

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'					
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50	
BH415	1.20	69.97	S	-	1	1	1	1	2	2	6	*					
BH415	3.50	67.67	S	-	3	3	3	4	4	5	16		*				
BH415	6.00	65.17	S	-	5	6	6	7	8	9	30			*			
Driller			Matt Roberts				Remarks										
Hammer No.			AR2145														
Energy Ratio, Er (%)			64.00														
Calibration Date			19/05/2020														

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

GEOTECHNICS

Project No PC207899

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'					
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50	
BH414	1.20	70.35	S	-	1	1	2	2	1	2	7	*					
BH414	2.30	69.25	S	-	2	2	2	2	3	3	10	*					
BH414	4.50	67.05	S	-	4	5	5	5	6	7	23			*			
Driller			Kris Roebuck				Remarks										
Hammer No.			AR2475														
Energy Ratio, Er (%)			67.00														
Calibration Date			16/10/2020														

S - Standard Penetration Test (SPT)
C - SPT with cone
L - Split Spoon with liner used

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'						
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50		
BH413	1.20	70.71	S	-	1	1	1	1	1	2	5	*						
BH413	3.40	68.51	S	-	3	3	3	4	3	4	14		*					
BH413	6.00	65.91	S	-	5	4	5	6	7	8	26			*				
Driller			Matt Roberts				Remarks											
Hammer No.			AR2145															
Energy Ratio, Er (%)			64.00															
Calibration Date			19/05/2020															

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

GEOTECHNICS

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'				
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50
BH412	1.20	70.22	S	-	1	2	3	3	2	3	11	*				
BH412	3.50	67.92	S	-	3	4	4	4	5	4	17		*			
BH412	4.50	66.92	S	-	4	4	5	5	5	7	22			*		
BH412	6.00	65.42	S	-	4	5	4	6	6	8	24			*		
Driller			Matt Roberts			Remarks										
Hammer No.			AR2145													
Energy Ratio, Er (%)			64.00													
Calibration Date			19/05/2020													

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

GEOTECHNICS

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'					
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50	
BH411	1.20	70.36	S	-	1	-	1	1	-	1	3	*					
BH411	2.40	69.16	S	-	1	2	1	2	1	2	6	*					
BH411	4.50	67.06	S	-	3	4	4	5	5	6	20		*				
BH411	7.40	64.16	S	-	4	4	5	6	7	9	27			*			
Driller			Matt Roberts				Remarks										
Hammer No.			AR2145														
Energy Ratio, Er (%)			64.00														
Calibration Date			19/05/2020														

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

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GEOTECHNICS

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'						
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50		
BH410	1.20	70.37	S	-	1	-	1	1	1	1	4	*						
BH410	3.50	68.07	S	-	3	3	4	4	4	5	17		*					
BH410	5.50	66.07	S	-	3	4	5	6	7	9	27			*				
Driller			Matt Roberts				Remarks											
Hammer No.			AR2145															
Energy Ratio, Er (%)			64.00															
Calibration Date			19/05/2020															

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

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GEOTECHNICS

Project No PC207899

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'					
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50	
BH409	1.30	70.18	S	-	1	-	1	1	2	3	7	*					
BH409	2.50	68.98	S	-	2	2	2	2	3	4	11	*					
BH409	4.50	66.98	S	-	3	4	4	5	6	9	24			*			
Driller			Matt Roberts				Remarks										
Hammer No.			AR2145														
Energy Ratio, Er (%)			64.00														
Calibration Date			19/05/2020														

S - Standard Penetration Test (SPT)
C - SPT with cone
L - Split Spoon with liner used

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'					
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50	
BH408	1.20	70.15	S	-	1	-	-	-	1	-	1	*					
BH408	2.40	68.95	S	-	4	2	1	2	2	3	8	*					
BH408	3.50	67.85	S	-	7	8	12	13	16	9/70	50/295						>
BH408	6.00	65.35	S	-	6	7	7	9	11	12	39					*	
Driller			Matt Roberts				Remarks										
Hammer No.			AR2145														
Energy Ratio, Er (%)			64.00														
Calibration Date			19/05/2020														

