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12a -18a Hitchin Street	Haverhill North	
Biggleswade	Catchment 4	
SG18 8AX	Phases 3a, 4 and 5	Micro
Date 01/01/2019	Designed by Tom Wilson	Drainage
File Phase 3,4&5 - Pond 3&4	Checked by Nick Kohli	Diamage
Innovyze	Network 2019.1	1

100 year Return Period Summary of Critical Results by Maximum Level (Rank <u>1) for Surface Network 4</u>

	vel eded
5.002 S348 91.988 1.326 0.000 1.49 128.3 FLOOD RISK	
5.003 S349 91.370 1.016 0.000 1.42 213.4 SURCHARGED	
5.004 S350 90.841 0.796 0.000 0.89 314.0 SURCHARGED	
1.010 S310 89.799 1.638 2.064 1.17 1123.6 FLOOD	1
1.010 S310 S9.795 1.526 0.000 1.14 1125.0 FLOOD RISK	-
1.012 S312 89.366 1.506 0.000 1.22 1170.6 SURCHARGED	
6.000 S351 93.498 0.968 0.000 0.85 101.5 FLOOD RISK	
6.001 S352 91.817 1.557 7.558 1.28 165.9 FLOOD	3
1.013 S313 89.139 1.460 0.000 1.39 1333.6 SURCHARGED	Ŭ
1.014 S314 88.843 1.298 0.000 1.31 1345.6 SURCHARGED	
7.000 \$353 92.968 -0.154 0.000 0.21 24.7 OK	
7.001 S354 92.578 0.650 0.000 0.77 90.7 SURCHARGED	
7.002 \$355 91.622 1.372 0.000 1.24 149.8 FLOOD RISK	
1.015 S315 88.527 1.190 0.000 1.58 1510.2 SURCHARGED	
1.016 S316 88.124 0.920 0.000 1.54 1525.8 SURCHARGED	
8.000 S356 89.827 -0.172 0.000 0.37 94.8 OK	
8.001 S357 88.025 -0.135 0.000 0.58 139.5 OK	
1.017 S317 87.698 0.687 0.000 0.91 1577.9 SURCHARGED	
1.018 S318 87.216 0.793 0.000 0.83 1580.8 SURCHARGED	
1.019 S319 86.728 1.017 0.000 0.79 1602.5 SURCHARGED	
1.020 S320 86.220 1.322 0.000 0.82 1627.8 SURCHARGED	
1.021 S321 85.690 1.572 0.000 0.85 1657.0 FLOOD RISK	
9.000 \$358 85.303 0.192 0.000 0.29 49.7 SURCHARGED	
9.001 S359 85.263 0.977 0.000 0.44 75.7 FLOOD RISK	
1.022 S322 85.131 1.754 0.000 0.89 1709.2 FLOOD RISK	
1.023 S323 84.557 2.050 36.804 1.77 1753.0 FLOOD	4
10.000 \$360 96.273 -0.134 0.000 0.34 36.7 OK	-
10.001 S361 95.012 -0.089 0.000 0.67 73.4 OK	
10.002 \$362 93.397 -0.143 0.000 0.53 126.6 OK	
10.003 S363 90.592 -0.086 0.000 0.85 187.6 OK	
10.004 S364 89.422 -0.067 0.000 0.95 209.2 OK	
10.005 S365 88.231 -0.138 0.000 0.72 264.6 OK	
10.006 S366 87.896 0.422 0.000 0.71 285.0 SURCHARGED	
11.000 \$371 87.639 0.682 0.000 0.70 115.1 SURCHARGED	
10.007 S367 87.137 1.371 0.000 1.28 426.3 FLOOD RISK	
10.008 S368 85.947 0.909 0.000 0.74 450.7 SURCHARGED	
10.009 \$369 85.223 1.513 0.000 1.02 505.5 FLOOD RISK	
12.000 S372 87.499 0.947 0.000 0.89 78.7 SURCHARGED	
12.001 \$373 86.772 1.145 0.000 1.55 134.7 FLOOD RISK	
12.002 S374 84.994 0.120 0.000 0.50 131.5 SURCHARGED	
12.003 \$375 84.751 0.858 0.000 0.60 156.6 SURCHARGED	
10.010 S370 84.385 1.155 0.000 0.58 706.5 FLOOD RISK	
13.000 HW302 83.875 0.475 0.000 0.06 108.2 FLOOD RISK	
1.024 S324 84.121 2.256 0.000 0.67 143.2 FLOOD RISK	
1.025 S325 82.987 1.354 0.000 0.48 127.0 FLOOD RISK	
14.000 S376 86.500 -0.116 0.000 0.47 51.4 OK	
14.001 S377 85.094 -0.048 0.000 0.88 92.0 OK	
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12a -18a Hitchin Street	Haverhill North	
Biggleswade	Catchment 4	
SG18 8AX	Phases 3a, 4 and 5	Micro
Date 01/01/2019	Designed by Tom Wilson	Drainage
File Phase 3,4&5 - Pond 3&4	Checked by Nick Kohli	Dialitage
Innovyze	Network 2019.1	l

100 year Return Period Summary of Critical Results by Maximum Level (Rank <u>1) for Surface Network 4</u>

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)			Overflow (1/s)	Pipe Flow (l/s)	Status	Level Exceeded
14.002	S378	84.451	0.220	0.000	0.63		147.5	SURCHARGED	

WBP Limited		Page 26
12a -18a Hitchin Street	Haverhill North	
Biggleswade	Catchment 4	
SG18 8AX	Phases 3a, 4 and 5	Micro
Date 01/01/2019	Designed by Tom Wilson	Drainage
File Phase 3,4&5 - Pond 3&4	Checked by Nick Kohli	Diamage
Innovyze	Network 2019.1	

100 year Return Period Summary of Critical Results by Maximum Level (Rank <u>1) for Surface Network 4</u>

PN	US/MH Name	Storm		Climate Change	First Surcha	• •	First (Y) Flood	First (Z) Overflow	Overflow Act.
14.003	S379	15 Winter	100	+40%	100/15	Summer			
14.004	S380	15 Winter	100	+40%	100/15	Summer			
1.026	S326	720 Winter	100	+40%	100/15	Summer	100/15 Summ	er	
15.000	S381	15 Winter	100	+40%					
15.001	S382	15 Winter	100	+40%	100/15	Summer			
15.002	HW303	1440 Winter	100	+40%	100/480	Winter			
15.003	HW304	1440 Winter	100	+40%	100/120	Summer			
1.027	S327	720 Winter	100	+40%	100/15	Summer	100/360 Summ	er	

PN	US/MH Name	Water Level (m)	Surcharged Depth (m)		Flow / Cap.	Overflow (1/s)	Pipe Flow (l/s)	Status	Level Exceeded
14.003	s379	83.608	1.513	0.000	1.25		228.3	FLOOD RISK	
14.004	S380	82.952	1.287	0.000	1.74		296.6	FLOOD RISK	
1.026	S326	82.496	1.131	2.445	0.82		136.3	FLOOD	17
15.000	S381	83.873	-0.007	0.000	0.67		66.2	OK	
15.001	S382	83.252	0.809	0.000	1.59		142.7	SURCHARGED	
15.002	HW303	82.320	0.120	0.000	0.01		6.3	SURCHARGED	
15.003	HW304	82.320	0.820	0.000	0.09		32.6	FLOOD RISK	
1.027	S327	82.600	1.472	0.532	1.59		90.5	FLOOD	4

WBP Limited	Page 0										
12a -18a Hitchin Street Haverhill North											
Biggleswade Catchment Area 3											
SG18 8AX Phase 6	Micro										
Date 01/01/2019 Designed by Tom Wilson	Drainage										
File Phase 6 - Pond 2-Rev1.mdx Checked by Nick Kohli	Diamage										
Innovyze Network 2019.1											
STORM SEWER DESIGN by the Modified Rational Method											
Design Criteria for Surface Network 3											
Pipe Sizes STANDARD Manhole Sizes STANDARD											
FSR Rainfall Model - England and Wales											
Return Period (years) 100 PI M5-60 (mm) 20.400 Add Flow / Climate Char	MP (%) 100 ge (%) 0										
Ratio R 0.438 Minimum Backdrop Heig											
Maximum Rainfall (mm/hr) 50 Maximum Backdrop Heig											
Maximum Time of Concentration (mins) 30 Min Design Depth for Optimisati Foul Sewage (l/s/ha) 0.000 Min Vel for Auto Design only											
Volumetric Runoff Coeff. 0.750 Min Slope for Optimisation											
Designed with Level Soffits											
<u>Time Area Diagram for Surface Network 3</u>											
Time Area Time Area (mins) (ha) (mins) (ha)											
0-4 0.918 4-8 0.286											
Total Area Contributing (ha) = 1.204											
Total Pipe Volume (m³) = 361.089											
<u>Network Design Table for Surface Network 3</u>											
« - Indicates pipe capacity < flow											
PN Length Fall Slope I.Area T.E. Base k HYD DIA Section (m) (m) (1:X) (ha) (mins) Flow (1/s) (mm) SECT (mm)	Type Auto Design										
1.000 31.321 0.895 35.0 0.036 5.00 0.0 0.600 o 225 Pipe/Co	nduit 🥚										
1.001 31.408 0.897 35.0 0.076 0.00 0.0 0.600 o 225 Pipe/Co	nduit 🤒										
1.002 40.195 1.148 35.0 0.064 0.00 0.0 0.600 o 300 Pipe/Co 1.003 61.544 4.103 15.0 0.000 0.00 0.0 0.600 o 300 Pipe/Co											
1.004 16.097 1.073 15.0 0.166 0.00 0.0 0.0 0.600 o 300 Pipe/Co											
Network Results Table	-										
	ap Flow /s) (l/s)										
1.000 50.00 5.24 92.845 0.036 0.0 0.0 0.0 2.22 8	8.2 4.9										
	8.2 15.2										
1.002 50.00 5.72 90.978 0.176 0.0 0.0 2.67 18 1.003 50.00 5.97 89.829 0.176 0.0 0.0 4.08 28											
1.003 50.00 5.97 89.829 0.176 0.0 0.0 0.0 4.08 28 1.004 50.00 6.04 85.726 0.342 0.0 0.0 0.0 4.08 28											
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12a -18a Hitchin Street	Haverhill North	
Biggleswade	Catchment Area 3	
SG18 8AX	Phase 6	Mirro
Date 01/01/2019	Designed by Tom Wilson	Drainage
File Phase 6 - Pond 2-Rev1.mdx	Checked by Nick Kohli	Diamade
Innovyze	Network 2019.1	

<u>Network Design Table for Surface Network 3</u>

PN	Length (m)	Fall (m)	Slope (1:X)	I.Area (ha)	T.E. (mins)	Ba: Flow		k (mm)	HYD SECT	DIA (mm)	Section Type	Auto Design
1.005	22.835	1.153	19.8	0.000	0.00		0.0	0.600	1.5 _/	500	1:1.5 Ditch	۵
	49.785 22.934		30.0 77.7	0.085 0.047	5.00 0.00			0.600 0.600	0 0		Pipe/Conduit Pipe/Conduit	•
3.000	57.899	4.495	12.9	0.183	5.00		0.0	0.600	0	300	Pipe/Conduit	•
2.002	58.260	2.535	23.0	0.065	0.00		0.0	0.600	0	375	Pipe/Conduit	•
4.000	49.674	4.140	12.0	0.182	5.00		0.0	0.600	0	225	Pipe/Conduit	٥
	31.745 34.343		20.4 89.4	0.209 0.091	0.00			0.600 0.600	∘ 1.5 _/	450 500	Pipe/Conduit 1:1.5 Ditch	•
1.006 1.007	16.593 8.947		12.3 59.6	0.000 0.000	0.00			0.600 0.600	0 0		Pipe/Conduit Pipe/Conduit	•

<u>Network Results Table</u>

PN	Rain (mm/hr)	T.C. (mins)	US/IL (m)	Σ I.Area (ha)	Σ Base Flow (l/s)	Foul (1/s)	Add Flow (l/s)	Vel (m/s)	Cap (1/s)	Flow (1/s)
1.005	50.00	6.10	84.653	0.342	0.0	0.0	0.0	6.15	1753.2	46.3
2.000 2.001	50.00 50.00		90.080 88.420	0.085 0.132	0.0	0.0	0.0	2.88 1.78	203.6 126.2	11.5 17.9
3.000	50.00	5.22	92.620	0.183	0.0	0.0	0.0	4.40	311.3	24.8
2.002	50.00	5.76	88.050	0.380	0.0	0.0	0.0	3.79	419.0	51.5
4.000	50.00	5.22	89.805	0.182	0.0	0.0	0.0	3.80	151.0	24.6
2.003 2.004	50.00 50.00		85.440 83.884	0.771 0.862	0.0	0.0	0.0	4.52 2.89	718.4 823.0	104.4 116.7
1.006 1.007	50.00 50.00		83.500 82.150	1.204 1.204	0.0	0.0	0.0	6.97 1.30	1970.9 23.1«	

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12a -18a Hitchin Street	Haverhill North	
Biggleswade	Catchment Area 3	
SG18 8AX	Phase 6	Micro
Date 01/01/2019	Designed by Tom Wilson	Drainage
File Phase 6 - Pond 2-Rev1.mdx	Checked by Nick Kohli	Diamage
Innovyze	Network 2019.1	1

<u>Manhole Schedules for Surface Network 3</u>	26	Net	WOIK	2019.1		
<u>Manhole Schedules for Surface Network 3</u>						
	Manhole	Schedules	for	Surface	Network	3

MH Name	MH CL (m)	MH Depth (m)	Coni	MH nection	MH Diam.,L*W (mm)	PN	Pipe Out Invert Level (m)	Diameter (mm)	PN	Pipes In Invert Level (m)	Diameter (mm)	Backdrop (mm)
			_									-
S206			_	Manhole	1200		92.845	225				
S207			1	Manhole	1200		91.950	225		91.950	225	
S208	92.786	1.808	Open	Manhole	1200	1.002	90.978	300	1.001	91.053	225	
S209	91.625	1.796	Open	Manhole	1200	1.003	89.829	300	1.002	89.830	300	1
S210	87.144	1.418	Open	Manhole	1200	1.004	85.726	300	1.003	85.726	300	
HW203	86.003	1.350	Open	Manhole	1200	1.005	84.653	500	1.004	84.653	300	
S203	92.056	1.976	Open	Manhole	1200	2.000	90.080	300				
S204	90.044	1.624	Open	Manhole	1200	2.001	88.420	300	2.000	88.421	300	1
S200	94.433	1.813	Open	Manhole	1200	3.000	92.620	300				
S201	90.747	2.697	Open	Manhole	1350	2.002	88.050	375	2.001	88.125	300	
									3.000	88.125	300	
\$205	91 392	1 587	Open	Manhole	1200	4.000	89.805	225				
S203			-	Manhole		2.003	85.440		2.002	85.515	375	
5202	07.700	2.520	open	Mannore	1550	2.005	03.440	400	4.000	85.665	225	
	05 004				1000			500				
HW201			_	Manhole		2.004	83.884		2.003	83.884	450	
HW202	85.000	1.500	Open	Manhole	900 x 1050	1.006	83.500	600	1.005	83.500	500	
									2.004	83.500	500	
S211	85.000	2.850	Open	Manhole	1500	1.007	82.150	150	1.006	82.150	600	
HW200	83.618	1.618	Open	Manhole	0		OUTFALL		1.007	82.000	150	

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
S206	566983.810	246707.023	566983.810	246707.023	Required	P
S207	566963.714	246682.998	566963.714	246682.998	Required	-
S208	566943.558	246658.912	566943.558	246658.912	Required	
S209	566925.113	246623.199	566925.113	246623.199	Required	1
S210	566979.752	246594.875	566979.752	246594.875	Required	

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12a -18a Hitchin Street	Haverhill North	
Biggleswade	Catchment Area 3	
SG18 8AX	Phase 6	Micro
Date 01/01/2019	Designed by Tom Wilson	Drainage
File Phase 6 - Pond 2-Rev1.mdx	Checked by Nick Kohli	Diamade
Innovyze	Network 2019.1	

Manhole Schedules for Surface Network 3

MH Name	Manhole Easting (m)	Manhole Northing (m)	Intersection Easting (m)	Intersection Northing (m)	Manhole Access	Layout (North)
HW203	566995.039	246589.832	566995.039	246589.832	Required	-
S203	567112.789	246737.150	567112.789	246737.150	Required	
S204	567085.056	246695.805	567085.056	246695.805	Required	_
S200	567010.926	246715.853	567010.926	246715.853	Required	
S201	567062.823	246690.181	567062.823	246690.181	Required	
S205	566992.342	246659.943	566992.342	246659.943	Required	
S202	567036.907	246638.002	567036.907	246638.002	Required	4
HW201	567024.628	246608.727	567024.628	246608.727	Required	
HW202	567013.409	246576.268	567013.409	246576.268	Required	
S211	567020.369	246561.206	567020.369	246561.206	Required	
HW200	567022.383	246552.489			No Entry	

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12a -18a Hitchin Street	Haverhill North	
Biggleswade	Catchment Area 3	
SG18 8AX	Phase 6	Micro
Date 01/01/2019	Designed by Tom Wilson	Drainage
File Phase 6 - Pond 2-Rev1.mdx	Checked by Nick Kohli	Diamada
Innovyze	Network 2019.1	L

PIPELINE SCHEDULES for Surface Network 3

<u>Upstream Manhole</u>

PN	Hyd Sect	Diam (mm)	MH Name	C.Level (m)	I.Level (m)	D.Depth (m)	MH Connection	MH DIAM., L*W (mm)
1.000	0	225	S206	94.572	92.845	1.502	Open Manhole	1200
1.001	0	225	S207	93.679	91.950	1.504	Open Manhole	1200
1.002	0	300	S208	92.786	90.978		Open Manhole	1200
1.003	0	300	S209	91.625	89.829	1.496	Open Manhole	1200
1.004	0	300	S210	87.144	85.726	1.118	Open Manhole	1200
1.005	1.5 _/	500	HW203	86.003	84.653	1.050	Open Manhole	1200
2.000	0	300	S203	92.056	90.080		Open Manhole	1200
2.001	0	300	S204	90.044	88.420	1.324	Open Manhole	1200
3.000	0	300	S200	94.433	92.620	1.513	Open Manhole	1200
2.002	0	375	S201	90.747	88.050	2.322	Open Manhole	1350
4.000	0	225	S205	91.392	89.805	1.362	Open Manhole	1200
2.003	0	450	S202	87.768	85.440	1.878	Open Manhole	1350
2.004	1.5 _/	500	HW201	85.904	83.884	1.720	Open Manhole	1200
1.006	0	600	HW202	85.000	83.500	0.900	Open Manhole	900 x 1050
1.007	0	150	S211	85.000	82.150		Open Manhole	

Downstream Manhole

	0
1.000 31.321 35.0 S207 93.679 91.950 1.504 Open Manhole 12	
1.001 31.408 35.0 S208 92.786 91.053 1.508 Open Manhole 12	0
1.002 40.195 35.0 S209 91.625 89.830 1.495 Open Manhole 12	0
1.003 61.544 15.0 S210 87.144 85.726 1.118 Open Manhole 12	0
1.004 16.097 15.0 HW203 86.003 84.653 1.050 Open Manhole 12	0
1.005 22.835 19.8 HW202 85.000 83.500 1.200 Open Manhole 900 x 10	50
2.000 49.785 30.0 S204 90.044 88.421 1.323 Open Manhole 12	0
2.001 22.934 77.7 S201 90.747 88.125 2.322 Open Manhole 13	50
3.000 57.899 12.9 S201 90.747 88.125 2.322 Open Manhole 13	50
2.002 58.260 23.0 S202 87.768 85.515 1.878 Open Manhole 13	0
4.000 49.674 12.0 S202 87.768 85.665 1.878 Open Manhole 13	50
2.003 31.745 20.4 HW201 85.904 83.884 1.570 Open Manhole 12	0
2.004 34.343 89.4 HW202 85.000 83.500 1.200 Open Manhole 900 x 10	50
1.006 16.593 12.3 S211 85.000 82.150 2.250 Open Manhole 15	0
1.007 8.947 59.6 HW200 83.618 82.000 1.468 Open Manhole	0
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12a -18a Hitchin Street	Haverhill North	
Biggleswade	Catchment Area 3	
SG18 8AX	Phase 6	Micco
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File Phase 6 - Pond 2-Rev1.mdx	Checked by Nick Kohli	Drainage
Innovyze	Network 2019.1	
-	ll Details for Surface Network	3
_	C. Level I. Level Min D,L W	<u> </u>
Pipe Number Name		
1.007 HW200	83.618 82.000 0.000 0 0	
Simulation Cr	iteria for Surface Network <u>3</u>	
Areal Reduction Factor Hot Start (mins) Hot Start Level (mm) Manhole Headloss Coeff (Global) Foul Sewage per hectare (l/s) Number of Input Hydrog Number of Online Com	0 Inlet Coeffie 0 Flow per Person per Day (l/per 0.500 Run Time (0.000 Output Interval (graphs 0 Number of Storage Structures strols 1 Number of Time/Area Diagrams	orage 2.000 cient 0.800 /day) 0.000 mins) 60 mins) 1 1 0
	trols 0 Number of Real Time Controls	0
Synthe	tic Rainfall Details	
Return Period (years) Region Engl M5-60 (mm) Ratio R	FSR Profile Type 100 Cv (Summer) and and Wales Cv (Winter) 20.400 Storm Duration (mins) 0.438	0.750 0.840

2a -18a iggleswa	Hitchi												Page	
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-ggrcswa	de				0	Catch	ment	Area	3					-
G18 8AX					I	Phase	6						Mir	
Designed by Tom Wilson										aina				
File Phase 6 - Pond 2-Rev1.mdx						Checked by Nick Kohli					DIC			
nnovyze					1	Netwo	rk 20	19.1						
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Hydro	D-Brak	e® Op	timum	Mar	nhole	: S21	11, DS	/PN:	1.0	07, V	<u>olum</u>	ie (m	³): 9	9.4
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			ed Mar	-								1200		
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The hydro Hydro-Bra	ke® Opt	M L calcu timum a	esign ean Fl ulation as spec	Poin ow o ns ha cifie	t (Cal Fl K ver He ave be ed. Si	culat ush-F ick-F ad Ra en bas hould	ed) lo™ nge sed on anothe	0.42 0.87 the H	8 1 - Head/I be of	4. 3. 4. Discha contr	.8 .9 .8 rge r ol de	vice	other	than
Hydro-Bra Hydro-Bra invalidat	.ke® Opt .ke Opti .ed	M L calcu cimum a imum® k	esign ean Fl ulation as spec be util	Poin ow o ns ha cifie lised	t (Cal Fl K ver He ave be ed. Si d then	culat ush-F ick-F ad Ra en bas hould these	ed) lo™ lo® nge sed on anothe stora	0.42 0.87 the H er typ	8 1 Head/I be of buting	4 3 4 Discha contr g calc	.8 .9 .8 ol de ulati	vice ons w	other ill be	than .
Hydro-Bra Hydro-Bra invalidat Depth (m	.ke® Opt .ke Opti .ed) Flow	M L calcu timum a timum® k (l/s)	esign ean Fl ulation as spec be util Depth	Poin ow o ns ha cifie lisec (m)	t (Cal Fl K ver He ave be ed. Si d then Flow	culat ush-F ick-F ad Ra en bas hould these (1/s)	ed) lo™ lo® nge sed on anothe e stora	0.42 0.87 the H er typ age rc (m)	8 1 - Mead/I De of Duting Flow	4. 3. 4. Discha contr g calc (1/s)	.8 .9 .8 ol de ulati	vice ons w h (m)	other ill be Flow	than (1/s)
Hydro-Bra Hydro-Bra invalidat Depth (m 0.10	.ke® Opt .ke Opti .ed) Flow 0	M L calcu zimum a imum® ł (1/s) 3.2	esign ean Fl ulation as spec be util Depth 1	Poin ow o ns ha cifie lised (m) .200	t (Cal Fl K ver He ave be ed. Si d then Flow	culat ush-F Eick-F ad Ra en bas hould these (1/s) 4.5	ed) lo™ lo® nge sed on anothe e stora Depth 3	0.422 0.877 the Her typ age rc (m) .000	8 1 - Mead/I De of Duting Flow	4. 3. 4. Discha contr g calc (1/s) 6.9	.8 .9 .8 ol de ulati	vice ons w h (m) 7.000	other ill be Flow	than (1/s) 10.2
Hydro-Bra Hydro-Bra invalidat Depth (m	ke® Opti ke Opti ed) Flow 0	M L calcu timum a timum® k (l/s)	esign ean Fl ulation as spec be util Depth 1 1	Poin ow o ns ha cifie lisec (m)	t (Cal Fl K ver He ave be ed. Si d then Flow	culat ush-F ick-F ad Ra en bas hould these (1/s)	ed) lo™ lo® nge sed on anothe e stora	0.42 0.87 the H er typ age rc (m)	8 1 - Mead/I De of Duting Flow	4. 3. 4. Discha contr g calc (1/s)	.8 .9 .8 ol de ulati	vice ons w h (m)	other ill be Flow	than (1/s)
Hydro-Bra Hydro-Bra invalidat Depth (m 0.10 0.20 0.30 0.40	ke® Opti ke Opti ed) Flow 0 0 0 0	M L calcu timum a timum® k (1/s) 3.2 4.4 4.7 4.8	esign ean Fl ulation as spec be util Depth 1 1 1	Poin [•] ow o [•] ns ha cifie lisec (m) .200 .400 .600 .800	t (Cal Fl K ver He ave be ed. Si d then Flow	culat. ush-F ick-F ad Ra en bas hould these (1/s) 4.5 4.8 5.1 5.4	ed) lo™ nge sed on anothe e stora 3 3 4 4	0.423 0.87 the H ar typ age rc (m) .000 .500 .000 .500	8 1 - Mead/I De of Duting Flow	4 3 4 Discha contr (l/s) 6.9 7.4 7.8 8.3	.8 .9 .8 ol de ulati	vice ons w h (m) 7.000 7.500 8.000 8.500	other ill be Flow	(1/s) (1/s) 10.2 10.6 10.9 11.2
Hydro-Bra Hydro-Bra invalidat Depth (m 0.10 0.20 0.30 0.40 0.50	ke® Opti ke Opti ed) Flow 0 0 0 0 0 0	M L calcu timum a timum® k (1/s) 3.2 4.4 4.7 4.8 4.8	esign ean Fl ulation as spec be util Depth 1 1 1 2	Poin [•] ow o [•] ns ha cifie lisec (m) .200 .400 .600 .800 .000	t (Cal Fl K ver He ave be ed. Si d then Flow	culat. ush-F ick-F ad Ra en bas hould these (1/s) 4.5 4.8 5.1 5.4 5.7	ed) lo™ nge sed on anothe e stora 3 3 4 4 5	0.423 0.87 the H ar typ age rc (m) .000 .500 .000 .500 .000	8 1 - Mead/I De of Duting Flow	4 3 4 Discha contr g calc (1/s) 6.9 7.4 7.8 8.3 8.7	.8 .9 .8 ol de ulati	vice ons w h (m) 7.000 7.500 8.000 8.500 9.000	other ill be Flow	(1/s) (1/s) 10.2 10.6 10.9 11.2 11.5
Hydro-Bra Hydro-Bra invalidat Depth (m 0.10 0.20 0.30 0.40 0.50 0.60	ke® Opt ke Opt ed) Flow 0 0 0 0 0 0 0 0 0 0 0	M L calcu timum a timum® k (1/s) 3.2 4.4 4.7 4.8 4.8 4.8 4.7	esign ean Fl ulation as spec be util Depth 1 1 1 2 2	Poin ⁻ ow o ⁻ ns ha cifie lisec (m) .200 .400 .600 .800 .000 .200	t (Cal Fl K ver He ave be ed. Si d then Flow	culat. ush-F ick-F ad Ra en bas hould these (1/s) 4.5 4.8 5.1 5.4 5.7 5.9	ed) lo™ nge sed on anothe e stora 3 3 4 4 5 5	0.423 0.87 the H ar typ age rc (m) .000 .500 .000 .500 .000 .500	8 1 - Mead/I De of Duting Flow	4 3 4 0ischa contr (l/s) 6.9 7.4 7.8 8.3 8.7 9.1	.8 .9 .8 ol de ulati	vice ons w h (m) 7.000 7.500 8.000 8.500	other ill be Flow	(1/s) (1/s) 10.2 10.6 10.9 11.2 11.5
Hydro-Bra Hydro-Bra invalidat Depth (m 0.10 0.20 0.30 0.40 0.50	ke® Opt ke Opt ed) Flow 0 0 0 0 0 0 0 0 0 0 0 0 0 0	M L calcu timum a timum® k (1/s) 3.2 4.4 4.7 4.8 4.8	esign ean Fl ulation as spec be util Depth 1 1 1 2 2 2	Poin [•] ow o [•] ns ha cifie lisec (m) .200 .400 .600 .800 .000	t (Cal Fl K ver He ave be ed. Si d then Flow	culat. ush-F ick-F ad Ra en bas hould these (1/s) 4.5 4.8 5.1 5.4 5.7	ed) lo™ nge sed on anothe e stora 3 3 4 4 5 5 6	0.423 0.87 the H ar typ age rc (m) .000 .500 .000 .500 .000	8 1 - Mead/I De of Duting Flow	4 3 4 Discha contr g calc (1/s) 6.9 7.4 7.8 8.3 8.7	.8 .9 .8 ol de ulati	vice ons w h (m) 7.000 7.500 8.000 8.500 9.000	other ill be Flow	(1/s) (1/s) 10.2 10.6

