













Baynham Meikle Partnership		Page 5
8 Meadow Road Edgbaston, Birmingham B 17 8BU	BARTLEY WOOD BUSINESS PARK NETWORK 4 (RETAIL UNIT) EXCEEDANCE EVENT	
Date 19/05/2021 12:53 File 2021.05.19_network 4 - ...	Designed by EB Checked by NSB	
Micro Drainage	Network 2020.1	


Manhole Schedules for NETWORK 4.SWS

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
11	473179.786	153790.190	473179.786	153790.190	Required	
19	473232.597	153804.631	473232.597	153804.631	Required	
20	473203.268	153804.631	473203.268	153804.631	Required	
22	473232.597	153795.634	473232.597	153795.634	Required	
21	473195.777	153795.720	473195.777	153795.720	Required	
23	473239.100	153802.631	473239.100	153802.631	Required	
24	473239.100	153815.631	473239.100	153815.631	Required	
25	473197.910	153815.631	473197.910	153815.631	Required	
12	473184.438	153795.806	473184.438	153795.806	Required	
13	473181.584	153797.684			No Entry	

Free Flowing Outfall Details for NETWORK 4.SWS

Outfall Pipe Number	Outfall Name	C. Level (m)	I. Level (m)	Min I. Level (m)	D,L (mm)	W (mm)
1.011	13	70.500	67.840	0.000	0	0

Baynham Meikle Partnership		Page 6
8 Meadow Road Edgbaston, Birmingham B 17 8BU	BARTLEY WOOD BUSINESS PARK NETWORK 4 (RETAIL UNIT) EXCEEDANCE EVENT	
Date 19/05/2021 12:53 File 2021.05.19_network 4 - ...	Designed by EB Checked by NSB	
Micro Drainage Network 2020.1		
<p align="center"><u>Simulation Criteria for NETWORK 4.SWS</u></p> <p> Volumetric Runoff Coeff 0.750 Additional Flow - % of Total Flow 0.000 Areal Reduction Factor 1.000 MADD Factor * 10m³/ha Storage 2.000 Hot Start (mins) 0 Inlet Coefficient 0.800 Hot Start Level (mm) 0 Flow per Person per Day (l/per/day) 0.000 Manhole Headloss Coeff (Global) 0.500 Run Time (mins) 60 Foul Sewage per hectare (l/s) 0.000 Output Interval (mins) 1 </p> <p> Number of Input Hydrographs 0 Number of Storage Structures 17 Number of Online Controls 1 Number of Time/Area Diagrams 0 Number of Offline Controls 0 Number of Real Time Controls 0 </p> <p align="center"><u>Synthetic Rainfall Details</u></p> <p> Rainfall Model FSR Profile Type Summer Return Period (years) 1 Cv (Summer) 0.750 Region England and Wales Cv (Winter) 0.840 M5-60 (mm) 19.100 Storm Duration (mins) 30 Ratio R 0.389 </p>		
©1982-2020 Innovyze		

Baynham Meikle Partnership		Page 7
8 Meadow Road Edgbaston, Birmingham B 17 8BU	BARTLEY WOOD BUSINESS PARK NETWORK 4 (RETAIL UNIT) EXCEEDANCE EVENT	
Date 19/05/2021 12:53 File 2021.05.19_network 4 - ...	Designed by EB Checked by NSB	
Micro Drainage	Network 2020.1	

Online Controls for NETWORK 4.SWS

Complex Manhole: 12, DS/PN: 1.011, Volume (m³): 4.3

Hydro-Brake® Optimum

Unit Reference	MD-SHE-0144-8900-0500-8900
Design Head (m)	0.500
Design Flow (l/s)	8.9
Flush-Flo™	Calculated
Objective	Minimise upstream storage
Application	Surface
Sump Available	Yes
Diameter (mm)	144
Invert Level (m)	67.875
Minimum Outlet Pipe Diameter (mm)	225
Suggested Manhole Diameter (mm)	1200


Control Points	Head (m)	Flow (l/s)
Design Point (Calculated)	0.500	8.9
Flush-Flo™	0.217	8.9
Kick-Flo®	0.392	7.9
Mean Flow over Head Range	-	7.1


The hydrological calculations have been based on the Head/Discharge relationship for the Hydro-Brake® Optimum as specified. Should another type of control device other than a Hydro-Brake Optimum® be utilised then these storage routing calculations will be invalidated


Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)	Depth (m)	Flow (l/s)
0.100	5.2	1.200	13.4	3.000	20.8	7.000	31.3
0.200	8.9	1.400	14.5	3.500	22.4	7.500	32.4
0.300	8.7	1.600	15.4	4.000	23.9	8.000	33.5
0.400	8.0	1.800	16.3	4.500	25.3	8.500	34.5
0.500	8.9	2.000	17.1	5.000	26.6	9.000	35.6
0.600	9.7	2.200	17.9	5.500	27.7	9.500	36.5
0.800	11.1	2.400	18.7	6.000	29.0		
1.000	12.3	2.600	19.4	6.500	30.2		


Orifice

Diameter (m) 0.087 Discharge Coefficient 0.600 Invert Level (m) 69.675

Baynham Meikle Partnership		Page 8
8 Meadow Road Edgbaston, Birmingham B 17 8BU	BARTLEY WOOD BUSINESS PARK NETWORK 4 (RETAIL UNIT) EXCEEDANCE EVENT	
Date 19/05/2021 12:53 File 2021.05.19_network 4 - ...	Designed by EB Checked by NSB	
Micro Drainage Network 2020.1		
<p style="text-align: center;"><u>Storage Structures for NETWORK 4.SWS</u></p>		
<p style="text-align: center;"><u>Porous Car Park Manhole: 5, DS/PN: 1.004</u></p>		
Infiltration Coefficient Base (m/hr)	0.00000	Width (m) 10.0
Membrane Percolation (mm/hr)	1000	Length (m) 5.0
Max Percolation (l/s)	13.9	Slope (1:X) 60.0
Safety Factor	2.0	Depression Storage (mm) 5
Porosity	0.30	Evaporation (mm/day) 3
Invert Level (m)	68.885	Cap Volume Depth (m) 0.450
<p style="text-align: center;"><u>Porous Car Park Manhole: 6, DS/PN: 1.005</u></p>		
Infiltration Coefficient Base (m/hr)	0.00000	Width (m) 10.0
Membrane Percolation (mm/hr)	1000	Length (m) 5.0
Max Percolation (l/s)	13.9	Slope (1:X) 60.0
Safety Factor	2.0	Depression Storage (mm) 5
Porosity	0.30	Evaporation (mm/day) 3
Invert Level (m)	68.730	Cap Volume Depth (m) 0.450
<p style="text-align: center;"><u>Porous Car Park Manhole: 7, DS/PN: 1.006</u></p>		
Infiltration Coefficient Base (m/hr)	0.00000	Width (m) 30.0
Membrane Percolation (mm/hr)	1000	Length (m) 5.0
Max Percolation (l/s)	41.7	Slope (1:X) 40.0
Safety Factor	2.0	Depression Storage (mm) 5
Porosity	0.30	Evaporation (mm/day) 3
Invert Level (m)	68.490	Cap Volume Depth (m) 0.450
<p style="text-align: center;"><u>Porous Car Park Manhole: 8, DS/PN: 1.007</u></p>		
Infiltration Coefficient Base (m/hr)	0.00000	Width (m) 30.0
Membrane Percolation (mm/hr)	1000	Length (m) 5.0
Max Percolation (l/s)	41.7	Slope (1:X) 40.0
Safety Factor	2.0	Depression Storage (mm) 5
Porosity	0.30	Evaporation (mm/day) 3
Invert Level (m)	68.135	Cap Volume Depth (m) 0.450
<p style="text-align: center;"><u>Porous Car Park Manhole: 16, DS/PN: 3.000</u></p>		
Infiltration Coefficient Base (m/hr)	0.00000	Width (m) 26.0
Membrane Percolation (mm/hr)	1000	Length (m) 5.0
Max Percolation (l/s)	36.1	Slope (1:X) 40.0
Safety Factor	2.0	Depression Storage (mm) 5
Porosity	0.30	Evaporation (mm/day) 3
Invert Level (m)	69.425	Cap Volume Depth (m) 0.450
<p style="text-align: center;"><u>Porous Car Park Manhole: 9, DS/PN: 1.008</u></p>		
Infiltration Coefficient Base (m/hr)	0.00000	Max Percolation (l/s) 36.1
Membrane Percolation (mm/hr)	1000	Safety Factor 2.0
©1982-2020 Innovyze		

Baynham Meikle Partnership		Page 9
8 Meadow Road Edgbaston, Birmingham B 17 8BU	BARTLEY WOOD BUSINESS PARK NETWORK 4 (RETAIL UNIT) EXCEEDANCE EVENT	
Date 19/05/2021 12:53 File 2021.05.19_network 4 - ...	Designed by EB Checked by NSB	
Micro Drainage		