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

GEOTECHNICS

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'						
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50		
BH407	1.20	71.06	S	-	1	1	1	1	1	2	5	*						
BH407	3.50	68.76	S	-	3	3	4	4	6	7	21		*					
BH407	6.00	66.26	S	-	4	4	4	5	5	5	19		*					
Driller			Matt Roberts				Remarks											
Hammer No.			AR2145															
Energy Ratio, Er (%)			64.00															
Calibration Date			19/05/2020															

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

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GEOTECHNICS

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'					
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50	
BH406	1.20	69.80	S	-	1	1	1	1	2	3	7	*					
BH406	2.50	68.50	S	-	1	2	3	3	3	4	13		*				
BH406	3.50	67.50	S	-	25/30	0	50/30				50/30						>
BH406	6.00	65.00	S	-	4	5	6	8	8	10	32				*		
Driller			Matt Roberts				Remarks										
Hammer No.			AR2145														
Energy Ratio, Er (%)			64.00														
Calibration Date			19/05/2020														

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

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L - Split Spoon with liner used

GEOTECHNICS

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'					
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50	
BH404	1.20	73.34	S	-	2	2	2	2	3	2	9	*					
BH404	3.00	71.54	S	-	2	2	3	3	4	4	14		*				
BH404	5.00	69.54	S	-	4	4	7	8	8	10	33				*		
Driller			Kris Roebuck				Remarks										
Hammer No.			AR2475														
Energy Ratio, Er (%)			67.00														
Calibration Date			16/10/2020														

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

GEOTECHNICS

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'						
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50		
BH403	1.20	72.30	S	-	2	2	2	2	2	2	8	*						
BH403	2.00	71.50	S	-	2	3	3	3	4	4	14		*					
BH403	4.00	69.50	S	-	1	2	2	2	2	2	8	*						
BH403	5.00	68.50	S	-	3	4	5	5	6	7	23			*				
BH403	6.00	67.50	S	-	5	6	7	8	8	9	32				*			
Driller			Kris Roebuck				Remarks											
Hammer No.			AR2475															
Energy Ratio, Er (%)			67.00															
Calibration Date			16/10/2020															

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

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GEOTECHNICS

Project No PC207899

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'				
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50
BH402	2.70	72.56	S	-	1	2	2	3	3	4	12	*				
BH402	4.70	70.56	S	-	3	4	5	6	6	15	32			*		
BH402	5.20	70.06	C	-			50/0				50/0					>
Driller			David Cowling				Remarks									
Hammer No.			AR1962													
Energy Ratio, Er (%)			66.00													
Calibration Date			31/10/2019													

S - Standard Penetration Test (SPT)
C - SPT with cone
L - Split Spoon with liner used

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'				
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50
BH401	2.20	80.12	S	-	1	2	1	2	3	3	9	*				
BH401	4.30	78.02	S	-	2	3	3	4	4	4	15		*			
BH401	6.90	75.42	S	-	3	4	4	6	7	8	25			*		
BH401	9.50	72.82	S	-	2	5	7	9	9	13	38				*	
Driller			David Cowling				Remarks									
Hammer No.			AR1962													
Energy Ratio, Er (%)			66.00													
Calibration Date			31/10/2019													

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

GEOTECHNICS

Project No PC207899

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'						
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50		
BH319	1.20	70.63	S	-	1	1	1	2	2	2	7	*						
BH319	3.40	68.43	S	-	2	3	4	4	5	6	19		*					
BH319	5.50	66.33	S	-	1	3	5	6	7	8	26			*				
Driller			David Cowling				Remarks											
Hammer No.			AR1962															
Energy Ratio, Er (%)			66.00															
Calibration Date			31/10/2019															

S - Standard Penetration Test (SPT)
C - SPT with cone
L - Split Spoon with liner used