WBP Limited		Page 7
12a -18a Hitchin Street	Haverhill North	
Biggleswade	Catchment Area 3	
SG18 8AX	Phase 6	Micro
Date 01/01/2019	Designed by Tom Wilson	Drainage
File Phase 6 - Pond 2-Rev1.mdx	Checked by Nick Kohli	Dialitada
Innovyze	Network 2019.1	

Storage Structures for Surface Network 3

Tank or Pond Manhole: HW202, DS/PN: 1.006

Invert Level (m) 83.500

Depth (m) Area (m²) Depth (m) Area (m²) Depth (m) Area (m²)

0.000	354.0	1.010	902.0	1.510	1349.0
1.000	734.0	1.500	1148.0		

	d						Page	8
12 <mark>a -18a</mark> H	itchin Str	eet		Haverhill	North			
Biggleswad	е			Catchment .	Area 3			
SG18 8AX				Phase 6			Mic	
Date 01/01	/2019			Designed b	v Tom Wils	on	— Mic	
-	6 - Pond	2-Rov1		Checked by	-		Dra	inago
	0 10110			Network 20		. ⊥		
Innovyze				Network 20	19.1			
<u>100 year</u>	<u>Return Pe</u> i			of Critica Surface Ne		by Maximu	m Level	(Rank
	Hot Hot Sta Headloss C Sewage per Number of	Start (rt Level oeff (Gl hectare	Factor 1 (mins) (mm) obal) 0 (l/s) 0 Hydrogra	.500 Flow per	ional Flow - ADD Factor * In r Person per of Storage	10m³/ha St let Coeffic Day (l/per Structures	corage 2.0 ecient 0.8 c/day) 0.0	000 300
	Number c	of Offlin	ne Contr <u>Synthet</u>	ols O Number	of Real Tin Details	me Controls		
		nfall Moo Reg. M5-60 (1	ion Engl	and and Wale				
	Margin for H						450.0	
		An	-	'imestep 2.5	Second Incr	ement (Exte	nded)	
				Status			ON	
) Status Status			ON ON	
			INGLUIG	Status			OIN	
		Profile	. ,			Summer and		
	Duration	ı(s) (mi	ns)	15, 30, 60,				
		(c) (200	r c)		720, 960,	, 1440, 216	0, 2880 100	
De		-					40	
Re	eturn Period		(0)				10	
Re	climate	onungo						
Re		onango						Water
US/MH	Climate	Return	Climate	• •		First (Z)		Level
	Climate	Return	Climate Change	First (X) Surcharge	First (Y) Flood	First (Z) Overflow	Overflow Act.	
US/MH	Climate Storm	Return		• •				
US/MH PN Name	Climate Storm 5 15 Winter	Return Period	Change	• •				Level (m)
US/MH PN Name 1.000 S206 1.001 S207	Climate Storm 5 15 Winter 15 Winter	Return Period 100	Change +40응	• •				Leve: (m) 92.928 92.124
US/MH PN Name 1.000 S206 1.001 S207 1.002 S208	Climate Storm 5 15 Winter 5 15 Winter 5 15 Winter	Return Period 100 100	Change +40응 +40응	• •				Leve: (m) 92.92 92.12 91.16
US/MH PN Name 1.000 S206 1.001 S207 1.002 S208 1.003 S209	Climate Storm 5 15 Winter 5 5 Winter 5 5 Winter 5 5 Winter 5 5 Winter	Return Period 100 100 100	Change +40% +40% +40%	• •				Leve. (m) 92.92 92.12 91.16 89.97
US/MH PN Name 1.000 S206 1.001 S207 1.002 S208 1.003 S209 1.004 S210	Climate Storm 5 15 Winter 5 15 Winter 5 15 Winter 5 15 Winter 15 Winter 15 Winter	Return Period 100 100 100 100	Change +40% +40% +40% +40%	• •				Leve. (m) 92.92 92.12 91.16 89.97 85.96
US/MH PN Name 1.000 S206 1.001 S207 1.002 S208 1.003 S209 1.004 S210 1.005 HW203	Climate Storm 5 15 Winter 5 15 Winter 5 15 Winter 5 15 Winter 5 15 Winter 5 15 Winter	Return Period 100 100 100 100 100	Change +40% +40% +40% +40% +40%	• •				Leve (m) 92.92 92.12 91.16 89.97 85.96 84.76
US/MH PN Name 1.000 S206 1.001 S207 1.002 S208 1.003 S209 1.004 S210 1.005 HW203 2.000 S203	Climate Storm 5 15 Winter 15 Winter 5 15 Winter 15 Winter 5 15 Winter 5 15 Winter 5 15 Winter	Return Period 100 100 100 100 100 100	Change +40% +40% +40% +40% +40% +40%	• •				Leve. (m) 92.92 92.12 91.16 89.97 85.96 84.76 90.19 88.62
US/MH PN Name 1.000 S206 1.001 S207 1.002 S208 1.003 S209 1.004 S210 1.005 HW203 2.000 S203	Climate Storm 5 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter 15 Winter	Return Period 100 100 100 100 100 100 100 100	Change +40% +40% +40% +40% +40% +40% +40%	• •				Leve: (m) 92.923 92.123 91.163 89.977 85.963 84.763 90.193 88.62
US/MH PN Name 1.000 S206 1.001 S207 1.002 S208 1.003 S209 1.004 S210 1.005 HW203 2.000 S203 2.001 S204 3.000 S200	Climate Storm 5 15 Winter 15 Winter	Return Period 100 100 100 100 100 100 100 100	Change +40% +40% +40% +40% +40% +40% +40% +40%	• •				Leve: (m) 92.92 92.12 91.16 89.97 85.96 84.76 90.19 88.62 92.75
US/MH PN Name 1.000 S206 1.001 S207 1.002 S208 1.003 S209 1.004 S210 1.005 HW203 2.000 S203 2.001 S204 3.000 S200	Climate Storm 5 15 Winter 15 Winter	Return Period 100 100 100 100 100 100 100 100 100	Change +40% +40% +40% +40% +40% +40% +40% +40%	• •				Level (m) 92.92: 92.12: 91.16: 89.970 85.96: 84.76: 90.19: 88.62: 92.75: 88.27
US/MH PN Name 1.000 S206 1.001 S207 1.002 S208 1.003 S209 1.004 S210 1.005 HW203 2.000 S203 2.001 S204 3.000 S200 2.002 S201	Climate Storm 5 15 Winter 15 Winter	Return Period 100 100 100 100 100 100 100 100 100 10	Change +40% +40% +40% +40% +40% +40% +40% +40%	• •				Level (m) 92.92: 92.12: 91.163 89.970 85.963 84.763 90.193 88.622 92.753 88.27 89.963
US/MH PN Name 1.000 S206 1.001 S207 1.002 S208 1.003 S209 1.004 S210 1.005 HW203 2.000 S203 2.001 S204 3.000 S200 2.002 S201 4.000 S205 2.003 S202	Climate Storm 5 15 Winter 15 Winter	Return Period 100 100 100 100 100 100 100 100 100 10	Change +40% +40% +40% +40% +40% +40% +40% +40%	• •				Level (m) 92.920 92.124 91.163 89.970 85.963 84.763 90.192 88.627 92.755 88.277 89.963 85.763
US/MH PN Name 1.000 S206 1.001 S207 1.002 S208 1.003 S209 1.004 S210 1.005 HW203 2.000 S203 2.001 S204 3.000 S200 2.002 S201 4.000 S205 2.003 S202 2.004 HW201	Climate Storm 5 15 Winter 15 Winter	Return Period 100 100 100 100 100 100 100 100 100 10	Change +40% +40% +40% +40% +40% +40% +40% +40%	• •	Flood			Level (m) 92.924 92.124 91.163 89.970 85.963 84.763 90.192 88.62 ⁻ 92.755 88.27 ⁻ 89.963 85.765 84.682
US/MH PN Name 1.000 S206 1.001 S207 1.002 S208 1.003 S209 1.004 S210 1.005 HW203 2.000 S203 2.001 S204 3.000 S200 2.002 S201 4.000 S205 2.003 S202 2.004 HW201 1.006 HW202	Climate Storm 5 15 Winter 15 Winter	Return Period 100 100 100 100 100 100 100 100 100 10	Change +40% +40% +40% +40% +40% +40% +40% +40%	Surcharge	Flood			Leve] (m) 92.928
US/MH PN Name 1.000 S206 1.001 S207 1.002 S208 1.003 S209 1.004 S210 1.005 HW203 2.000 S203 2.001 S204 3.000 S200 2.002 S201 4.000 S205 2.003 S202 2.004 HW201 1.006 HW202	Climate Storm 5 15 Winter 15 Winter	Return Period 100 100 100 100 100 100 100 100 100 10	Change +40% +40% +40% +40% +40% +40% +40% +40%	Surcharge	Flood			Level (m) 92.928 92.124 91.165 89.970 85.965 84.763 90.192 88.627 92.755 88.274 89.965 85.761 84.682 84.682
US/MH PN Name 1.000 S206 1.001 S207 1.002 S208 1.003 S209 1.004 S210 1.005 HW203 2.000 S203 2.001 S204 3.000 S200 2.002 S201 4.000 S205 2.003 S202 2.004 HW201 1.006 HW202	Climate Storm 5 15 Winter 15 Winter	Return Period 100 100 100 100 100 100 100 100 100 10	Change +40% +40% +40% +40% +40% +40% +40% +40%	Surcharge	Flood			Level (m) 92.928 92.124 91.165 89.970 85.965 84.763 90.192 88.62 ⁻ 92.755 88.274 89.965 85.765 84.682 84.682

WBP Limited		Page 9
12a -18a Hitchin Street	Haverhill North	
Biggleswade	Catchment Area 3	
SG18 8AX	Phase 6	Micro
Date 01/01/2019	Designed by Tom Wilson	Drainage
File Phase 6 - Pond 2-Rev1.mdx	Checked by Nick Kohli	Diamage
Innovyze	Network 2019.1	1

100 year Return Period Summary of Critical Results by Maximum Level (Rank <u>1) for Surface Network 3</u>

PN	US/MH Name	Surcharged Depth (m)		Flow / Cap.	Overflow (1/s)	Pipe Flow (l/s)	Status	Level Exceeded
1.000	S206	-0.142	0.000	0.29		24.0	OK	
1.001	S207	-0.051	0.000	0.94		78.0	OK	
1.002	S208	-0.113	0.000	0.70		123.2	OK	
1.003	S209	-0.159	0.000	0.45		122.7	OK	
1.004	S210	-0.061	0.000	0.98		240.3	OK	
1.005	HW203	-1.240	0.000	0.02		238.9	OK	
2.000	S203	-0.188	0.000	0.29		56.3	OK	
2.001	S204	-0.093	0.000	0.80		89.1	OK	
3.000	S200	-0.165	0.000	0.41		122.3	OK	
2.002	S201	-0.151	0.000	0.65		253.8	OK	
4.000	S205	-0.065	0.000	0.84		121.4	OK	
2.003	S202	-0.129	0.000	0.84		520.6	OK	
2.004	HW201	-1.222	0.000	0.00		49.8	OK	
1.006	HW202	0.582	0.000	0.01		10.0	FLOOD RISK	
1.007	S211	2.428	0.000	0.31		6.3	FLOOD RISK	

Appendix F



APPENDIX 6 – EXPLORATORY HOLE LOGS

Borehole Logs (BH1 to BH8)

Windowless Sample Hole Logs (WS1 to WS19 and WSA to WSI)

> Trial Pit Logs (TP1 to TP*)

CLIENT:	c/o Sa	avills			PROJECT: Land to	o the	North \	Nest of	Haverhill		GRO	DUND	LEVEL	-						HOLE No. BH1
OGGED B		iB		CHECKED BY: DATE:	EXCAVATION METHOD:	: (Lable Pe 1.50mm	cased	n (shell and auger) from 0.0 to 10.0m		coc	ORDIN	ATES E	EN						SHEET 1 OF 1
EMPLATE			H BETA								DAT	TES 20,	/10/20)14 -	20/	10/2	014			PROJECT NO. 995,SI
ite/Time	Depth	Depth	* .z.				Strata	1	Graphical Representation			tu Testin	g		Li	abora	tory T	esting		Additional Tests and Notes
and Depth	of Casing	of Water	· * Piez.	Description of	Strata	Leg	Reduced Level	Depth	SPT 'N' Value	Depths ∠	No.	Blows	SPT N	<425 %	WC %	PL %	LL %	Mg/m ³	Cu kN/m ²	
0/10 09:00	0.00	Dry	+1	TOPSOIL (Dark brown clay with	-		1	0.00		0-										Hand pit from GL to 1.2m
				Firm to stiff orange brown grey gravelly CLAY. Gravel of rounde (LOWESTOFT FORMATION)	mottled slightly ed fine to coarse chalk.		ā	0.30		0.40- B 0.80	1									
Ť					Ale descale	 	- ō		•••••	1 – 1.20 D S	1	1 2 3 4	15	78	20	18	37			- Moisture content, Atterberg Limit
+				1.50 Becoming pale in colour wi	th depth	 	-	-	•	2.00 ² D	2	44	14							-
						 	-			S		33 44								
Ŧ						 	-	-		3.45	U	(45)								-
20/10	1.00	7 4.00				 		_		3.45 D	3	12	19	89	21	17	35			Moisture content, Atterberg Limit
						` 	-			4.00 D S	4	35 56	13							Scepage innow of water at 411
+				Stiff grey gravelly CLAY. Gravel coarse chalk. (LOWESTOFT FORMATION)	of rounded fine to		- 7 -	4.80	F	5.00 ⁵ D S	5	24 67 810	31							-
+							- -	-		6.00 ⁶ D	6									-
_							- - -	_		6.50 D S 7 -	7	2 4 6 6 6 7	25							pH and Sulphate
							- -			7.50 D	8									
+							ā 	_			2	(70)		90	18	17	33	2.14	272.4	Moisture content, Atterberg Limit, Triaxial
+							- -	_		8.45 D	9									-
							ō		•	9.50 D	10 11	35	33							
10 16:30 10 16:45	1.50 0.00	Damp	┥┟				z	- 10.00		10-		78 99								Borehole completed at 10.0m
	¥ Stan ⊻ Wat			el PIEZOMETER De la Upper si Respons Lower si	e zone AND B eal TEST U KEY P	Bulk d Undis Piston	listurbed s turbed san sample	ample nple	S Standard penetration test B C Cone penetration test	(35) Und PT N N = SPT I N*120 =	isturbe N value Total b	d sample (blows a lows/pei	e blow co fter seat	ount ting)		D	E	Brightv	vell Ba	L Environmental Ltd arns, Ipswich Road uffolk, IP10 0BJ
				DEPTH All depths, level and t	ES	Enviro	bed jar sau onmental s r Sample		<	including 425 Sample 9			icron sie	eve	2		-	Teleph	ione:	utfolk, IP10 0BJ 298 076 298 076 298 075

CLIENT	: c/o S	avills			PROJECT: Land to	o the	North V	Nest of	Haverhill	GR	OUND	LEVEL	-						HOLE No. BH2
OGGED E		ŝB		CHECKED BY: DATE:	EXCAVATION METHOD	:	4.50mm	cased	n (shell and auger) from 0.0 to 10.0m	со	ORDIN	ATES I	ΞN						SHEET 1 OF 1
		EL AGS BH	I BETA							DA	TES 21/	/10/20)14 -	21/2	10/2	014			PROJECT NO. 995,SI
te/Time	Depth	Depth*	z.	•	•		Strata	1			itu Testin	g		La	borat	ory Te	esting		Additional Tests and Notes
and Depth	of Casing	of Water	Piez.	Description of	f Strata	Leg	Reduced Level	Depth	SPT 'N' Value Depths	No.	Blows	SPT N	<425 %	WC %	PL %	LL %	ρ Mg/m³	Cu kN/m²	
/10 08:30	0.00	Dry	Ft	TOPSOIL			-	0.00	0										Hand pit from GL to 1.2m
				Firm to stiff brown slightly sand	ly CLAY.	<u> </u>	•	0.30		1									
				(HEAD DEPOSITS)		÷	•		0.40- 0.80	' ¹									
+	-					<u> </u>	•	-	·····										-
	-					<u> </u>	•		1.20 D	1	11	9							
	-	-					•		s s		2 2 2 3								
_	-			Firm brown slightly gravelly CL	AY. Gravel of rounded		-	1.80	2		(45)								-
				fine to coarse chalk. (LOWESTOFT FORMATION)			¢		2.00- ² 2.45 ²	1	(45)								
							_		D	2			91	19	16	30			Moisture content, Atterberg Limit, pH and
	_						c												sulphate
									3.00 ³ D S	-	2 2 3 3 3 3	12							
						<u> </u> -	c		<u> }, </u>		33								
1/10	1.50	4.00																	
5 mins		1.60				<u> </u>			4.00 ⁴ D S		11 12	8							Inflow of water at 4m
				Firm to stiff grey gravelly CLAY.	Gravel of rounded fine			4.40			23								Water sealed out at 4.5m.
				to coarse rounded chalk. (LOWESTOFT FORMATION)			¢												Water sealed out at 4.5m.
1	-							-	5.00- ⁵ U	2	(35)			20			2.07	80.5	PH and sulphate, Triaxial test
						<u> </u>	c		5.45 5.45 5.45	5									
							-		5.45 D										
-	-							-	6.00 ⁶ D	6									-
							-												
									6.50 D S		12 34	20							
-	-					<u> </u>	C	-			58								-
							-												
						<u> </u>	C		D	8									
-	-						-	_	8 D	9	23	26							-
						<u> </u>	C		8.00 ⁸ D S		66	20							
							-												
_	-						c	_	9										
									9.00 9 D	10									pH and sulphate
							c		9.50 D		34	29							
10 13:00	4.50	Dry						- 10.00	+·····		66 89								
10 13:15	0.00							- 10.00											Borehole completed at 10.0m
	V C:		<u> </u>			<u> </u>													<u> </u>
		iding wate er strikes			se zone AND B	Bulk o	disturbed s	ample		disturbe	ed sample	blow co	ount		~				Invironmental Ltd Irrns, Ipswich Road uffolk, IP10 0BJ 01603 298 076
				Lowers			sturbed san	nple	K Permeability test SPT N N = SPT N*120		e (blows a blows/per			C	D	DE	Brightw	ell Ba	urns, Ipswich Road
					j	Distu	rbed jar sar		includir	ng seatir	ng					1	elepho	one: (uffolk, IP10 0BJ Z P 7 01603 298 076 .
				DEPTH All depths, level and			onmental s r Sample	oil sample	<425 Sample	% passi	ng 425 m	icron sie	eve						298 075

CLIENT	: c/o Sa	avills			PROJECT: Land to	o the	North \	Nest of	Haverhill	GRO	DUND	LEVEL						HOLE No. BH3
OGGED E		B		CHECKED BY: DATE:	EXCAVATION METHOD:	:	1.50mm	cased	n (shell and auger) from 0.0 to 10.0m	COC	DRDIN	ATES E	N					SHEET 1 OF 1
		L AGS BH	BETA							DAT	TES 21/	10/20)14 -	21/	10/2	2014		PROJECT NO. 995,SI
ite/Time and Depth	Depth of Casing	Depth* of Water	Piez.	Description of	Strata	Leg	Strata Reduced Level		SPT 'N' Value	g/In-Si [.] No.	tu Testin Blows	SPT N	<425 %			LL %	esting ρ Cu Mg/m ³ kN/m	Additional Tests and Notes
/10 14:00	0.00	Dry	-+	TOPSOIL			1	0.00										-
-	-	Dry		TOPSOIL Stiff dark brown slightly silty gra rounded fine to coarse chalk (LOWESTOFT FORMATION) Stiff to very stiff dark grey grave rounded fine to coarse chalk. (LOWESTOFT FORMATION)				- - - - - - - - -	0.40- 0.80 1 1.20 2.00 2 5 3.00 3 5 4.45 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5 0 5	1 1 2 3 1 4 5	22 44 46 12 34 44 12 33 55 (60) 35 79 1010	18 15 16 36	90	18	19	48		Hand pit from GL to 1.2m
-	-							-	6.00 ⁶ D 6.50 U 6.55 7 D 7.00 7 D 8.00 8 D S 9.00 9 D 9.50 D S	2 7 8 9 10 11	(80) 57 88 910 48 910	35						pH and sulphate
*WATER	1.50 0.00	Dry ding wate				Small	disturbed	- 10.00	10 10 S Standard penetration test Blows SPT blow	sfore	12 13	n increm	lent					Borehole completed at 10.0m
		er strikes		Response Lower st	e zone AND B eal TEST U KEY P J	Bulk o Undis Pistor Distur	listurbed sa turbed san sample bed jar sar	ample nple nple	C Cone penetration test (35) Undi K Permeability test SPT N N = SPT N N*120 = including	sturbe Value Total b seatin	d sample (blows at lows/per g	blow co ter seat etràtion	ount ing) า		D		Brightwell Ba Birghtwell, S Felephone:	Environmental Ltd arns, Ipswich Road uffolk, IP10 0BJ 01603 298 076
				DEPTH All depths, level and t			onmental s r Sample	oil sample	<425 Sample %	passir	1g 425 mi	cron sie	ve				ax: 01603	298 075

LIENT:	c/o Sa	avills			PROJECT: Land to	o the	North V	Vest of	Haverhill		GRO	DUND	LEVEL	-						HOLE No. BH4
OGGED B		B		CHECKED BY: DATE:	EXCAVATION METHOD:	:	1.50mm	cased	n (shell and auger) from 0.0 to 10.0m		coc	DRDIN	ATES I	ΞN						SHEET 1 OF 1
EMPLATE			Н ВЕТА								DAT	ES 23,	/10/20)14 -	23/	10/20	014			PROJECT NO. 995,SI
	Depth	Depth*	Piez.				Strata		Graphical Representation		ling/In-Si	tu Testin	g		Lá	aborato	ory Te	sting	1	Additional Tests and Notes
and Depth	of Casing	of Water	Pie	Description of	Strata	Leg	Reduced Level	Depth	SPT 'N' Value	Depths	No.	Blows	SPT N	<425 %	WC %	PL %	LL %	ρ Mg/m³	Cu kN/m ²	
10 08:30	0.00	Dry		TOPSOIL				0.00		0 -										-
				Stiff orange brown grey mottled of rounded fine to coarse chalk.				0.20		0.40- E	1									
				(LOWESTOFT FORMATION)		<u> </u>				0.80										
+	-							-		1 -										-
						<u> </u>	c			1.20		6 10 10 12	38							
							-		/			88								
+							c	-		2.00 2	2	35	27							-
									\			67 77								
							c]										
+	.							_		3.00- ³	1	(80)			18			2 10	211 /	_ Triaxial test
			-	Very stiff to hard dark grey sligh	tly gravelly CLAY		-	3.30		3.45	' ¹	(00)			10			2.10	211.4	
				Gravel of rounded fine to coarse (LOWESTOFT FORMATION)	e chalk.	<u> </u>			·····	3.45	3									
+								-	<u> </u>	4.00 4		57	47							-
									/ / /	4.00	4	10 10	47							
							-			1		12 15								
								_	↓	5.00 5										_
						<u> </u>				5.00 - L - S	D5	36 810	40							
						<u>_°_</u>				1		11 11								
1						[—_	C	_		6										L
										6.00	6									
						<u> </u>	c			6.50 G	7	55	42							
							-	_		7 - 9		8 10 12 12								
						<u> </u>	c			, i										
							-		·····	7.50	8									
							c	_												L
									****	8.00		37 1114	60*							
							c					15 10								
Ť							c	_		9.00 9 7 0	10									T
										9.50- U		(90)			16			2 1 4	240.4	pH and sulphate, Triaxial test
10 13:00	1.50	Dry					d					(90)			10			2.14	349.4	
10 13:15	0.00	517	1					- 10.00		9.95 ¹⁰	11									-
			+			\vdash –	-			1										l
	¥ Stan ⊻ Wat			el PIEZOMETER Upper se Respons			disturbed s disturbed sa		S Standard penetration test Bl C Cone penetration test		ws for ea						G	Geosp	here F	Environmental Ltd
	- vvat	ci suike.		Respons	eal TEST U	Undis	turbed sam			TN N=SP	۲N value	(blows a	fter sea	ting)	6	D	B	rightv	vell Ba	arns, Ipswich Road
					j	Distur	n sample rbed jar sar			includi	= Total b ng seatin	g				-				uffolk, IP10 0BJ
				DEPTH All depths, level and t			onmental se	oil sample	<4	25 Sample	e % passir	ng 425 m	icron sie	eve						298 075

CLIEN	Г: с/с	o Sa	vills			PROJECT: Land t	to the	North V	Vest of	of Hav	erhill					GRC	DUND	LEVEL							HOLE No. BH5	
LOGGED					CHECKED BY: DATE:	EXCAVATION METHOD	D: (Cable Pe 1.50mm	cased	on (sł from	hell and i 0.0 to	d auger) 10.0m				coo	RDIN	ATES E	ΞN						SHEET 1 OF 1	
FIELDWC TEMPLAT				BETA												DAT	ES 22/	/10/20)14 -	22/:	10/2	014			PROJECT NO. 995,SI	
Date/Time and Depth	Dep of Casii	of	Depth* of Water	Piez.	Description o	f Strata	Leg	Strata Reduced Level	Depth		SPT 'I	epresentat N' Value		Sau Depths	e	g/In-Sit No.	u Testin Blows	g SPT N	<425 %	wc	aborat PL %			Cu kN/m²	Additional Tests and Notes	
22/10 09:00 -	-	000	Dry		TOPSOIL Stiff orange brown grey mottle Gravel of rounded fine to medi (LOWESTOFT FORMATION) Stiff to very stiff dark grey sligh Gravel of rounded fine to medi (LOWESTOFT FORMATION)	um chalk.			- 0.00 0.10 				0 0 1 1 1 2 2 3 3 3 4 4 5 5 6 6 6 6 6 6 6 6 7 7 8 8	.20- .65 2 - .20 .00 3 - .00 4 - .00 5 - .00 6 - .50- .95 7 - .50 .00 8 -	B S D S S D S S D S S D S S D D S S D D S S D D S S D D S S D D S S D D S S D D S S D D S S D D S S D D S S D D S S D D S S D D S S S D D S S S D D S S S D D S S S S S D D S	1 1 2 3 4 5 6 2 7 8 9	(55) 2 2 4 5 5 6 2 4 5 8 11 8 3 5 6 8 9 12 3 5 6 8 8 9 (80) 2 4 7 8 10 10	20 32 35 31	93	18			2.11	148.3	 Hand pit from GL to 1.2m Triaxial test Moisture content, Atterberg Lin 	nit, Triaxial test
22/10 16:00 22/10 16:15 -	1.50		Dry	_					- 10.00	0			9	.50 .50	D D S	10 11	5 19 38 12								– Borehole completed at 10.0m	
*WATEF			ing wate r strikes	r leve	el PIEZOMETER Upper s Respon Lower s	se zone AND B eal TEST U KEY P J E	Bulk d Undist Piston Distur	disturbed sa listurbed sa turbed sam sample bed jar san onmental so Sample	ample aple aple	C Cor K Per		netration t ration test / test	SPT	(35) N N = N*1 inclu	Undi SPT N 20 = ⁻ Jding	sturbec I value (Total ble seating	l sample (blows a ows/per {	m incren e blow co fter seat netràtion icron sie	ount ting) n		して	DE	Brightv Birghtv Teleph	vell Ba vell, Si one: (nvironmental Ltd Inris, Ipswich Road uffolk, IP10 0BJ 01603 298 076 298 075	995,SI SHEET 1 OF 1 HOLE No.