Baynham Meikle Partnership		Page 10																																																																																																																																												
8 Meadow Road Edgbaston, Birmingham B 17 8BU	BARTLEY WOOD BUSINESS PARK NETWORK 4 (RETAIL UNIT) EXCEEDANCE EVENT																																																																																																																																													
Date 19/05/2021 12:53 File 2021.05.19_network 4 - ...	Designed by EB Checked by NSB																																																																																																																																													
Micro Drainage Network 2020.1																																																																																																																																														
<p><u>Porous Car Park Manhole: 20, DS/PN: 6.001</u></p> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>0.00000</td><td>Width (m)</td><td>15.0</td></tr><tr><td>Membrane Percolation (mm/hr)</td><td>1000</td><td>Length (m)</td><td>5.0</td></tr><tr><td>Max Percolation (l/s)</td><td>20.8</td><td>Slope (1:X)</td><td>60.0</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Depression Storage (mm)</td><td>5</td></tr><tr><td>Porosity</td><td>0.30</td><td>Evaporation (mm/day)</td><td>3</td></tr><tr><td>Invert Level (m)</td><td>69.205</td><td>Cap Volume Depth (m)</td><td>0.450</td></tr></table> <p><u>Porous Car Park Manhole: 22, DS/PN: 7.000</u></p> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>0.00000</td><td>Width (m)</td><td>19.0</td></tr><tr><td>Membrane Percolation (mm/hr)</td><td>1000</td><td>Length (m)</td><td>5.0</td></tr><tr><td>Max Percolation (l/s)</td><td>26.4</td><td>Slope (1:X)</td><td>40.0</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Depression Storage (mm)</td><td>5</td></tr><tr><td>Porosity</td><td>0.30</td><td>Evaporation (mm/day)</td><td>3</td></tr><tr><td>Invert Level (m)</td><td>69.235</td><td>Cap Volume Depth (m)</td><td>0.450</td></tr></table> <p><u>Porous Car Park Manhole: 21, DS/PN: 6.002</u></p> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>0.00000</td><td>Width (m)</td><td>19.0</td></tr><tr><td>Membrane Percolation (mm/hr)</td><td>1000</td><td>Length (m)</td><td>5.0</td></tr><tr><td>Max Percolation (l/s)</td><td>26.4</td><td>Slope (1:X)</td><td>40.0</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Depression Storage (mm)</td><td>5</td></tr><tr><td>Porosity</td><td>0.30</td><td>Evaporation (mm/day)</td><td>3</td></tr><tr><td>Invert Level (m)</td><td>68.990</td><td>Cap Volume Depth (m)</td><td>0.450</td></tr></table> <p><u>Porous Car Park Manhole: 23, DS/PN: 8.000</u></p> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>0.00000</td><td>Width (m)</td><td>20.5</td></tr><tr><td>Membrane Percolation (mm/hr)</td><td>1000</td><td>Length (m)</td><td>5.0</td></tr><tr><td>Max Percolation (l/s)</td><td>28.5</td><td>Slope (1:X)</td><td>60.0</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Depression Storage (mm)</td><td>5</td></tr><tr><td>Porosity</td><td>0.30</td><td>Evaporation (mm/day)</td><td>3</td></tr><tr><td>Invert Level (m)</td><td>69.500</td><td>Cap Volume Depth (m)</td><td>0.450</td></tr></table> <p><u>Porous Car Park Manhole: 24, DS/PN: 8.001</u></p> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>0.00000</td><td>Width (m)</td><td>20.5</td></tr><tr><td>Membrane Percolation (mm/hr)</td><td>1000</td><td>Length (m)</td><td>5.0</td></tr><tr><td>Max Percolation (l/s)</td><td>28.5</td><td>Slope (1:X)</td><td>60.0</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Depression Storage (mm)</td><td>5</td></tr><tr><td>Porosity</td><td>0.30</td><td>Evaporation (mm/day)</td><td>3</td></tr><tr><td>Invert Level (m)</td><td>69.415</td><td>Cap Volume Depth (m)</td><td>0.450</td></tr></table> <p><u>Porous Car Park Manhole: 25, DS/PN: 8.002</u></p> <table><tr><td>Infiltration Coefficient Base (m/hr)</td><td>0.00000</td><td>Invert Level (m)</td><td>69.140</td></tr><tr><td>Membrane Percolation (mm/hr)</td><td>1000</td><td>Width (m)</td><td>20.5</td></tr><tr><td>Max Percolation (l/s)</td><td>28.5</td><td>Length (m)</td><td>5.0</td></tr><tr><td>Safety Factor</td><td>2.0</td><td>Slope (1:X)</td><td>60.0</td></tr><tr><td>Porosity</td><td>0.30</td><td>Depression Storage (mm)</td><td>5</td></tr></table>			Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	15.0	Membrane Percolation (mm/hr)	1000	Length (m)	5.0	Max Percolation (l/s)	20.8	Slope (1:X)	60.0	Safety Factor	2.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	69.205	Cap Volume Depth (m)	0.450	Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	19.0	Membrane Percolation (mm/hr)	1000	Length (m)	5.0	Max Percolation (l/s)	26.4	Slope (1:X)	40.0	Safety Factor	2.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	69.235	Cap Volume Depth (m)	0.450	Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	19.0	Membrane Percolation (mm/hr)	1000	Length (m)	5.0	Max Percolation (l/s)	26.4	Slope (1:X)	40.0	Safety Factor	2.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	68.990	Cap Volume Depth (m)	0.450	Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	20.5	Membrane Percolation (mm/hr)	1000	Length (m)	5.0	Max Percolation (l/s)	28.5	Slope (1:X)	60.0	Safety Factor	2.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	69.500	Cap Volume Depth (m)	0.450	Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	20.5	Membrane Percolation (mm/hr)	1000	Length (m)	5.0	Max Percolation (l/s)	28.5	Slope (1:X)	60.0	Safety Factor	2.0	Depression Storage (mm)	5	Porosity	0.30	Evaporation (mm/day)	3	Invert Level (m)	69.415	Cap Volume Depth (m)	0.450	Infiltration Coefficient Base (m/hr)	0.00000	Invert Level (m)	69.140	Membrane Percolation (mm/hr)	1000	Width (m)	20.5	Max Percolation (l/s)	28.5	Length (m)	5.0	Safety Factor	2.0	Slope (1:X)	60.0	Porosity	0.30	Depression Storage (mm)	5
Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	15.0																																																																																																																																											
Membrane Percolation (mm/hr)	1000	Length (m)	5.0																																																																																																																																											
Max Percolation (l/s)	20.8	Slope (1:X)	60.0																																																																																																																																											
Safety Factor	2.0	Depression Storage (mm)	5																																																																																																																																											
Porosity	0.30	Evaporation (mm/day)	3																																																																																																																																											
Invert Level (m)	69.205	Cap Volume Depth (m)	0.450																																																																																																																																											
Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	19.0																																																																																																																																											
Membrane Percolation (mm/hr)	1000	Length (m)	5.0																																																																																																																																											
Max Percolation (l/s)	26.4	Slope (1:X)	40.0																																																																																																																																											
Safety Factor	2.0	Depression Storage (mm)	5																																																																																																																																											
Porosity	0.30	Evaporation (mm/day)	3																																																																																																																																											
Invert Level (m)	69.235	Cap Volume Depth (m)	0.450																																																																																																																																											
Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	19.0																																																																																																																																											
Membrane Percolation (mm/hr)	1000	Length (m)	5.0																																																																																																																																											
Max Percolation (l/s)	26.4	Slope (1:X)	40.0																																																																																																																																											
Safety Factor	2.0	Depression Storage (mm)	5																																																																																																																																											
Porosity	0.30	Evaporation (mm/day)	3																																																																																																																																											
Invert Level (m)	68.990	Cap Volume Depth (m)	0.450																																																																																																																																											
Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	20.5																																																																																																																																											
Membrane Percolation (mm/hr)	1000	Length (m)	5.0																																																																																																																																											
Max Percolation (l/s)	28.5	Slope (1:X)	60.0																																																																																																																																											
Safety Factor	2.0	Depression Storage (mm)	5																																																																																																																																											
Porosity	0.30	Evaporation (mm/day)	3																																																																																																																																											
Invert Level (m)	69.500	Cap Volume Depth (m)	0.450																																																																																																																																											
Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	20.5																																																																																																																																											
Membrane Percolation (mm/hr)	1000	Length (m)	5.0																																																																																																																																											
Max Percolation (l/s)	28.5	Slope (1:X)	60.0																																																																																																																																											
Safety Factor	2.0	Depression Storage (mm)	5																																																																																																																																											
Porosity	0.30	Evaporation (mm/day)	3																																																																																																																																											
Invert Level (m)	69.415	Cap Volume Depth (m)	0.450																																																																																																																																											
Infiltration Coefficient Base (m/hr)	0.00000	Invert Level (m)	69.140																																																																																																																																											
Membrane Percolation (mm/hr)	1000	Width (m)	20.5																																																																																																																																											
Max Percolation (l/s)	28.5	Length (m)	5.0																																																																																																																																											
Safety Factor	2.0	Slope (1:X)	60.0																																																																																																																																											
Porosity	0.30	Depression Storage (mm)	5																																																																																																																																											
©1982-2020 Innovyze																																																																																																																																														

Baynham Meikle Partnership		Page 11
8 Meadow Road Edgbaston, Birmingham B 17 8BU	BARTLEY WOOD BUSINESS PARK NETWORK 4 (RETAIL UNIT) EXCEEDANCE EVENT	
Date 19/05/2021 12:53 File 2021.05.19_network 4 - ...	Designed by EB Checked by NSB	
Micro Drainage	Network 2020.1	
<p style="text-align: center;"><u>Porous Car Park Manhole: 25, DS/PN: 8.002</u></p> <p style="text-align: center;">Evaporation (mm/day) 3 Cap Volume Depth (m) 0.450</p>		
©1982-2020 Innovyze		

Baynham Meikle Partnership

Page 12

8 Meadow Road
Edgbaston, Birmingham
B 17 8BU

BARTLEY WOOD BUSINESS PARK
NETWORK 4 (RETAIL UNIT)
EXCEEDANCE EVENT

Date 19/05/2021 12:53
File 2021.05.19_network 4 - ...

Designed by EB
Checked by NSB

Micro Drainage

Network 2020.1

Micro Drainage

200 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NETWORK 4.SWS

Simulation Criteria

Areal Reduction Factor 1.000

Additional Flow - % of Total Flow 0.000

Hot Start (mins) 0

MADD Factor * 10m³/ha Storage 2.000

Hot Start Level (mm) 0

Inlet Coeffiecient 0.800

Manhole Headloss Coeff (Global) 0.500

Flow per Person per Day (l/per/day) 0.000

Foul Sewage per hectare (l/s) 0.000

Number of Input Hydrographs 0

Number of Storage Structures 17

Number of Online Controls 1

Number of Time/Area Diagrams 0

Number of Offline Controls 0

Number of Real Time Controls 0

Synthetic Rainfall Details

Rainfall Model

FSR

Ratio R 0.389

Region England and Wales Cv (Summer) 0.750

M5-60 (mm)

19.100 Cv (Winter) 0.840

Margin for Flood Risk Warning (mm)

50.0

Analysis Timestep 2.5 Second Increment (Extended)

DTS Status

OFF

DVD Status

ON

Inertia Status

ON

Profile(s)

Summer and Winter

Duration(s) (mins)

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

Return Period(s) (years)

200

Climate Change (%)

40

PN

US/MH Name

Storm

Return Period

Climate Change

First (X) Surge

First (Y) Flood

First (Z) Overflow

Overflow Act.

1.000

1 30

Winter

200

+40%

200/15

Summer

1.001

2 30

Winter

200

+40%

200/15

Summer

1.002

3 30

Winter

200

+40%

200/15

Summer

1.003

4 30

Winter

200

+40%

200/15

Summer

1.004

5 30

Winter

200

+40%

200/15

Summer

1.005

6 30

Winter

200

+40%

200/15

Summer

2.000

14 120

Winter

200

+40%

200/15

Summer

200/15

Winter

2.001

15 30

Winter

200

+40%

200/15

Summer

1.006

7 30

Winter

200

+40%

200/15

Summer

1.007

8 30

Winter

200

+40%

200/15

Summer

3.000

16 180

Winter

200

+40%

200/15

Summer

1.008

9 30

Winter

200

+40%

200/15

Summer

4.000

17 180

Winter

200

+40%

200/15

Winter

1.009

10 180

Winter

200

+40%

200/15

Summer

5.000

18 240

Winter

200

+40%

200/60

Winter

1.010

11 180

Winter

200

+40%

200/15

Summer

6.000

19 180

Winter

200

+40%

200/15

Summer

6.001

20 180

Winter

200


+40%

200/15

Summer

©1982-2020


Innovyze

Baynham Meikle Partnership		Page 13
8 Meadow Road Edgbaston, Birmingham B 17 8BU	BARTLEY WOOD BUSINESS PARK NETWORK 4 (RETAIL UNIT) EXCEEDANCE EVENT	
Date 19/05/2021 12:53 File 2021.05.19_network 4 - ...	Designed by EB Checked by NSB	
Micro Drainage	Network 2020.1	

200 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NETWORK 4.SWS

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)	Flooded Volume (m³)	Flow / Overflow Cap. (l/s)	Half Drain Time (mins)	Pipe Flow (l/s)	Status
1.000	1	70.941	0.836	0.000	0.54		9.5	SURCHARGED
1.001	2	70.922	0.937	0.000	0.99		18.7	SURCHARGED
1.002	3	70.858	1.178	0.000	0.72		32.3	SURCHARGED
1.003	4	70.796	1.616	0.000	1.48		58.1	SURCHARGED
1.004	5	70.685	1.590	0.000	1.09		45.8	SURCHARGED
1.005	6	70.547	1.607	0.000	1.52		58.6	SURCHARGED
2.000	14	70.166	1.051	26.186	0.41		17.9	FLOOD
2.001	15	70.317	1.462	0.000	0.84		30.1	SURCHARGED
1.006	7	70.395	1.605	0.000	1.69		65.4	SURCHARGED
1.007	8	70.226	1.791	0.000	1.51		52.7	SURCHARGED
3.000	16	70.146	0.571	0.000	0.43	99	6.1	SURCHARGED
1.008	9	70.121	1.756	0.000	1.02		62.6	SURCHARGED
4.000	17	70.074	0.624	0.000	0.22	122	3.1	SURCHARGED
1.009	10	70.063	1.748	0.000	0.38		28.6	SURCHARGED
5.000	18	69.993	0.193	0.000	0.21	46	5.0	SURCHARGED
1.010	11	69.994	1.769	0.000	0.46		28.5	SURCHARGED
6.000	19	70.027	0.477	0.000	0.41	107	5.7	SURCHARGED
6.001	20	70.012	0.657	0.000	0.45	163	9.9	SURCHARGED

