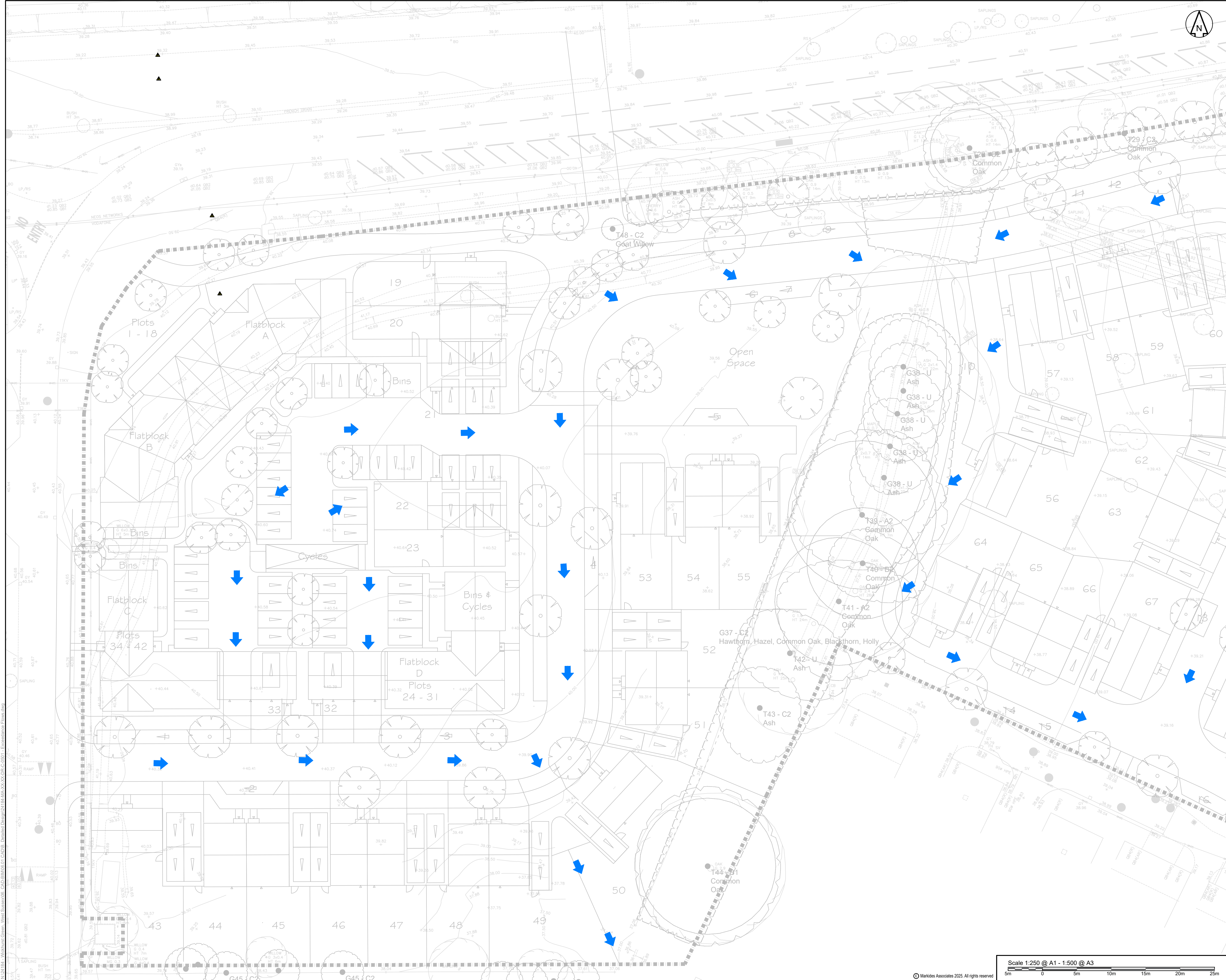
Wickhurst Green:		Date: 02/05/2025		
		Designed by: Billie Bonham	Checked by: Helen Jolly	Approved By: Helen Jolly
Report Details: Type: Stormwater Controls Summary Storm Phase: East		Company Address: Markides Associates 81 Southwark Bridge Road London, SE1 0NQ		



**FEH: 100 years: Increase Rainfall (%): +45: Critical Storm Per Item: Rank By:
Max. US 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
Permeable Paving 4	FEH: 100 years: +45 %: 60 mins: Winter	38.724	37.946	0.890	0.597	194.3	303.184	6.060	0.000	6.5	21.275	41.223	Flood
Infiltration Trench 6	FEH: 100 years: +45 %: 60 mins: Winter	39.190	39.190	0.410	0.456	7.9	3.809	0.000	0.000	5.8	10.924	58.104	OK
Attenuation Tank 4	FEH: 100 years: +45 %: 60 mins: Winter	39.187	39.187	0.587	0.587	21.9	26.227	0.000	0.000	3.7	10.971	2.522	OK

APPENDIX H— EXCEEDANCE FLOW PATHS



DO NOT SCALE OFF THIS DRAWING

- Notes:
- This drawing is not to be used for construction; it is preliminary and intended for informational purposes only. It is subject to change during the design process.
 - All dimensions in metres unless otherwise stated.
 - Proposed works are based on the topographic survey provided by MK Surveys, (ref: 34921.dwg) dated October 2024.
 - This drawing is based upon drawing number 24.1945.1000T Wickhurst Green - Proposed Site Layout, supplied by FINC. Markkides Associates shall not be liable for any inaccuracies or deficiencies.
 - No deviation from the details shown on this drawing is permitted without prior approval from the Engineer.