GEL AGS BH BETA 995,SI - NW HAVERHILL, 31-10-14, LF, SG, GPJ GINT STD AGS 3, 1, GDT 11/12/14

CLIENT:	: c/o Sa	avills			PROJECT: Land to	o the	North V	Vest of	Haverhill		GRO	DUND	LEVEL							HOLE No. BH6
OGGED B		iB		CHECKED BY: DATE:	EXCAVATION METHOD	:	1.50mm	cased t	n (shell and auger) rom 0.0 to 8.3m		coc	DRDINA	ATES E	Ν						SHEET 1 OF 1
EMPLATE			BH BET								DAT	ES 24/	<u>/10/2</u> 0	14 -	24/1	.0/2	014			PROJECT NO. 995,SI
	Depth	Dept	Piez.				Strata		Graphical Representation			tu Testin	g	-	La	borat	ory Te	esting		Additional Tests and Notes
and Depth	of Casing	of Wate	er jä	Description of	Strata	Leg	Reduced Level	Depth	SPT 'N' Value	Depths	No.	Blows	SPT N	<425 %	WC %	PL %	LL %	ρ Mg/m ^ª	Cu kN/m²	
/10 08:30	0.00	Dry		TOPSOIL			1	0.00		0 -										Hand pit from GL to 1.2m
				Firm to stiff orange brown grey Gravel of rounded fine to media	mottled gravelly CLAY.			0.20		0.40- В	1									
				(LOWESTOFT FORMATION)			c			0.80	-									
+	-							-	•	1-										-
						<u> </u>	c		·····	1.20 D	1	55 67	29							
												88								
+	-						c	-		2.00- ² U	1	(50)		94	18	19	48	2.09	174.1	– Moisture content, Atterberg Limit, Triaxial te
							-		·····	2.45 2.45 D	2									
							c			2.45	-									
+	-						-	-		3.00 ³ D		24	24							-
							C			S		55 68								
							-													
1	-			Very stiff to hard dark grey sligh Gravel of rounded fine to mediu	tly gravelly CLAY.			- 4.00	•	4.00 ⁴ D	4	23 55	23							-
				(LOWESTOFT FORMATION)	ani cliain.		c					67								
						<u> </u>	-													
	-					<u> </u>	d	_		5.00- ⁵ U	2	(70)								-
							-			5.45 D	5									
	_						đ													
	-									6.00 ⁶ D	6									
							c			6.50 D	7	24	29							
1	-						-	_				56 810								_
							c													
										7.50 D	8									
-	-						c	_												_
/10 13:00	1.50 0.00	Dry	_					8.30		8.00 D	9	17								Borehole completed at 8.3m
								0.50	· · · · · · · · · · · · · · · · · · ·											Borenole completed at 8.5m
-	-							-		9-										_
+	-							Ļ		10										-
WATER	▼ Stan ⊻ Wat	ding w er strik	ater lev es	vel PIEZOMETER Upper so Respons Lower so	e zone AND B eal TEST U	Bulk c Undis	disturbed s listurbed sa turbed san	ample	S Standard penetration test B C Cone penetration test	(35) Und PT N N = SPT	listurbe N value	d sample (blows at	blow co fter seat	unt ing)						nvironmental Ltd rns, Ipswich Road uffolk, IP10 0BJ 1603 298 076 298 075
					KEY P	Pistor	n sample bed jar sar			N*120 = includin		lows/per	etration			2	e E	Birghtv	vell, Su	uffolk, IP10 0BJ
				DEPTH All depths, level and t	ES	Enviro	onmental s		<	425 Sample			cron sie	ve	0			eleph	one: (01603 298 076

CLIENT:	c/o Sa	avills			PROJECT: Land to	o the	North \	Nest of	Haverhill	GR	OUND	LEVEL	-						HOLE No. BH7
OGGED B		D		CHECKED BY: DATE:	EXCAVATION METHOD:	:	Cable Pe	cased	on (shell and auger) from 0.0 to 8.2m	cod	ORDIN	ATES I	ΞN						SHEET 1 OF 1
EMPLATE			Н ВЕТ/							DAT	TES 24/	/10/20)14 -	24/	10/2	014			PROJECT NO. 995,SI
	Depth	Depth					Strata	1		ng/In-Si	itu Testin				abora				Additional Tests and Notes
and Depth	of Casing	of Water	. * Piez.	Description o	f Strata	Leg	Reduced Level	Depth	SPT 'N' Value Depths ≝ 0 10 20 30 40	No.	Blows	SPT N	<425 %	WC %	PL %	LL %	Ω Mg/m³	Cu kN/m²	
/10 14:00	0.00	Dry	++	TOPSOIL				0.00	0 -										Hand pit from GL to 1.2m
				Firm to stiff orange brown grey gravelly CLAY. Gravel of rounde	mottled slightly ed fine to medium			0.40	0.40- 0.80	1									
+				chalk. (LOWESTOFT FORMATION)		 		-	·····										-
							c		U	1	(40)								
							-		1.65 D	1									-
						<u> </u>	c		2.00 ² D _S	2	12 34 46	17							
							- -												
+						 		-	3.00 ³ D S	3	13 35	19							_
				Very stiff dark grey gravelly CLA fine to coarse chalk. (LOWESTOFT FORMATION)	Y. Gravel of rounded			3.30			56								
+								-	4 U	2	(55)		92	20	19	42	2.12	205.6	
							c		4.00- 4.45 4.45	4									sulphate, Triaxial test
							-	_	4.45 D										-
						[c		5.00 D	5	24 66 78	27							
							c												
+							-	-	6.00 ⁶ D	6									-
							<u>ر</u>		6.00 ⁶ D	7	24	28							
+						° 	-	-	7		56 89								_
									7.50 D	8									pH and sulphate
_						<u> </u>	c	_											
10 17:00 10 17:15	1.50 0.00	Dry	┥┟			-		8.20	8 C		25								Borehole completed at 8.20m
+								-	9-										_
+								-	10										
						<u> </u>													
WATER	¥ Stan ⊻ Wat	ding wa er strike	iter lev es	el PIEZOMETER Upper s Respons Lower s	e zone AND B	Bulk c	disturbed s	ample		listurbe	d sample	blow co	ount						invironmental Ltd Irns, Ipswich Road uffolk, IP10 0BJ 01603 298 076
				Lower s	KEY P	Pistor	sturbed san n sample rbed jar sar		K Permeability test SPT N N = SPT N*120 = includinj	Total b	lows/per				D	E B	Birghtw	ell, Su	Ins, Ipswich Road
				DEPTH All depths, level and	ES	Enviro	onmental s					icron sie	eve	2)				01603 298 076

CLIENT:	c/o Sa	avills			PROJECT: Land to	o the	North \	Nest of	Haverhill		GRC	DUND	LEVEL							HOLE No. BH8
OGGED B		R		CHECKED BY: DATE:	EXCAVATION METHOD:	: (6.00mm	cased	from 0.0 to 10.0m	ļ	coc	RDIN	ATES E	N						SHEET 1 OF 1
EMPLATE			Н ВЕТИ								DAT	ES 23/	/10/20)14 -	23/2	10/2	014			PROJECT NO. 995,SI
te/Time	Depth	Depth	* Piez.				Strata	1	Graphical Representation S		g/In-Sit	u Testin	g		La	borat	ory Te	esting		Additional Tests and Notes
and Depth	of Casing	of Water	- Pie	Description of	f Strata	Leg	Reduced Level	Depth	SPT 'N' Value Depth	rype s	No.	Blows	SPT N	<425 %	WC %	PL %	LL %	∩ Mg/m³	Cu kN/m ²	
/10 14:00	0.00	Dry	┾╉	TOPSOIL				0.00												Hand pit from GL to 1.2m
				Firm brown slightly silty CLAY		×		0.40	0.40-0.80	в	1									
1	-			(HEAD DEPOSITS)		× ×		L		1										-
						~ 			1.20	D	1	12	14	100	24	20	51			Moisture content, Atterberg Limit
	5	7				×		1.80	1.80 2	S		23 45								
23/10		7 2.00	-	Soft brown very sandy CLAY. (HEAD DEPOSITS)				2.20	1.80 2.00	2 - D - D	2 3	11	8							Seepage inflow of water at 2m
				Soft to firm brown slightly grave of rounded fine to coarse chalk (HEAD DEPOSITS)	elly sandy CLAY. Gravel			2.20		S		12 23								
+						· · ·	•	Ļ	3.00				6							-
						<u> </u>	ð			D S	4	12 22 23	9							
						<u>.</u>														
+	-					÷	Č	-	4.00	4 - D - S	5	12 23	11							_
23/10	7	<u>7</u> 4.50										33								Seepage inflow of water at 4.5m
+	-						•	-	·····	5	c	1.2	10							-
			-	Stiff grey gravelly CLAY. Gravel coarse chalk.	of rounded fine to			5.20	5.00	D S	6	12 12 34	10							
				(LOWESTOFT FORMATION)		<u> </u>	c													
Ť								-	6.00	⁵ D	7									Water sealed out at 6.0m.
						 o			6.50	D	8	13	19							
+							c	-	7	7 - S		4 5 5 5								-
				7.50 Becoming very stiff with de	epth.	<u> </u>	c		7.50	D	9									
†								F	8.00- 8.45	³ - U	1	(45)			18			2.16	217.2	_ Triaxial test
									8.45	D	10									
+							d	-	9.00		11									-
							1		1											
10 17:00	6.00	Dry					d		9.50	D S	12	23 45 68	23							
10 17:15	0.00	,	1				1	- 10.00	1 	10-										Borehole completed at 10.0m
				el PIEZOMETER	eal SAMPLE D	Small	disturbed :	sample	S Standard penetration test Blows SF	T blow	s for ea	 ich 75mr	n incren	 nent						
	⊈ Wat			Respons Lower so	se zone AND B eal TEST U	Bulk c Undis	listurbed san	ample	C Cone penetration test (3 K Permeability test SPT N N	5) Undi = SPT N	sturbeo I value	d sample (blows at	blow co fter sea	ount ting)		N	B	Brightw	ell Ba	nvironmental Ltd rns, Ipswich Road uffolk, IP10 0BJ
					J	Distur	n sample bed jar sar		in	cluding	seating					4	B	Birghtw	ell, Su	uffolk, IP10 0BJ
				DEPTH All depths, level and t			onmental s	oil sample	<425 Sa	mple %	passin	g 425 mi	icron sie	ve						298 075

CEIEINI	: c/o S	aviiis		1	PROJECT: Land to							GRO	DUND	LEVE	L					HOLE No. WS1
OGGED E				CHECKED BY: DATE:	EXCAVATION METHOD:		Window Uncasec		•			coc	DRDIN/	ATES	ΕN					SHEET 1 OF 1
IELDWOI EMPLATI			вн вет			,	Uncased	1 10 4.0	/ [[]			DAT	TES 28/	/10/20	014 -	- 28/1	10/20	014		PROJECT NO. 995,SI
ate/Time	Depth	Dept	n* ∧i				Strata		Graphical Representation	in S	ampli	ng/In-Si	tu Testin	g		La	borato	ory Tes	ting	Additional Tests and Notes
and Depth	of Casing	of Wate	÷	Description of	f Strata	Leg	Reduced Level	Depth	SPT 'N' Value	Depth	Type	No.	Blows	SPT N	<425 %	wc %	PL %	LL % N	ρ Cu lg/m³ kN/m	2
_	-			TOPSOIL (Dark brown slightly s clay with rootlets. Gravel of ar fine to medium flint and infreq	gular to subrounded			0.00		0.20	, - - - - -	1								Groundwater not encountered during dril Metals, PAH, TPH, Moisture content, pH au Sulphate
-	-			Firm becoming stiff brown slig Gravel of subrounded to round subrounded fine to coarse flim (LOWESTOFT FORMATION)	led chalk and angular to			0.45	••••	0.35 0.70 0.80 1.00	- D - D		11 22	11						Metals, PAH, TPH, Moisture content, pH an Sulphate Shear vane test = 48kN/m ² Shear vane test = 50kN/m ²
				1.20 Becomes brown grey mot	tled with depth					· · · · · · · · · · · · · · · · · · · ·			34							
-	-							-		2.00 ²	2 - D - C 	3	11 5 5 5 5 7	22						- Shear vane test = 87kN/m ²
-	-							_		3.00 ***********************************	B - D C	4	4 4 4 6 7 9	26						Collapse of sidewalls at 3.0m depth Shear vane test = 112kN/m ²
-	-							- 4.00		4.00	+ - D - C		57 810 1214	44						50mm diameter monitoring well installed t 4.0m Windowless sample hole completed at 4.0 depth
	¥ Star ⊻ Wat			vel PIEZOMETER Upper Respon Lower	se zone AND B eal TEST U KEY P J	Bulk d Undis Piston Distur	disturbed s listurbed s turbed sam sample bed jar sam onmental s	ample nple nple	S Standard penetration te C Cone penetration test K Permeability test	(3 SPT N N N	5) Unc = SPT *120 = cludin	listurbe N value Total b g seating	d sample (blows a lows/per g	blow c fter sea netràtio	count ating) on			Br Bi Te	ightwell Ba ghtwell, Su	Environmental Ltd arns, Ipswich Road, uffolk, IP10 0BJ 01603 298 076

CLIENT:	: c/o Sa	avills			PROJECT: Land to									GRC	DUND	LEVEL	_					HOLE No. WS2
OGGED B				CHECKED BY:	EXCAVATION METHOD:		Window		•	-				<u>co</u> c) RDIN/	ATES I	E N					SHEET 1 OF 1
ELDWOF				DATE:		ι	Uncased	l to 4.0	m					DAT	ES 28/	10/20	014 -	28/10	ر ۱/20	14		PROJECT NO. 995,SI
	Depth	Depth					Strata		Gra	aphical Repre	esentation	Sar	mplin		tu Testin					y Testin	g	Additional Tests and Notes
and	of Casing	of Wate	Ρie	Description of	Strata	Leg	Reduced Level	Depth	0 1	SPT 'N' Va		Depths	Type	No.	Blows	SPT N	<425 %	wc %	PL L %	LL f % Mg/	o Cu m³ kN/m	1 ²
-	-			TOPSOIL (Dark brown slightly sa clay with rootlets. Gravel of any fine to coarse flint and infreque	ndy slightly gravelly		1	0.00				0 -										Groundwater not encountered during dr
				fine to coarse flint and infreque and charcoal fragments)	nt fine to medium brick							0.10	- '	1								No collapse of sidewalls during drilling
												0.30] 1	2								
				Firm becoming stiff brown sligh Gravel of subrounded to round	tly sandy gravelly CLAY. ed chalk and angular to	<u></u>		0.47														
				Gravel of subrounded to round subrounded fine to coarse flint. (LOWESTOFT FORMATION)		<u></u>	č					0.70	.	3								
				0.80 Becomes brown grey mott	ed with depth	<u>• • •</u> •	•			 		0.80	D	1								Shear vane test = 70kN/m ²
+	-						•	-				1.00 1 -	D	2								Shear vane test = 76kN/m ²
			[]]			<u> </u>				[]									
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T	-		目			÷.		Γ				2.00 2] D	3								Shear vane test = 82kN/m ²
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1	-		:H:			<u>ب</u>	6	L	ļ			3-]									_
						- <u>-</u> -	•					3.00	P	4								Shear vane test = 91kN/m ²
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+	-					<u> </u>		- 4.00				4.00 4 -		5								50mm diameter monitoring well installed
									1		·····		1	5								4.0m Shear vane test = 96kN/m ²
										[]		[]	1									Windowless sample hole completed at 4.
													$\left \right $									depth
WATER	¥ Stan ¥ Wat	ding w er strik	ater lev es	el PIEZOMETER Upper se Respons Lower se	e zone AND B eal TEST U	Bulk d Undis	disturbed s listurbed s turbed san sample	ample	C Con	dard penetratio e penetratio meability tes	n test	(35) PTNN=	Undi SPT N	sturbeo I value	d sample	blow co ter sea	ount ting)	d	ST.	Brig	htwell B	Environmental Ltd arns, Ipswich Road, uffolk, IP10 0BJ 01603 298 076
					J	Distur	bed jar sar					inclu	uding	seating	g				2	Tele	phone:	01603 298 076
				DEPTH All depths, level and t			onmental s r Sample	oii sample	5		<	425 Sam	iple %	passin	ig 425 mi	cron sie	eve			Fax	01603	298 075

CLIENT	: c/o Sa	avills			PROJECT: Land to	the	North V	Vest of	Haverhill			GRO	DUND	LEVEL	-					HOLE No. WS3
		-		CHECKED BY: DATE:	EXCAVATION METHOD:		Window Uncased		•			coc	ORDINA	ATES E	ΞN					SHEET 1 OF 1
IELDWOF EMPLATE			вн вет.				uncased	ιυ 1.8				DAT	TES 29/	10/20)14 -	29/1	0/201	L4		PROJECT NO. 995,SI
te/Time	Depth	Dept	h* vi				Strata		Graphical Represent	tation			tu Testing	g		Lab	oratory	y Testir	g	Additional Tests and Notes
and Depth	of Casing	of Wat	ie i	Description of	Strata	Leg	Reduced Level	Depth	SPT 'N' Value	40	Depths ∠	No.	Blows	SPT N	<425 %	WC %	PL L % 9	L % Mg	m³ Cu m³ kN/m	1 ²
-	-			TOPSOIL (Dark brown sandy clar	y with rootlets)	<u> </u>	-	0.00		T	0 -									Groundwater not encountered during drill
				TOPSOIL (Brown slightly sandy s Gravel of angular to subrounder	lightly gravelly clay. d fine to medium flint			0.05			0.10 J 0.20 J	1								No collapse of sidewalls during drilling
				Gravel of angular to subrounder and rare fine brick and charcoal	fragments)	<u> </u>	•	0.30		••••••••	0.20	2								No collapse of sidewalls during drilling
				Firm becoming stiff brown slight Gravel of subrounded to round	ed chalk and angular to	<u> </u>	d]									
				subrounded fine to coarse flint. (LOWESTOFT FORMATION)							0.60 J	3								
						<u> </u>			·····	••••••••										
											0.80 D	1								Shear vane test = 74kN/m ²
-	-					<u> </u>		-		••••••••	1.00 ¹ - D	2								_ Shear vane test = 84kN/m ²
										•••••••										
									·····											
						<u> </u>	•			••••••••										
						<u> </u>				••••••••	-									
								1.80			1.80 D	3								Infiltration test undertaken at 1.48m depth Shear vane test = 96kN/m ²
-	-							-		···	2 -									Windowless sample hole completed at 1.8
										•••••••										depth
										••••••••										
									·····	•••••••										
]									
+	-							-	·····		3 -									-
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+	-							-			4 -									-
										••••••••										
									·····	••••••••										
	¥ Stan ⊻ Wat			rel PIEZOMETER	e zone AND B eal TEST U KEY P	Bulk o Undis Pistor	disturbed s listurbed san turbed san sample bed jar sar	ample pple	S Standard penetration C Cone penetration tes K Permeability test	at	(35) Und PT N N = SPT	listurbe N value Total b	d sample (blows af lows/pen	blow co fter seat	ount ting)	d		Brig Bigh	htwell B itwell, S	Environmental Ltd arns, Ipswich Road, uffolk, IP10 0BJ 01603 298 076 298 075
				DEPTH All depths, level and t	ES	Enviro	onmental s			<	425 Sample S			cron sie	eve	C		Fax	01603	01603 298 076

CLIENT	: c/o S	avills			PROJECT: Land to	<u>o the</u>	North \	Nest of	f Haverhill		GRC	DUND	LEVEL	-					HOLE No. WS4
OGGED E		=1		CHECKED BY: DATE:	EXCAVATION METHOD		Window Uncasec		•		coc	ORDINA	ATES E	ΞN					SHEET 1 OF 1
EMPLATI			ЗН ВЕТА				Uncased	1 to 2.0	m		DAT	TES 29/	10/20)14 -	29/1	0/20	14		PROJECT NO. 995,SI
te/Time	Depth	Depth					Strata		Graphical Representation	Samplir		tu Testing				orator		ing	Additional Tests and Notes
and Depth	of Casing	of Wate	ë	Description o	f Strata	Leg	Reduced Level	Depth	SPT 'N' Value	Depths	No.	Blows	SPT N	<425 %	wc %	PL %	LL % Mį	ρ Cu g/m³ kN/m	1 ²
+	-			TOPSOIL (Dark brown slightly g rootlets. Gravel of angular to s	ravelly sandy clay with ubrounded fine to	╞═	1	0.00		0 - 0.10 J	1								Groundwater not encountered during drillin
				\medium flint) TOPSOIL (Dark brown slightly si clay. Gravel of angular to subro	ounded fine to medium /	<u>-<u>•</u>-</u>	•	0.25]									No collapse of sidewalls during drilling
				flint and rare fine brick and cha Stiff becoming very stiff pale br slightly sandy gravelly CLAY. Gr	own grey mottled		•			0.50 J	2								
				rounded fine to coarse chalk ar subrounded fine to coarse flint (LOWESTOFT FORMATION)	nd angular to	<u>↓</u>	2			0.80 D	1								Shear vane test = 68kN/m ²
+	-						2	-		1.00 1 D									Shear vane test = 82kN/m ²
							•]									
							•]									
							•												
						-°	t												
+	-							2.00		2.00 ² D	3								Shear vane test = 87kN/m ² Windowless sample hole completed at 2.0m
]									depth
+	-							-		3 -									-
										1									
									· · · · · · · · · · · · · · · · · · ·										
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+	-							-		4 -									-
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	¥ Stan ⊻ Wat			el PIEZOMETER Depers Respon Lowers	se zone AND B eal TEST U KEY P	Bulk o Undis Pistor	disturbed s disturbed s turbed san n sample rbed jar san	ample nple	S Standard penetration test B C Cone penetration test K Permeability test S	(35) Und TNN= SPT	listurbe N value Total bl	d sample (blows af lows/pen	blow co ter seat	ount ting)		51	Bri	ghtwell B htwell, S	Environmental Ltd arns, Ipswich Road, uffolk, IP10 0BJ 01603 298 076 298 075
				DEPTH All depths, level and	ES	Enviro	onmental s		2 <	125 Sample S			cron sie	eve	C	7	Fax	epnone: k: 01603	01603 298 076 . 298 075

L AGS BH BET Depth* of Water	Description of TOPSOIL (Dark brown slightly g rootlets. Gravel of angular to s medium flint) TOPSOIL (Dark brown slightly s clay. Gravel of angular to subro flint and rare fine brick and cha Firm becoming stiff pale brown sandy gravelly CLAY. Gravel of rounded fine to coarse chalk an	ravelly sandy clay with ubrounded fine to andy slightly gravelly ounded fine to medium prcoal fragments)		Window Jncasec Strata Reduced Level	d to 4.0	Graphica	I Representation	Sampl Depths 卢	DAT ng/In-Situ		/10/20 s)14 -	Labo	oratory	1 Testing	1	SHEET 1 OF 1 PROJECT NO. 995,SI Additional Tests and Notes
Depth*	TA Description of rootlets. Gravel of angular to s medium flint) TOPSOIL (Dark brown slightly s clay. Gravel of angular to subro flint and rare fine brick and cha Firm becoming stiff pale brown sandy gravelly CLAY. Gravel of rounded fine to coarse chalk an	ravelly sandy clay with ubrounded fine to andy slightly gravelly ounded fine to medium prcoal fragments)		Strata Reduced	Depth	Graphica	T 'N' Value		ng/In-Siti	u Testing	g		Labo	oratory			,
of i≝	TOPSOIL (Dark brown slightly g rootlets. Gravel of angular to s medium flint) TOPSOIL (Dark brown slightly s clay. Gravel of angular to subro- flint and rare fine brick and cha Firm becoming stiff pale brown sandy gravelly CLAY. Gravel of rounded fine to coarse chalk an	ravelly sandy clay with ubrounded fine to andy slightly gravelly ounded fine to medium prcoal fragments)	Leg	Reduced	Depth	SP	T 'N' Value								Testing		Additional Tests and Notes
of i≝	TOPSOIL (Dark brown slightly g rootlets. Gravel of angular to s medium flint) TOPSOIL (Dark brown slightly s clay. Gravel of angular to subro- flint and rare fine brick and cha Firm becoming stiff pale brown sandy gravelly CLAY. Gravel of rounded fine to coarse chalk an	ravelly sandy clay with ubrounded fine to andy slightly gravelly ounded fine to medium prcoal fragments)	Leg		-			Donths				1 1					
	rootlets. Gravel of angular to s medium flint) TOPSOIL (Dark brown slightly s clay. Gravel of angular to subro- flint and rare fine brick and cha Firm becoming stiff pale brown sandy gravelly CLAY. Gravel of rounded fine to coarse chalk an	ubrounded fine to andy slightly gravelly bunded fine to medium proal fragments)			0.00		20 30 40		No.	Blows	SPT N	<425 %	WC I	PL LL % %	ρ Mg/m	³ Cu kN/m ²	2
	flint and rare fine brick and cha Firm becoming stiff pale brown sandy gravelly CLAY. Gravel of rounded fine to coarse chalk ar	rcoal fragments)			0.05			0- 0.10 J	1								Groundwater not encountered during drillir Metals, PAH, TPH, Moisture content, pH and Sulphate
	Firm becoming stiff pale brown sandy gravelly CLAY. Gravel of rounded fine to coarse chalk ar		<u></u>		0.40		· · · · · · · · · · · · · · · · · · ·										No collapse of sidewalls during drilling
	subrounded fine to coarse flint (LOWESTOFT FORMATION)	grey mottled slightly subrounded to nd angular to						0.70 D	1								
	1.00 Becoming dark yellow bro depth	wn grey mottled with		-	-	•••••		1 - c		2 3 3 4 5 5	17						-
	2.00 Becoming dark brown gre	v mottled with depth			_			1.60 D	2	33	19						-
								2.60 D	3	4 4 5 6	15						
					-			3 - c		4 4 5 5 7 6	23						_
	3.50 Occasional iron oxide stair	ning below 3.5m depth						3.60 D	4								
			<u>•</u> .		- 4.00			4 - c		55 57 79	28						Windowless sample hole completed at 4.0r depth
nding water le er strikes	🕂 Respon	se zone AND B real TEST U KEY P	Bulk d Undist	listurbed s turbed sar sample	ample	C Cone pen	etration test	(35) Un PT N N = SPT	disturbed N value (l sample blows af	blow co fter seat	ount ting)		MA	Bright	well Ba	Environmental Ltd arns, Ipswich Road, uffolk, IP10 0BJ 01603 298 076
	ting water I r strikes		r strikes H Response zone AND B Lower seal TEST U KEY P	ting water level PIEZOMETER Upper seal SAMPLE D Small r strikes Upper seal SAMPLE D Small Response zone AND B Bulk d Lower seal TEST U Undis KEY P Piston	ting water level PIEZOMETER r strikes Upper seal AND B Bulk disturbed sar Lower seal TEST Undisturbed sar	ding water level PIEZOMETER r strikes Upper seal Response zone AND B Bulk disturbed sample Lower seal U Undisturbed sample U Undisturbed sample	3.50 Occasional iron oxide staining below 3.5m depth 3.50 Occasional iron oxide staining below 3.5m depth 4.00	3.50 Occasional iron oxide staining below 3.5m depth 3.50 Occasional iron oxide staining below 3.5m depth 4.00 4.00 4.00 4.00 Ining water level PIEZOMETER Prestrikes Upper seal Response zone Lower seal AND Lower seal TEST D Small disturbed sample U Undisturbed sample Conception test Conception test	3.50 Occasional iron oxide staining below 3.5m depth 3.50 Occasional iron oxide staining below 3.5m depth 3.50 Occasional iron oxide staining below 3.5m depth 4.00 4.00 4.00 4.00 4.00 4.00 4.00 4.00 4.00 5.5 Standard penetration test Blows SPT blow 10 yupper seal SAMPLE D 8 Bulk disturbed sample 5. Standard penetration test Blows SPT blow (35) Um Yermeability test SPT N	3.50 Occasional iron oxide staining below 3.5m depth 3.50 Occasional iron oxide staining below 3.5m depth 4.00 4.00 4.00 4.00 4.00 4.00 4.00 4.00 4.00 4.00 5.50 Occasional iron oxide staining below 3.5m depth 6.50 Occasional iron oxide staining below 3.5m depth 6.50 Occasional iron oxide staining below 3.5m depth 7.50 Occasional iron oxide staining below 3.5m depth 8.50 Occasional iron oxide staining below 3.5m depth 8.50 Occasional iron oxide staining below 3.5m depth 9.50 Occasional iron oxide staining below 3.5m depth	3.50 Occasional iron oxide staining below 3.5m depth 3.50 Occasional iron oxide staining below 3.5m depth 4.00 4.00 4.00 4.00 4.00 4.00 4.00 5.5 7.9 4.00 5.5 7.9 5.7 7.9 5.5 7.9 5.5 7.9 5.7 7.9 5	3.50 Occasional iron oxide staining below 3.5m depth 3.50 Occasional iron oxide staining below 3.5m depth 4.00 4.00 4.00 4.00 4.00 5.55 7.6 4.00 5.55 7.9 28 5.55 7.9 28 5.55 7.9 28 5.55 7.9 28 5.55 7.9 28 5.55 7.9 28 5.55 7.9 28 5.55 7.9 28 5.55 7.9 28 5.55 7.9 28 5.55 7.9 28 5.55 7.9 28 5.55 7.9 28 5.55 7.9 7.9 28 5.55 7.9 28 5.55 7.9 7.9 28 5.55 7.9 7.9 28 5.55 7.9 7.9 7.9 7.9 7.9 7.9 7.9 7.9	3.50 Occasional iron oxide staining below 3.5m depth 3.50 Occasional iron oxide staining below 3.5m depth a d d d d d d d d d d d d d d d d d d d	3.50 Occasional iron oxide staining below 3.5m depth 3.50 Occasional iron oxide staining below 3.5m depth 4.00 4.00 4.00 4.00 4.00 4.00 4.00 4.00 5.5 28 7.5 28 10 4.00 5.5 28 5.5 28 10 <td>3.50 Occasional iron oxide staining below 3.5m depth 3.50 Occasional iron oxide staining below 3.5m depth 3.50 Occasional iron oxide staining below 3.5m depth 4.00 4.00 4.00 4.00 4.00 4.00 4.00 4.00 4.00 4.00 5.5 28 Bulk disturbed sample Upper seal Response zone AND TEST Bulk disturbed sample Upper s</td> <td>ing water level PIEZOMETER r strikes Upper seal Response zone AND Bulk disturbed sample B Bulk disturbed sample B Bulk disturbed sample B Bulk disturbed sample C Cone penetration test Permeability test Permeabil</td> <td>3.50 Occasional iron oxide staining below 3.5m depth a a c 4 4 5 5 7 6 23 3.50 Occasional iron oxide staining below 3.5m depth a b a b a c b a b a c b a b a b a b a b a b a b a b a b a b a b a b a b a b a b a b a b a b a b a a b a b a a a c a</td>	3.50 Occasional iron oxide staining below 3.5m depth 3.50 Occasional iron oxide staining below 3.5m depth 3.50 Occasional iron oxide staining below 3.5m depth 4.00 4.00 4.00 4.00 4.00 4.00 4.00 4.00 4.00 4.00 5.5 28 Bulk disturbed sample Upper seal Response zone AND TEST Bulk disturbed sample Upper s	ing water level PIEZOMETER r strikes Upper seal Response zone AND Bulk disturbed sample B Bulk disturbed sample B Bulk disturbed sample B Bulk disturbed sample C Cone penetration test Permeability test Permeabil	3.50 Occasional iron oxide staining below 3.5m depth a a c 4 4 5 5 7 6 23 3.50 Occasional iron oxide staining below 3.5m depth a b a b a c b a b a c b a b a b a b a b a b a b a b a b a b a b a b a b a b a b a b a b a b a b a a b a b a a a c a