PN	US/MH Name	Level Exceeded
1.000	1	
1.001	2	
1.002	3	
1.003	4	
1.004	5	
1.005	6	
2.000	14	11
2.001	15	
1.006	7	
1.007	8	
3.000	16	
1.008	9	
4.000	17	
1.009	10	
5.000	18	
1.010	11	
6.000	19	
6.001	20	

Baynham Meikle Partnership		Page 14
8 Meadow Road Edgbaston, Birmingham B 17 8BU	BARTLEY WOOD BUSINESS PARK NETWORK 4 (RETAIL UNIT) EXCEEDANCE EVENT	
Date 19/05/2021 12:53 File 2021.05.19_network 4 - ...	Designed by EB Checked by NSB	
Micro Drainage	Network 2020.1	

200 year Return Period Summary of Critical Results by Maximum Level (Rank 1) for NETWORK 4.SWS

US/MH		Return Climate		First (X)	First (Y)	First (Z)	Overflow	Water
PN	Name	Storm	Period	Change	Surcharge	Flood	Overflow	Act. (m)
7.000	22	180 Winter	200	+40%	200/15 Summer			70.014
6.002	21	180 Winter	200	+40%	200/15 Summer			69.993
8.000	23	180 Winter	200	+40%	200/60 Summer			69.899
8.001	24	180 Winter	200	+40%	200/30 Winter			69.901
8.002	25	180 Winter	200	+40%	200/15 Summer			69.912
1.011	12	180 Winter	200	+40%	200/15 Summer			69.941

US/MH		Surcharged	Flooded	Flow / Overflow		Half Drain	Pipe	Level	
PN	Name	Depth (m)	Volume (m³)	Cap.	(l/s)	Time (mins)	Flow (l/s)	Status	Exceeded
7.000	22	0.629	0.000	0.42		146	5.9	SURCHARGED	
6.002	21	0.853	0.000	1.00		201	15.8	SURCHARGED	
8.000	23	0.249	0.000	0.19		46	2.5	SURCHARGED	
8.001	24	0.336	0.000	0.36		59	5.1	SURCHARGED	
8.002	25	0.622	0.000	0.31		127	5.4	SURCHARGED	
1.011	12	1.841	0.000	0.83			24.8	SURCHARGED	



Appendix D – Documents/Reports

- Site Investigation Report Extracts
- Thames Water – Sewer Records
- SFRA Extracts
- SUDS Maintenance Plan



Looking northeast at the area of raised soft landscaping comprising bark chippings and tree trunks to the south of the western building with a small undercover refuse area.



Looking south at the western building with circular water feature located to the north of the entrance within the car park.

2.2 Site Proposals

Based on the information provided, it is understood the proposals for the site comprise demolition of existing buildings and redevelopment of the site to provide 9No. industrial units (Flexible Use Class B1/B8/E(g)(i)-(iii)) and 1No. food store (Use Class E(a)), together with associated parking, a new vehicular access off Griffin Way South, landscaping and other associated works. The proposals are shown on the Proposed Site Plan by PRC Architects (Drawing no. 11248_PL_102P2) located in Appendix A.

3.0 DESK STUDY INFORMATION

The desk study findings are summarised below with the full GroundSure Report and Historical Ordnance Survey Maps included in Appendix B.

<p>Site History</p>	<ul style="list-style-type: none"> • 1871-1875 – The site and immediate surrounding area are agricultural fields. Hardings Farm is labelled as being adjacent to the north of the site, with Holt Farm with associated well just beyond. A track is shown travelling northeast to southwest, adjacent to the eastern boundary of the site. A stream is shown flowing south to north, crossing through the western half of the site, originating at the heathland shown to the south of the site. The London and South Western Railway on an embankment is shown, orientated west-east c.150m north of the site. Bartley Heath is shown adjacent to the southern boundary of the site. Hook is c.750m northwest of the site. • 1894-1896 – Ponds are shown c.100m west, c.300m west, 100m northeast and c.450m southeast of the site. Wells are present on the north-eastern boundary and 15m northeast. The stream following south to north is now shown to extend through the heathland to the south of the site, indicated to widen as it passes through the southern site boundary and crosses the site. • 1909 -1932 – No significant changes. • 1940 – Electricity pylons are shown to be c.100m northeast and c.50m southeast of the site, with an electricity line running between them. A building has been developed to the east. • 1961 – No significant changes. • 1972 – The M3 motorway has now been constructed c.400m south of the site, orientated southwest-northeast. • 1975 – The north-eastern corner of the site is shown to be part of two
----------------------------	--

	<p>parcels of residential land (Summerlea and Harding's Cottage). Two buildings of different sizes labelled 'Summerlea' are now shown to be on site, situated in the southern half of the northeast section of the site. Further farm buildings have been constructed in the vicinity of Bridge Farm, north of the site.</p> <ul style="list-style-type: none"> • 1982-1987 – No significant changes. A pond is now shown at Scotland Farm, c. 250m to the southeast of the site, a similar distance as a licence request for the same property to abstract sand and gravel. • 1992 – No buildings are now shown on site. Part of the business park has been developed, reaching the north-western site boundary. A surface water balancing pond is present adjacent to the northwest, as part of the business park development. An electricity substation is now present c.200m northwest of the site. Hook has been further developed, and now extends c. 150m north of the site. • 1994 – No significant changes. • 2002 – Site and surrounding Bartley Wood Business Park appear to be as they are today. Hardings Farm to the north of the site is no longer present. • Aerial Imagery – By 1993 the land adjacent to the northwest of the site had been developed as an industrial estate and Griffin Way South is shown at the north-western boundary. Aerial imagery dating from 1999 shows the site under development in its current layout with three commercial office blocks. By 2005 the site appears complete with no further notable changes to the present day.
Anticipated Geology and Ground Conditions	<ul style="list-style-type: none"> • Published BGS Map indicates site underlain by Solid geology of the London Clay Formation with overlying River Terrace Deposits in the west of the site only. Alluvium is indicated to be present c.350m north. • The nearest BGS archive borehole (250m to southeast) indicates Topsoil to 0.2m below ground level (bgl), underlain by possible Head comprising orange and brown clay with gravel of flint to 1.1m bgl, London Clay Formation comprising silty orange and brown clay was encountered beneath, to the base of the borehole at 3.70m bgl. • The site is not in a radon affected area, with <1% of homes above the Action Level. No radon protection measures are therefore considered necessary for new properties.
Mining/Quarrying	<ul style="list-style-type: none"> • The site is not indicated to be within area of underground coal or other mining. • An historical sand and gravel pit was located c.300m southeast of the site. • The site is not in area associated with natural cavity formation.
Hydrology	<ul style="list-style-type: none"> • The nearest surface watercourse is described as an inland river and runs through the site travelling south to north. • There is no water quality data available within 1500m of the site. • There are no surface water abstractions license indicated to be within 500m of the site. • There is a licensed discharge consent in the west of the site for the discharge of treated effluent into Alluvium/ Upper Chalk issued in 1989 and revoked in 2007. • The site is indicated to be at a very low risk of flooding from rivers and the sea.
Hydrogeology	<ul style="list-style-type: none"> • The London Clay Formation underlying the site is classified as an unproductive stratum. The River Terrace Deposits indicated to be on site is classified as a Secondary A Aquifer. • The nearest groundwater abstraction license is c.1.25km south of the site, and is used for spray irrigation. • The site is not within a Groundwater Source Protection Zone. • Likely groundwater flow direction is likely to be to the south, following the topography.
Other Environmental data	<ul style="list-style-type: none"> • An historic landfill is noted to have been present approximately 350m southeast of the site. The Groundsure report does not have any information regarding the type of waste received at this landfill. • 20 current industrial land usages are indicated to be within 250m of the site. None are considered to present a significant risk to the site, most

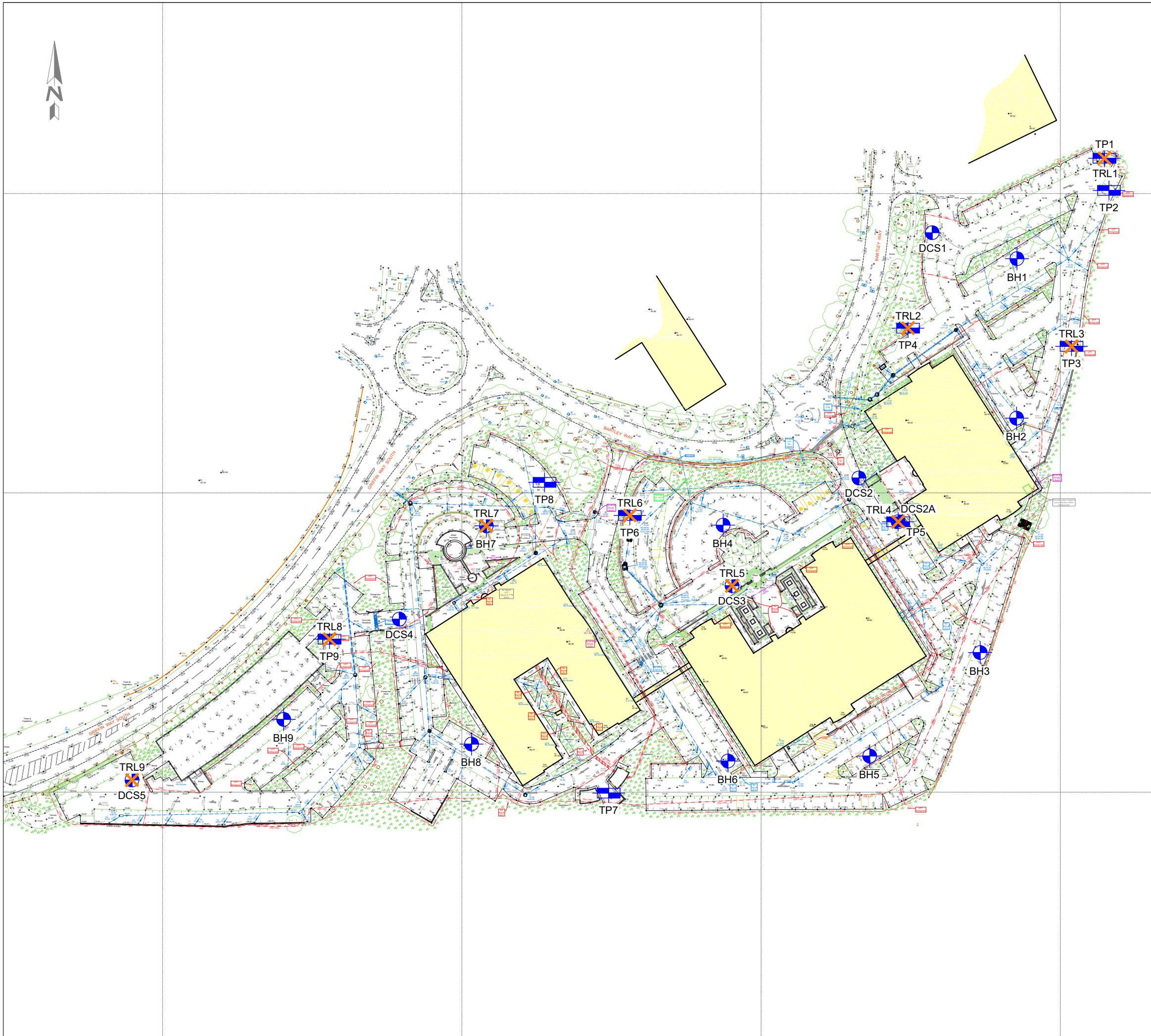
	<p>associated with electrical infrastructure.</p> <ul style="list-style-type: none"> • There are indicated to be no recorded petrol/fuel sites within 250m, • There have been no recorded pollution incidents within 500m. • There are three electrical substations shown to be present on site, associated with the development of the business park in the 1990's and thus do not present a risk from PCBs used in historical sub-stations. • There is one environmentally sensitive ecological designation within 250m, this is Hook Common and Bartley Heath which is situated c.35m south.
Other ground related risks	<ul style="list-style-type: none"> • The BGS have established the following potential for ground stability hazards on site as: <ul style="list-style-type: none"> ○ Shrink-Swell Clay- Low ○ Landslides- Very Low ○ Ground Dissolution of Soluble Rocks- Negligible ○ Compressible Deposits- Negligible ○ Collapsible Deposits- Very Low ○ Running Sands- Very Low
Online Planning Records	<ul style="list-style-type: none"> • Prior approval has been granted for the change of use of the office buildings adjacent to the site (buildings 260, and 270) into residential flats - Planning ref 18/02748/PRIOR. There were no conditions imposed in relation to contaminated land, although Environmental Health suggested they had no objection to the proposal subject to a contaminated land condition. • Planning ref 19/00393/PRIOR - Phase I Geo-Environmental Site Assessment submitted as part of planning permission to north of site for similar proposals (change in use from office to residential units). Found no viable sources of contaminants. • Planning ref 19/00344/PRIOR - A Site Investigation Report (ref 6053/KPG) and Ground Contamination Report (ref 1500a/KOG) covering the site and the areas to the north and west, were submitted as part of the planning permission for the site adjacent to the west of the site. The site investigation report and ground investigation reports were issued in 1998, and 1995 respectively, and precedes the development currently on this plot. During the course of the site investigation, ground conditions generally comprised Head Deposits over London Clay Formation. It was concluded that the ground conditions encountered would be suitable for conventional foundations to be used for 'light to moderate loads', and for 'high column loads' a piled foundation solution would be more appropriate. The Ground Contamination Report encountered only natural soils, and in the subsequent testing found no contamination, and concluded that there were no serious hazards anticipated for the proposed scheme.