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'					
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50	
BH318	2.40	71.93	S	-	1	1	1	2	2	3	8	*					
BH318	4.40	69.93	S	-	2	2	3	4	4	5	16		*				
BH318	6.50	67.83	S	-	3	3	5	7	7	9	28			*			
Driller			David Cowling				Remarks										
Hammer No.			AR1962														
Energy Ratio, Er (%)			66.00														
Calibration Date			31/10/2019														

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

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GEOTECHNICS

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'					
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50	
BH317	2.40	74.01	S	-	18	7/70	13	3	2	3	21			*			
BH317	4.70	71.71	S	-	2	3	4	5	6	8	23			*			
Driller			Matt Roberts			Remarks											
Hammer No.			AR2145														
Energy Ratio, Er (%)			64.00														
Calibration Date			19/05/2020														

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

GEOTECHNICS

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'					
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50	
BH316	2.10	66.54	S	-	1	1	1	2	2	3	8	*					
BH316	5.10	63.54	S	-	2	2	3	4	4	6	17		*				
BH316	8.00	60.64	S	-	3	4	5	7	9	9	30			*			
Driller			David Cowling				Remarks										
Hammer No.			AR1962														
Energy Ratio, Er (%)			66.00														
Calibration Date			31/10/2019														

-/- Blows/penetration (mm) after seating

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SWP Penetration under own weight (mm)

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GEOTECHNICS

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'					
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50	
BH315	1.20	70.04	S	-	2	2	3	3	3	4	13		*				
BH315	2.30	68.94	S	-	1	1	1	2	1	1	5	*					
BH315	4.50	66.74	S	-	3	4	4	5	5	6	20		*				
BH315	7.00	64.24	S	-	4	5	6	8	8	9	31			*			
BH315	10.00	61.24	S	-	8	8	9	9	10	12	40				*		
Driller			Matt Roberts			Remarks											
Hammer No.			AR2145														
Energy Ratio, Er (%)			64.00														
Calibration Date			19/05/2020														

-/- Blows/penetration (mm) after seating

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SWP Penetration under own weight (mm)

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GEOTECHNICS

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'						
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50		
BH314	1.20	67.95	S	-	1	1	2	2	2	3	9	*						
BH314	3.50	65.65	S	-	2	3	3	4	5	7	19		*					
BH314	6.00	63.15	S	-	3	4	4	5	7	7	23			*				
Driller			Matt Roberts				Remarks											
Hammer No.			AR2145															
Energy Ratio, Er (%)			64.00															
Calibration Date			19/05/2020															

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

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GEOTECHNICS

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'					
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50	
BH313	1.20	67.69	S	-	1	1	1	2	2	3	8	*					
BH313	3.40	65.49	S	-	3	3	3	4	4	4	15		*				
BH313	6.00	62.89	S	-	4	5	5	5	5	7	22			*			
Driller			Kris Roebuck				Remarks										
Hammer No.			AR2475														
Energy Ratio, Er (%)			67.00														
Calibration Date			16/10/2020														

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

GEOTECHNICS

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'				
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50
BH312	1.20	66.51	S	-	1	2	2	3	2	3	10	*				
BH312	3.50	64.21	S	-	4	5	6	7	8	8	29			*		
BH312	6.00	61.71	S	-	3	5	6	6	7	9	28			*		
Driller			Matt Roberts			Remarks										
Hammer No.			AR2145													
Energy Ratio, Er (%)			64.00													
Calibration Date			19/05/2020													

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

GEOTECHNICS

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'				
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50
BH311	2.00	66.12	S	-	2	2	3	3	3	3	12	*				
BH311	4.00	64.12	S	-	3	4	5	5	6	7	23		*			
BH311	6.50	61.62	S	-	4	5	6	7	9	12	34			*		
BH311	9.50	58.62	S	-	7	8	10	10	10	10	40				*	
Driller			Kris Roebuck			Remarks										
Hammer No.			AR2475													
Energy Ratio, Er (%)			67.00													
Calibration Date			16/10/2020													