CLIENT	[: c∕o) Sav	ills				PRO.	JECT: Land										GRC	DUND	LEVEL	L					HOLE No. WS6		
LOGGED FIELDWO					CHECKED BY: DATE:		EXCAV	ATION METH	OD:	Window Uncased		•	-					сос	RDIN	ATES	ΕN					SHEET 1 OF 1		
TEMPLAT			AGS BH	BETA						Uncased	to 1.9	m						DAT	ES 29,	/10/20	014 -	29/1	10/20)14		PROJECT NO. 995,SI		
ate/Time and Depth	Deptl of Casin		epth* of Nater	Piez.	I	Description	of Strata		Leg	Strata Reduced Level	Depth		SPT	Represen 'N' Value		Sa Depths	e e	ng/In-Sit No.	u Testin Blows	g SPT N	<425 %		PL %	LL p % Mg/	g Cu m³ kN/n	Additional Tests and Notes		
		1			TOPSOIL (Dark bro rootlets. Gravel of medium flint)	angular to	subround	ed fine to	/		0.00 0.05	 	0_2	0 30	40	0 0.10	-	1							,	Groundwater not encounte	-	Jrilling
					TOPSOIL (Dark bro clay. Gravel of any flint and rare fine I Stiff becoming ver slightly sandy grav rounded fine to co subrounded fine to	orick and ch y stiff pale b elly CLAY. G oarse chalk a o coarse flin	harcoal frag brown gre Gravel of s and angula	gments) y mottled ubrounded to			0.25	· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·		0.60	- - - J	2								No conapse of sidewars du	nng arining	
-	-				(LOWESTOFT FOR 1.00 Becoming yel below 1.0m	-	grey mottl	led with deptl			_					0.80	- D	1								-		
										i i i i				· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	1.80	- - - - -	2								Infiltration test undertaken	at 1.41m de	pth
_	-										1.89			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	2	-	Z								Windowless sample hole co – depth	ompleted at 1	1.89m
																	-											
_	-										-					3	-									-		
												 	· · · · · · · ·	· · · · · · · · · · · · · · · · · · ·			-											
_																4	-									-		
WATER			ng wate strikes			Upper Respon Lower	nse zone	SAMPLE AND TEST KEY	B Bulk o U Undis P Pistor J Distur	disturbed sa listurbed sa turbed sam sample bed jar san onmental so	ample ople	C Con K Peri	e pene	tration te	st S	(35 PTNN= N:) Und SPT N 120 = luding	isturbeo N value (Total bl seating	d sample (blows a ows/pei g	e blow co Ifter sea netràtio	ount ting) n			Brigl Bigh Tele	htwell B Itwell, S	Environmental Ltd Barns, Ipswich Road, uffolk, IP10 0BJ 01603 298 076	1 OF 1 HOLE No. WS6	995,SI SHEET

CLIENT	: c/o S	avills		I	PROJECT: Land to									GRC	DUND	LEVEL	-					HOLE No. WS7	
OGGED E				CHECKED BY:	EXCAVATION METHOD	:	Window		•	-				<u>coc</u>	RDINA	ATES I	<u>E N</u>					SHEET 1 OF 1	
IELDWOF EMPLATE			вн вет	DATE:		I	Uncased	1 to 4.0) m				Γ	DAT	ES 29/	10/20)14 -	29/10	0/201	14		PROJECT NO. 995,SI	
te/Time	Depth	Dept			1		Strata	<u> </u>	Gra	phical Repre	sentation	Sar			u Testing					y Testin	g	Additional Tests and Notes	
and Depth	of Casing	of	Pie Pie	Description o	f Strata	Leg	Reduced Level	Depth	0 1	SPT 'N' Va	ilue 0 40	Depths	Type	No.	Blows	SPT N	<425 %	wc %	PL L % %	L p % Mg/	o Cu m³ kN/m	12	
+	-			TOPSOIL (Dark brown slightly g angular to subrounded fine to r and charcoal fragments)	ravelly clay. Gravel of nedium flint, rare brick			0.00				0-	1	1								Groundwater not encountere Metals, PAH, TPH, Moisture c Sulphate No collapse of sidewalls durir	ontent, pH and
				Firm becoming stiff brown grey gravelly CLAY. Gravel of subrou to coarse chalk and angular to s	mottled slightly sandy unded to rounded fine ubrounded fine to			0.30				0.40	J	2								Metals, PAH, TPH, Moisture c Sulphate	
				coarse flint. (LOWESTOFT FORMATION)							• • • • • • • • • • • • • • • • • • • •	0.80	D	1									
-	-			1.00 Occasional iron oxide stain	ing below 1.0m depth			_				1-										_ Shear vane test = 56kN/m ²	
							5 			· · · · · · · · · · · · · · · · · · ·													
												1.80	D	2									
+	-			2.00 Becoming dark yellow bro depth	wn grey mottled with		•			· · · · · · · · · · · · · · · · · · ·		2-										Shear vane test = 82kN/m ²	
							•					2.60	D	3									
+	-							-		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	3-										Shear vane test = 94kN/m ²	
				3.50 Becoming dark grey with b depth	rown mottling with							3.60	D	4									
+	-					<u> </u>	2	- 4.00				4 -										Shear vane test = 88kN/m ² Windowless sample hole com depth 50mm diameter monitoring v 4.0m	•
	¥ Star ⊻ Wat			vel PIEZOMETER Upper s Respon: Lower s	se zone AND B eal TEST U KEY P	Bulk c Undis Pistor	listurbed san turbed san sample	ample nple	C Con	idard penetr e penetratio meability test	n test	(35) PTNN=1 N*1	Undis SPT N 20 = T	sturbed value otal bl	d sample (blows af ows/pen	blow co ter sea	ount ting)	d		Brig	htwell B		SHEET 1 OF 1 HOLE No. WS7
				DEPTH All depths, level and	ES	Enviro	bed jar sar onmental s r Sample		e		<	inclu 425 Sam		seating passin		cron sie	eve	C	7	Tele	phone:	01603 298 076 298 075	•

CLIENT	: c/o Sa	avill	6		PROJECT: Land to	o the	<u>e North V</u> Window	Vest of	Haverhi	11				GRC	DUND	LEVEL							HOLE No. WS8	
LOGGED E FIELDWOF				CHECKED BY: DATE:	EXCAVATION METHOD:		Uncased		•					COC	RDINA	ATES I	ΕN						SHEET 1 OF 1	
TEMPLAT			BH BET				Uncaseu	10 2.0	111					DAT	ES 29/	10/20)14 -	29/1	10/2	014			PROJECT NO. 995,SI	
ate/Time	Depth	Dep	:h* ⊾i				Strata		Graphic	al Repre	entation	Sa	T T		u Testing					ory Te	sting	1	Additional Tests and Notes	
and Depth	of Casing	of Wat		Description of	Strata	Leg	Reduced Level	Depth		PT 'N' Va 20 30	ue) 40	Depths	Type	No.	Blows	SPT N	<425 %	WC %	PL %	LL %	ρ Mg/m	³ Cu kN/m ²		
+	-			TOPSOIL (Dark brown slightly sa clay. Gravel of angular to subro flint and rare fine brick and cha	ndy slightly gravelly unded fine to medium rcoal fragments)			- 0.00				0.10	-	1									 Groundwater not encountered during d Metals, PAH, TPH, Moisture content, pH Sulphate No collapse of sidewalls during drilling 	
				Firm becoming stiff yellow brow sandy gravelly CLAY. Gravel of s rounded fine to coarse chalk an subrounded fine to coarse flint. (LOWESTOFT FORMATION)	subrounded to d angular to		•	0.30			·····	0.40	1	2										
				0.80 - Becoming yellow brown g	rey mottled with depth		40 +			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	0.80	D	1										
	-			1.00 - Becoming brown/grey mo	ottled with depth		* •	-		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	- 1 [.] 											Shear vane test = 78kN/m ²	
							۲ ۲		·····	· · · · · · · · · · · · · · · · · · ·	·····	1.70	- - - D	2									Infiltration test undertaken at 1.58m dep	pth
+	-					••- • • • • •	•	- 2.00	·····	· · · · · · · · · · · · · · · · · · ·	·····	2		2									- Shear vane test = 102kN/m ²	
									· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		••	-										Windowless sample hole completed at 2 depth	2.0n
										· · · · · · · · · · · · · · · · · · ·		•												
+								-		· · · · · · · · · · · ·	·····	- 3	-										-	
										· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	•												
									· · · · · · · · · · · · · · · · · · ·	· . ·		•												
+								-			·····	- 4											-	
										· · · · · · · · · · · · · · · · · · ·	·····													
WATER	¥ Stan ⊻ Wat	ding v er stri	vater le kes	vel PIEZOMETER Dipper s Respons Lower s	e zone AND B eal TEST U KEY P J	Bulk Undis Pistor Distu	l disturbed s disturbed sa sturbed sam n sample rbed jar san	ample ople ople	S Standard C Cone pe K Permeat	netratior	test	(35) PTNN= N*1 incl	Undi SPT N .20 = ⁻ uding	sturbed Value Total bl seating	d sample (blows af ows/pen g	blow co fter sea letràtio	ount ting) า		D	DBB	right	vell Ba /ell, Su	nvironmental Ltd rrns, Ipswich Road, iffolk, IP10 0BJ 01603 298 076	SHEET
				DEPTH All depths, level and t			onmental so	oil sample	1			425 San	ple %	6 passin	g 425 mi	cron sie	eve	C		Ē	ax: (1603	298 075	

CLIENT:	: c/o Sa	avills	i		PROJECT: Land to						GRC	DUND	LEVEL	-						HOLE No. WS9
OGGED B				CHECKED BY: DATE:	EXCAVATION METHOD		Window Uncasec		•		coc	RDINA	ATES I	ΕN						SHEET 1 OF 1
EMPLATE			BH BE				Uncased	110 2.0) [[]		DAT	ES 29/	10/20)14 -	29/2	10/20)14			PROJECT NO. 995,SI
te/Time	Depth	Dept	h* ∧i		•		Strata	1	Graphical Representation			u Testing	3		La	borato	ory Te	sting		Additional Tests and Notes
and	of Casing	of Wat	Ei I	Description	of Strata	Leg	Reduced Level	Depth	SPT 'N' Value	Depths A	No.	Blows	SPT N	<425 %	WC %	PL %	LL %	∩ Mg/m ^ª	Cu kN/m²	
-	-			TOPSOIL (Dark brown slightly clay. Gravel of angular to sub flint and rare fine brick and cl	sandy slightly gravelly rounded fine to medium narcoal fragments)			0.00		0 - 0.10 J	1									Groundwater not encountered during drillin
				Stiff becoming very stiff yello slightly sandy gravelly CLAY. rounded fine to coarse chalk		<u>·</u> •-	•	0.30		• -										No collapse of sidewalls during drilling
				rounded fine to coarse chalk subrounded fine to coarse fli (LOWESTOFT FORMATION)	and angular to nt.					0.50 J	2									
							.			0.80 D	1									
-	-			• 1.00 - Becoming brown/grey	mottled with depth		t	-	••••••••••••••••••••••••••••••••••••••	1- C		35 35 78	23							_
						- <u>·</u>	t					/8								
			:日:			••	•			1.60 D	2									
							•													
-	-					-	2	- 2.00		2 -										Windowless sample hole completed at 2.0n depth
																				50mm diameter monitoring well installed to 2.0m
										• -										
+	-							-		3-										_
+	-							-		4-										-
				vel PIEZOMETER XX Upper		Small		sample	S Standard penetration test I	Blows SPT blov	vs for ea	ch 75mn	n increr	nent						
	¥ Wat				nse zone AND B seal TEST U KEY P	Bulk o Undis Pistor	disturbed s sturbed san n sample	ample nple	C Cone penetration test	(35) Unc PT N N = SPT N*120 =	listurbeo N value Total bl	d sample (blows af ows/pen	blow c ter sea	ount ting)	Č	5	B	srightv Sightw	vell Ba ell, Su	Environmental Ltd arns, Ipswich Road, ffolk, IP10 0BJ 01603 298 076 298 075
				DEPTH All depths, level an	ES	5 Envir	rbed jar sar onmental s		e	includin 425 Sample			cron sie	eve	2		5 T	eleph ax [.] 0	one: (1603 (01603 298 076

CLIENT:	c/o Sa	avill	s			PROJECT: Land to	o the	North V	Vest of	Haverhil	I			GRC	DUND	LEVEL	-						HOLE No. WS10
.OGGED B					CHECKED BY: DATE:	EXCAVATION METHOD:		Window Uncased		•				coo)RDIN/	ATES E	ΕN						SHEET 1 OF 1
EMPLATE			5 ВН ВЕ	ТА	DATE:			Uncased	10 2.0	m				DAT	ES 30/	10/20)14 -	30/	10/2	014			PROJECT NO. 995,SI
ite/Time	Depth	Dep	th*		•			Strata		Graphica	al Representation	Sa		0,	u Testing	3		Lá	aborat	ory Te	esting	1	Additional Tests and Notes
and Depth	of Casing	o Wa			Description of	Strata	Leg	Reduced Level	Depth		PT 'N' Value	Depths	Type	No.	Blows	SPT N	<425 %	WC %	PL %	LL %	ρ Mg/m	³ Cu kN/m ²	2
				cla m	OPSOIL (Dark brown slightly sa ay. Gravel of subangular to su redium flint and rare chalk)	brounded fine to			0.00 0.15		· · · · · · · · · · · · · · · · · · ·	0.10	-	1									Groundwater not encountered during drilli Metals, PAH, TPH, Moisture content, pH an Sulphate
				ro	tiff pale brown gravelly CLAY. bunded fine to coarse chalk. OWESTOFT FORMATION)	Gravel of subangular to				·····	· · · · · · · · · · · · · · · · · · ·	 	-										No collapse of sidewalls during drilling
											· · · · · · · · · · · · · · · · · · ·		- - D	1									
-								•	- 1.10	••••	· · · · · · · · · · · · · · · · · · ·	- 1	c		25 34	16							_ Shear vane test = 108kN/m²
				an	iff dark grey brown mottled go ngular to subrounded fine to c OWESTOFT FORMATION)	ravelly CLAY. Gravel of oarse chalk.		- - -	1.10		· · · · · · · · · · · · · · · · · · ·				45								
								÷				1.50	D	2									Shear vane test = 116kN/m ²
							- <u>`</u> - 	*	- 2.00	· · · · · · · · · · · · · · · · · · ·			-										Shear vane test = 132kN/m ²
									2.00		· · · · · · · · · · · · · · · · · · ·	-	-										Windowless sample hole completed at 2.0r depth
											· · · · · · · · · · · · · · · · · · ·	 	-										
													-										
+									-			- 3	-										_
											• • • • • • • • • • • • • • • • • • • •		-										
											· · · · · · · · · · · · · · · · · · ·	. 											
+									-		· · · · · · · · · · · · · · · · · · ·	- 4	-										_
											· · · · · · · · · · · · · · · · · · ·		-										
NATER	¥ Stan ¥ Wat	ding er str	water I ikes	+ -	PIEZOMETER Upper se Respons Lower se	e zone AND B eal TEST U	Bulk o Undis	disturbed s disturbed sa sturbed sam	imple i		penetration test netration test ility test	(35 97 N N =) Und SPT I	isturbec V value (d sample (blows af	blow co ter sea	ount ting)		D	B	Bright	well Ba	Environmental Ltd arns, Ipswich Road, iffolk, IP10 0BJ 01603 298 076
					DEPTH All depths, level and t	j ES	Distu Envir	n sample rbed jar san onmental so	nple bil sample				luding	g seating						T	elept	none: (Iffolk, IP10 0BJ 01603 298 076 298 075

CLIENT	: c/o S	avills			PROJECT: Land to						GRO	DUND	LEVEL						HOLE No. WS11
.OGGED I FIELDWO		- 1		CHECKED BY:	EXCAVATION METHOD:		Window		•		coc	ORDIN/	ATES I	ΕN					SHEET 1 OF 1
	E REF: GI		BH BET	DATE:		, i	Uncased	1 to 4.0	m		DAT	TES 30/	10/20)14 -	30/2	10/2	014		PROJECT NO. 995,SI
te/Time	Depth	Dept					Strata	1	Graphical Representation	Sampli		tu Testin					ory Tes	ting	Additional Tests and Notes
and Depth	of Casing	of Wat	Pie	Description o	f Strata	Leg	Reduced Level	Depth	SPT 'N' Value	epths	No.	Blows	SPT N	<425 %	WC %	PL %	LL % №	p Cu 1g/m³ kN/m²	2
-	-			TOPSOIL (Desiccated dark brow clay with rootlets. Gravel of su flint and chalk with very rare br	in sandy slightly gravelly bangular fine to coarse ick fragments)			- 0.00		0-									Groundwater not encounterd during drillin
				Stiff pale brown grey mottled g desiccated CLAY. Gravel of ang		<u> </u>	-	0.30	0.1	20 J	1								No collapse of sidewalls during drilling
				to coarse chalk. (LOWESTOFT FORMATION)			d - - -			- - 75 D	1								
_	-			1.10 Becoming brown dark grey to hard with depth 1.30 Orange brown sandy pock	·		- - -	_		1 - c		3 2 4 4 4 6	18						Shear vane test = 104kN/m ²
							4 - - -		1.1	50 D	2								Shear vane test = 136kN/m ²
_	_						- - -	-		2 _ C		34 45 66	21						_ Shear vane test = 136kN/m ²
							-		2.1	50 D	3								Shear vane test = 120kN/m ² Shear vane test = 128kN/m ²
-	-			2.80 Becoming dark brown dar depth	c grey mottled with		4 - - - -	_		3 c		4 4 5 6 7	26						 Shear vane test = 128kN/m²
																			Shear vane test = 140kN/m ²
-	-							- 4.00		4] C		57 78 1012	37						Windowless sample hole completed 4.0m c 50mm diameter monitorng well installed to
I NATER	¥ Star ⊻ Wat			vel PIEZOMETER Upper s Respon	se zone AND B eal TEST U KEY P J	Bulk d Undis Piston Distur	listurbed sa turbed san sample bed jar sar	ample nple mple	·	(35) Uno N N = SPT N*120 = includin	listurbe N value Total bl g seating	d sample (blows at lows/per g	blow co fter sea letràtion	ount ting) า		D	Br Bi	ightwell Ba ghtwell, Su	Environmental Ltd arns, Ipswich Road, uffolk, IP10 0BJ 01603 298 076
				DEPTH All depths, level and	ES	Enviro	onmental s		<425	Sample			cron sie	eve	C		Fa	ax: 01603	298 075

CLIENT	: c/o S	avill	s		PROJECT: Land	o the	North V	Nest of	t Haverhill		GRO		EVEL	-						HOLE No. WS12
LOGGED E FIELDWOF				CHECKED BY: DATE:	EXCAVATION METHO	J.	Window Uncased				cod	ORDINA	TES E	ΞN						SHEET 1 OF 1
TEMPLAT			S BH BE				Uncased	10 1.7	111		DAT	TES 30/	10/20)14 -	30/	10/2	2014			PROJECT NO. 995,SI
ate/Time and Depth	Depth of Casing	Dep o Wa	f∣ä	Descripti	n of Strata	Leg	Strata Reduced Level	Depth	Graphical Representation SPT 'N' Value	Samplir Depths 占	1	tu Testing Blows	SPT N	<425 %				esting p Mg/m	³ Cu kN/m ²	Additional Tests and Notes
-	-		-	TOPSOIL (Dark brown sligh subangular to subrounded fragments of brick) Firm brown slightly gravellt subangular fine chalk. (LOWESTOFT FORMATION	ine to coarse flint with		- - - - -	- 0.00 0.10		0 - J	1									Groundwater not encontered during drilling Metals, PAH, TPH, Moisture content, pH and Sulphate Infiltration test undertaken at 0.15m depth No collapse of sidewalls during drilling Shear vane test = 72kN/m ²
-	-							- 1.68		.50 D	1									Shear vane test = 60kN/m ² Shear vane test = 52kN/m ² Shear vane test = 72kN/m ² Windowless sample hole completed at 1.68r
-	-							_		2 -										_ depth
-	-							_		3 -										-
-	-							_		4 -										-
*WATER	¥ Star ⊻ Wat	iding v	water le ikes	Res	oonse zone AND E er seal TEST U KEY F	Bulk o Undis Pistor Distu	disturbed s disturbed san n sample rbed jar sar onmental s	ample nple nple	·	(35) Und N N = SPT	disturbe N value • Total b g seatin	d sample (blows af lows/pen- g	blow co ter seat etràtion	ount ting) n		Ð	D	Bright Bightv Telepl	well Ba vell, Su	Environmental Ltd trns, Ipswich Road, tfolk, IP10 0BJ 01603 298 076

CLIENT	: c/o S	avills			PROJECT: Land to									GRC	DUND	LEVEL	_					HOLE No. WS13
		-,		CHECKED BY: DATE:	EXCAVATION METHOD	:	Window Uncased		•	I				COC		ATES E	EN					SHEET 1 OF 1
FIELDWOI TEMPLATI			ВН ВЕТ/			l	Uncased	1 to 4.0	m					DAT	ES 30/	10/20	014 -	30/10	/201	4		PROJECT NO. 995,SI
ate/Time	Depth	Depth		·			Strata	1	Gr	aphical Repre	sentation	Sa	mplin		u Testin	-				Testing		Additional Tests and Notes
and Depth	of Casing	of Wate	Ξ	Description of	Strata	Leg	Reduced Level	Depth	0	SPT 'N' Va		Depths	Type	No.	Blows	SPT N	<425 %	WC F	РL LL % %	Mg/m ³	³ Cu kN/m ²	
-	-			TOPSOIL (Dark brown slightly sil gravelly clay with rootlets. Grav subrounded fine to medium flin	el of subangular to			0.00				0.										Groundwater not encountered during dri
							-	0.40				0.20	- 1	1								No collapse of sidewalls with depth
				Stiff to very stiff gravelly CLAY. fine to coarse chalk and flint. (LOWESTOFT FORMATION)	Gravel of subangular	 	đ	0.40		+		-										
											• • • • • • • • • • • • • • • • • • • •	0.75	D	1								
+	-			Soft to firm brown and orange to sandy slightly gravelly CLAY. Gra	prown mottled slightly	 	-	- 1.00				1										-
				coarse flint. (LOWESTOFT FORMATION)	avel of subangular																	
				Very stiff to hard pale brown gro	ev mottled gravelly			1.50		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	1.50		2								Shear vane test = 52kN/m ²
				CLAY. Gravel of subangular to s coarse chalk. (LOWESTOFT FORMATION)	ubrounded fine to		c							-								
_	_						đ	_				2										Shear vane test = 52kN/m ²
																						Shear vane test = 68kN/m ²
						'	-				• • • • • • • • • • • • • • • • • • • •											
							-															
						 	ā															Shear vane test = 128kN/m ²
+	-							-				3 -										_
							-				· · · · · · · · · · · · · · · · · · ·											
							d -					3.50	D	3								
						 	ā															
+	-		: <u>]</u> :				-	- 4.00		· • • • • • • • • • • • • • • • • • • •		4										Windowless sample hole completed at 4.0
											•••••											depth 50mm diameter monitorng well installed t
	¥ Star ⊻ Wat			el PIEZOMETER Upper se Respons Lower se	e zone AND B cal TEST U KEY P	Bulk d Undis Piston	disturbed listurbed s turbed sar sample bed jar sar	ample nple	C Cor	ndard penetr ne penetratio meability test	n test	(35) PTNN= N*1	Undi SPT N 20 = 1	sturbeo I value	d sample (blows at lows/per	blow co ter sea	ount ting)	A	ŏ	Brightv Bightw	vell Ba vell, Su	nvironmental Ltd rns, Ipswich Road, ffolk, IP10 0BJ 11603 298 076
				DEPTH All depths, level and t	ES	Enviro	onmental s		9		<	425 San				cron sie	eve	C				01603 298 076

CLIENT	: c/o Sa	avill	S		PROJECT: Land to	o the	North V	Vest of	Haverh	ill					GRC	UND	LEVEL							HOLE No. WS14		
.OGGED B		- 1		CHECKED BY: DATE:	EXCAVATION METHOD		Window Uncased		•						coo	RDINA	ATES I	ΕN						SHEET 1 OF 1		
EMPLATE			S BH BET				Uncased	10 2.0	m						DAT	ES 30/	10/20)14 -	30/1	10/2	014			PROJECT NO. 995,SI		
ite/Time	Depth	Dep	th* _{si}		•		Strata		Graphic	al Repre	esentatio	on	Sar		g/In-Sit	u Testing	z		La	borat	ory Te	esting	1	Additional Tests and Notes		
and Depth	of Casing	0 Wa		Description of	of Strata	Leg	Reduced Level	Depth		PT 'N' Va 20 3	alue 10 40		Depths	Type	No.	Blows	SPT N	<425 %	WC %	PL %	LL %	ρ Mg/m	³ Cu kN/m ²			
	-			TOPSOIL (Dark brown slightly s	ilty slightly sandy slightly		-	0.00	1				0 -											Groundwater not encountere	d during	drillir
				gravelly CLAY with rootlets. Gr to medium flint and chalk)	avel of subangular fine						•••••		0.15	L -	1									Metals, PAH, TPH, Moisture co	ontent, p	H and
				Stiff pale brown slightly gravell subangular to subrounded fine	y CLAY. Gravel of			0.30		· · · · · · · ·				1										Sulphate No collapse of sidewalls during	g drilling	
				(LOWESTOFT FORMATION)	to coarse chaik.	E	C							$\left \right $										Shear vane test = 88kN/m ²		
				Stiff dark brown and dark grey Gravel of subangular to subrou	mottled gravelly CLAY.			0.60						1												
				chalk. (LOWESTOFT FORMATION)		<u> </u>	C			••••	•••••	•••••		$\left \right $										Infiltration test undertaken at Shear vane test = 132kN/m ²	0.70m d	epth
-	-						-	_					1 -	1										-		
				1.10 Becoming hard with deptl	ı	<u> </u>	C			••••••••	•••••	•••••		$\left \right $												
							_							1												
							C			••••	•••••	•••••												Shear vane test = 140kN/m ²		
													1.50		1											
				1.70 Orange brown sandy clay	pocket present	<u> </u>	C			••••••••	•••••	•••••												Shear vane test = 100kN/m ²		
														1												
+	-						4	- 1.97					2 -	$\left \right $										Windowless sample hole com depth	pleted at	1.97
														1												
										••••••••	•••••	•••••		1												
]												
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						L					· · · · · · · · ·			1												
WATER	▼ Stan ⊻ Wat	ding er str	water le ikes	vel PIEZOMETER Upper Respon Lower	se zone AND B seal TEST U KEY P J	Bulk Undi Pisto Distu	disturbed s disturbed sa sturbed san n sample rbed jar sar	ample nple nple	S Standaro C Cone pe K Permeal	netratio	n test	SP	(35) T N N = N*1 inclu	Undi SPT N 20 = uding	sturbed I value (Total ble seating	l sample blows af ows/pen	blow co ter sea etràtio	ount ting) า		D	DB	Bright\ Bightw	vell Ba vell, Su	nvironmental Ltd Irns, Ipswich Road, Iffolk, IP10 0BJ 01603 298 076	1 OF 1 HOLE No. WS14	SHEET
				DEPTH All depths, level and	ES	6 Envir	onmental s	oil sample				<4	25 Sam	ple %	passin	g 425 mi	cron sie	eve	C		DF	ax: (1603	298 075	•	