4.0 CONCEPTUAL SITE MODEL


Sources


The site has been identified as being part of open agricultural fields, with residential properties later. In more recent years the site has become part of a business park. Previous ground investigations undertaken in the vicinity of the site, prior to the business park being developed, have not encountered any contamination. As such, no sources of potential gross contamination that could impact potential receptors have been identified by the desk study. However, the following potential sources are still considered:


- Only limited initial layer of Made Ground soils on site associated with existing site development is expected - natural soils are anticipated to be at shallow depths;
- Localised hydrocarbon spillages of fuels on site from parked cars;
- Sulphates in underlying natural strata (London Clay Formation).




KEY:

 Trial Pit

 Cable Percussion Borehole

 Driven Continuous Sampling Borehole

 Transport Research Laboratory Dynamic Cone Penetrometer

TP1

BH1

DCS1

TRL1

Drawing based on Greenhatch Group, drawing No:36938_T
Revision 1 dated 25/11/2020.

APPLIED GEOLOGY

Unit 23
Abbey Park
Stareton
Kenilworth
CV8 2LY

Tel: 02476 511822
email: admin@appliedgeology.co.uk

Client:

PATRON HOOK LTD

Project:

BARTLEY WOOD BUSINESS PARK, HOOK

Title:

EXPLORATORY HOLE LOCATION PLAN

Drawn By:

JS

Checked By:

FC

Paper Size:

A3

Scale:

1:1250

Date:

18.05.2021

Drawing No:

AG3265-21-02

Revision:

0

BOREHOLE LOG - CABLE PERCUSSION

BH1

Project Bartley Wood Business Park, Hook

Project No.

AG3265-21

Client Patron Hook Ltd

Sheet

1 of 1

Start 11/05/2021

Coordinates E 473385.50 N 153878.25

Scale

1:50

End 11/05/2021

Ground Level 74.63m AOD

Total Depth

10.00m

Sample / Test Type	Depth (m)	Result	Casing Depth (m)	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
B	0.10			74.53	(0.10)	Asphalt.			
				74.48	0.10	(MADE GROUND)			
B	0.60			74.03	(0.05)	Greyish brown and reddish brown slightly sandy GRAVEL. Gravel is fine to medium subangular limestone.			
					0.15	(MADE GROUND - SUBBASE)			
					(0.45)	Greyish brown and grey slightly sandy GRAVEL with occasional cobbles. Gravel is fine to coarse angular to subangular concrete, brick, flint and limestone. Cobbles are subangular concrete and occasional brick.			
UT	1.50	(25)			0.60	(MADE GROUND - SUBBASE)			
					(1.40)	Firm locally stiff orangish brown mottled greyish brown fine sandy silty CLAY.			
D	1.90			72.63	2.00	(LONDON CLAY FORMATION)			
						Firm brown and greyish brown locally mottled orangish brown slightly fine sandy silty CLAY.			
D	2.50					(LONDON CLAY FORMATION)			
S	2.50	N = 11	1.20		(1.50)				
UT	3.50	(30)		71.13	3.50	Firm to stiff grey locally brownish grey sandy silty CLAY with occasional bands of clayey silt. Sand is fine.			
						(LONDON CLAY FORMATION)			
D	3.95								
D	4.50								
S	4.50	N = 15	1.20			Below 4.50m bgl: slightly sandy.			
UT	5.50	(40)							
D	5.90					Below 6.00m bgl: stiff.			
D	6.50								
S	6.50	N = 19	1.20		(6.50)				
D	7.50								
UT	8.00	(55)							
D	8.45					Below 8.50m bgl: becoming very stiff.			
D	9.00								
D	9.50								
S	9.50	N = 27	1.20						
				64.63	10.00	End of Borehole at 10.00m			

Chiselling			Groundwater Strikes					Drilled: Gap Drilling Services Ltd Logged: FC Checked: AS
From	To	Duration (hh:mm)	Depth Strike	Rose to	Remarks	Cased	Sealed	

Remarks: Hand dug service inspection pit excavated to 1.20m bgl.

Installation: 50mm diameter standpipe installed to 3.00m bgl.

Diameter: 150mm to 10.00m

Exploratory hole logs should be read in conjunction with key sheets

APPLIED GEOLOGY

BOREHOLE LOG - CABLE PERCUSSION

BH2

Project Bartley Wood Business Park, Hook

Project No.

AG3265-21

Client Patron Hook Ltd

Sheet

1 of 1

Start 11/05/2021

Coordinates E 473385.37 N 153824.95

Scale

1:50

End 11/05/2021

Ground Level 72.04m AOD

Total Depth

10.00m

Sample / Test Type	Depth (m)	Result	Casing Depth (m)	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
B	0.10			71.99	(0.05)	Asphalt.			
					0.05	(MADE GROUND)			
					(1.05)	Greyish brown and grey slightly sandy GRAVEL with occasional cobbles. Gravel is fine to coarse subangular to subrounded concrete, flint, brick and asphalt. Cobbles are subangular concrete and brick. (MADE GROUND - SUBBASE)			
B	1.20			70.94	1.10				
C	1.20	N = 6			(0.90)	Loose slightly gravelly to gravelly silty fine to medium SAND. Gravel is fine to coarse subangular to subrounded flint and occasional chalk. (RIVER TERRACE DEPOSITS)			
B	2.00			70.04	2.00				
D	2.50				(1.00)	Firm locally soft orangish brown mottled brown fine sandy silty CLAY. (LONDON CLAY FORMATION)			
S	2.50	N = 13	1.50			From 2.00m to 2.30m bgl: soft.			
B	3.00			69.04	3.00				
UT	3.50	(55)				Firm to stiff grey slightly sandy silty CLAY with rare fine shell fragments. (LONDON CLAY FORMATION)			
D	3.95								
D	4.50								
S	4.50	N = 19	1.50						
UT	5.50	(55)							
D	5.90								
D	5.95					Below 6.00m bgl: stiff.			
D	6.50				(7.00)				
S	6.50	N = 20	1.50						
D	7.50								
UT	8.00	(60)							
D	8.40					Below 8.50m bgl: very stiff.			
D	9.00								
D	9.50								
S	9.50	N = 30	1.50						
				62.04	10.00	End of Borehole at 10.00m			

Chiselling			Groundwater Strikes					Drilled: Gap Drilling Services Ltd Logged: FC Checked: AS
From	To	Duration (hh:mm)	Depth Strike	Rose to	Remarks	Cased	Sealed	

Remarks: Hand dug service inspection pit excavated to 1.20m bgl. Borehole backfilled with arisings on completion.

Installation:

Diameter: 150mm to 10.00m

Exploratory hole logs should be read in conjunction with key sheets

APPLIED GEOLOGY

BOREHOLE LOG - CABLE PERCUSSION

BH3

Project Bartley Wood Business Park, Hook

Project No.

AG3265-21

Client Patron Hook Ltd

Sheet

1 of 2

Start 05/05/2021

Coordinates E 473373.20 N 153746.63

Scale

1:50

End 05/05/2021

Ground Level 72.07m AOD

Total Depth

10.45m

Sample / Test Type	Depth (m)	Result	Casing Depth (m)	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
B	0.20			72.02	(0.05)	Asphalt.			
				71.97	0.05	(MADE GROUND)			
B	0.60			71.47	(0.05)	Grey and reddish brown slightly sandy GRAVEL. Gravel is fine to medium occasionally coarse angular to subangular limestone, rare brick and concrete.			
					0.10	(MADE GROUND - SUBBASE)			
					(0.50)				
					0.60				
					(1.10)	Brownish grey and brown sandy GRAVEL with occasional cobbles. Gravel is fine to coarse angular to subrounded brick, concrete, limestone, asphalt and concrete. Cobbles are subangular concrete and brick.			
D	1.50					(MADE GROUND - SUBBASE)			
S	1.50	N = 19	1.50	70.37	1.70				
UT	2.00	(20)				Firm orangish, brown and grey slightly gravelly sandy silty CLAY. Sand is fine to medium. Gravel is fine to coarse subangular to subrounded flint and chalk. (REWORKED LONDON CLAY FORMATION)			
D	2.40					Firm orangish brown silty slightly fine sandy CLAY. (REWORKED LONDON CLAY FORMATION)			
					(2.10)	From 2.00m to 2.45m bgl: slightly gravelly, rare fine subrounded gravel of chalk and flint.			
D	3.00								
S	3.00	N = 12	1.50						
				68.27	3.80				
UT	4.00	(40)				Firm becoming stiff grey silty locally slightly fine sandy CLAY with rare fine shell fragments. (LONDON CLAY FORMATION)			
D	4.45								
D	5.00								
S	5.00	N = 15	1.50						
UT	6.00	(40)				Below 6.00m bgl: stiff.			
D	6.45								
D	7.00				(6.65)				
D	7.50								
S	7.50	N = 25	1.50						
D	8.50								
UT	9.00	(55)							
D	9.45								
D	10.00								

Continued next sheet

Chiselling			Groundwater Strikes					Drilled: Gap Drilling Services Ltd
From	To	Duration (hh:mm)	Depth Strike	Rose to	Remarks	Cased	Sealed	
								Logged: FC
								Checked: AS

Remarks: Hand dug service inspection pit excavated to 1.20m bgl.