KEY:
➡ PROPOSED EXCEEDANCE FLOW ROUTE

Revision History							
P01	DRAFT FOR COMMENT	OT	HJ	BB	17.04.25		
Rev	Comment		By	Chkd	Appr	Date	
Current Revision							
P01	DRAFT FOR COMMENT	OT	HJ	BB	17.04.25		
Rev	Comment		By	Chkd	Appr	Date	

PRELIMINARY

VISTRY



Project
WICKHURST GREEN
BROADBRIDGE HEATH

Drawing Title
EXCEEDANCE FLOWS
SHEET 1
WESTERN PARCEL

Markkides Associates reference: 24184 1:250@A1
24184-MA-XX-SK-SK-C0502 - P01

Scale 1:250 @ A1 - 1:500 @ A3
5m 0 5m 10m 15m 20m 25m



Notes:



PRELIMINARY



MARKIDES ASSOCIATES
TRANSPORT PLANNING AND ENGINEERING

Markides Associates reference: 2418

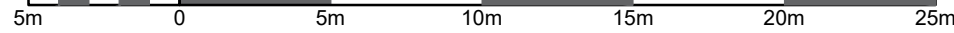
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1:250@A1

P01

24184-MA-XX-XX-SK-C-0503 - P01

Scale 1:250 @ A1 - 1:500 @ A3



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APPENDIX I – MANAGEMENT AND MAINTENANCE PLAN

Maintenance and Management Plan

**Wickhurst Green, Broadbridge
Heath, West Sussex**

17 April 2025

Prepared for Vistry South East

Maintenance and Management Plan
Wickhurst Green, Broadbridge Heath, West Sussex

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Rev	Issue Purpose	Author	Reviewed	Approved	Date
P01	For Approval	OT	HJ	BB	17.04.25

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3. SUDS MAINTENANCE SCHEDULE 5

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1. Introduction

- 1.1.1 Regular inspections and maintenance of the surface and foul drainage systems are important to ensure the systems operate as designed and that it functions effectively and efficiently. This will reduce the likelihood of blockages and flooding on site.
- 1.1.2 The surface water system has been designed to accommodate all surface water run-off for up to and including the 1:100 year + 45% for climate change rainfall event.
- 1.1.3 The system should not need to be inspected or maintained for the first 12 months following construction, during the defects liability period for the construction works.
- 1.1.4 A post-construction CCTV survey of the installed system should be undertaken to confirm the system has been installed in accordance with the drawings and specification and that there are no damages or obstructions within the system. The information from the CCTV survey should be included in the Health & Safety File or O&M manual for the site, which should be passed to the management company and/or individual owner(s) for their information.
- 1.1.5 Once the defects liability period has lapsed, both the surface and foul water drainage systems should be inspected at regular intervals and any blockages cleared or remediation works undertaken at the earliest opportunity to ensure the effective operation of the drainage system.

2. Inspection Regime

- 2.1.1 The surface water and foul drainage systems should be inspected and cleaned by a suitable Specialist Contractor, in accordance with the guidance provided in BS EN 752:2017 Drain and sewer systems outside buildings - sewer system management, Building Regulations Part H, The CIRIA SuDS Manual and relevant guidance from the Health and Safety Executive.
- 2.1.2 The system should be monitored monthly by lifting the covers to the manholes and chambers to monitor debris build-up. If required, these are to be cleaned at the earliest opportunity to prevent blockages.
- 2.1.3 Every six months, the drainage system should be inspected to identify areas that are not operating as required and any remedial works identified should be carried out at the earliest opportunity.
- 2.1.4 Refer to Section 3 for the proposed maintenance schedule for the site which is based on operation and maintenance requirements outlined in the CIRIA SuDS Manual for the specific components relevant to this site.
- 2.1.5 Inspection and maintenance for all proprietary products should be carried out in line with the manufacturer's instructions in addition to the information contained in this report.

3. SuDS Maintenance Schedule

- 3.1.1 In addition to the schedules below, reference should also be made to the manufacturer's detailed information and maintenance requirements for their recommended intervals and safe methods of cleaning.