CLIENT	: c/o S	Savills					PRO	JECT: La	nd to th											GRC	UND	LEVE	L						HOLE No. WS15		
LOGGED		Г.		-	CKED BY:		EXCA	ATION ME	THOD:	Windo			•							соо	RDIN	ATES	ΕN						SHEET 1 OF 1		
FIELDWO TEMPLAT			Н ВЕТ	DAT A	E:					Uncase		2.01	m							DAT	ES 30,	/10/2	014 -	30/1	10/20	014			PROJECT NO. 995,SI		
Date/Time and Depth	Depth of Casing	Depth of Water	.≝		De	escription	of Strata		Le	Reduce g Level	ed _	Depth		SPT	Repres 'N' Val	ue		Sa Depths	nplin ad /L	g/In-Sit No.	u Testin Blows	g SPT N	<425	La WC %	PL %	LL % M	p lg/m³ k	Cu (N/m ²	Additional Tests and Notes		
	-			TOPSOIL gravelly	(Desiccated desiccated lar to subro	d dark bro CLAY with	wn slightl rootlets.	y silty slight Gravel of e flint)	iy —		0	0.00	0 1	0_2	0 30	40		0 · 10	1	1			,,,,	,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		,	Groundwater not encounter	ed durir	ng drilling
				Stiff to d gravelly subangu	esiccated p slightly cobl lar to round FOFT FORM	ale brown bly desicca led fine to	and grey ated CLAY	mottled Gravel of		- - c).20		· · · · · · · · · · · · · · · · · · ·		· · · · · · · · · · · · · · · · · · ·	0	75	D	1									No collapse of sidewalls duri	ng drillin	Ig
-	-			1.00 Bec	oming hard	and dark	grey with	depth		- _ c _ l	-			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	1	-									-	_ Infiltration test undertaken a	at 0.9m c	lepth
_	_										- 2	2.00		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · ·	1 1	50 2 ·	D	2								-			
														· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		-										Windowless sample hole con depth	npleted	at 2.0m
_	-										_			· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · ·	3 -	-									-	-		
																· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·		-												
-	-										-	-		· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	4 ·										-	-		
*WATER		nding wa ater strike			All depths	Respo Lower	nse zone seal	TEST KEY	B Bul U Un P Pist J Dist ES Env	all disturbed k disturbed disturbed s con sample turbed jar vironmenta ter Sample	l samp ample sample I soil s	ole C e K e	Con	e pene	penetra etration ity test		SPT	(35) N N = N*1 incl	Undi: SPT N 20 = T uding	sturbed value (Fotal ble seating	ch 75m I sample blows a ows/per g 425 m	e blow o Ifter sea netràtic	count ating) on		いてい	Bri Big Te	ightwe ghtwel lephor	ell Bar II, Suf ne: 0	nvironmental Ltd ms, Ipswich Road, folk, IP10 0BJ 1603 298 076 98 075	HOLE No. WS15	995,SI SHEET 1 OF 1

CLIENT	T: c/o	Savill	;			PROJECT: Land to										GRO	DUND	LEVE	L					HOLE No. WS16		
LOGGED FIELDWC					CHECKED BY: DATE:	EXCAVATION METHOD	:	Window Uncased		•	r					coc	ORDIN	ATES	ΕN					SHEET 1 OF 1		
TEMPLAT			BH BE	TA	DATE:			Uncased	to 4.0	m						DAT	ES 31	/10/2	014 -	31/2	10/20	14		PROJECT NO. 995,	SI	
ate/Time								Strata		Gra	aphical	Represe	ntation	Sa		ng/In-Sit	tu Testir	ng			borato	ry Testir	ng	Additional Tests and Not	es	_
and Depth	of Casing	g Wat	er		Description of	f Strata	Leg	Reduced Level	Depth	0 1	SPT	'N' Valu 0 30		Depths	Type	No.	Blows	SPT N	<425 %	WC %	PL %	LL % Mg	p Cu /m³kN/r	m²		
-	t			TO	PSOIL (Dark grey brown sligh fine to medium flint with occ	ntly gravelly clay. Gravel		1	- 0.00		ļ			0	· ·	4								Groundwater not encou	ntered during drill	lling
						-			0.20					0.10]	1								No collapse of sidewalls of	during drilling	
				de	m becoming stiff dark yellow siccated CLAY. Gravel of fine casional medium chalk.	brown slightly gravelly to medium flint with			0.30						-											
				(LC	DWESTOFT FORMATION)		'							-	1											
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				1.5 sar	50 No desiccation below 1.5m ndy and firm with depth	n and becoming slightly	_°_							-	-											
													· · · · · · · · ·													
							<u> </u>	d				•••••		. 2	-											
-	T]											
				2.2	20 Becoming gravelly and pale ottled below 2.2m. Gravel is f	e grey orange brown		c																		
				flir	it							• • • • • •			-											
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-	T								- 4.00					- 4	-									Windowless sample hole	completed at 4.0)m
												· · · · · · · · · · ·	· · · · · · · · ·													
															+											
'WATEF		tanding v /ater stri		evel F	PIEZOMETER Upper so Respons Lower so	se zone AND B eal TEST U KEY P J	Bulk d Undis Pistor Distur	disturbed s listurbed sa turbed sam sample bed jar sar	ample aple aple	C Cor K Per		tration t	est	(35 PTNN= N*: incl) Und SPT I 120 = luding	isturbe N value Total bl g seating	d sampl (blows a lows/pe g	e blow c after sea netràtio	count ating) on			Brig Bigh	htwell E htwell, S	Environmental Ltd Barns, Ipswich Road, Suffolk, IP10 0BJ 01603 298 076	SHEET 1 OF 1 HOLE No. WS16	995, 51
				ſ	DEPTH All depths, level and t	ES	Enviro	onmental se		2				:425 Sar				nicron si	eve	C		Fax	: 01603	3 298 075		

CLIENT	: c/o Sa	avills			PROJECT: Land to	o the	North V	Vest of	Haverhi	II				GRC	DUND	LEVE	_						HOLE No. WS17
OGGED B				CHECKED BY:	EXCAVATION METHOD	:	Window		•					сос		ATES	ΕN						SHEET 1 OF 1
IELDWOF EMPLATE			BH BET.	DATE:			Uncased	to 2.0	m					DAT	ES 31/	/10/20	014 -	31/	10/2	014			PROJECT NO. 995,SI
ate/Time	Depth	Depth	1* .:				Strata		Graphic	al Repre	sentation	Sa		ıg/In-Sit	tu Testin				aborat		esting		Additional Tests and Notes
and Depth	of Casing	of Wate	Lez.	Description of	Strata	Leg	Reduced Level	Depth		PT 'N' Va		Depths	Type	No.	Blows	SPT N	<425 %	wc %	PL %	LL %	ρ Mg/m ⁱ	Cu kN/m ²	2
	-			TOPSOIL (Dark brown slightly gr	avelly clay. Gravel is			0.00	0 10	73	0 40	- 0	+ 1										Groundwater not encountered with depth
				fine to medium flint with occasi	onal brick).							0.10	11	1									
								0.25	·····	•••	• • • • • • • • • • • • • • • • • • • •		$\left \right $										No collapse of sidewalls during drilling
				Firm dark brown slightly gravely to coarse flint and chalk.	/ CLAY. Gravel of fine			0.35			· · · · · · · · · · · · · · · · · · ·	1	1										
				(HEAD DEPOSITS)		<u> </u>	C		····		• • • • • • • • • • • • • • • • • • • •		$\left \right $										
										••••••													
				Firm becoming stiff dark yellow Gravel of fine to coarse flint and	brown gravelly CLAY. I chalk.			0.80				1]										
+	-			(LOWESTOFT FORMATION)		<u> </u>	c	-			•••••	- 1	-										-
							-					1	1										
				1.30 Becoming dark grey and da	rk orange brown	<u> </u>	c		·····	•••	• • • • • • • • • • • • • • • • • • • •		$\left \right $										
				mottled with depth								1	1										
						<u> </u>	c						$\left \right $										
				1.65 Cobbles of chalk present			-			•		1											
							c]]										
+	-							2.00				- 2	$\left \right $										Windowless sample hole completed at 2.0
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WATER	¥ Stan ⊻ Wat	ding w er strik	ater lev es	vel PIEZOMETER Upper se Respons Lower se	e zone AND B Pal TEST U KEY P J	Bulk o Undis Pistor Distu	disturbed sa disturbed sa turbed sam sample rbed jar san	ample ople ople	S Standard C Cone pe K Permeat	netratio	n test	(35 SPT N N = N*:) Und SPT N L20 =	isturbeo V value (d sample (blows at lows/per	blow c fter sea	ount ting)		D	DE	Brightv Bightw	vell Ba vell, Su	Environmental Ltd arns, Ipswich Road, Iffolk, IP10 0BJ 01603 298 076 298 075
				DEPTH All depths, level and t	ES	Envir	onmental se	oil sample				<425 Sar				icron sie	eve			P	ax: 0	1603 2	298 075

CLIENT	: c/o S	avill	S		PROJECT: Land to								GRO	UND	EVEL	-						HOLE No. WS18
LOGGED I FIELDWO		E1		CHECKED BY: DATE:	EXCAVATION METHOD:		Window		•	er			coo	RDINA	TES E	ΞN						SHEET 1 OF 1
TEMPLAT			S BH BET				Uncased	1 10 4.0) m				DAT	ES 31/	10/20)14 -	31/	10/2	014			PROJECT NO. 995,SI
ate/Time	Depth	Dep					Strata	a	G	iraphical Representation	Sai	nplin		u Testing				aborat		esting		Additional Tests and Notes
and Depth	of Casing	0 Wa	ofl≝	Description o	Strata	Leg	Reduced Level	Depth		SPT 'N' Value	Depths	Type	No.	Blows	SPT N	<425 %	WC %	PL %	LL %	ρ Mg/m³	Cu kN/m ²	
	-			TOPSOIL (Dark brown slightly g	avelly clay with			0.00	-14		0 -							,		0,	,	No collapse of sidewalls during drilling
				rootlets. Gravel of angular to su medium flint and infrequent ch	brounded fine to				1		İ											
								0.30														
				Firm becoming stiff dark brown Gravel of angular to subrounde	slightly gravelly CLAY. d fine to medium flint.		-	0.50		•••••••••••••••••••••••••••••••••••••••	·											
				(HEAD DEPOŠITS)			C			•••••••••••••••••••••••••••••••••••••••	•											
											Į											
							c				0.80	D	1									
31/10	7	1.0								•••••••••••••••••••••••••••••••••••••••	0.80		1									
51/10		<u> </u>	<u> </u>				c	-			1-											Seepage inflow of water at 1m
									ļ													
										•••••••••••••••••••••••••••••••••••••••	1.20	D	2									
									+	•••••••••••••••••••••••••••••••••••••••												
				Firm becoming stiff orange bro Gravel of subrounded to round	wn gravelly CLAY.			1.50			1											
				and angular to subrounded fine	to coarse flint.		¢				-											
				(LOWESTOFT FORMATION)					+	•••••••••••••••••••••••••••••••••••••••												
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	-						-	Γ			2-											
				2.20 Becoming brown grey mot	tlad with donth																	
				2.20 Becoming brown grey mot	lieu with depth	<u> </u>			+	•••••••••••••••••••••••••••••••••••••••	·											
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				<u> </u>		<u> </u>	-															<u> </u>
*WATER	¥ Star ⊻ Wat			vel PIEZOMETER Depers Respons Lowers			disturbed disturbed s			andard penetration test E one penetration test				ch 75mm sample				~		Geosph	nere E	invironmental Ltd Irns, Ipswich Road, ffolk, IP10 0BJ 01603 298 076
				Lower s	eal TEST U	Undis	turbed sar				PTNN=	SPT N	I value (blows af	ter seat	ting)	(1	E	Brightw	ell Ba	rns, Ipswich Road,
							n sample rbed jar sa	mple					Total blo seating	ows/pen	etratio	n			Ę	Sightwe	ell, Su	ffolk, IP10 0BJ
				DEPTH All depths, level and		Enviro	onmental s		e	<	425 Sam				cron sie	eve	1			elepine	1602 1	298 075

CLIENT	: c/o S	avil	ls		PROJECT: Land to	o the	North \	Nest of	f Ha	verhil					GRC	DUND	LEVE	L						HOLE No. WS19	
OGGED I				CHECKED BY:	EXCAVATION METHOD		Window		•	er					<u> </u>	DRDIN	ATES	<u>E N</u>						SHEET 1 OF 1	
ELDWO			S RH RFT	DATE:			Uncased	to 4.0	Jm					Γ	DAT	ES 31/	/10/2	014 -	31/	10/2	014			PROJECT NO. 995,S	
te/Time	Depth	Dep					Strata	1	(Graphica	al Represe	ntation	Sa	mpling		tu Testin		1		aborat				Additional Tests and Notes	
and Depth	of Casing	c c	oth* id of id ater	Description o	f Strata	Leg	Reduced Level	Depth	0		'T 'N' Valu 20 30		Depths		No.	Blows	SPT N	<425 %	wc %	PL %	LL %	P Mg∕m³	Cu kN/m²	2	
-	-		38	TOPSOIL (Dark brown gravelly Gravel of frequent fine to coars	ery desiccated clay.			0.00			ŢŢ.		0	1										Groundwater not encount	ered during dril
				Graver of frequent line to coars	e mint and chaikj.				···		• • • • • • • • • • •	••••		$\left\{ \right\}$										No collapse of sidewalls du	ring drilling
								0.40						1											0 0
				Dark brown pale grey mottled g desiccated CLAY. Gravel of fine	ravelly cobbly very to coarse flint and			0.40			++-			$\left \right $											
				chalk with frequent cobbles of (LOWESTOFT FORMATION)	chalk.		0							1											
						<u> </u>	C				• • • • • • • • • • • • • • • • • • • •	••••		1											
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			. I∄.	2.80 Becoming dark grey with c	epth	<u> </u>								1											
-	-		i Ei	3.00 No desiccation below 3.0n	1		-	-			++-		3	+										-	
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	▼ Star	ding		vel PIEZOMETER N Uppers	eal SAMPLE D			samnle		l tandard	.LL.	l			s for or	 	nincro	ment	L						
VVAIEN	¥ Star ⊈ Wa	ter sti	rikes	Respon	e zone AND B	Bulk (disturbed s	ample	с с	one pen	etration	est	(35) Undi	sturbed	d sample	blow c	ount				Geosp	here E	Environmental Ltd arns, Ipswich Road,	SHEET 1 OF 1 HOLE No. WS19
				Lower s	KEY P	Pistor	sturbed san n sample		кΡ	сппеарі	ility test	3		120 = 1	Total bl	lows/per	netràtio	n		D		Biaĥtw	ell. Su	Iffolk. IP10 0BJ	
							rbed jar sar onmental s		le			4	inc 425 Sar		seating		icron si	eve	7	01		Feleph	one: (01603 298 076	•
				DEPTH All depths, level and				2. Somple	-				Jai	.p.c /0	- passin						2	-ax: 0	1603	298 075	

CLIENT	: c/o S	avills			PROJECT: Land to					GR	OUND	LEVEL	_					HOLE No. WSA
LOGGED				CHECKED BY:	EXCAVATION METHOD:	:	Window		•	co	ORDINA	ATES I	<u>E N</u>					SHEET 1 OF 1
ELDWO			RH RFT	DATE:		l	Uncased	1 to 4.0	m		TES 18/			18/	11/2	014		PROJECT NO. 995,SI
ate/Time	Depth	Dept					Strata		Graphical Representation Sampli		itu Testing				aborat		esting	Additional Tests and Notes
and Depth	of Casing	of Wate	i,	Description o	f Strata	Leg	Reduced Level	Depth	SPT 'N' Value Depths 스	No.	Blows	SPT N	<425 %	wc %	PL %	LL %	ρ Cu Mg/m³ kN/m	2
_	_			TOPSOIL (Dark brown gravelly s with occasional rootlets. Gravel subrounded fine to medium flir	lightly silty clayey sand is angular to			0.00	0 0.10 J	1								Groundwater not encountered during drilli
_	-			Firm becoming very stiff yellow Gravel of angular to subrounde and subrounded to rounded fir (LOWESTOFT FORMATION) 0.50 - Becoming desiccated witl 0.60 - 1.00 - Becoming dark grev 1.00 - 4.00 - Becoming grey bro	brown gravelly CLAY. d fine to coarse flint ie to coarse chalk n depth y brown with depth			-	0.30 J	2	11 12 98 89	34						No collapse of sidewalls during drilling Metals, PAH, TPH, Moisture content, pH and Sulphate
_	-						a a a a a a a	-	2 - c		66 77 89	31						-
-	-						a a a a a	_	3 c		68 99 1012	40						-
-	-							- 4.00			89 1012 1314	49						Windowless sample hole completed at 4.0n
WATER	▼ Star ⊻ Wat	nding w ter strik	vater lev kes	vel PIEZOMETER T Upper s	se zone AND B eal TEST U KEY P J	Bulk o Undis Pistor Distur	disturbed s listurbed s turbed sam sample bed jar sam onmental s	ample nple nple	K Permeability test SPT N N = SPT N*120 = includin	disturbe N value - Total b g seatin	ed sample (blows af blows/pen g	blow co ter sea etràtio	ount ting) n		D	DE	Brightwell Ba Bightwell, Su Telephone:	Environmental Ltd arns, Ipswich Road, uffolk, IP10 0BJ 01603 298 076
				DEPTH All depths, level and				on sample	<425 Sample	70 passi	ng 425 mi		eve			J F	ax: 01603	298 075

CLIENT	: c/o Sa	avill	s					PRO	DJECT	: Lan	d to the	North Windov	West of	f Hav	<u>erhill</u>					GRO	UND	LEVEL	-						HOLE No. WSB		
OGGED E					CHECKED BY DATE:	<i>(</i> :		EXCA	AVATIO	N METH	100:	Uncase		•	21					C00	RDIN/	TES I	ΞN						SHEET 1 OF 1		_
EMPLATE			S BH BE		ATE.							Uncased	1 10 2.0	, , , ,						DAT	ES 18/	11/20)14 -	18/2	11/2	014			PROJECT NO. 995,SI		
ite/Time	Depth	Dep		i								Strat	a	G	raphica	l Representa	tion	Sai	<u> </u>	g/In-Sit	u Testing				aborat	ory Te	esting		Additional Tests and Notes		
and Depth	of Casing	o Wa	ter ä			Descr	iption o	of Strata	3		Leg	Reduced Level	Depth			Г 'N' Value 2030 4	10	Depths	Type	No.	Blows	SPT N	<425 %	WC %	PL %	LL %	ρ Mg/m	Cu kN/m ²	2		
-	-			root	OIL (Dark b ets. Gravel o um flint)	orown s of angu	lightly g Ilar to s	ravelly ubroun	clay wit ded fin	th e to			0.00					0 -	1	1									Groundwater not encounter No collapse of sidewalls durin Metals, PAH, TPH, Moisture c	ng drilling	
				Grav and s	becoming s el of angula ubrounded /ESTOFT FO	ir to sub I fine to	oround coarse	ed fine [.]	n grave to coars	lly CLAY se flint	·	- -	0.30		· · · · · · · ·			0.40	1	2									Sulphate Metals, PAH, TPH, Moisture c Sulphate	ontent, pH ar	inc
				0.80	- Becoming	brown	grey m	ottled v	with dep	pth					•	· · · · · · · · · · · · · · · · · · ·	• • • • • • • • • • • • • • • • • •												Infiltration test undertaken a	t 0.69m deptl	:h
-	-												-		•			1 -													
												- -																			
+	-												- 2.00		· · · · · · · · · · · · · · · · · · ·		• • • • • • • •	2 -											Windowless sample hole con depth	pleted at 2.0	00
															•		 		-												
																	· · · · · · · · ·														
+	-												-		· · · · · · · ·		•••••	3 -											-		
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+	-												_					4 -											_		
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NATER	▼ Stan ⊻ Wat	ding er str	water l ikes	evel PIE	ZOMETER	÷Ħ:	Upper Respon Lower	ise zone		т	B Bulk U Undi P Pisto J Distu	disturbed s sturbed sa n sample rbed jar sa	ample nple mple	C Co K Pe	ne pen	penetration f etration test ity test	SP	(35) T N N = N*1 inclu	Undis SPT N 20 = T uding s	turbed value (otal blo seating	l sample blows af ows/pen	blow co ter sea etràtio	ount ting) n		IJ	DE	Bright Bightw	vell Ba rell, Su	Environmental Ltd arns, Ipswich Road, ıffolk, IP10 0BJ 01603 298 076	SHEET 1 OF 1 HOLE No. WSB	
					PTH All dep	nthe la	لم مم ا	thicker		motros		onmental :	oil sample	e			<4	25 Sam	ple %	passin	g 425 mi	cron sie	eve			D F	ax: 0	1603	298 075	•	

LIENT	: c/o S	avills			PROJECT: Land to	<u>the</u>	North \ Window	Nest of	Haverhill		GROUND) LEVE	L					HOLE No. WSC
		=1		CHECKED BY:	EXCAVATION METHOD:				•	L	COORDIN	ATES	ΕN					SHEET 1 OF 1
IELDWOI EMPLATI			ЗН ВЕТИ	DATE:		l	Uncased	1 to 4.0	m		DATES 18	3/11/2	014 -	18/	/11/2	014		PROJECT NO. 995,SI
te/Time	Depth	Depth		- I			Strata	1	Graphical Representation Sam		/In-Situ Testi				aborat			Additional Tests and Notes
and Depth	of Casing	of Wate	Pie	Description of	Strata	Leg	Reduced Level	Depth	SPT 'N' Value Depths	Type	No. Blow	SPT N	<425 %	wc %	PL %	LL %	ρ Cu Mg/m³ kN/m	2
-	-			TOPSOIL (Dark brown slightly gr occasional rootlets. Gravel of ar fine to medium flint and occasio fragments)	gular to subrounded			0.00	0-	J	1							No collapse of sidewalls during drilling
				Firm brown slightly gravelly CLA subrounded fine to medium flin (HEAD DEPOSITS)	Y. Gravel of angular to t		ō	0.30	0.40	J	2							
				0.60 - Becoming slightly sandy v	vith depth		- -											
-	-			1.00 - 1.50 - Becoming soft with	depth		d - -	_		c	11 11 22	6						-
				Firm becoming stiff yellow brow gravelly CLAY. Gravel of angular coarse flint and frequent subrou to coarse chalk (LOWESTOFT FORMATION)	n/grey mottled to subrounded fine to unded to rounded fine		- - -	1.50										
_	-						d - - -	-	2	c	4 3 4 3 5 5	17						-
							5											
-	_		<u>:8:</u>				- - -	-	3-	с	3 3 4 4 5 6	19						50mm diameter monitoring well installed t 3.0m
8/11	7	<u>7 3.50</u>					a - -											Inflow of water at 3.5m
+	-		-			 	-	- 4.00	4	c	4 4 6 6	26						Windowless sample hole completed at 4.0 depth
											68							
VATER	¥ Star ⊻ Wat	ding wa	ater lev es	el PIEZOMETER Deperson Respons Lower so	e zone AND B eal TEST U KEY P J	Bulk c Undis Pistor Distur	listurbed s turbed san sample bed jar sar	ample nple mple	K Permeability test SPT N N = S N*12 inclu	Undist PT N \ 0 = To ding s	urbed samp value (blows otal blows/po eating	le blow o after sea enetràtio	count ating) on		D	D	Brightwell Ba Bightwell, Su	Environmental Ltd arns, Ipswich Road, uffolk, IP10 0BJ 01603 298 076
				DEPTH All depths, level and t			onmental s r Sample	oil sample	<425 Samp	ole % p	bassing 425 r	nicron si	eve			DF	Fax: 01603	298 075

CLIENT	: c/o Sa	avill	s		PROJECT: Land t	o the	e North N Window	West of	f Hav	<u>erhill</u>					GRC	UND	LEVEL	_						HOLE No. WSD	
OGGED E		1		CHECKED BY: DATE:	EXCAVATION METHOD):	Uncased		•	I					COO	RDINA	ATES I	ΕN						SHEET 1 OF 1	
EMPLAT			S BH BE			_	Uncased	110 2.0	,						DAT	ES 18/	11/20	014 -	18/	11/2	014			PROJECT NO. 995,SI	
te/Time	Depth	Dep					Strata	3	Gr		Representat	tion	Sai	T T	g/In-Sit	u Testing	-			aborat		esting	1	Additional Tests and Notes	
and Depth	of Casing	o Wa	ter	Descriptio	n of Strata	Leg	Reduced Level	Depth	0		'N' Value	0	Depths	Type	No.	Blows	SPT N	<425 %	WC %	PL %	LL %	ρ Mg/m	₃ Cu ³ kN/m	2	
-	-			TOPSOIL (Brown slightly san	dy clay with occasional fine			0.00	1	l			0 -											Groundwater not encountered during	drilli
				to medium gravel of flint)									0.20	$\left \right $	1									No collapse of sidewalls during drilling Metals, PAH, TPH, Moisture content, p	
				Firm becoming stiff yellow b	rown CLAY with occasional			0.30				· · · · · · · · · · · · · · · · · · ·												Sulphate	
				fine to coarse gravel of flint (LOWESTOFT FORMATION)	and chalk		-			 		· (0.40	- 1	2										
																								Infiltration test undertaken at 0.55m d	epth
				0.70 - 2.00 - Becoming pale mottled.	rey/orange brown		-]											
											• • • • • • • • • • • • • • • • • • • •			1											
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Ī								2.00	ļ		·····		2	$\left \right $										Windowless sample hole completed at depth	2.00
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														1											
WATER	¥ Stan ⊻ Wat	ding er str	water le ikes	Resp	onse zone AND B er seal TEST U KEY P J	Bulk Undi: Pisto Distu	disturbed s sturbed sar n sample rbed jar sar	ample nple mple	C Cor K Per	ne pene	penetration t etration test ity test	SP'	(35) FNN= N*1 inclu	Undis SPT N 20 = T uding	sturbed value (otal ble seating	l sample blows af ows/pen	blow co ter sea etràtio	ount ting) n		D	DE	Bright Bightv Felept	well Ba /ell, Su 10ne:	Environmental Ltd arns, Ipswich Road, uffolk, IP10 0BJ 01603 298 076	SHEET
				DEPTH All depths level a	nd thicknesses in metres W		onmental s r Sample	on sample	е			<4	25 Sam	ipie %	passin	g 425 mi	cron sie	eve		2	J F	=ax: (01603	298 075	

CLIENT	: c/o S	Savi	lls			PROJECT: Land to						GRC	DUND	LEVEL							HOLE No. WSE
LOGGED					CHECKED BY:	EXCAVATION METHOD:		Window		•		coc	RDINA	ATES E	<u>N</u>						SHEET 1 OF 1
FIELDWO FEMPLAT			GS BH BI	ΞTA	DATE:			Uncased	1 to 4.0	m		DAT	ES 18/	11/20)14 -	18/1	1/2	014			PROJECT NO. 995,SI
ate/Time	Depth				1			Strata		Graphical Representation	Samplir		u Testing					ory Tes	sting		Additional Tests and Notes
and Depth	of Casing		of ater	-	Description of	Strata	Leg	Reduced Level	Depth	SPT 'N' Value	Depths ᄼ	No.	Blows	SPT N	<425 %	wc %	PL %	LL % N	р Лg/m	Cu kN/m ²	2
-	-				TOPSOIL (Dark grey slightly sand fine gravel of flint and brick) Firm yellow brown sandy CLAY				- 0.00 0.40												No collapse of sidewalls during drilling
_	-	¥		8 :	(HEAD DEPOSITS)				_	•	1 - c		11	10							Rising to 0.8m on completion
					Stiff dark brown/pale grey mott Gravel is fine to coarse flint and (HEAD DEPOSITS)	led gravelly CLAY. chalk			1.20				23 23								
18/11 + 20 mins			80		Orange brown fine to medium g fine to medium flint (HEAD DEPOSITS) Stiff dark brown/pale grey mott Gravel is fine flint and chalk (LOWESTOFT FORMATION) 2.25 - becoming dark grey				1.80 - 2.00		2 - c		34 45 55	19							Moderate inflow of water at 1.8m
_	-		<u>:</u> =	<u>1:</u>					_		3 - c		33 44 57	20							50mm diameter monitoring well installed to 2.6m
_	-								- 4.00		4 - C		33 45 59	23							– Windowless sample hole completed at 4.0m depth
*WATER	¥ Sta ⊻ Wa	I anding ater st	g water trikes	+ ·	I PIEZOMETER Upper so Respons Lower so	e zone AND B eal TEST U KEY P J	Bulk o Undis Pistor Distur	disturbed sa sturbed san n sample rbed jar sar	ample nple nple	·	(35) Und PT N N = SPT I N*120 = including	isturbeo N value Total bl g seating	d sample (blows af ows/pen g	blow co ter seat etràtior	ount ting) า		5	D Bi	rightv ightw	vell Ba vell, Su	L Environmental Ltd arns, Ipswich Road, Iffolk, IP10 0BJ 01603 298 076
					DEPTH All depths, level and t			onmental s r Sample	oil sample	<	425 Sample 9	% passin	g 425 mi	cron sie	eve			- Fa	ax: C	1603	298 075