Installation: 50mm diameter standpipe installed to 4.00m bgl.

Diameter: 150mm to 10.00m

Exploratory hole logs should be read in conjunction with key sheets

APPLIED GEOLOGY

BOREHOLE LOG - CABLE PERCUSSION

BH4

Project Bartley Wood Business Park, Hook

Project No.

AG3265-21

Client Patron Hook Ltd

Sheet

1 of 2

Start 04/05/2021

Coordinates E 473287.33 N 153789.22

Scale

1:50

End 04/05/2021

Ground Level 71.27m AOD

Total Depth

10.45m

Sample / Test Type	Depth (m)	Result	Casing Depth (m)	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
B	0.20			71.22	(0.05)	Block paving.			
B	0.45			71.02	0.05	(MADE GROUND)			
					(0.20)	Yellowish brown slightly silty fine to medium SAND.			
					0.25	(MADE GROUND - SUBBASE)			
					(0.75)	Firm friable orangish brown gravelly sandy CLAY. Gravel is fine to coarse angular to subangular flint and quartzite.			
B	1.00			70.27	1.00	(MADE GROUND)			
WAC	1.00					At 0.40m bgl: black plastic membrane.			
D	1.20					From 0.40m to 0.90m bgl: slightly gravelly.			
S	1.20	N = 11				Firm orangish brown mottled light grey slightly sandy silty slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to coarse angular to subangular flint. (REWORKED LONDON CLAY FORMATION)			
UT	2.00	(20)			(1.70)				
D	2.45								
B	2.70			68.57	2.70	Stiff locally very stiff brownish grey and grey slightly fine sandy silty CLAY with rare fine gravel sized shell fragments.			
D	3.00					(LONDON CLAY FORMATION)			
S	3.00	N = 18	1.50			From 3.20m to 3.30m bgl: silt.			
UT	4.00	(35)							
D	4.45								
D	5.00								
S	5.00	N = 15	1.50						
UT	6.00	(40)							
D	6.45				(7.75)				
D	7.00					From 7.00m to 7.05m bgl: dark brown silt band with frequent fine gravel sized pyrite nodules.			
D	7.50								
S	7.50	N = 22	1.50						
D	8.50								
UT	9.00	(50)							
D	9.40								
D	10.00					Continued next sheet			

Chiselling			Groundwater Strikes					Drilled: Gap Drilling Services Ltd Logged: FC Checked: AS
From	To	Duration (hh:mm)	Depth Strike	Rose to	Remarks	Cased	Sealed	

Remarks: Hand dug service inspection pit excavated to 1.20m bgl.

Installation: 50mm diameter standpipe installed to 5.00m bgl.

Diameter: 150mm to 10.45m

Exploratory hole logs should be read in conjunction with key sheets

APPLIED GEOLOGY

BOREHOLE LOG - CABLE PERCUSSION

BH5

Project Bartley Wood Business Park, Hook

Project No.

AG3265-21

Client Patron Hook Ltd

Sheet

1 of 1

Start 05/05/2021

Coordinates E 473336.31 N 153712.06

Scale

1:50

End 05/05/2021

Ground Level 72.10m AOD

Total Depth

10.00m

Sample / Test Type	Depth (m)	Result	Casing Depth (m)	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
B	0.10			72.05	(0.05)	Asphalt.			
				72.00	0.05	(MADE GROUND)			
				71.90	(0.05)	Grey and reddish brown slightly sandy GRAVEL. Gravel is fine to medium occasionally coarse angular to subangular limestone and rare brick.			
B	0.80			71.30	(0.10)	(MADE GROUND - SUBBASE)			
					(0.60)	Weak light grey CONCRETE.			
					0.80	(MADE GROUND)			
B	1.50			70.60	(0.70)	Grey and brownish grey slightly sandy to sandy GRAVEL with occasional cobbles. Gravel is fine to coarse subangular brick, concrete, flint and rare asphalt. Cobbles are subangular concrete and brick.			
S	1.50	N = 31	1.50		1.50	(MADE GROUND - SUBBASE)			
					(0.60)	At 0.80m bgl: black plastic membrane.			
				70.00	2.10	Firm brown slightly sandy gravelly CLAY with occasional cobbles. Gravel is fine to coarse subangular brick, concrete and flint. Cobbles are subangular brick.			
D	2.50					(MADE GROUND)			
S	2.50	N = 13	1.50			Dense orangish brown slightly sandy clayey GRAVEL. Gravel is fine to coarse angular to subangular flint and occasional chalk.			
					(2.00)	(RIVER TERRACE DEPOSITS)			
UT	3.50	(40)				Firm locally stiff orangish brown and brown slightly gravelly slightly sandy silty CLAY. Gravel is fine subangular chalk and flint.			
						(REWORKED LONDON CLAY FORMATION)			
D	3.95			68.00	4.10	Stiff brownish grey and grey silty CLAY with rare fine shell fragments.			
D	4.10					(LONDON CLAY FORMATION)			
D	4.50								
S	4.50	N = 18	1.50						
UT	5.50	(45)							
D	5.95					From 5.95m to 6.50m bgl: very stiff, slightly fine sandy.			
D	6.50								
S	6.50	N = 22	1.50						
					(5.90)				
D	7.50								
UT	8.00	(50)							
D	8.40								
D	9.00					Below 9.00m bgl: very stiff.			
D	9.50								
S	9.50	N = 23	1.50						
				62.10	10.00	End of Borehole at 10.00m			

Chiselling			Groundwater Strikes					Drilled: Gap Drilling Services Ltd Logged: FC Checked: AS
From	To	Duration (hh:mm)	Depth Strike	Rose to	Remarks	Cased	Sealed	

Remarks: Hand dug service inspection pit excavated to 1.20m bgl. Borehole backfilled with arisings on completion.

Installation:

Diameter: 150mm to 9.50m

Exploratory hole logs should be read in conjunction with key sheets

APPLIED GEOLOGY

BOREHOLE LOG - CABLE PERCUSSION

BH6

Project Bartley Wood Business Park, Hook

Project No.

AG3265-21

Client Patron Hook Ltd

Sheet

1 of 2

Start 06/05/2021

Coordinates E 473288.95 N 153710.40

Scale

1:50

End 06/05/2021

Ground Level 71.02m AOD

Total Depth

10.50m

Sample / Test Type	Depth (m)	Result	Casing Depth (m)	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
B	0.10			70.92	(0.10)	Asphalt.			
					0.10	(MADE GROUND)			
B	0.50			70.52	(0.40)	Brown, grey and reddish brown slightly sandy GRAVEL with occasional cobbles. Gravel is fine to coarse subangular brick, asphalt, concrete and flint. Cobbles are subangular brick.			
				70.42	0.50	(MADE GROUND - SUBBASE)			
					(0.10)	Brown and locally grey slightly sandy gravelly CLAY. Gravel is fine to coarse subangular brick, flint and rare glass.			
					0.60	(MADE GROUND)			
					(0.90)	Orangish brown and brown slightly silty sandy GRAVEL with cobble sized pockets of gravelly clay. Gravel is fine to coarse angular to subangular occasionally subrounded flint and rare chalk.			
D	1.50	N = 9	1.50	69.52	1.50	(RIVER TERRACE DEPOSITS)			
S	1.50					Firm brown mottled orangish brown locally grey slightly sandy slightly gravelly CLAY. Sand is fine to medium. Gravel is fine to coarse angular to subangular occasionally subrounded flint and chalk. (REWORKED LONDON CLAY FORMATION)			
					(1.50)				
D	2.40	(20)							
UT	2.50								
B	3.00			68.02	3.00	Firm becoming stiff grey locally greyish brown silty CLAY with rare fine shell fragments.			
						(LONDON CLAY FORMATION)			
D	3.50	N = 15	1.50						
S	3.50								
UT	4.50	(30)							
D	4.95								
D	5.50	N = 20	1.50						
S	5.50								
D	6.50								
					(7.50)				
UT	7.00	(45)							
D	7.45								
D	8.00					Below 8.00m bgl: very stiff.			
D	8.50	N = 26	1.50						
S	8.50								
D	9.50								
UT	10.00	(55)				Continued next sheet			

Chiselling			Groundwater Strikes					Drilled: Gap Drilling Services Ltd Logged: FC Checked: AS
From	To	Duration (hh:mm)	Depth Strike	Rose to	Remarks	Cased	Sealed	

Remarks: Hand dug service inspection pit excavated to 1.20m bgl.

Installation: 50mm diameter standpipe installed to 4.00m bgl.

Diameter: 150mm to 10.50m

Exploratory hole logs should be read in conjunction with key sheets

APPLIED GEOLOGY

BOREHOLE LOG - CABLE PERCUSSION

BH6

Project Bartley Wood Business Park, Hook

Project No.

AG3265-21

Client Patron Hook Ltd

Sheet

2 of 2

Start 06/05/2021

Coordinates E 473288.95 N 153710.40

Scale

1:50

End 06/05/2021

Ground Level 71.02m AOD

Total Depth

10.50m

Sample / Test Type	Depth (m)	Result	Casing Depth (m)	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
D	10.45			60.52	10.50	Firm becoming stiff grey locally greyish brown silty CLAY with rare fine shell fragments. (LONDON CLAY FORMATION)			
						End of Borehole at 10.50m			

DRAFT

Chiselling			Groundwater Strikes					Drilled: Gap Drilling Services Ltd Logged: FC Checked: AS
From	To	Duration (hh:mm)	Depth Strike	Rose to	Remarks	Cased	Sealed	

Remarks: Hand dug service inspection pit excavated to 1.20m bgl.

Installation: 50mm diameter standpipe installed to 4.00m bgl.

Diameter: 150mm to 10.50m

Exploratory hole logs should be read in conjunction with key sheets

APPLIED GEOLOGY

BOREHOLE LOG - CABLE PERCUSSION

BH7

Project Bartley Wood Business Park, Hook

Project No.