Figure 3.1 Operation and Maintenance Requirements for Proprietary Treatment Systems

TABLE 14.2 An example of operation and maintenance requirements for a proprietary treatment system

Maintenance schedule	Required action	Typical frequency
Routine maintenance	Remove litter and debris and inspect for sediment, oil and grease accumulation	Six monthly
	Change the filter media	As recommended by manufacturer
	Remove sediment, oil, grease and floatables	As necessary – indicated by system inspections or immediately following significant spill
Remedial actions	Replace malfunctioning parts or structures	As required
Monitoring	Inspect for evidence of poor operation	Six monthly
	Inspect filter media and establish appropriate replacement frequencies	Six monthly
	Inspect sediment accumulation rates and establish appropriate removal frequencies	Monthly during first half year of operation, then every six months

Source: The CIRIA SuDS Manual

Figure 3.2 Operation and Maintenance Requirements for Filter Drains

TABLE 16.1 Operation and maintenance requirements for filter drains

Maintenance schedule	Required action	Typical frequency
Regular maintenance	Remove litter (including leaf litter) and debris from filter drain surface, access chambers and pre-treatment devices	Monthly (or as required)
	Inspect filter drain surface, inlet/outlet pipework and control systems for blockages, clogging, standing water and structural damage	Monthly
	Inspect pre-treatment systems, inlets and perforated pipework for silt accumulation, and establish appropriate silt removal frequencies	Six monthly
	Remove sediment from pre-treatment devices	Six monthly, or as required
Occasional maintenance	Remove or control tree roots where they are encroaching the sides of the filter drain, using recommended methods (eg NJUG, 2007 or BS 3998:2010)	As required
	At locations with high pollution loads, remove surface geotextile and replace, and wash or replace overlying filter medium	Five yearly, or as required
	Clear perforated pipework of blockages	As required

Source: The CIRIA SuDS Manual

Figure 3.3 Operation and Maintenance Requirements for Pervious Pavements

TABLE 20.15	Operation and maintenance requirements for pervious pavements		
	Maintenance schedule	Required action	Typical frequency
	Regular maintenance	Brushing and vacuuming (standard cosmetic sweep over whole surface)	Once a year, after autumn leaf fall, or reduced frequency as required, based on site-specific observations of clogging or manufacturer's recommendations – pay particular attention to areas where water runs onto pervious surface from adjacent impermeable areas as this area is most likely to collect the most sediment
	Occasional maintenance	Stabilise and mow contributing and adjacent areas	As required
		Removal of weeds or management using glyphosate applied directly into the weeds by an applicator rather than spraying	As required – once per year on less frequently used pavements
	Remedial Actions	Remediate any landscaping which, through vegetation maintenance or soil slip, has been raised to within 50 mm of the level of the paving	As required
		Remedial work to any depressions, rutting and cracked or broken blocks considered detrimental to the structural performance or a hazard to users, and replace lost jointing material	As required
		Rehabilitation of surface and upper substructure by remedial sweeping	Every 10 to 15 years or as required (if infiltration performance is reduced due to significant clogging)
	Monitoring	Initial inspection	Monthly for three months after installation
		Inspect for evidence of poor operation and/or weed growth – if required, take remedial action	Three-monthly, 48 h after large storms in first six months
Inspect silt accumulation rates and establish appropriate brushing frequencies		Annually	
Monitor inspection chambers		Annually	

Source: The CIRIA SuDS Manual

Figure 3.4 Operation and Maintenance Requirements for Attenuation Storage Tanks

TABLE 21.3	Operation and maintenance requirements for attenuation storage tanks		
	Maintenance schedule	Required action	Typical frequency
	Regular maintenance	Inspect and identify any areas that are not operating correctly. If required, take remedial action	Monthly for 3 months, then annually
		Remove debris from the catchment surface (where it may cause risks to performance)	Monthly
		For systems where rainfall infiltrates into the tank from above, check surface of filter for blockage by sediment, algae or other matter; remove and replace surface infiltration medium as necessary.	Annually
		Remove sediment from pre-treatment structures and/or internal forebays	Annually, or as required
	Remedial actions	Repair/rehabilitate inlets, outlet, overflows and vents	As required
	Monitoring	Inspect/check all inlets, outlets, vents and overflows to ensure that they are in good condition and operating as designed	Annually
		Survey inside of tank for sediment build-up and remove if necessary	Every 5 years or as required

Source: The CIRIA SuDS Manual

4. Responsibility for Inspections and Maintenance

- 4.1.1 The responsibility for the inspection and maintenance of both the surface and foul water drainage systems lies with the Management Company or owner(s) of the site.
- 4.1.2 In the event that no Management Company is appointed, the responsibility for inspections and maintenance of the surface and foul water drainage system lies wholly with the owner(s) of the site.
- 4.1.3 The recommendations included in this Maintenance and Management Strategy are typical and may need to be amended to suit the site-specific requirements of the development, individual users and owner(s) requirements throughout the life span of the development.



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