CLIENT	: c/o S	avi	lls			PROJECT: Land to	o the	North V	Vest of	Haverhi					GRC	DUND	LEVEI	L						HOLE No. WSF
		-			CHECKED BY: DATE:	EXCAVATION METHOD:	•	Window Uncased		-					сос	DRDIN/	ATES	ΕN						SHEET 1 OF 1
FIELDWOF TEMPLATE			GS BH	зета				Uncased	10 2.0						DAT	ES 18/	/11/20	014 -	18/	11/2	014			PROJECT NO. 995,SI
ate/Time	Depth							Strata		Graphic	al Repre	sentation	Sa		ıg/In-Sit	tu Testing					tory Te			Additional Tests and Notes
and Depth	of Casing		of /ater	Piez.	Description of	Strata	Leg	Reduced Level	Depth		PT 'N' Va		Depths	Type	No.	Blows	SPT N	<425 %	wc %	PL %	LL %	Malm	³ Cu kN/m ²	
-				-+	TOPSOIL (Dark grey slightly sand				0.00	0 10	20 3	0 40	- 0	÷			IN .	70	70	/0	70	116/111	KIN/III	-
					fine gravel of flint and brick)	iy ciay with occasional			0.00		•••••••	• • • • • • • • • • • • • • • • • • • •	•	$\left \right $										No collapse of sidewalls during drilling
				-	Firm becoming soft orange brow	vn sandy CLAY with	-	•	0.25				0.20] ı	1									Metals, PAH, TPH, Moisture content, pH ar
					occasional fine to medium grave (HEAD DEPOSITS)	l of flint		•						-										Sulphate
							<u> </u>	•					+0.45	1	2									
							÷	•					1]										
							<u> </u>						•	$\left \right $										
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18/11	7		20				- <u>-</u>	•		····	•••	• • • • • • • • • • • • • • • • • • • •		+										
10/11		<u> </u>					<u> </u>	•					1	1										Inflow of water at 1.3m
							<u> </u>	•					-											
				F	Stiff dark brown/pale grey mott CLAY. Gravel is fine to medium f	led slightly gravelly	• •	•	1.60		••••••••	• • • • • • • • • • • • •	•											
					CLAY. Gravel is fine to medium f (LOWESTOFT FORMATION)	lint and chalk		c					1	1										
					(,									-										
+	-			F					2.00				- 2	-										Window sample hole completed at 2.00m
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WATER	¥ Star ⊻ Wa	ndin ter s	g wate trikes	r leve	PIEZOMETER Upper se Respons Lower se	e zone AND B ral TEST U KEY P J	Bulk o Undis Pistor Distu	disturbed s disturbed sa sturbed sam n sample rbed jar san	ample nple nple	S Standard C Cone pe K Permeal	netratio	n test	(35 SPT N N = N*: inc) Und SPT N L20 = uding	isturbeo N value (Total bl g seating	d sample (blows af lows/pen g	blow c fter sea ietràtio	ount ting) n		D	D	Bright Bightw	vell Ba vell, Su	Environmental Ltd arns, Ipswich Road, ffolk, IP10 0BJ 01603 298 076 298 075
					DEPTH All depths, level and t	ES	Envir	onmental se	oil sample				<425 Sar	nple 🤊	6 passin	ig 425 mi	cron si	eve			Ð	ax: 0	1603 2	298 075

CLIENT:	: c/o Sa	avills			PROJECT: Land to	o the	North V	Vest of	Haverh	ill				GRO	DUND	LEVE	L						HOLE No. WSG
OGGED B				CHECKED BY: DATE:	EXCAVATION METHOD	:	Window Uncased		•					coc	DRDIN	ATES	ΕN						SHEET 1 OF 1
IELDWOF			ЗН ВЕТ/				Uncased	10 2.0	m					DAT	TES 19/	/11/2	014 -	19/	11/2	014			PROJECT NO. 995,SI
	Depth	Depth					Strata		Graphi	cal Repr	esentation	9			tu Testin	g		Li	aborat	ory Te	sting		Additional Tests and Notes
and Depth	of Casing	of Wate	Piez.	Description of	Strata	Leg	Reduced Level	Depth		SPT 'N' V		Depth	s Ivpe	No.	Blows	SPT N	<425 %	wc %	PL %	LL %	ρ Mø/m	Cu kN/m ²	
	-		++	TOPSOIL (Dark brown slightly gr	avelly slightly sandy		-	0.00	0 10		30 40	() -					,,,					Groundwater not encountered during dril
				clay with occasional rootlets. Gr subrounded fine to medium flin	avel of angular to					•••		••	1										Metals, PAH, TPH, Moisture content, pH ar
				subrounded fine to medium film	()								1										Sulphate No collapse of sidewalls during drilling
				Dark orange brown fine to medi		• •	-	0.40					-										
				(HEAD DEPOSITS)		•••	•				++		1										
						••••	•	0.70					1										
				Firm dark orange brown very sa CLAY. Gravel of angular to subro	ndy slightly gravelly ounded fine to medium	<u>·</u> •-	•	0.70	···· ···				-										Shear vane test = 70kN/m ² Infiltration test undertaken at 0.73m depth
				flint (HEAD DEPOSITS)		<u> </u>	Ċ		+	•••	• • • • • • • • • • • • • • • • • • • •	••											
Ť	-			1.00 - Becoming gravelly with de	epth. Gravel is coarse	<u>•</u> •_	•	-					1										Shear vane test = 50kN/m ²
				flint 1.10 - 1.70 - Becoming black spe	ckled	÷	Ċ				· · · · · · · · · · · · · · · · · · ·		-										
						· <u> </u>	•			•••	• • • • • • • • • • • •	••	-										
						<u> </u>	÷					•••	1										
						- <u>-</u> -	•]										
				Orange brown clayey gravelly SA	AND Gravel of angular	- <u>·</u> -		1.70	···· ···				-										
				to rounded fine to coarse chalk	and flint	÷. • .				•••		••	1										
1	-			(HEAD DEPOSITS) — — — — — — — — — — —		<u>.</u>	•	2.00					2										_
								2.00			• • • • • • • • • • • • • • • • • • • •		-										Windowless sample hole completed at 2.0 depth
										•••	• • • • • • • • • • • • • • • • • • • •	••	1										
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WATER	¥ Stan ⊻ Wat	ding wa er strik	ater lev es	vel PIEZOMETER Upper se Respons Lower se	e zone AND B eal TEST U KEY P	Bulk Undis Pistor	l disturbed s disturbed s sturbed san n sample rbed jar sar	ample pple	S Standar C Cone po K Permea	enetratio	n test	(3 SPT N N N	5) Und = SPT *120 =	listurbe N value	d sample (blows a lows/per	e blow c fter sea	ount ting)		D	DB	sright. Sightw	vell Ba vell, Su	Invironmental Ltd Invironmental
				DEPTH All depths, level and t	ES	Envir	onmental s	oil sample				<425 Sa				icron sie	eve	1	01		elepi		298 075

CLIENT	: c/o S	avill	s	- I	PROJECT: Land to	o the	North \	Nest of	of Ha	averhill				G	ROUN	D LEVE	L						HOLE No. WSH	
				CHECKED BY:	EXCAVATION METHOD		Window		•						ORDI	<u>NATE</u> S	<u>E</u> N						SHEET 1 OF 1	
FIELDWOI TEMPLATI			S BH BF	DATE:			Uncased	to 2.0	0 m					D	ATES 1	9/11/2	2014 -	- 19/	11/2	014			PROJECT NO. 995,SI	
ate/Time	Depth	Dep					Strata			Graphical	Representat	tion	Sam		-Situ Test					ory Te	esting		Additional Tests and Notes	
and Depth	of Casing	0 Wa	fl∺≝	Description o	f Strata	Leg	Reduced Level	Depth	n		'N' Value	.0 D		No No	o. Blow	's SPT N	<425 %	wc %	PL %	LL %	ρ Mg/m³	Cu kN/m²		
1	-			TOPSOIL (Dark brown slightly g angular to subrounded fine to	ravelly clay. Gravel of nedium flint)			0.00					0 -										Groundwater not encountered	l during drillir
				Firm orange brown slightly grav occasional sandy pockets. Grav subrounded fine to medium flin (HEAD DEPOSITS) 0.40 - Becoming orange brown,		 	C	0.30)		· · · · · · · · · · · · · · · · · · ·	0.2	1	J 1 J 2									Borehole collapsed to 1.7m on Infiltration test undertaken at (•
				depth 0.90 - Becoming slightly sandy v	with domain		C						-										Shear vane test = 61kN/m ²	
-	-			0.50 - Becoming signify sandy t	vin depui			_			·····		1 -										Shear vane test = 40kN/m ²	
				1.70 - 2.00 - With a sandy clay p				4.00	 		 												Shear vane test = 36kN/m ²	
+	-			Soft yellow brown/grey mottle Gravel of angular to rounded fi chalk	d sandy gravelly CLAY. ne to coarse flint and		•	1.80	· · ·		·····		2 -										Shear vane test = 23kN/m ² Windowless sample hole completed at 2.0m depth	
				\(LOWESTOFT FORMATION)	′				· · ·		· · · · · · · · · · · · · · · · · · ·	· · · · · · · ·	-											leted at 2.0n
											· · · · · · · · · · · · · · · · · · ·	· · · · · · · · ·												
-	-							-		· · · · · · · · · · · · · · ·	· · · · · · · · · · · · · · · · · · ·	•••••	3 -										-	
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WATER	¥ Star ⊻ Wat	iding v ær str	water le ikes	evel PIEZOMETER Upper s Respon	se zone AND B eal TEST U KEY P J	Bulk Undi: Pisto Distu	l disturbed s disturbed s sturbed san n sample rbed jar sar	ample nple nple	C C K F		enetration t tration test ty test	SPT N	(35) U N = SP N*120 includ	ndistur TNval) = Tota ing sea	bed samp ue (blows I blows/p ting	ole blow after se enetràti	count ating) on		D	DB	Brightv Bightw	vell Bai ell, Suf	nvironmental Ltd rns, Ipswich Road, ffolk, IP10 0BJ 1603 298 076	SHEET 1 OF 1 HOLE No.
				DEPTH All depths, level and			onmental s er Sample	oil sample	le			<425	Sampl	e % pas	sing 425	micron s	ieve		2	J) F	ax: 0	1603 2	298 075	·

CLIENT	: c/o S	avills	6		PROJECT: Land to						GRO	UND	EVEL						HOLE No. WSI
LOGGED E FIELDWOI		-		CHECKED BY: DATE:	EXCAVATION METHOD		Window Uncased		•		cool	RDINA	TES E	ΕN					SHEET 1 OF 1
TEMPLATI			BH BE				Uncased	10 2.0	/ m		DATE	ES 19/	11/20)14 -	19/1	1/20	014		PROJECT NO. 995,SI
ate/Time	Depth	Dept			•		Strata		Graphical Representation		ng/In-Situ	u Testing			Lat	borato	ory Te	sting	Additional Tests and Notes
and Depth	of Casing	01 Wat	er	Description of	of Strata	Leg	Reduced Level	Depth	SPT 'N' Value	Depths ∠	No.	Blows	SPT N	<425 %	WC %	PL %	LL %	ρ Cu Vlg/m³ kN/n	n²
-	-			TOPSOIL (Dark brown slightly g angular to subrounded fine to Firm brown slightly sandy sligh of angular to subrounded fine (HEAD DEPOSITS) Firm becoming stiff brown/gre Gravel of angular to subround and subrounded to rounded c (LOWESTOFT FORMATION)	medium flint) tly gravelly CLAY. Gravel to medium flint		c	0.00 0.25 0.90		0 - 0.10 J 0.30 J 1 - C	1 2	2 2 2 2 2 3	9						Groundwater not encountered during drillin Metals, PAH, TPH, Moisture content, pH and Sulphate No collapse of sidewalls during drilling Shear vane test = 62kN/m ² Shear vane test = 78kN/m ²
-	-							-											Shear vane test = 76kN/m ² Widow sample hole completed at 2.0m dept
	▼ Star ⊽ Wat			vel PIEZOMETER Upper Respor Lower	se zone AND B seal TEST U KEY P J ES	Bulk o Undis Pistor Distur Envir	disturbed sa sturbed san n sample rbed jar sar onmental s	ample nple nple		(35) Unc PT N N = SPT N*120 =	listurbed N value (k Total blo g seating	sample blows af ows/pen	blow co ter seat etràtior	ount ting) า		C N	B	rightwell B ightwell, S	Environmental Ltd Barns, Ipswich Road, uffolk, IP10 0BJ 01603 298 076 2 298 075



$\mathbf{O}\mathbf{D}$	Fax: 01603 2	98 075		TRIAL PI	T LOG				
Project				Client					TRIAL PIT No
	nd to the N	orth West of Haverhi		c/o Sa					
Job No 99	95,SI	Date 28-10-14 28-10-14	Ground	d Level (m)	Co-Ordinate	s ()			
Fieldwork	кВу	1		Logged By					Sheet
GE	L			SG					1 of 1
Depth			ESCRIPTI			Legend	Depth	No	Remarks/Tests
0.00-0.35	TOPSOIL (D - with occasi -	oark brown slightly grave onal fine to medium bric	lly clay. (k fragmo	Gravel is fine t ents)	o medium flint	-	^		Groundwater not encountered during excavation No collapse of sidewalls
0.35-1.50 - - - - - - - - - - - - -	flint and ch (LOWESTO - - - 0.80 - 1.50 -	ellow brown slightly grav alk FT FORMATION) - Becoming gravelly - Becoming dark grey wi							during excavation Trial pit completed at 1.5m depth
	1.5				Sta	ability: S	ipport: STABLE	NON	
All dimens Scale 1:20.8	sions in metro 8333333333333	es Method Trial Pit/tre	ench	Plant	UsedMECHAN EXCAVA1				Checked By AD



TRIAL PIT LOG Client TRIAL PIT No Project Land to the North West of Haverhill c/o Savills TP2 Job No Date Ground Level (m) Co-Ordinates () 28-10-14 995,SI 28-10-14 Fieldwork By Logged By Sheet 1 of 1 GEL SG DESCRIPTION Legend Depth Depth No Remarks/Tests 0.00-0.30 TOPSOIL (Dark brown clay with occasional medium gravel of flint Groundwater not encountered during excavation No collapse of sidewalls during excavation Firm becoming stiff dark yellow brown slightly gravelly CLAY. Gravel of fine to coarse flint and chalk with occasional cobble of chalk and flint (LOWESTOFT FORMATION) 0.30-1.40 0 ____0 0 _____ 0.60 - Becoming pale grey/orange brown mottled 0.60-0.80 1B CBR 0 ____ 0 0 1.00 - Becoming very gravelly 0 0 0 Trial pit completed at 1.4m depth AGS TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF,SG.GPJ GINT STD AGS 3_1.GDT 11/12/14 - 1.6 -Shoring/Support: NONE Stability: STABLE 0.25 All dimensions in metres Method Trial Pit/trench Plant UsedMECHANICAL Checked By Scale 1:20.8333333333333333 AD Ë EXCAVATOR



$\mathbf{O}\mathbf{D}$	Fax: 01603 2	298 075		TRIAL P	IT LOG				
Project				Client					TRIAL PIT No
	nd to the N	orth West of Haverh		c/o S					TP3
Job No 99	95 <i>,</i> SI	Date 28-10-14 28-10-14	Ground	d Level (m)	Co-Ordinate	es ()			115
Fieldwork	кВу	I		Logged By					Sheet
GE	L			SG					1 of 1
Depth		C	DESCRIPTI	ION		Legend	Depth	No	Remarks/Tests
0.00-0.25	TOPSOIL (E	Dark brown clay with occ	casional m	nedium grave	l of flint)	-			Groundwater not encountered during excavation
	- - - 0.65 - Becc -	ning stiff dark yellow bro int and chalk and occasio FT FORMATION) oming gravelly oming pale grey/orange l			nt fine to coarse				No collapse of sidewalls during excavation
	1.5				Sh St	noring/Su ability: S	ipport: STABLE	NON	IE
All dimens	sions in metr 833333333333	es Method Trial Pit/tr 333	ench	Plan	t UsedMECHAN EXCAVA				Checked By AD



Client TRIAL PIT No Project Land to the North West of Haverhill c/o Savills TP4 Job No Ground Level (m) Co-Ordinates () Date 28-10-14 28-10-14 995,SI Fieldwork By Logged By Sheet 1 of 1 GEL SG Legend Depth DESCRIPTION Depth No Remarks/Tests TOPSOIL (Dark grey brown clay with frequent fine to medium gravel of chalk, flint and occasional coarse gravel of brick fragments) 0.00-0.25 Groundwater not encountered during excavation No collapse of sidewalls Firm becoming stiff dark yellow brown slightly gravelly CLAY. Gravel is fine to coarse chalk and flint (LOWESTOFT FORMATION) 0 0.25-1.50 during excavation ____ 0 0 0.55 - Becoming gravelly 0.60-0.70 1B Moisture content, CBR 0 ____ 0 0.90 - Becoming pale grey with occasional cobbles of chalk, flint and ____ -ironstone 0 ō 0 0 0 Trial pit completed at 1.5m depth TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF, SG.GPJ GINT STD AGS 3_1.GDT 11/12/14 - 1.5 -Shoring/Support: NONE Stability: STABLE 0.25 AGS1 All dimensions in metres Method Trial Pit/trench Plant UsedMECHANICAL Checked By Scale 1:20.8333333333333333 AD Ë EXCAVATOR



Client TRIAL PIT No Project Land to the North West of Haverhill c/o Savills TP5 Job No Date Ground Level (m) Co-Ordinates () 28-10-14 28-10-14 995,SI Logged By Fieldwork By Sheet 1 of 1 GEL SG Legend Depth DESCRIPTION Depth No Remarks/Tests TOPSOIL (Dark grey brown clay with frequent fine to medium gravel of flint, chalk and occasional coarse gravel of brick fragments) 0.00-0.30 Groundwater not encountered during excavation No collapse of sidewalls during excavation Firm becoming stiff dark yellow brown CLAY with occasional fine to medium gravel of flint and chalk (LOWESTOFT FORMATION) 0.30-1.50 0.60 - Becoming gravelly 0.90 - Becoming pale grey with occasional cobbles of flint and chalk Trial pil completed at 1.5m depth AGS TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF,SG.GPJ GINT STD AGS 3_1.GDT 11/12/14 - 1.4 -Shoring/Support: NONE Stability: STABLE 0.25 All dimensions in metres Method Trial Pit/trench Plant Used MECHANICAL Checked By Scale 1:20.8333333333333333 AD Ë EXCAVATOR



TRIAL PIT LOG Client TRIAL PIT No Project Land to the North West of Haverhill c/o Savills TP6 Job No Date Ground Level (m) Co-Ordinates () 29-10-14 995,SI 29-10-14 Logged By Fieldwork By Sheet 1 of 1 GEL SG DESCRIPTION Legend Depth Depth No Remarks/Tests TOPSOIL (Dark grey brown clay with frequent fine to medium gravel of flint, chalk and occasional coarse gravel of brick fragments) 0.00-0.30 No collapse of sidewalls during excavation Firm becoming stiff dark yellow brown very gravelly CLAY. Gravel is fine to coarse flint, chalk and occasionalvcobble of chalk (LOWESTOFT FORMATION) 0.30-1.50 0 ____0 0 _____ 0 0.70-1.00 1B ____ 0 0 1.05 - Becoming pale grey 0 0 _____ Very slow inflow of water at 1.5 m Rising to 1.45m after 20 minutes Trial pit completed at 1.5m depth AGS TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF,SG.GPJ GINT STD AGS 3_1.GDT 11/12/14 - 1.3 -Shoring/Support: NONE Stability: STABLE 0.25 All dimensions in metres Method Trial Pit/trench Plant UsedMECHANICAL Checked By Scale 1:20.8333333333333333 AD Щ EXCAVATOR



Client TRIAL PIT No Project c/o Savills Land to the North West of Haverhill TP7 Job No Date Ground Level (m) Co-Ordinates () 30-10-14 995,SI 30-10-14 Fieldwork By Sheet Logged By GEL SG 1 of 1 Legend Depth DESCRIPTION Depth No Remarks/Tests TOPSOIL (Dark grey brown clay with frequent fine to medium gravel of flint, chalk and occasionalcoarse gravel of brick fragments 0.00-0.30 No collapse of sidewalls during excavation Firm dark yellow brown very gravelly CLAY. Gravel is fine to coarse flint, chalk and occasional cobble of flint (HEAD DEPOSITS) 0.30-1.20 0 Moisture content, CBR 0.80 - Becoming pale grey Soft orange brown very gravelly sandy CLAY. Gravel is fine to coarse chalk and flint (HEAD DEPOSITS) 1.20-1.80 Slight seepage inflow of water at 1.8 m Trial pit completed at 1.9m depth Stiff dark grey CLAY with frequent fine to coarse gravel of chalk and flint (LOWESTOFT FORMATION) 1.80-1.90 TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF, SG.GPJ GINT STD AGS 3_1.GDT 11/12/14 - 1.57 --Shoring/Support: NONE Stability: STABLE 0.25 AGS1 All dimensions in metres Method Trial Pit/trench Plant UsedMECHANICAL Checked By Scale 1:20.8333333333333333 AD Ë EXCAVATOR



Client TRIAL PIT No Project Land to the North West of Haverhill c/o Savills **TP8** Job No Ground Level (m) Co-Ordinates () Date 30-10-14 995,SI 30-10-14 Fieldwork By Logged By Sheet 1 of 1 GEL SG DESCRIPTION Legend Depth Depth No Remarks/Tests TOPSOIL (Dark grey brown clay with frequent fine to medium gravel of flint, chalk and occasional gravel of brick fragments) 0.00-0.30 Groundwater not encountered during excavation No collapse of sidewalls during excavation Firm becoming stiff dark yellow brown gravelly CLAY. Gravel is fine to coarse flint and chalk (LOWESTOFT FORMATION) 0.30-1.05 0 _____ 0 0 0.60 - Becoming dark yellow brown/pale grey mottled with occasional cobble of chalk 0 0 0.80 - Becoming pale grey 0 _0_ Trial pit completed at 1.05m depth AGS TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF,SG.GPJ GINT STD AGS 3_1.GDT 11/12/14 - 1.6 -Shoring/Support: NONE Stability: STABLE 0.25 All dimensions in metres Method Trial Pit/trench Plant UsedMECHANICAL Checked By Scale 1:20.8333333333333333 AD Ë EXCAVATOR



Client TRIAL PIT No Project Land to the North West of Haverhill c/o Savills TP9 Job No Ground Level (m) Co-Ordinates () Date 30-10-14 995,SI 30-10-14 Fieldwork By Logged By Sheet 1 of 1 GEL SG DESCRIPTION Legend Depth Depth No Remarks/Tests TOPSOIL (Dark grey brown clay with frequent fine to medium gravel of flint, chalk and occasional coarse gravel of brick fragments) 0.00-0.30 Groundwater not encountered during excavation No collapse of sidewalls during excavation Firm dark brown CLAY with occasional fine to coarse gravel of flint (HEAD DEPOSITS) 0.30-0.70 0.70-1.50 Firm becoming stiff dark yellow brown gravelly CLAY. Gravel of fine to coarse flint and chalk (LOWESTOFT FORMATION) Trial pit completed at 1.5m depth AGS TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF,SG.GPJ GINT STD AGS 3_1.GDT 11/12/14 - 1.7 -Shoring/Support: NONE Stability: STABLE 0.25 All dimensions in metres Method Trial Pit/trench Plant UsedMECHANICAL Checked By Scale 1:20.8333333333333333 AD Ë EXCAVATOR



Project			Clien						TRIAL PIT No
-	nd to the No	orth West of Haver		c/o Savi					TP10
Job No		Date 30-10-14	Ground Level	(m)	Co-Ordinates	s ()			
	5,SI	30-10-14							
Fieldwork	-			ed By					Sheet
GEI	_			SG		<u> </u>			1 of 1
Depth			DESCRIPTION			Legend	Depth	No	
0.00-0.30	TOPSOIL (D - flint, chalk	Dark grey brown clay w and occasional coarse	ith frequent fine t gravel of brick)	o mediur	n gravel of	-			Groundwater not encountered during
-	-		-			-			excavation No collapse of sidewalls
0.30-0.70	Firm dark h	prown CLAY with occas	ional fine to coars	o gravel i	of flint				during excavation
0.50 0.70	- (HEAD DEP	OSITS)		e gruver					
-	-					<u>[]</u>			
-	_								
0.70-1.40	Firm becon	ning stiff dark yellow b	rown gravelly CLA	Y. Gravel	is fine to				
-	 coarse flint (LOWESTO) 	: and chalk FT FORMATION)							
-		ming pale grey/dark ye	allow brown mottl	ad					
-	_0.95 - Beco			eu	-				
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-	-					-			Trial pit completed at 1.4m depth
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		0.25			Sho	oring/Su	upport:	NON	IE
		¥			Sta	ability: 9	DIABLE		
	ione in mater	es Method Trial Pit/1	trench	Plant !!	sedMECHAN				Checked By
Scale 1:20.8	ions in metre 33333333333333				EXCAVAT				AD



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Project				Client						TRIAL PIT No
	nd to the No	orth West of Haverl			Savil					TP11
Job No		Date 30-10-14	Groun	d Level (m)		Co-Ordinates	5 ()			
	5,SI	30-10-14		Loggod	Dv/					Sheet
Fieldwork	-			Logged						
GEI	L			SG			1 1			1 of 1
Depth	TODCOUL (D		DESCRIPT		!!		Legend	Depth	No	Remarks/Tests Groundwater not
0.00-0.30	- flint, chalk	Dark grey brown clay wi and occasional coarse g	gravel of b	nt fine to m prick fragm	nediun ents)	i gravel of				encountered during
F	-					-				excavation No collapse of sidewalls
0.30-1.30	Firm becom	ning stiff dark vellow br	rown CLA	Y with freat	uent fi	ne to coarse				during excavation
	- gravel of fli	ning stiff dark yellow br int and chalk FT FORMATION)								
-		FT FORMATION)				-				
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-	-					-	-			Trial pit completed at 1.3m depth
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21/11										
AGS										
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		₹						_		
S E		0.25				Sho Sta	oring/Su bility: S	UPPORT:	NON	IE
IP BETA 995,SI- NW HAVERHILL, 31-10-14, LF,SG.GPU GINT SID AGS 3_1.GDT 11/12/ ▲		▼_				510	Sincy. S			
Ω ΔII dimens	ions in metry	es Method Trial Pit/t	rench		ant I l	edMECHAN				Checked By
Scale 1:20.8	ions in metre 33333333333333					EXCAVAT				AD



Client TRIAL PIT No Project Land to the North West of Haverhill c/o Savills **TP12** Job No Ground Level (m) Co-Ordinates () Date 30-10-14 995,SI 30-10-14 Fieldwork By Logged By Sheet 1 of 1 GEL SG Depth DESCRIPTION Legend Depth No Remarks/Tests TOPSOIL (Dark grey brown clay with frequent fine to medium gravel of flint, chalk and occasional coarse gravel of brick fragments) 0.00-0.35 Groundwater not encountered during excavation No collapse of sidewalls during excavation 0.35-1.40 - Firm becoming stiff dark yellow brown gravelly CLAY. Gravel is fine to coarse flint and chalk (LOWESTOFT FORMATION) 0 0 0 0 0.80 - Becoming dark yellow brown/pale grey mottled 0 0 0 0 Trial pit completed at 1.4m depth AGS TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF,SG.GPJ GINT STD AGS 3_1.GDT 11/12/14 - 1.4 -Shoring/Support: NONE Stability: STABLE 0.25 All dimensions in metres Method Trial Pit/trench Plant UsedMECHANICAL Checked By Scale 1:20.8333333333333333 AD Ë EXCAVATOR



01	Fax: 01603 2	298 075		TRIAL PIT	LOG				
Project				Client					TRIAL PIT No
	nd to the N	orth West of Haverhi		c/o Sa					TP13
Job No		Date 30-10-14	Groun	d Level (m)	Co-Ordinates	s ()			1115
Fieldworl	95,SI	30-10-14		Logged By					Sheet
GE	-			SG					1 of 1
	- -		ESCRIPT			Legend	Dauth		
Depth 0.00-0.25	TOPSOIL (D	Dark grey brown clay with and occasional coarse gr		-	um gravel of	Legenu	Depth	No	Groundwater not
-	- flint, chalk	and occasional coarse gr	avel of b	prick fragments)	-			encountered during excavation
0.25-1.40	Firm becon	ning stiff dark yellow bro	wn CLA	r with frequent	fine to coarse	<u> </u>			No collapse of sidewalls during excavation
-	gravel of cl	nalk and flint FT FORMATION)							
-	-								
-	-								
							0.70-0.80	1B	Moisture content, CBR
-	L	oming dark grey/dark yel							
-	0.90 - With	occasional cobble of flir	it and cr	IdIK	-				
-	-								
-									
-	-					-			Trial pit completed at 1.4m depth
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	2.0	-, 							
		0.25			Sh	oring/S	upport: I	NON	١E
		¥			Sta	ability:	STABLE	2.	
				I					
All dimen Scale 1:20.	sions in metre 8333333333333	es Method Trial Pit/tre	ench	Plant	UsedMECHAN EXCAVAT				Checked By AD
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Client TRIAL PIT No Project Land to the North West of Haverhill c/o Savills **TP14** Job No Date Ground Level (m) Co-Ordinates () 31-10-14 995,SI 31-10-14 Logged By Fieldwork By Sheet LF 1 of 1 GEL Legend Depth DESCRIPTION Depth No Remarks/Tests TOPSOIL (Dark brown slightly gravelly clay with occasional rootlets. Gravel of angular to subrounded fine to coarse flint and occasional fine brick and charcoal fragments) 0.00-0.30 Groundwater not encountered during excavation No collapse of sidewalls during excavation Firm becoming stiff orange brown gravelly CLAY. Gravel of subrounded to rounded fine to coarse chalk and angular to subrounded fine to 0.30-1.40 0 ____0 coarse flint (LOWESTOFT FORMATION) 0 0 0 0 1.00 - Becoming pale brown 0 0 0 Trial pit completed at 1.4m depth AGS TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF,SG.GPJ GINT STD AGS 3_1.GDT 11/12/14 - 1.8 -Shoring/Support: NONE Stability: STABLE 0.25 All dimensions in metres Method Trial Pit/trench Plant UsedMECHANICAL Checked By Scale 1:20.8333333333333333 AD Ë EXCAVATOR