AG3265-21

Client Patron Hook Ltd

Sheet

1 of 2

Start 10/05/2021

Coordinates E 473208.20 N 153789.01

Scale

1:50

End 10/05/2021

Ground Level 69.32m AOD

Total Depth

10.45m

Sample / Test Type	Depth (m)	Result	Casing Depth (m)	Level (mAOD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
B	0.20			69.22	(0.10)	Block paving.			
				69.17	0.10	(MADE GROUND)			
					(0.05)	Yellowish brown fine to medium SAND.			
					0.15	(MADE GROUND - SUBBASE)			
B	0.90			68.42	(0.75)	Brown and grey slightly silty SAND and GRAVEL with occasional cobbles. Gravel is fine to coarse subangular brick, limestone, asphalt and concrete. Cobbles are subangular brick and concrete.			
				68.12	1.20	(MADE GROUND - SUBBASE)			
UT	1.50	(20)			(0.50)	Firm grey and brown slightly gravelly to gravelly sandy CLAY. Gravel is fine to coarse subangular flint, brick and concrete.			
				67.62	1.70	(MADE GROUND)			
D	1.95				(0.65)	Soft locally firm brown mottled orangish brown and grey silty slightly fine sandy CLAY.			
						(LONDON CLAY FORMATION)			
D	2.35			66.97	2.35	Firm grey locally mottled brown silty CLAY.			
D	2.50					(LONDON CLAY FORMATION)			
S	2.50	N = 10	1.50			From 1.95m bgl: closely spaced fissured.			
						Firm becoming stiff grey silty CLAY with rare fine shell fragments.			
						(LONDON CLAY FORMATION)			
UT	3.50	(25)							
D	3.95								
						Below 4.00m bgl: stiff.			
D	4.50								
S	4.50	N = 16	1.50						
UT	5.50	(30)							
D	5.95								
D	6.50				(8.10)				
D	7.00								
S	7.00	N = 19	1.50						
D	8.00								
						Below 8.00m bgl: very stiff.			
						From 8.00m to 9.00m bgl: slightly fine sandy.			
UT	8.50	(45)							
D	8.95								
D	10.00								
						Continued next sheet			

Chiselling			Groundwater Strikes					Drilled: Gap Drilling Services Ltd
From	To	Duration (hh:mm)	Depth Strike	Rose to	Remarks	Cased	Sealed	
			0.35	0.35	Slight seepage			Logged: FC
								Checked: AS

Remarks: Hand dug service inspection pit excavated to 1.20m bgl. Borehole backfilled with arisings on completion.

Installation:

Diameter: 150mm to 10.00m

Exploratory hole logs should be read in conjunction with key sheets

APPLIED GEOLOGY

BOREHOLE LOG - CABLE PERCUSSION

BH8

Project Bartley Wood Business Park, Hook

Project No.

AG3265-21

Client Patron Hook Ltd

Sheet

1 of 1

Start 06/05/2021

Coordinates E 473203.27 N 153716.06

Scale

1:50

End 06/05/2021

Ground Level 70.39m AOD

Total Depth

10.00m

Sample / Test Type	Depth (m)	Result	Casing Depth (m)	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
B	0.20			70.34	(0.05)	Asphalt.			
				70.29	0.05	(MADE GROUND)			
				70.19	(0.05)	Grey and reddish brown slightly sandy GRAVEL. Gravel is fine to medium angular to subangular limestone and rare brick.			
					0.10	(MADE GROUND - SUBBASE)			
					(0.10)	(MADE GROUND - SUBBASE)			
B	0.90			69.49	0.20	Weak light grey CONCRETE.			
B	1.20				(0.70)	(MADE GROUND)			
C	1.20	N = 31	1.50		0.90	Brown, grey and reddish brown slightly silty sandy GRAVEL with occasional cobbles. Gravel is fine to coarse subangular brick, concrete, flint and asphalt. Cobbles are subangular concrete.			
					(0.80)	(MADE GROUND - SUBBASE)			
				68.69	1.70	Dense orangish brown slightly clayey to clayey sandy GRAVEL. Gravel is fine to coarse subangular to subrounded flint and rare fine chalk. (RIVER TERRACE DEPOSITS)			
UT	2.00	(20)				Firm brown mottled orangish brown silty slightly fine sandy CLAY. (REWORKED LONDON CLAY FORMATION)			
D	2.45				(2.00)	From 1.70m to 2.00m bgl: slightly gravelly, gravel is fine subangular chalk and flint.			
D	3.00								
S	3.00	N = 10	1.50						
				66.69	3.70	Stiff brownish grey and grey silty slightly fine sandy CLAY. (LONDON CLAY FORMATION)			
D	3.80					From 3.95m and 4.00m bgl: Driller notes claystone band.			
UT	4.50	(35)							
D	4.95								
D	5.00								
S	5.00	N = 11	1.50						
D	6.00								
UT	6.50	(30)							
D	6.95				(6.30)				
D	7.50								
D	8.00								
S	8.00	N = 19	1.50			Below 8.00m bgl: grey, very stiff.			
D	9.00								
UT	9.50	(35)							
D	9.95			60.39	10.00	End of Borehole at 10.00m			

Chiselling			Groundwater Strikes					Drilled: Gap Drilling Services Ltd
From	To	Duration (hh:mm)	Depth Strike	Rose to	Remarks	Cased	Sealed	
			4.00	3.82	Seepage	1.50		Logged: FC
								Checked: AS

Remarks: Hand dug service inspection pit excavated to 1.20m bgl.

Installation: 50mm diameter standpipe installed to 5.00m bgl.

Diameter: 150mm to 10.00m

Exploratory hole logs should be read in conjunction with key sheets

APPLIED GEOLOGY

BOREHOLE LOG - CABLE PERCUSSION

BH9

Project Bartley Wood Business Park, Hook

Project No.

AG3265-21

Client Patron Hook Ltd

Sheet

1 of 2

Start 07/05/2021

Coordinates E 473140.48 N 153724.31

Scale

1:50

End 07/05/2021

Ground Level 70.03m AOD

Total Depth

10.50m

Sample / Test Type	Depth (m)	Result	Casing Depth (m)	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
B	0.20			69.93	(0.10)	Asphalt.			
				69.88	0.10	(MADE GROUND)			
					(0.05)	Orangish brown and reddish brown slightly sandy GRAVEL. Gravel is fine to medium angular to subangular limestone and rare asphalt.			
					0.15	(MADE GROUND - SUBBASE)			
					(1.25)	Brownish grey occasionally grey and brown slightly sandy to sandy GRAVEL with occasional cobbles and rare wood fragments. Gravel is fine to coarse subangular brick, concrete, asphalt, glass and flint. Cobbles are concrete and brick.			
B	1.50			68.63	1.40				
C	1.50	N = 11	1.50	68.43	(0.20)	(MADE GROUND - SUBBASE)			
					1.60	Firm grey and brown slightly sandy gravelly CLAY. Gravel is fine to coarse subangular to subrounded brick, flint and chalk.			
						(MADE GROUND)			
					(1.20)	Firm orangish brown locally brown silty fine sandy slightly gravelly CLAY. Gravel is fine to medium subangular to subrounded flint and chalk. (REWORKED LONDON CLAY FORMATION)			
UT	2.50	(20)				From 1.60m to 1.80m bgl: gravelly.			
				67.23	2.80				
D	2.95				(0.70)	Firm orangish brown locally brown silty fine sandy CLAY. (LONDON CLAY FORMATION)			
B	3.50			66.53	3.50				
D	3.50					Firm becoming stiff grey silty CLAY with rare shell fragments. (LONDON CLAY FORMATION)			
S	3.50	N = 12	1.50						
UT	4.50	(30)							
D	4.95								
						Between 5.00m and 5.20m bgl: band of hard silt.			
D	5.50								
S	5.50	N = 18	1.50						
D	6.50								
UT	7.00	(40)			(7.00)	Below 7.00m bgl: stiff.			
D	7.45								
D	8.00								
D	8.50								
S	8.50	N = 26	1.50			Below 8.50m bgl: very stiff.			
D	9.50								
UT	10.00	(50)							

Continued next sheet

Chiselling			Groundwater Strikes					Drilled: Gap Drilling Services Ltd Logged: FC Checked: AS
From	To	Duration (hh:mm)	Depth Strike	Rose to	Remarks	Cased	Sealed	

Remarks: Hand dug service inspection pit excavated to 1.20m bgl.

Installation: 50mm diameter standpipe installed to 4.00m bgl.

Diameter: 150mm to 10.50m

Exploratory hole logs should be read in conjunction with key sheets

APPLIED GEOLOGY

BOREHOLE LOG - DRIVEN CONTINUOUS SAMPLING

DCS1

Project

Bartley Wood Business Park, Hook

Client

Patron Hook Ltd

Start

06/05/2021

End

06/05/2021

Coordinates

E 473357.17 N 153886.92

Ground Level

75.35m AOD

Project No.

AG3265-21

Sheet

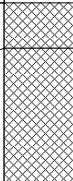
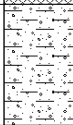



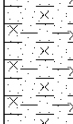
1 of 2

Scale

1:25

Total Depth

5.45m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
ES	0.40			75.20	(0.15)	Asphalt.			
					0.15	(MADE GROUND)			
					(0.45)	Grey and brown slightly sandy GRAVEL with rare cobbles. Gravel is fine to coarse subangular brick, concrete, asphalt and igneous stone. (MADE GROUND - SUBBASE)			
D S	1.20 1.20	N = 11		74.75	0.60	Firm orangish brown slightly sandy gravelly CLAY. Gravel is fine to medium subangular flint. (REWORKED LONDON CLAY)			
					(0.40)				
					74.35	1.00			
D S	2.00 2.00	N = 11	101mm /80%						
D S	3.00 3.00	N = 11	92mm /100%		(2.90)	From 3.00m to 3.20m bgl: soft.			
D S	4.00 4.00	N = 12	79mm /100%	71.45	3.90	Firm locally stiff grey locally dark orangish brown silty CLAY. (LONDON CLAY FORMATION)			
D	5.00		70mm /100%		(1.55)				
Continued next sheet									

Installation:
Remarks: Hand dug service inspection pit excavated to 1.20m bgl. Borehole backfilled with arisings on completion.

Groundwater Strikes					Drilled: DH Logged: FC Checked: AS
Depth Strike	Rose to	Remarks	Cased	Sealed	

DCS2

Project No. AG3265-21

Sheet 1 of 1

Scale 1:25

Total Depth 0.50m

DRAFT

Groundwater Strikes					Drilled: DH
Depth Strike	Rose to	Remarks	Cased	Sealed	
					Logged: FC
					Checked: AS

BOREHOLE LOG - DRIVEN CONTINUOUS SAMPLING

DCS3

Project

Bartley Wood Business Park, Hook

Client

Patron Hook Ltd

Start

06/05/2021

End

06/05/2021

Coordinates

E 473290.30 N 153768.99

Ground Level

71.22m AOD

Project No.

AG3265-21

Sheet

1 of 2

Scale

1:25

Total Depth

5.45m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
ES	0.50			71.14	(0.08)	Block paving.			
				71.07	0.08	(MADE GROUND)			
					(0.07)	Yellowish brown slightly silty fine to medium SAND.			
					0.15	(MADE GROUND - SUBBASE)			
				70.77	(0.30)	Reddish brown and grey slightly sandy fine to medium subangular GRAVEL. Gravel is fine to coarse angular to subangular limestone and igneous stone.			
D	0.80			70.62	(0.15)	(MADE GROUND - SUBBASE)			
						Firm locally soft brown and grey slightly gravelly slightly sandy CLAY with rare cobbles. Gravel is fine to coarse subangular brick, concrete, flint and asphalt. Cobbles are subangular brick.			
						(MADE GROUND)			
D	1.20	N = 11				Firm orangish brown locally mottled grey silty fine sandy CLAY. (LONDON CLAY FORMATION)			
D	2.00	N = 14	101mm /80%						
					(2.20)				
D	2.00		92mm /100%						
S	3.00	N = 18		68.42	2.80	Firm locally stiff grey and brownish grey silty CLAY with rare fine shell fragments. (LONDON CLAY FORMATION)			
					(1.00)				
D	3.40		79mm /100%						
D	4.00	N = 14		67.42	3.80	Stiff grey silty CLAY with rare fine shell fragments and occasional thin silt laminae. (LONDON CLAY FORMATION)			
						Between 4.00m and 5.00m bgl: occasional fine shell fragments.			
D	4.00		70mm /100%						
					(1.65)				
D	5.00					Continued next sheet			

Installation:
Remarks: Hand dug service inspection pit excavated to 1.20m bgl. Borehole backfilled with arisings on completion.

Groundwater Strikes					Drilled: DH Logged: FC Checked: AS
Depth Strike	Rose to	Remarks	Cased	Sealed	

BOREHOLE LOG - DRIVEN CONTINUOUS SAMPLING

DCS4

Project

Bartley Wood Business Park, Hook

Client

Patron Hook Ltd

Start

06/05/2021

End

06/05/2021

Coordinates

E 473179.14 N 153757.80

Ground Level

69.86m AOD

Project No.

AG3265-21

Sheet

1 of 2

Scale

1:25

Total Depth

5.45m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
ES	0.50	N = 11		69.78	(0.08)	Block paving.			
				69.71	0.08	(MADE GROUND)			
					(0.07)	Yellowish brown slightly silty fine to medium SAND.			
				69.56	0.15	(MADE GROUND - SUBBASE)			
					(0.15)	CONCRETE (weak).			
	0.30		(MADE GROUND)						
	(0.65)		Grey and brown slightly silty sandy GRAVEL with occasional cobbles. Gravel is fine to coarse subangular to subrounded brick, concrete, quartzite and rare asphalt. Cobbles are subangular brick. (MADE GROUND - SUBBASE)						
	68.91		0.95	At 0.95m bgl: black plastic membrane.					
D S	1.20 1.20			68.76	(0.15) 1.10	Firm greyish brown mottled brown slightly gravelly sandy CLAY. Gravel is fine to medium subangular flint. (REWORKED LONDON CLAY FORMATION)			
				Firm orangish brown locally mottled light grey silty CLAY. (LONDON CLAY FORMATION)					
D S	1.80 2.00	N = 8	101mm /80%						
D S	2.20 3.00	N = 14	92mm /100%	(2.30)					
D S	3.00 3.00								
D S	3.80 4.00	N = 16	79mm /100%	66.46	3.40	Firm becoming stiff brownish grey slightly fine sandy silty CLAY. (LONDON CLAY FORMATION)			
D S	4.50 5.00	N = 17	70mm /-%	(2.05)		Below 4.50m bgl: stiff, predominantly grey and dark grey.			
						Continued next sheet			

DCS4

Project No. AG3265-21

Sheet 2 of 2

Scale 1:25

Total Depth 5.45m

DRAFT

Groundwater Strikes					Drilled: DH
Depth Strike	Rose to	Remarks	Cased	Sealed	
0.90	0.90	Slight seepage			Logged: FC
					Checked: AS

BOREHOLE LOG - DRIVEN CONTINUOUS SAMPLING

DCS5

Project

Bartley Wood Business Park, Hook

Client

Patron Hook Ltd

Start

06/05/2021

End

06/05/2021

Coordinates

E 473089.80 N 153704.07

Ground Level

70.76m AOD

Project No.

AG3265-21

Sheet

1 of 2

Scale

1:25

Total Depth

5.45m

Sample / Test Type	Depth (m)	Result	Dia./ Rec.	Level (mAoD)	Strata Depth (thickness) (m)	Description of Strata	Legend	GW	Install
ES	0.40	N = 6		70.68	(0.08)	Block paving. (MADE GROUND) Yellowish brown fine to medium SAND. (MADE GROUND - SUBBASE) CONCRETE (weak). (MADE GROUND) Brown and grey slightly silty sandy GRAVEL with are cobbles. Gravel is fine to coarse angular to subangular brick, concrete, quartzite, flint and rare asphalt. Cobbles are subangular brick and concrete. (MADE GROUND - SUBBASE)			
				70.61	0.08				
				70.61	(0.07)				
					(0.00)				
					0.15				
	0.15								
ES	1.00				(1.10)				
C	1.20	N = 6		69.52	1.25	Firm brownish grey mottled orangish brown and grey slightly gravelly silty CLAY with occasional rootlets. Gravel is fine to medium subangular flint. (REWORKED LONDON CLAY FORMATION) Below 1.60m bgl: no gravel.			
D	1.30								
			101mm /80%		(0.55)				
				68.96	1.80	Firm grey mottled brown silty CLAY. (LONDON CLAY FORMATION)			
D	2.00	N = 11							
S	2.00								
			92mm /100%		(1.70)				
D	3.00	N = 11				Firm becoming stiff brownish grey and grey slightly fine sandy silty CLAY with rare fine shell fragments. (LONDON CLAY FORMATION)			
S	3.00								
			79mm /90%	67.26	3.50				
D	4.00	N = 11				Below 4.50m bgl: stiff, locally fissured.			
S	4.00								
			70mm /-%		(1.95)				
D	5.00								

Installation:
Remarks: Hand dug service inspection pit excavated to 1.20m bgl. Borehole backfilled with arisings on completion.

Groundwater Strikes					Drilled: DH Logged: FC Checked: AS
Depth Strike	Rose to	Remarks	Cased	Sealed	

DCS5

Project No. AG3265-21

Sheet 2 of 2

Scale 1:25

Total Depth 5.45m

DRAFT

Groundwater Strikes					Drilled: DH
Depth Strike	Rose to	Remarks	Cased	Sealed	
					Logged: FC
					Checked: AS

TRIAL PIT LOG

TP1

Project Bartley Wood Business Park, Hook

Project No.

AG3265-21

Client Patron Hook Ltd

Sheet

1 of 1

Date 10/05/2021

Scale

1:25

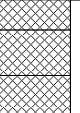
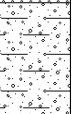
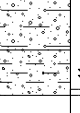
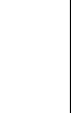
Ground Level 76.60m AOD

Coordinates

E 473414.73 N 153911.81

Total Depth

1.80m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
ES B WAC D	0.60		76.50	(0.10)	M-H	Asphalt. (MADE GROUND)		
				0.10	M	Greyish brown and reddish brown slightly sandy GRAVEL. Gravel is fine to medium angular to subangular limestone, rare concrete and brick.		
			76.36	(0.15)		(MADE GROUND - SUBBASE)		
				0.25				
				(0.50)	M-H	Greyish brown and brown slightly silty slightly sandy to sandy GRAVEL with occasional cobbles. Gravel is fine to coarse angular to subangular brick, flint, concrete, rare asphalt and limestone.		
						(MADE GROUND - SUBBASE)		
			75.86	0.75		At 0.75m bgl: black plastic membrane.		
						Orangish brown locally mottled grey slightly sandy very clayey GRAVEL with occasional cobble sized pockets of slightly gravelly clay. Gravel is fine to coarse subangular to subrounded flint and occasional chalk.		
				(0.90)	E	(RIVER TERRACE DEPOSITS)		
			74.96	1.65				
				(0.15)	E	Firm brown and orangish brown slightly gravelly sandy CLAY. Gravel is fine to coarse subangular to subrounded flint and quartzite. (REWORKED LONDON CLAY FORMATION)		
D	1.75		74.81	1.80				
						End of Trial Pit at 1.80m		

DRAFT

Method: Backhoe excavator

Groundwater: Slight seepage at 1.80m bgl.

Stability: Stable.

Remarks: Soakaway test undertaken within trial pit, see separate results sheet for details. Trial pit backfilled with arisings on completion.

Length: 1.30m

Width: 0.50m

Logged: FC

Checked: AS

TRIAL PIT LOG

TP2

Project	Bartley Wood Business Park, Hook	Project No.	AG3265-21
Client	Patron Hook Ltd	Sheet	1 of 1
Date	13/05/2021	Scale	1:25
Ground Level	76.07m AOD	Coordinates	E 473416.26 N 153901.06
		Total Depth	3.90m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
ES	0.30		75.92	(0.15)		Asphalt.		
				0.15		(MADE GROUND)		
D	0.70		75.57	(0.35)		Grey and brownish grey slightly sandy slightly silty GRAVEL with occasional cobbles and wood fragments. Gravel is fine to coarse subangular brick, flint, concrete and asphalt. Cobbles are subangular concrete and brick.		
				0.50		(MADE GROUND - SUBBASE) <i>At 0.50m bgl: black plastic membrane.</i>		
D	1.70		74.67	(0.90)		Soft to firm orangish brown occasionally mottled light grey silty CLAY. (LONDON CLAY FORMATION)		
				1.40		<i>From 1.20m to 1.40m bgl: slightly fine sandy, firm.</i>		
D	2.70			(2.30)		Firm brown mottled orangish brown and brownish grey silty CLAY. (LONDON CLAY FORMATION)		
						<i>From 1.60m to 2.60m bgl: locally slightly friable.</i>		
D	3.80		72.37	3.70		Firm brownish grey locally grey and dark orangish silty CLAY with thin bands of fine sandy silt.		
				(0.20)		(LONDON CLAY FORMATION)		
			72.17	3.90		End of Trial Pit at 3.90m		

Method: Backhoe excavator
Groundwater: Groundwater not encountered.
Stability: Stable.
Remarks: Trial pit backfilled with arisings on completion.

Length:	
Width:	0.50m
Logged:	FC
Checked:	AS

TRIAL PIT LOG

TP3

Project Bartley Wood Business Park, Hook

Project No.

AG3265-21

Client Patron Hook Ltd

Sheet

1 of 1

Date 14/05/2021

Scale

1:25

Ground Level 73.05m AOD

Coordinates

E 473403.74 N 153848.95

Total Depth

3.30m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
			72.93	(0.12)		Asphalt.		
				0.12		(MADE GROUND)		
			72.75	(0.18)	M-H	Reddish brown and greyish brown slightly sandy GRAVEL. Gravel is fine to medium angular to subangular limestone.		
				0.30		(MADE GROUND - SUBBASE)		
				(0.50)	M-H	Grey and brown slightly sandy slightly silty GRAVEL with occasional to frequent cobbles. Gravel is fine to coarse subangular to subrounded concrete, brick, asphalt. glass, flint and limestone. Cobbles are concrete and limestone.		
			72.25	0.80		(MADE GROUND - SUBBASE)		
D	1.00					Soft to firm orangish brown mottled brown slightly fine sandy silty CLAY. (LONDON CLAY FORMATION)		
D	1.50							
				(2.30)	E			
D	2.50							
						From 2.80m and 3.10m bgl: firm predominantly brown mottled brownish grey.		
D	3.15		69.95	3.10		Stiff locally very stiff grey silty CLAY with occasional hard thin silt bands. (LONDON CLAY FORMATION)		
D	3.30		69.75	(0.20)	E			
				3.30	M-H	Between 3.20m and 3.30m bgl: siltstone/hard silt band.		
						End of Trial Pit at 3.30m		

Method: Backhoe excavator

Groundwater: Slight seepage from 1.20m bgl on footing side only.

Stability: Stable.

Remarks: Trial pit incorporated excavation to establish presence of footing of a retaining wall, this was encountered at 1.20m bgl, extending 1.50m out from the retaining wall. Trial pit backfilled with arisings on completion.

Length:	1.70m
Width:	0.50m
Logged:	FC
Checked:	AS

TRIAL PIT LOG

TP4

Project Bartley Wood Business Park, Hook

Project No.