TRIAL PIT LOG Client TRIAL PIT No Project Land to the North West of Haverhill c/o Savills **TP15** Job No Ground Level (m) Co-Ordinates () Date 31-10-14 995,SI 31-10-14 Fieldwork By Logged By Sheet LF 1 of 1 GEL Legend Depth DESCRIPTION Depth No Remarks/Tests TOPSOIL (Dark brown slightly gravelly clay with occasional rootlets. Gravel of angular to subrounded fine to coarse flint and occasional fine brick and charcoal fragments 0.00-0.25 Groundwater not encountered during excavation No collapse of sidewalls Firm becoming stiff brown gravelly CLAY. Gravel of subrounded to rounded fine to coarse chalk and angular to subrounded fine to coarse 0 0.25-1.10 during excavation 0 flint (LOWESTOFT FORMATION) 0 0.50 - With occasional cobbles of chalk 0.70 - Becoming brown/grey mottled 0 Trial pit completed at 1.1m depth AGS TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF,SG.GPJ GINT STD AGS 3_1.GDT 11/12/14 - 1.8 -Shoring/Support: NONE Stability: STABLE 0.25 All dimensions in metres Method Trial Pit/trench Plant UsedMECHANICAL Checked By Scale 1:20.8333333333333333 AD Ë EXCAVATOR



Client TRIAL PIT No Project Land to the North West of Haverhill c/o Savills **TP16** Job No Ground Level (m) Co-Ordinates () Date 31-10-14 995,SI 31-10-14 Fieldwork By Logged By Sheet LF 1 of 1 GEL Legend Depth DESCRIPTION Depth No Remarks/Tests TOPSOIL (Dark brown slightly gravelly clay with occasional rootlets. Gravel of angular to subrounded fine to coarse flint and occasional fine 0.00-0.30 Groundwater not encountered during brick and charcoal fragments excavation No collapse of sidewalls during excavation Firm becoming stiff orange brown gravelly CLAY. Gravel of subrounded to rounded fine to coarse chalk and angular to subrounded fine to 0.30-1.40 0 ō coarse flint (LOWESTOFT FORMATION) 0 0 0.70 - With a cobble of metamorphic material 0 0.90 - Becoming brown/grey mottled 0 1.00 - With occasional iron oxide staining 0 0 0 Trial pit completed at 1.4m depth TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF, SG.GPJ GINT STD AGS 3_1.GDT 11/12/14 - 1.4 -Shoring/Support: NONE Stability: STABLE 0.25 AGS All dimensions in metres Method Trial Pit/trench Plant UsedMECHANICAL Checked By Scale 1:20.8333333333333333 AD Ë EXCAVATOR



TRIAL PIT LOG Client TRIAL PIT No Project Land to the North West of Haverhill c/o Savills **TP17** Job No Date Ground Level (m) Co-Ordinates () 31-10-14 995,SI 31-10-14 Logged By Fieldwork By Sheet LF 1 of 1 GEL DESCRIPTION Legend Depth Depth No Remarks/Tests TOPSOIL (Dark brown slightly gravelly clay with occasional rootlets. Gravel of fine to coarse angular to subrounded flint and occasional fine 0.00-0.30 Groundwater not encountered during charcoal fragments) excavation No collapse of sidewalls during excavation Firm becoming stiff yellow brown gravelly CLAY. Gravel of subrounded to rounded fine to coarse chalk and angular to subrounded fine to coarse 0.30-1.40 0 ____0 flint (LOWESTOFT FORMATION) 0 0 0 0.80 - Becoming yellow brown/grey mottled 0 O 0 0 Trial pit completed at 1.4m depth AGS TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF,SG.GPJ GINT STD AGS 3_1.GDT 11/12/14 - 1.8 -Shoring/Support: NONE Stability: STABLE 0.25 All dimensions in metres Method Trial Pit/trench Plant UsedMECHANICAL Checked By Scale 1:20.8333333333333333 AD Ë EXCAVATOR



OD	Fax: 01603 2	298 075		TRIAL F	PIT LO	DG				
Project				Client						TRIAL PIT No
	nd to the N	orth West of Haverhi		-	Savills					TP18
Job No		Date 31-10-14	Groun	d Level (m)	0	Co-Ordinate	s ()			
	95,SI	31-10-14		Lanado						Chart
Fieldwor GE	-			Logged B	·У					Sheet 1 of 1
	1									
Depth 0.00-0.30			ESCRIPT		nal root	tlats	Legend	Depth	No	Remarks/Tests Groundwater not
0.00 0.00	- Gravel of f charcoal fr	Dark brown slightly gravel ine to coarse angular to s	ubroun	ded flint and	l occasi	onal fine	-			encountered during excavation
-		agments					-			No collapse of sidewalls
0.30-1.50	Firm becor	ning stiff yellow brown gi	ravelly C	CLAY. Gravel	of fine	to coarse				during excavation
-	flint	d to rounded chalk and a	ngular t	o subrounde	ed fine	to coarse				
-	LOWESTO	FT FORMATION)								
-	-									
-	-									
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-										Trial pit completed at 1.5m
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		0.25				Sh	oring/Su	upport:	NON	IE
						Sta	ability: S	STABLE		
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े All dimen	isions in metr .833333333333	es Method Trial Pit/tre	ench	Pla	nt Use					Checked By AD
5 PCOIC 1.20						EXCAVAT				



	$\mathbf{O}\mathbf{D}$	Fax: 01603 2	98 075		TRIAL	PIT I	.OG				
	Project				Client						TRIAL PIT No
		nd to the No	orth West of Haverhi		-	o Savil					TP19
	Job No		Date 31-10-14	Ground	d Level (m)		Co-Ordinates	5 ()			1115
	99 Fieldwork	5,SI	31-10-14		Logged	By					Sheet
	GEI	-			LUBBEU	Бу					1 of 1
	Depth			ESCRIPT				Legend	Depth	No	
	0.00-0.25	TOPSOIL (D	ark brown slightly grave ne to coarse angular to s		-	onal ro	otlets.	Legend	Deptii	NU	Groundwater not
		Gravel of find the characteristic characteristic conditions of the characteristic condition of the characteristic conditions of t	ne to coarse angular to s agments)	subround	ded flint an	id occa	sional fine				encountered during excavation
	0.25-1.50	– Firm becom	ning stiff yellow brown g ne to coarse chalk and ar	ravelly C	CLAY. Grave	l of su	brounded to -				No collapse of sidewalls during excavation
	-	🗄 flint		ngular to	subrounde	ed fine	to coarse				
	-	L (LOWESTOI	FT FORMATION)				-				
	-	-					-				
	[_									
	-	0 90 - Beco	ming grey/brown mottle	h			-				
	-			u			-				
	-	_					-				
	_	_					-				
	-	_					-				
	-										Trial completed at 1.5m
	-	-					-				depth
		_					-				
	-	_					-				
	-	_					_	-			
	-	-					-	-			
	-	-					-				
		_					-				
4											
11/12/											
GDT											
S3 1											
DAG											
NT ST											
5 0											
SG.G											
4											
31-10-											
Ę											
AVERI											
ΪMN	⊨		₽								
- 12'2			₹								
TA 99			0.25				Sho	oring/Su bility: S	ipport:	NON	IE
TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF,SG.GPJ GINT STD AGS 3 1.GDT 11/12/14			<u>+</u>				513	ionity: S			
AGS		ions in metre	es Method Trial Pit/tro	ench	PI	lant Us	edMECHAN	ICAL			Checked By
Ц	Scale 1:20.8	ions in metre 3333333333333	33				EXCAVAT				ÂD



Client TRIAL PIT No Project Land to the North West of Haverhill c/o Savills **TP20** Job No Date Ground Level (m) Co-Ordinates () 18-11-14 995,SI 18-11-14 Logged By Fieldwork By Sheet LF 1 of 1 GEL Legend Depth DESCRIPTION Depth No Remarks/Tests TOPSOIL (Dark grey brown slightly gravelly silty clay. Gravel of fine to coarse angular to sub rounded flint) 0.00-0.30 No collapse of sidewalls during excavation Firm yellow brown grey CLAY. Gravel of angular to subrounded fine to coarse flint and subrounded fine to coarse chalk (LOWESTOFT FORMATION) 0.30-1.45 0.60 - Becoming brown/grey mottled 1.00 - With frequent iron oxide staining Seepage inflow of water at 1.45 m Trial completed at 1.45m depth AGS TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF,SG.GPJ GINT STD AGS 3_1.GDT 11/12/14 - 1.3 -Shoring/Support: NONE Stability: STABLE 0.25 All dimensions in metres Method Trial Pit/trench Plant Used MECHANICAL Checked By Scale 1:20.8333333333333333 AD Ë EXCAVATOR



Project			Clie						TRIAL PIT No
		rth West of Haver		c/o Sav					TP21
Job No		Date 18-11-14	Ground Level	(m)	Co-Ordinates	s ()			11 61
	5,SI	18-11-14							
Fieldwork	-		Log	ged By					Sheet
GEI	_			LF					1 of 1
Depth			DESCRIPTION			Legend	Depth	No	,
0.00-0.30	TOPSOIL (Da - coarse angu	ark grey brown slightly lar to sub rounded fli	<pre>/ gravelly silty cla nt)</pre>	ıy. Gravel	of fine to	-			Groundwater not encountered during
-	-					-			excavation
0.30-1.35	Firm bocomi	ing stiff brown groval	V CLAY Gravel of	fangulari	2	<u> </u>			No collapse of sidewalls during excavation
-	- subrounded	ing stiff brown gravell fine to coarse flint ar	nd subrounded to	rounded	fine to				
-	coarse chalk	: T FORMATION)							
-	-								
-	-					- <u>~ </u>			
-	_								
	-								
-	1.00 - Becon	ning light brown			-				
-	_								
-						-			Trial completed at 1.35m
-	-					-			depth
-	-					-			
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+ -									
	1.2								
		The second secon							
		0.25			Sho Sta	oring/Su ability: S	Upport: STABLE	NON	IE
		¥_			510				
<u>رو ا</u>	ions in metre	s Method Trial Pit/t	rench	Plant L	sedMECHAN				Checked By
Scale 1:20.8	ions in metres	33			EXCAVAT				AD



$\mathbf{O}\mathbf{D}$	Fax: 01603 2	98 075		TRIAL PI	T LOG				
Project				Client					TRIAL PIT No
	nd to the No	orth West of Haverl		c/o Sa					TP22
Job No)5,SI	Date 18-11-14 18-11-14	Groun	d Level (m)	Co-Ordin	ates ()			
Fieldwork		10 11 14		Logged By					Sheet
GE	-			LF					1 of 1
Depth			DESCRIPT	ION		Legend	Depth	No	Remarks/Tests
0.00-0.30	TOPSOIL (D	Oark grey brown slightly ular to sub rounded flir	gravelly s	silty clay. Grav	el of fine to		Doptil		Groundwater not encountered during
-			11)						excavation
0.30-1.45	Firm orang	e brown Clay							No collapse of sidewalls during excavation
0.30-1.43	- (HEAD DEP	OSITS)							
-	-								
-	-								
-	-								
-	-								
-	-								
-	1.30 - Beco	ming sandy							
-	 -								Trial completed at 1.45m depth
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S, CBB						Shoring/Su	innorti		IF
		0.25				Stability: S	TABLE	NUN	NL
						-			
All dimens	sions in metre 8333333333333	es Method Trial Pit/t	rench	Plant					Checked By AD
मुं Scale 1:20.8	0333333333333	000			EXCA	VATOR			



Client TRIAL PIT No Project Land to the North West of Haverhill c/o Savills **TP23** Job No Ground Level (m) Co-Ordinates () Date 18-11-14 995,SI 18-11-14 Logged By Fieldwork By Sheet LF 1 of 1 GEL Depth Legend DESCRIPTION Depth No Remarks/Tests TOPSOIL (Dark brown slightly gravelly clay with rootlets. Gravel of angular to subrounded fine to medium flint) 0.00-0.30 No collapse of sidewalls during excavation Firm orange brown slightly gravelly CLAY. Gravel of angular to subrounded fine to medium flint and chalk (LOWESTOFT FORMATION) 0.30-1.50 0 ____0 0 _0 0 0 0 ____ 1.00 - Becoming slightly sandy with frequent gravel 4 ō Seepage inflow of water at 1.2 m ____ ____ Trial completed at 1.5m depth AGS TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF,SG.GPJ GINT STD AGS 3_1.GDT 11/12/14 - 1.3 -Shoring/Support: NONE Stability: STABLE 0.25 All dimensions in metres Method Trial Pit/trench Plant UsedMECHANICAL Checked By Scale 1:20.8333333333333333 AD Щ EXCAVATOR



Project			Clien		U				TRIAL PIT No
Lar Job No	nd to the No	orth West of Haver	Ground Level	$c/o Savi}$	IIS Co-Ordinates	- ()			TP24
		Date 18-11-14 18-11-14	Ground Level	(11)	Co-Orainates	> ()			
Fieldwork	IS,SI	10-11-14		ged By					Sheet
GE	-			LF					1 of 1
	L							1	
Depth 0.00-0.28			DESCRIPTION	tiete Cue		Legend	Depth	No	Remarks/Tests Groundwater not
0.00-0.28	- angular to s	ark brown slightly gra ubrounded fine to me	edium flint)	liets. Gra	ivel OI	-			encountered during excavation
-	-					-			No collapse of sidewalls
0.28-1.20	Firm becom	ing stiff brown gravel I fine to coarse flint w	ly CLAY. Gravel of	angular t	0				during excavation
-	chalk		with frequent subro	bunded fi	ne to coarse				
-	- (LOWESTOF	T FORMATION)							
-	-								
-									
Ī									
					_				
-	1.00 - Becor	ning grey/brown mot	tled						
-									
-	-					-			Trial completed at 1.2m depth
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-	-					-			
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		0.25			Sho	oring/S	upport:	NON	IE
		¥			518	bility:	STABLE		
	• • •	Mothod Trial Dit /	tranch	Diant					Charlend Dy
Scale 1:20.8	ions in metre 8333333333333	s Method Trial Pit/ 33			sedMECHAN EXCAVAT				Checked By AD



	1 42. 010002				200				- 1
Project				Client					TRIAL PIT No
	nd to the N	orth West of Haver		c/o Sav					TP25
Job No		Date 18-11-14	Ground L	evel (m)	Co-Ordinate	s ()			11 25
	95,SI	18-11-14		Loggod Dv					Sheet
Fieldwork				Logged By					
GE	L 1			SG		1 1			1 of 1
Depth			DESCRIPTIO	N		Legend	Depth	No	Remarks/Tests
0.00-0.30	- gravel of fl	Brown slightly sandy cla lint and flint)	ly with occas	sional fine to i	medium	-			
-	-					-			No collapse of sidewalls
<u>₩</u> 0.30-1.40	Firm becor	ning stiff brown CLAY w	vith occasion	al fine to coa	rse gravel of				No collapse of sidewalls during excavation Perched inflow of water at
1	flint and ch	nalk PFT FORMATION)				+			0.3 m
-		FT FORMATION)				<u> </u>			
-	-								
Ī									
[0.80 - Becc	oming pale grey/orange	brown mot	tled]			
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-	-								
-	-								
-									Trial completed at 1.4m
-	-					-			depth
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		T							
		0.25			Sh	oring/Su	upport:	NON	IE
		¥			Sta	ability: S	STABLE		
All dimens	sions in metr 833333333333	es Method Trial Pit/t	rench	Plant U	JsedMECHAN				Checked By
Scale 1:20.8	8333333333333	333			EXCAVA	FOR			AD



Client TRIAL PIT No Project Land to the North West of Haverhill c/o Savills **TP26** Job No Ground Level (m) Co-Ordinates () Date 18-11-14 995,SI 18-11-14 Logged By Fieldwork By Sheet GEL LF 1 of 1 Depth DESCRIPTION Legend Depth No Remarks/Tests TOPSOIL (Brown slightly sandy clay with occasional fine to medium gravel of flint and flint) 0.00-0.20 Firm becoming stiff orange brown gravelly CLAY. Gravel of angular to rounded fine to coarse flint with frequent chalk (LOWESTOFT FORMATION) No collapse of sidewalls 0.20-1.20 0 during excavation _____ 0 0 0.90 - Becoming grey/brown mottled 0 ∇ 0 Perched inflow of water at 1.2 m Trial completed at 1.2m depth AGS TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF,SG.GPJ GINT STD AGS 3_1.GDT 11/12/14 - 1.3 -**T** 0.25 Shoring/Support: NONE Stability: STABLE All dimensions in metres Method Trial Pit/trench Plant UsedMECHANICAL Checked By Scale 1:20.8333333333333333 AD Ë EXCAVATOR



Project				Client						TRIAL PIT No
	nd to the No	orth West of Haverl	hill		o Savill	ς				
Job No		Data		d Level (m)		Co-Ordinates	5 ()			- TP27
	5,SI	18-11-14 18-11-14		. ,			0			
Fieldwork	-			Logged	By					Sheet
GE	L			LF						1 of 1
Depth			DESCRIPT				Legend	Depth	No	
0.00-0.20	 gravel of fli 	rown slightly sandy cla int and flint)	y with occ	casional fine			-	Deptil		Groundwater not encountered during excavation
	fine to coal (LOWESTO - -	ning stiff yellow brown d fine to coarse flint wi rse gravel and cobbles o FT FORMATION) ming grey/brown mott	of chalk	LAY. Grave	l of ang ded to	ular to rounded				No collapse of sidewalls during excavation Trial completed at 1.45m depth
	1.3					Sta	ibility: S	upport: STABLE	NON	
All dimens	ions in metre 33333333333333	es Method Trial Pit/t	rench	PI	lant Use	dMECHAN EXCAVAT			_	Checked By AD
						LUCANAI	011			



01	Fax: 01603 2	98 075		TRIAL PI	r log				
Project				Client					TRIAL PIT No
	nd to the N	orth West of Haverhi		c/o Sa					TP28
Job No 99	95,SI	Date 19-11-14 19-11-14	Ground	d Level (m)	Co-Ordinates	s ()			
Fieldwork				Logged By					Sheet
GE	L			SG					1 of 1
Depth		D	ESCRIPTI	ION		Legend	Depth	No	Remarks/Tests
0.00-0.30	TOPSOIL (D - of flint)	Dark grey brown slightly s	andy cla	y with occasio	nal fine gravel	-			Groundwater not encountered during excavation
0.30-1.50	- chalk _ (HEAD DEP _ _ 0.60 - beco - _ _ _	orange brown gravelly CL OSITS) oming very gravelly cobble of flint	AY. Grav	el of fine to co	arse flint and				No collapse of sidewalls during excavation Trial completed at 1.5m depth
	1.3	• 0.25 ± es Method Trial Pit/tro	ench	Plant	Sho Sta UsedMECHAN	ability: S	ipport: STABLE	NON	JE Checked By
≤ All dimens Scale 1:20.8	sions in metro 8333333333333		ench	Plant	EXCAVAT				AD



TRIAL PIT LOG Client TRIAL PIT No Project Land to the North West of Haverhill c/o Savills **TP29** Job No Date Ground Level (m) Co-Ordinates () 19-11-14 995,SI 19-11-14 Fieldwork By Sheet Logged By 1 of 1 GEL SG DESCRIPTION Legend Depth Depth No Remarks/Tests TOPSOIL (Dark grey brown slightly sandy clay with occasional fine gravel 0.00-0.25 Groundwater not of flint) encountered during excavation No collapse of sidewalls Firm dark orange brown slightly sandy CLAY with occasional fine to coarse gravel of chalk and flint (HEAD DEPOSITS) 0.25-0.60 during excavation Firm becoming stiff pale grey brown/orange brown mottled very gravelly CLAY. Gravel of fine to coarse flint and chalk (HEAD DEPOSITS) 0.60-1.20 0.70-0.80 1B CBR 1.20-1.50 Stiff pale grey/pale orange brown mottled gravelly CLAY. Gravel of fine to coarse chalk (LOWESTOFT FORMATION) 0 0 Trial completed at 1.5m depth TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF, SG.GPJ GINT STD AGS 3_1.GDT 11/12/14 - 1.3 -Shoring/Support: NONE Stability: STABLE 0.25 AGS All dimensions in metres Method Trial Pit/trench Plant UsedMECHANICAL Checked By Scale 1:20.8333333333333333 AD Ë EXCAVATOR



TRIAL PIT LOG Client TRIAL PIT No Project Land to the North West of Haverhill c/o Savills **TP30** Job No Ground Level (m) Co-Ordinates () Date 19-11-14 995,SI 19-11-14 Fieldwork By Logged By Sheet 1 of 1 GEL SG Depth DESCRIPTION Legend Depth No Remarks/Tests 0.00-0.20 TOPSOIL (Dark grey brown slightly sandy clay with occasional fine gravel Groundwater not of flint) encountered during excavation Firm dark orange brown slightly sandy CLAY (HEAD DEPOSITS) No collapse of sidewalls 0.20-0.60 0.20 1J during excavation 2J 0.40 Stiff pale grey/dark orange brown mottled gravelly CLAY. Gravel of fine to coarse chalk with occasional fine to medium flint (LOWESTOFT FORMATION) 0.60-1.50 Trial completed at 1.5m depth AGS TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF,SG.GPJ GINT STD AGS 3_1.GDT 11/12/14 - 1.3 -Shoring/Support: NONE Stability: STABLE 0.25 All dimensions in metres Method Trial Pit/trench Plant Used MECHANICAL Checked By Scale 1:20.8333333333333333 AD Ë EXCAVATOR



Client TRIAL PIT No Project Land to the North West of Haverhill c/o Savills **TP31** Job No Ground Level (m) Co-Ordinates () Date 19-11-14 995,SI 19-11-14 Fieldwork By Logged By Sheet 1 of 1 GEL SG Depth DESCRIPTION Legend Depth No Remarks/Tests 0.00-0.30 TOPSOIL (Dark grey brown slightly sandy clay with occasional fine gravel Groundwater not of flint) encountered during excavation 0.20 No collapse of sidewalls 1J during excavation Firm becoming stiff pale grey/yellow brown mottled gravelly CLAY. Gravel of fine to medium chalk and flint (LOWESTOFT FORMATION) 0 0.30-0.65 ____0 0 _____ 0.65-1.50 - Stiff dark grey gravelly CLAY. Gravel of fine to medium flint (LOWESTOFT FORMATION) _0_ 0.70 2J ____ 0 ō 0 0 Trial completed at 1.5m depth AGS TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF,SG.GPJ GINT STD AGS 3_1.GDT 11/12/14 - 1.3 -Shoring/Support: NONE Stability: STABLE 0.25 All dimensions in metres Method Trial Pit/trench Plant Used MECHANICAL Checked By Scale 1:20.8333333333333333 AD Ë EXCAVATOR



Client TRIAL PIT No Project Land to the North West of Haverhill c/o Savills **TP32** Job No Ground Level (m) Co-Ordinates () Date 19-11-14 995,SI 19-11-14 Fieldwork By Logged By Sheet GEL 1 of 1 SG Depth DESCRIPTION Legend Depth No Remarks/Tests TOPSOIL (Dark grey brown slightly sandy clay with occasional fine gravel of flint) 0.00-0.35 Groundwater not encountered during excavation No collapse of sidewalls during excavation Firm becoming stiff pale grey/yellow brown mottled gravelly CLAY. Gravel is fine to medium chalk with occasional fine to medium flint (LOWESTOFT FORMATION) 0.35-1.50 0 0 0 ō 0 Trial completed at 1.5m depth AGS TP BETA 995,SI - NW HAVERHILL, 31-10-14, LF,SG.GPJ GINT STD AGS 3_1.GDT 11/12/14 - 1.3 -**T** 0.25 Shoring/Support: NONE Stability: STABLE All dimensions in metres Method Trial Pit/trench Plant UsedMECHANICAL Checked By Scale 1:20.8333333333333333 AD Ë EXCAVATOR



	Tax. 010032	30 07 5							
Project			C	Client					TRIAL PIT No
	nd to the No	orth West of Haverhi		c/o Savi					TP33
Job No		Date 19-11-14	Ground Le	evel (m)	Co-Ordinates	s ()			11 35
	5,SI	19-11-14							
Fieldwork	-			logged By					Sheet
GEI	_			SG					1 of 1
Depth			ESCRIPTION			Legend	Depth	No	Remarks/Tests
0.00-0.25	of flint)	oark grey brown slightly s	andy clay w	ith occasiona	I fine gravel	_			Groundwater not encountered during excavation
-	_					-			excavation No collapse of sidewalls
0.25-1.50	 Firm becon to medium 	ning stiff pale grey/yellov chalk with occasional fir	v brown gra ne to mediui	velly CLAY. G m flint	ravel is fine				during excavation
-	- (LOWESTO	FT FORMATION)				- <u> </u>			
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									Trial completed at 1.5m depth
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		0.25			Sh	oring/Su	upport: I	NON	IE
		¥			Sta	ability: S	STABLE		
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All dimens	ions in metre 33333333333333	es Method Trial Pit/tre	ench	Plant U	edMECHAN EXCAVAT				Checked By AD
Scale 1:20.8					LACAVAI				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,

geosphere environmental Itd

geosphere environmental Itd

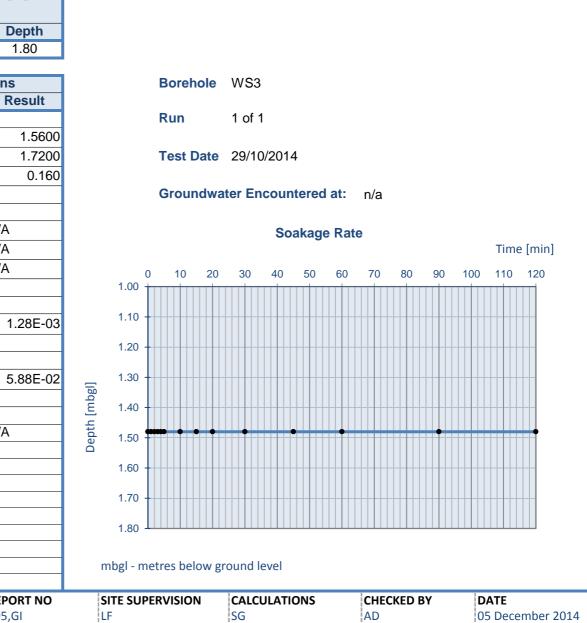
Geosphere Environmental Ltd, Brightwell Barns, Ipswich Road, Brightwell, Suffolk, IP10 0BJ

T 01603 298 076 E info@geosphere-environmental.co.uk

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Diam	-1	Danth
Diam 0.10		Depth
0.10	J 1	1.80
Infiltration R	ate Calcu	ations
Parameter	Unit	Result
height		
h ₂₅	[m]	1.5600
h ₇₅	[m]	1.7200
h ₇₅ -h ₂₅	[m]	0.160
time		
t ₇₅	[s]	N/A
t ₂₅	[s]	N/A
t ₇₅ - t ₂₅	[s]	N/A
effective volu		
V ₇₅₋₂₅	[m ³]	1.28E-03
effective area		
ap ₅₀	[m²]	5.88E-02
infiltration rate	9	
f	[m/s]	N/A
CLIENT		REPORT NO
Savills		995,GI

Borehole Dimensions [m]



geosphere environmental Itd

Geosphere Environmental Ltd, Brightwell Barns, Ipswich Road, Brightwell, Suffolk, IP10 0BJ

T 01603 298 076 E info@geosphere-environmental.co.uk

Time	Depth to Water	
[min]	[mbgl]	
0	1.41	
1	1.41	
2	1.41	Infilt
3	1.41	Para
4	1.41	heigh
5	1.41	h ₂₅
10	1.41	h ₇₅
15	1.41	h ₇₅ -h
20	1.41	
30	1.41	time
45	1.41	t ₇₅
60	1.41	t ₂₅
90	1.41	t ₇₅ - t
120	1.41	
		effec
		V ₇₅₋₂₅
		effec
		ap ₅₀
		infiltra
		f
SITE	1	CLIEN
NW Haverhill		Saville

0.10	01	1.89
Infiltration R		
Parameter	Unit	Result
height	I	
h ₂₅	[m]	1.5300
h ₇₅	[m]	1.7700
h ₇₅ -h ₂₅	[m]	0.240
time		
t ₇₅	[s]	N/A
t ₂₅	[s]	N/A
t ₇₅ - t ₂₅	[s]	N/A
V ₇₅₋₂₅	[m ³]	1.93E-03
effective area		
ap ₅₀	[m²]	8.41E-02
infiltration rate	-	/ -
f	[m/s]	N/A