AG3265-21

Client Patron Hook Ltd

Sheet

1 of 1

Date 10/05/2021

Scale

1:25






Ground Level 74.00m AOD

Coordinates

E 473349.11 N 153855.02

Total Depth

2.40m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
B ES	0.50 0.60		73.92	(0.08)	M	Asphalt.		
				0.08	E	(MADE GROUND)		
			73.80	(0.12)	E	Reddish brown and grey slightly sandy GRAVEL. Gravel is fine to medium subangular limestone, rare brick and asphalt.		
				0.20 (0.30)		(MADE GROUND - SUBBASE)		
D	1.20		73.50	0.50	M	Yellowish brown fine to medium SAND.		
						(MADE GROUND - SUBBASE)		
				(0.55)		Brown and greyish brown slightly silty slightly sandy to sandy GRAVEL with occasional cobbles. Gravel is fine to coarse brick, concrete, asphalt, limestone and flint. Cobbles are subangular concrete.		
D	1.80		72.95	1.05	E	Soft to firm locally friable orangish brown silty sandy slightly gravelly CLAY. Gravel is fine to medium subangular chalk and flint. (REWORKED LONDON CLAY FORMATION)		
				(0.85)				
D	2.30		72.10	1.90	E	Firm brown mottled light grey and orangish brown silty slightly sandy CLAY. (LONDON CLAY FORMATION)		
				(0.50)				
			71.60	2.40		End of Trial Pit at 2.40m		

Method: Backhoe excavator

Groundwater: Slight seepage at 2.40m bgl.

Stability: Stable.

Remarks: Soakaway test undertaken within trial pit, see separate results sheet for details. Trial pit backfilled with arisings on completion.

Length: 1.60m

Width: 0.50m

Logged: FC

Checked: AS

TRIAL PIT LOG

TP5

Project Bartley Wood Business Park, Hook

Project No.

AG3265-21

Client Patron Hook Ltd

Sheet

1 of 1

Date 14/05/2021

Scale

1:25







Ground Level 72.00m AOD

Coordinates

E 473345.80 N 153790.35

Total Depth

3.00m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
ES	0.60		71.90	(0.10)	M	Asphalt. (MADE GROUND)		
				0.10		Brown and greyish brown slightly sandy to sandy slightly silty GRAVEL with occasional cobbles and rare plastic fragments. Gravel is fine to coarse subangular to subrounded limestone, concrete, brick and flint. (MADE GROUND - SUBBASE)		
			71.46	(0.45)	H-VH			
				0.55		Cemented grey and brown slightly sandy slightly silty GRAVEL with occasional cobbles. Gravel is fine to coarse subangular to subrounded concrete, brick, asphalt, limestone and flint. Cobbles are subangular concrete. (MADE GROUND - SUBBASE)		
D	1.70		70.81	(0.65)	E	Soft to firm orangish brown occasionally mottled brown and grey slightly gravelly sandy CLAY. Sand is fine. Gravel is fine to coarse subangular to subrounded flint and chalk. (REWORKED LONDON CLAY FORMATION)		▼
			70.50	(1.20)		Firm brown mottled light grey silty CLAY. (LONDON CLAY FORMATION)		
D	2.70			(0.30)	E			
				1.50				
				(1.50)	E	Between 2.30m and 2.70m bgl: locally slightly friable.		
			69.00	3.00		End of Trial Pit at 3.00m		▼

Method: Backhoe excavator

Groundwater: Slight seepae at 1.20m bgl, slight seepage at 3.00m bgl.

Stability: Stable.

Remarks: Trial pit backfilled with arisings on completion.

Length: 1.70m

Width: 0.50m

Logged: FC

Checked: AS

TRIAL PIT LOG

TP6

Project Bartley Wood Business Park, Hook

Project No.

AG3265-21

Client Patron Hook Ltd

Sheet

1 of 1

Date 14/05/2021

Scale

1:25

Ground Level 70.60m AOD

Coordinates

E 473256.14 N 153792.47

Total Depth

0.60m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
			70.50	(0.10)	M	Asphalt. (MADE GROUND)		
			70.35	(0.15)		Reddish brown and grey slightly sandy GRAVEL. Gravel is fine to medium subangular limestone and occasional asphalt.		
				0.25	M-H	(MADE GROUND - SUBBASE)		
			70.00	(0.35)		Greyish brown and brown slightly sandy slightly silty GRAVEL with occasional cobbles. Gravel is fine to coarse subangular brick, concrete, limestone and flint. Cobbles are subangular tile, concrete and brick.		
				0.60		(MADE GROUND - SUBBASE)		
						End of Trial Pit at 0.60m		

DRAFT

Method: Backhoe excavator

Groundwater: Ingress from pipe.

Stability: Stable.

Remarks: Trial pit terminated at 0.60m bgl services encountered. Surface water ceramic drainage pipe approximately 100mm diameter encountered at 0.55m bgl, fractured - water flowing out steady level at 0.30m bgl. Repaired using plastic cover and bentonite. Trial pit backfilled with arisings on completion.

Length:	1.40m
Width:	0.50m
Logged:	FC
Checked:	AS

TRIAL PIT LOG

TP7

Project Bartley Wood Business Park, Hook

Project No.

AG3265-21

Client Patron Hook Ltd

Sheet

1 of 1

Date 10/05/2021

Scale

1:25

Ground Level 71.04m AOD

Coordinates

E 473249.07 N 153699.67

Total Depth

2.00m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
ES	0.50		70.96	(0.08)	M	Block paving.		
				0.08	E	(MADE GROUND)		
			70.84	(0.12)		Yellowish brown SAND.		
				0.20		(MADE GROUND - SUBBASE)		
D	0.80			(0.40)	E	Brownish grey and grey slightly silty sandy GRAVEL with rare cobbles. Gravel is fine to medium occasionally coarse angular to subangular limestone, occasional concrete and flint and rare brick. Cobbles are subangular concrete.		
			70.44	0.60		(MADE GROUND - SUBBASE) <i>At 0.60m bgl: black plastic membrane.</i>		
D	1.30			(0.85)	E	Firm locally soft orangish brown locally mottled light grey slightly sandy gravelly locally very gravelly CLAY. Gravel is fine to medium occasionally coarse angular to subangular flint and rare chalk. (REWORKED LONDON CLAY FORMATION)		
			69.59	1.45		Firm orangish brown mottled brown and grey slightly sandy slightly gravelly silty CLAY. Gravel is fine to coarse subangular flint and rare chalk. (REWORKED LONDON CLAY FORMATION)		
D	1.90			(0.55)	E			
			69.04	2.00		End of Trial Pit at 2.00m		

Method: Backhoe excavator

Groundwater: Slight seepage at 2.00m bgl.

Stability: Stable.

Remarks: Soakaway test undertaken within trial pit, see separate results sheet for details. Trial pit backfilled with arisings on completion.

Length:	1.60m
Width:	0.50m
Logged:	FC
Checked:	AS

TRIAL PIT LOG

TP8

Project Bartley Wood Business Park, Hook

Project No.

AG3265-21

Client Patron Hook Ltd

Sheet

1 of 1

Date 10/05/2021

Scale

1:25

Ground Level 69.82m AOD

Coordinates

E 473227.64 N 153803.52

Total Depth

2.00m

Sample / Test Type	Depth (m)	Result	Level (mAOD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
B ES	0.30 0.40		69.72	(0.10)	H	Asphalt.		
				0.10	M	(MADE GROUND)		
			69.57	(0.15)		Greyish brown and reddish brown slightly sandy GRAVEL. Gravel is fine to medium angular to subangular limestone, rare asphalt and igneous stone.		
				0.25	E	(MADE GROUND - SUBBASE)		
D	0.70		69.32	(0.25)		Brown slightly silty slightly sandy GRAVEL with occasional cobble and wood fragments. Gravel is fine to coarse subangular to subrounded concrete, brick, flint and quartzite.		
				0.50		(MADE GROUND - SUBBASE)		
						At 0.50m bgl: black plastic membrane.		
						Soft to firm locally slightly friable orangish brown locally mottled grey silty sandy CLAY.		
D	2.00					(LONDON CLAY FORMATION)		
				(1.40)				
						Below 1.50m bgl: predominantly firm.		
			67.92	1.90	E	Firm grey silty CLAY with rare fine shell fragments.		
			67.82	(0.10)		(LONDON CLAY FORMATION)		
				2.00		End of Trial Pit at 2.00m		

Method: Backhoe excavator

Groundwater: Slight seepage at 2.00m bgl.

Stability: Stable.

Remarks: Soakaway test undertaken within trial pit, see separate results sheet for details. Trial pit backfilled with arisings on completion.

Length:	1.70m
Width:	0.50m
Logged:	FC
Checked:	AS

TRIAL PIT LOG

TP9

Project Bartley Wood Business Park, Hook

Project No.

AG3265-21

Client Patron Hook Ltd

Sheet

1 of 1

Date 14/05/2021

Scale

1:25

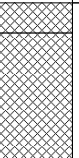
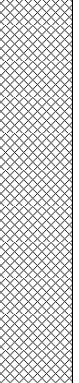
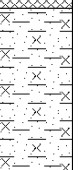
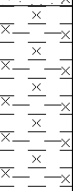
Ground Level 70.58m AOD

Coordinates

E 473155.79 N 153751.10

Total Depth

3.00m

Sample / Test Type	Depth (m)	Result	Level (mAoD)	Strata Depth (thickness) (m)	Ease of Dig	Description of Strata	Legend	GW
B ES	0.50 0.50		70.48	(0.10) 0.10	M	Asphalt. (MADE GROUND)		
				Brownish grey and grey slightly silty sandy GRAVEL with occasional cobbles. Gravel is fine to coarse subangular brick, concrete, flint, asphalt, glass and plastic fragments. Cobbles are concrete and brick. (MADE GROUND - SUBBASE)				
ES	1.50			(1.70)	H	Below 1.00m bgl: frequent concrete cobbles, weakly cemented.		
ES D	1.90 2.00		68.78	1.80	E	Soft to firm orangish brown mottled brown slightly fine sandy silty CLAY. (REWORKED LONDON CLAY FORMATION)		
				(0.55)				
D	2.40		68.23	2.35	E	Firm becoming locally stiff brown and greyish brown silty CLAY. (LONDON CLAY FORMATION)		
				(0.65)				
D	3.00		67.58	3.00		End of Trial Pit at 3.00m		

Method: Backhoe excavator

Groundwater: Groundwater not encountered.

Stability: Stable.

Remarks: Trial pit backfilled with arisings on completion.

Length:	1.60m
Width:	0.50m
Logged:	FC
Checked:	AS


Filling	1 of 1
Trial Pit Length (m)	1.30
Trial Pit Width (m)	0.50
Trial Pit Depth (m)	1.80
Amount of Backfill placed (m)	0
Assumed Backfill Void Ratio	N/A

RAEFT

Time (minutes)	Max effective depth (m bgl)	75% (m bgl)	25% (m bgl)	Empty (m bgl)
0.00	0.70	1.00	1.50	1.80
500.00	0.71	1.00	1.50	1.80
1000.00	0.72	1.00	1.50	1.80
1500.00	0.73	1.00	1.50	1.80
2000.00	0.74	1.00	1.50	1.80
2500.00	0.75	1.00	1.50	1.80
3000.00	0.75	1.00	1.50	1.80
3500.00	0.75	1.00	1.50	1.80

Soil Infiltration Rate (m/s)	*
------------------------------	---

* Water level did not drop sufficiently for the calculation to be made


Client:	Patron Hook Ltd	
Project:	Bartley Wood Business Park, Hook	
Project No.	AG3265-21	

Filling	1 of 1
Trial Pit Length (m)	1.60
Trial Pit Width (m)	0.50
Trial Pit Depth (m)	2.40
Amount of Backfill placed (m)	0
Assumed Backfill Void Ratio	N/A

Configuration	Depth (m bgl)
Max effective depth	~0.9
75%	~1.25
25%	~2.0
Empty	~2.4

Soil Infiltration Rate (m/s)	*
------------------------------	---

* Water level did not drop sufficiently for the calculation to be made

Client:	Patron Hook Ltd	
Project:	Bartley Wood Business Park, Hook	
Project No.	AG3265-21	