Boreho	le Dimensi	ons [m]					
Diam	eter	Depth					
0.10	01	1.89					
	ate Calcula			Borehole	WS6		
ameter	Unit	Result		P	4		
ght	[]	4 5000		Run	1 of 1		
	[m]	1.5300			00/40/0044		
	[m]	1.7700		Test Date	29/10/2014		
-h ₂₅	[m]	0.240					
				Groundwat	er Encountered a	at: n/a	
e	[-]	N1/A					
	[s]	N/A			Soakage	Rate	
	[s]	N/A					Time [min]
- t ₂₅	[s]	N/A		0 10 20	30 40 50	60 70 80 90 10	00 110 120
				1.00			
ective volu				1.10			
25	[m ³]	1.93E-03		1.00			
				1.20			
ective area				1.30			
0	[m ²]	8.41E-02		1.40			
	_		Depth [mbgl]				
tration rate		N1/A	th [1.50			
	[m/s]	N/A)ep	1.60			
				1.70 -			
				1.80 -			
				1.90			
			mt	bgl - metres below gro	ound level		
NT					CALCULATIONS	CHECKED BY	DATE
IN I		REPORT NO 995,GI	LF	TE SUPERVISION	SG	AD	DATE 05 December 2014
		555,01					

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Time	Depth to Water	Borehole Dimensions [m]				
[min]	[mbgl]	Diam	eter	Depth		
0	1.58	0.1	01	2.00		
1	1.58					
2	1.56	Infiltration R				
3	1.56	Parameter	Unit	Result		
4	1.56	height	I	1		
5	1.56	h ₂₅	[m]	1.6500		
10	1.56	h ₇₅	[m]	1.8500		
15	1.56	h ₇₅ -h ₂₅	[m]	0.200		
20	1.56					
30	1.56	time		_		
45	1.56	t ₇₅	[s]	N/A		
60	1.56	t ₂₅	[s]	N/A		
90	1.56	t ₇₅ - t ₂₅	[s]	N/A		
120	1.56		1			
		effective volu				
		V ₇₅₋₂₅	[m ³]	1.61E-03		
		effective area	3			
		ap ₅₀	[m ²]	8.73E-02		
		infiltration rate	e			
		f	[m/s]	N/A		
I TE IW Haverhill		CLIENT Savills		REPORT NO 995,GI		

oreho	le Dimens	ions [m]															
Diamo	eter	Depth															
0.10)1	2.00															
tion Ra	ate Calcul Unit	ations Result			Borel	nole	WS	3									
eter	Unit	Result			Run		1 of	1									
	[m]	1.6500															
	[m]	1.8500			Test	Date	29/1	0/201	4								
	[m]	0.200															
					Grou	ndwa	ter Er	ncour	tered	at:	n/a						
	[s]	N/A						So	akage	e Rate	e				T :	f	
	[s]	N/A N/A														e [min]	
	[s]	IN/A		0 1.00 +	10	20	30	40	50	60	70	80	90	100	110	120	
ve volui	me																
	[m ³]	1.61E-03		1.10 -													
				1.20 -													
⁄e area				1.30 -													
	[m ²]	8.73E-02	5	1.40 -													
			Depth [mbgl]	1.50 -													
ion rate	= [m/s]	N/A	oth [1.60		• •	•		•	•			•			++	
	[11/3]		Dep														
				1.70 -													
				1.80 -													
				1.90 -													
				2.00													
			n	n <mark>bgl - m</mark> e	tres be	low gr	round	level									
			 				CALC				CUE			10	A T F		
		REPORT NO 995,GI	L	ITE SUPE F	KVISIO	IN	SG	ULATI	UNS		AD	KED E	5 Y		ATE 5 Dece	mber 2	014
				-													

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Time	Depth to Water	Boreh	Borehole Dimensions [m]						
[min]	[mbgl]	Dian	neter	Dept					
0	0.15	0.1	101	1.68					
1	0.15								
2	0.15	Infiltration I							
3	0.15	Parameter	Unit	Resu					
4	0.15	height		-1					
5	0.15	h ₂₅	[m]	0.5					
10	0.15	h ₇₅	[m]	1.2					
15	0.15	h ₇₅ -h ₂₅	[m]	0					
20	0.15			·					
30	0.15	time		_					
45	0.15	t ₇₅	[s]	N/A					
60	0.15	t ₂₅	[s]	N/A					
90	0.15	t ₇₅ - t ₂₅	[s]	N/A					
120	0.15		1	ł					
		effective vol							
		V ₇₅₋₂₅	[m ³]	6.14					
		effective are	a						
		ap ₅₀	[m ²]	2.51					
		infiltration ra	te						
		f	[m/s]	N/A					
SITE		CLIENT	ļ	REPORT					

Diame	eter	Depth
0.10)1	1.68
Infiltration Ra		
Parameter	Unit	Result
height	F 1	0.5005
h ₂₅	[m]	0.5325
h ₇₅	[m]	1.2975
h ₇₅ -h ₂₅	[m]	0.765
time		
t ₇₅	[s]	N/A
t ₂₅	[s]	N/A
t ₇₅ - t ₂₅	[s]	N/A
effective volur		
V ₇₅₋₂₅	[m ³]	6.14E-03
effective area		
ap ₅₀	[m ²]	2.51E-01
infiltration rate		
f	[m/s]	N/A
		+
		+
		+
		+
CLIENT		REPORT NO
Savills		995,GI

Depth															
1.68															
ons			Boreh	ole	WS1	2									
Result			_												
			Run		1 of ⁻	1									
0.5325															
1.2975			Test D	Date	30/10)/2014	4								
0.765															
			Groun	ndwa	ter Er	coun	tered	l at:	n/a						
N/A						So	akag	e Rate	e						
N/A													Time	e [min]	
N/A		0) 10	20	30	40	50	60	70	80	90	100	110	120	
		0.00													
		0.10	• •	• •	•		•	•			•				
6.14E-03		0.30 -	• • • • • • • • • • • • • • • • • • • •												
		0.40 0.50	•••••												
0.545.04		0.60													
2.51E-01	<u></u>	0.70													
	dm	0.80 0.90 -													
N/A	Depth [mbgl]	1.00													
W/T	Dep	1.10	•												
	_	1.20	•												
		1.30 1.40													
		1.50 -	•												
		1.60 -	•												
		1.70 1													
	n	n <mark>ogi - m</mark> e	etres bel	ow gi	ound l	evel									
REPORT NO	c		ERVISIO	N	CALC	ULATI	ONS		CHEC	KED E	NY .	ח	ATE		
995,GI	L			•	SG		0115		AD			- i -		mber 2	014
					1				1			. i			

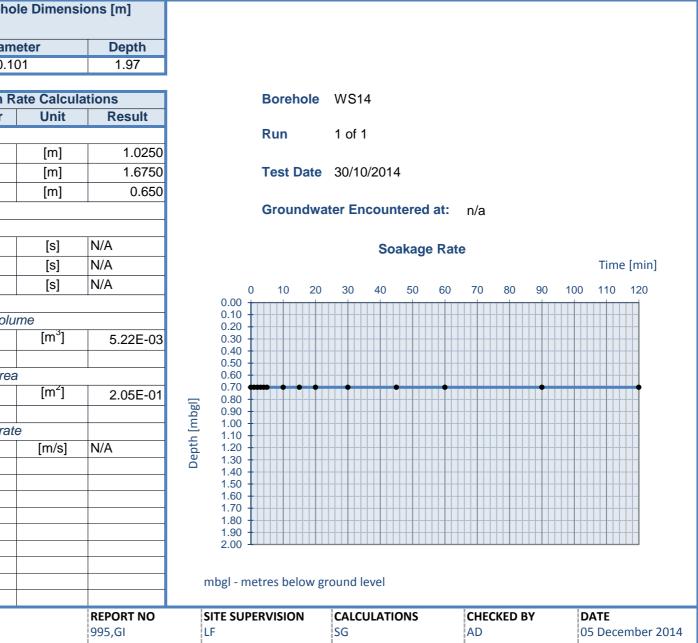
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Time	Depth to Water	Boreh
[min]	[mbgl]	Dia
0	0.70	0.
1	0.70	
2	0.70	Infiltration
3	0.70	Parameter
4	0.70	height
5	0.70	h ₂₅
10	0.70	h ₇₅
15	0.70	h ₇₅ -h ₂₅
20	0.70	
30	0.70	time
45	0.70	t ₇₅
60	0.70	t ₂₅
90	0.70	t ₇₅ - t ₂₅
120	0.70	
		effective vo
		V ₇₅₋₂₅
		effective are
		ap ₅₀
		infiltration ra
		f
SITE		CLIENT
NW Haverhill		Savills

Diam	eter	Depth				
0.1	01	1.97				
Infiltration R						
Parameter	Unit	Result				
height						
h ₂₅	[m]	1.0250				
h ₇₅	[m]	1.6750				
h ₇₅ -h ₂₅	[m]	0.650				
time	1					
t ₇₅	[s]	N/A				
t ₂₅	[s]	N/A				
t ₇₅ - t ₂₅	5 [s] N/A					
effective volu						
V ₇₅₋₂₅	[m ³]	5.22E-03				
effective area						
ap ₅₀	[m ²]	2.05E-01				
infiltration rat						
f	[m/s]	N/A				
CLIENT Savills		REPORT NO 995,GI				
544115		555,01				



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ſ	Time	Depth to Water	Boreho	le
	[min]	[mbgl]	Diam	oto
	0	0.900	0.1	
-	<u>0</u> 1	0.900	0.1	
-	2	0.900	Infiltration R	ate
-	3	0.900	Parameter	
-	4	0.900	height	
-	5	0.900	h ₂₅	
-	10	0.900	h ₇₅	
	15	0.900	h ₇₅ -h ₂₅	
-	20	0.905		
-	30	0.905	time	
	45	0.905	t ₇₅	
	60	0.905	t ₂₅	
-	90	0.905	t ₇₅ - t ₂₅	
	120	0.905		
			effective volu	ime
			V ₇₅₋₂₅	
			effective area	a
			ap ₅₀	
_				
_			infiltration rat	e
			f	
_				
-				
-				
-				
-				
-	SITE		CLIENT	
r	W Haverhill		Savills	

Diame 0.10		Depth				
0.10	/1	2.00				
Infiltration Ra	ate Calcul	ations				
Parameter	Unit	Result				
height						
h ₂₅	[m]	1.1737				
h ₇₅	[m]	1.7250				
h ₇₅ -h ₂₅	[m]	0.551				
time		_				
t ₇₅	[s]	N/A				
t ₂₅	[s]	N/A				
t ₇₅ - t ₂₅	[s] N/A					
effective volur						
V ₇₅₋₂₅	[m ³]	4.43E-03				
effective area						
	[m ²]	1.83E-01				
ap ₅₀	[]	1.03E-01				
infiltration rate)					
f	[m/s]	N/A				
CLIENT		REPORT NO				
Savills		995,GI				

le Dimensio	ons [m]															
eter	Depth															
01	2.00															
ate Calcula				Boreho	ole	WS1	5									
Unit	Result			_												
	4 4 7 9 7			Run		1 of 1										
[m]	1.1737					~~ // ~										
[m]	1.7250			Test Da	ate	30/10	/201	4								
[m]	0.551			•		_				,						
				Ground	awat	er En	coun	tered	i at:	n/a						
[0]	N/A						-		_							
[S]	N/A N/A						So	akag	e Rat	е				Tim	o [min]	
[s]														TIM	e [min]	
[s]	N/A		0	10	20	30	40	50	60	70	80	90	100	110	120	
me			0.00													
[m ³]	4.43E-03		0.20 -													
[iii]	4.43E-03		0.40 +													
			0.50													
[m ²]	1.83E-01		0.70 -													
[]	1.03E-01	[]]	0.80													
Э		[mp	1.00 -	T												
[m/s]	N/A	Depth [mbgl]	1.10 - 1.20 -													
[11,0]		Dep	1.30 -													
			1.40 1.50 -													
			1.60 -													
			1.70 - 1.80 -													
			1.90 2.00													
			2.00 -													
			mbal ma	troc hole			avel.									
		I	ngi - ne	etres belo	w gro	Juna le	evel									
	REPORT NO		SITE SUPP	RVISION		CALCI	JLATI	ONS		CHF	CKED E	3Y	ſ	DATE		
	995,GI		_F			SG				AD					ember 2	2014
		i				1				1			1			

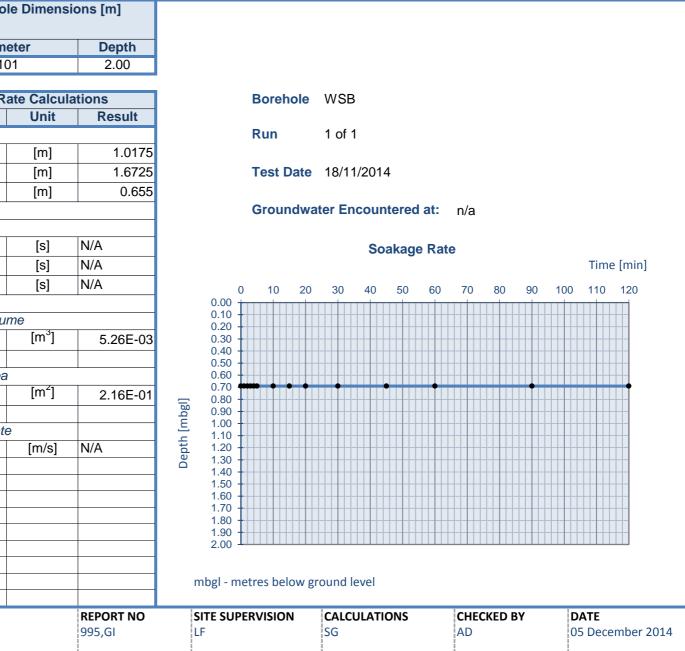
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Time	Depth to Water	Boreho
[min]	[mbgl]	Diam
0	0.69	0.10
1	0.69	
2	0.69	Infiltration R
3	0.69	Parameter
4	0.69	height
5	0.69	h ₂₅
10	0.69	h ₇₅
15	0.69	h ₇₅ -h ₂₅
20	0.69	
30	0.69	time
45	0.69	t ₇₅
60	0.69	t ₂₅
90	0.69	t ₇₅ - t ₂₅
120	0.69	
		effective volu
		V ₇₅₋₂₅
		effective area
		ap ₅₀
		infiltration rate
		f
SITE		CLIENT
NW Haverhill		Savills

Diame	eter	Depth
0.10)1	2.00
Infiltration Ra		
Parameter	Unit	Result
height		
h ₂₅	[m]	1.0175
h ₇₅	[m]	1.6725
h ₇₅ -h ₂₅	[m]	0.655
time		
t ₇₅	[s]	N/A
t ₂₅	[s]	N/A
t ₇₅ - t ₂₅	[s]	N/A
I		
effective volur		
V ₇₅₋₂₅	[m ³]	5.26E-03
effective area		
ap ₅₀	[m²]	2.16E-01
infiltration rate	;	
f	[m/s]	N/A
		+
CLIENT		REPORT NO
Savills		995,GI



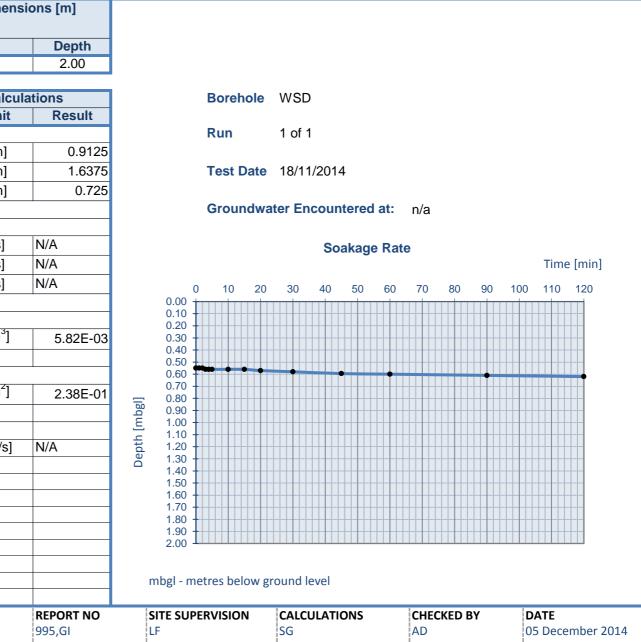
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Time	Depth to Water		Boreho	le Dime
[min]	[mbgl]		Diam	eter
0	0.550		0.10)1
1	0.550			
2	0.550		nfiltration R	
3	0.560		Parameter	Uni
4	0.560		neight	
5	0.560		1 ₂₅	[m]
10	0.560	ł	1 ₇₅	[m]
15	0.560	ł	1 ₇₅ -h ₂₅	[m]
20	0.570			
30	0.580	t	ime	
45	0.595	t	75	[s]
60	0.600	t	25	[s]
90	0.610	t	₇₅ - t ₂₅	[s]
120	0.620	-		
		e	effective volu	
		١	75-25	[m ³]
		e	effective area	
		â	ap ₅₀	[m²]
		ī	nfiltration rate	9
		f		[m/s
		-		
		-		
		-		
SITE				

Diam		Depth	
0.10	01	2.00	
Infiltration R			
Parameter	Unit	Result	
height	[]	0.0405	
h ₂₅	[m]	0.9125	
h ₇₅	[m]	1.6375	
h ₇₅ -h ₂₅	[m]	0.725	
time			
t ₇₅	[s]	N/A	
t ₂₅	[s]	N/A	
t ₇₅ - t ₂₅	[s]	N/A	
		1	
effective volu			
V ₇₅₋₂₅	[m ³]	5.82E-03	
effective area			
ap ₅₀	[m²]	2.38E-01	<u></u>
infiltration rate	9		Depth [mbgl]
f	_ [m/s]	N/A	oth
·	[11/3]		Dep
		_	
CLIENT		REPORT NO	
Savills		995,GI	



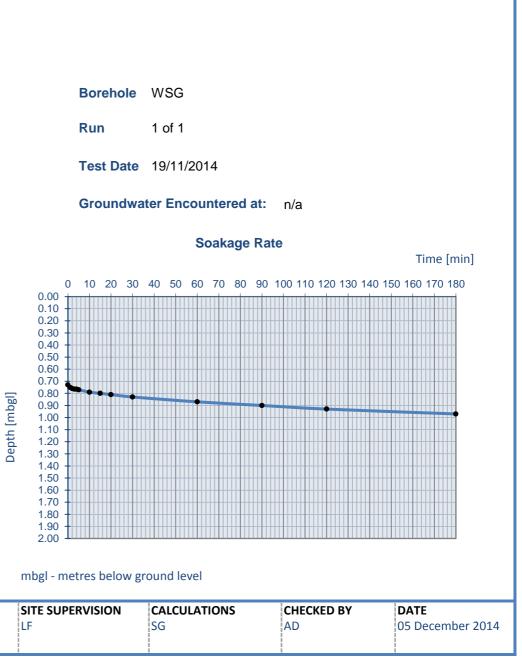
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Time	Depth to Water	Boreho	Borehole Dimensions [m]			
[min]	[mbgl]	Diam	eter	Dept		
0	0.730	0.09	90	2.00		
1	0.750					
2	0.760	Infiltration R				
3	0.765	Parameter	Unit	Resu		
4	0.765	height		T		
5	0.770	h ₂₅	[m]	1.(
10	0.790	h ₇₅	[m]	1.6		
15	0.800	h ₇₅ -h ₂₅	[m]	0		
20	0.810					
30	0.830	time				
60	0.870	t ₇₅	[s]	N/A		
90	0.900	t ₂₅	[s]	N/A		
120	0.930	t ₇₅ - t ₂₅	[s]	N/A		
180	0.970					
		effective volu				
		V ₇₅₋₂₅	[m ³]	4.05		
		effective area	1			
		ap ₅₀	[m ²]	1.86		
		infiltration rate	9			
		f	[m/s]	N/A		
ITE		CLIENT		REPORT		
NW Haverhill		Savills		995,GI		

Diameter		Depth
0.090		2.00
Infiltration R		
Parameter	Unit	Result
height h ₂₅	[m]	1.0475
h ₇₅	[m]	1.6825
h ₇₅ -h ₂₅	[m]	0.635
175-125	[III]	0.035
time		
t ₇₅	[s]	N/A
t ₂₅	[s]	N/A
t ₇₅ - t ₂₅	[s]	N/A
	I	-
effective volu		
V ₇₅₋₂₅	[m ³]	4.05E-03
effective area		
ap ₅₀	[m ²]	1.86E-01
infiltration rate f		N/A
T	[m/s]	N/A
CLIENT	I	REPORT NO
Savills		995,GI



Page 1 of 1

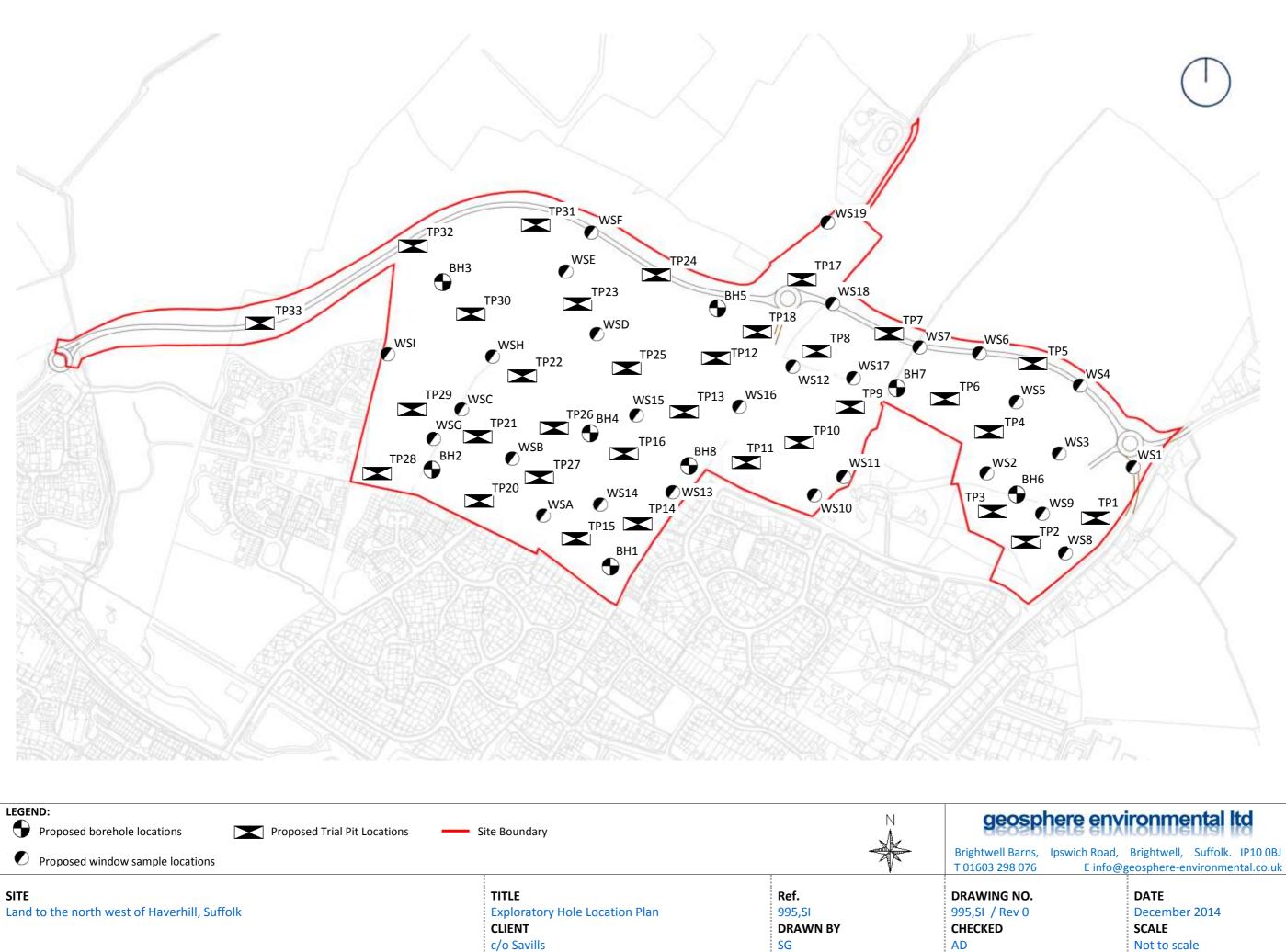
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Time	Depth to Water	Boreho	Borehole Dimensions [m]		
[min]	[mbgl]	Diam	Diameter		
0	0.24	0.0	90	Depth 2.00	
1	0.26				
2	0.36	Infiltration R	ate Calcul	ations	
3	0.43	Parameter	Unit	Result	
5	0.48	height			
10	0.63	h ₂₅	[m]	0.6050	
20	0.68	h ₇₅	[m]	1.3350	
30	0.69	h ₇₅ -h ₂₅	[m]	0.730	
60	0.68			1	
90	0.68	time			
120	0.68	t ₇₅	[S]	N/A	
		t ₂₅	[s]	540.00	
		t ₇₅ - t ₂₅	[s]	N/A	
		effective volu	effective volume		0. 0.
		V ₇₅₋₂₅	[m ³]	4.65E-03	0. 0. 0.
		effective area			0. 0.
		ap ₅₀	[m ²]	2.97E-01	0. [lbg 0.
		infiltration rat	fe		Depth [mbgl] 1. 1. 1. 1. 1.
		f	[m/s]	N/A	.1 Deptl 1. 1.
					1. 1.
					1. 1. 1.
					1. 1. 2.
					-
					mbg
SITE NW Haverhill		CLIENT Savills	1	REPORT NO 995,GI	SITE LF

Borehole WSH 1 of 1 Run Test Date 19/11/2014 Groundwater Encountered at: n/a Soakage Rate Time [min] 0 10 70 80 90 100 110 120 20 30 40 50 60 00 10 20 30 40 50 60 70 80 90 00 10 20 30 40 50 60 70 80 90 00 - metres below ground level SUPERVISION CALCULATIONS CHECKED BY DATE SG AD 05 December 2014





Appendix G





Wormald Burrows Partnership Limited

Civil Engineering Consultants

12a-18a Hitchin Street, Biggleswade, SG18 8AX Tel: (01767) 317244 Fax: (01767) 315434

Haverhill North Drainage Maintenance Proposals

Road Gullies

The highway drainage system will be offered to Suffolk County Council for adoption. They will then be responsible for the regular maintenance of road gullies and connecting pipework and ensuring that the public highway drains properly.

Any sections of highway which are not adopted will be maintained by either a private management company who will be responsible for the regular maintenance of gullies and connecting pipework and ensuring that that these areas of private highway drain properly or the eventual owners of the properties.

Sewers and Flow Control

The main surface and foul water drainage systems will be offered to Anglian Water for adoption. This will include the flow control devices which will limit surface water flows to an agreed greenfield rate.

Anglian Water will then be responsible for the regular maintenance of these systems which receive flows from all parts of the development.

Attenuation Tank (Geocellular crates)

The attenuation tank is located within the Local Centre parking areas. This element of the sustainable drainage system will be managed by a private management company. The geocellular crates will be fitted with a central access pipe to allow for CCTV surveys and jetting out of the tank. Access manholes are provided at either end for easy access.

The tank has been designed for easy maintenance which will comprise:

- Inspect inlet manhole on a monthly basis for the first 6 months, and then 6 monthly after that and identify any areas which are not operating correctly.
- Occasional tasks clean out silt traps and CCTV survey tank annually
- Remedial work repairing damage where necessary

Directors: G M Burrows N Kolhi Associate: T J Wilson T J Burrows Associate Directors: A C Chipchase P Whitlock e-mail: engineer@wormburp.com Web: http://www.wormburp.com

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Registered office: First Floor Offices, 99 Bancroft, Hitchin, Hertfordshire, SG5 1NQ

Attenuation Ponds

The surface water attenuation ponds will ordinarily be dry and should only fill during heavy rainfall events, so will more than often appear as a grassed depression in he public open space rather than a water feature. However, as it is difficult to predict when a heavy rainfall event is likely to occur it is important that the ponds are maintained all year round.

Maintenance will be the responsibility of a private management company and will comprise of the following:

- Undertake an inspection of the ponds at annual intervals to assess the stability of the ponds banks and remedial activities carries out when necessary.
- Regular litter picking and grass cutting and checking of inlet and outlet headwalls.
- De-silting of the inlet and outlet pipes and headwalls should be carried out during a period of low rainfall, at a time that it can be anticipated that major storms will not occur. It should always be noted that the ponds will fill up rapidly over a period of a few hours in the event that a critical storm occurs.

Headwalls

There shall be a pre-cast headwall at each inlet and outlet of each pond, as the ponds; and headwalls form part of a combined system, one headwall being blocked up could prevent the entire system from drainage as desired therefore it is imperative that flows are not impeded by blocked up headwalls.

Maintenance of the headwalls will be the responsibility of a private management company and will comprise of the following:

- At quarterly intervals and following extreme storm events; check each headwall and grill for signs of blockage.
- At annual intervals; the inlets, connecting pipework and outlets from the pond should be checked and all ends of the pipes are clear of weed growth, silt and debris. Also check that the outfall into the ordinary watercourse is clear and unobstructed.
- Remove any accumulated vegetation and rubbish off site.
- At annual intervals and following extreme storm events, undertake an assessment of the structural integrity of the headwalls and safety grille and fittings; repair or replace as necessary.