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

GEOTECHNICS

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'						
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50		
BH309	2.10	68.28	S	-	1	1	2	2	2	2	8	*						
BH309	4.30	66.08	S	-	2	3	4	6	6	8	24			*				
BH309	6.80	63.58	S	-	3	4	4	6	9	11	30			*				
BH309	9.50	60.88	S	-	3	5	7	9	11	15	42					*		
Driller			David Cowling				Remarks											
Hammer No.			AR1962															
Energy Ratio, Er (%)			66.00															
Calibration Date			31/10/2019															

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

GEOTECHNICS

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
BH308	2.40	69.96	S	-	25/70		50				50/75																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																</

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

GEOTECHNICS

Project No PC207899

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'				
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50
BH306	2.20	68.58	S	-	1	1	2	3	2	3	10	*				
BH306	4.30	66.48	S	-	2	3	5	5	6	6	22		*			
Driller			David Cowling				Remarks									
Hammer No.			AR1962													
Energy Ratio, Er (%)			66.00													
Calibration Date			31/10/2019													

S - Standard Penetration Test (SPT)
C - SPT with cone
L - Split Spoon with liner used

Project No PC207899

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'						
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50		
BH305	1.20	66.72	S	-	2	2	2	3	2	2	9	*						
BH305	3.40	64.52	S	-	2	3	3	3	4	4	14		*					
BH305	6.00	61.92	S	-	3	4	5	6	6	8	25			*				
Driller			Kris Roebuck				Remarks											
Hammer No.			AR2475															
Energy Ratio, Er (%)			67.00															
Calibration Date			16/10/2020															

S - Standard Penetration Test (SPT)
C - SPT with cone
L - Split Spoon with liner used

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'					
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50	
BH304	1.20	64.94	S	-	1	2	2	2	2	2	8	*					
BH304	3.50	62.64	S	-	2	3	3	4	4	5	16		*				
BH304	6.00	60.14	S	-	3	4	5	5	5	7	22			*			
Driller			Kris Roebuck				Remarks										
Hammer No.			AR2475														
Energy Ratio, Er (%)			67.00														
Calibration Date			16/10/2020														

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

GEOTECHNICS



Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'					
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50	
BH303	1.20	65.48	S	-	1	-	-	1	-	-	1	*					
BH303	2.50	64.18	S	-	2	2	2	3	2	3	10	*					
BH303	4.70	61.98	S	-	3	4	5	5	5	6	21		*				
BH303	7.50	59.18	S	-	3	4	5	5	6	6	22			*			
BH303	10.00	56.68	S	-	6	9	13	20	17/60		50/210						>
Driller			Matt Roberts				Remarks										
Hammer No.			AR2145														
Energy Ratio, Er (%)			64.00														
Calibration Date			19/05/2020														

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

GEOTECHNICS

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'					
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50	
BH302	1.20	65.19	S	-	1	-	-	1	-	-	1	*					
BH302	2.50	63.89	S	-	1	-	1	1	1	1	4	*					
BH302	3.80	62.59	S	-	3	3	3	3	4	4	14		*				
BH302	4.80	61.59	S	-	2	3	3	4	4	5	16		*				
BH302	7.80	58.59	S	-	4	6	7	8	12	19	46					*	
BH302	9.00	57.39	S	-	6	9	12	15	17	6/10	50/235						>
BH302	10.00	56.39	S	-	11	14/50	19	23	8/10		50/160						>
Driller			Kris Roebuck				Remarks										
Hammer No.			AR2475														
Energy Ratio, Er (%)			67.00														
Calibration Date			16/10/2020														

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

GEOTECHNICS

Fieldwork Results - SPT Results Summary

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)

Project No PC207899

Client Graven Hill Village Development Company Limited

Hole	Depth m bgl	Level m OD	Type	SWP (mm)	Seating Drive		Test Drive				SPT 'N' Value	Uncorrected SPT 'N'				
					0-75 (mm)	75-150 (mm)	0-75 (mm)	75-150 (mm)	150-225 (mm)	225-300 (mm)		10	20	30	40	50
BH301	1.20	64.69	S	-	1	1	2	2	3	3	10	*				
BH301	2.50	63.39	S	-	1	2	2	2	2	3	9	*				
BH301	3.50	62.39	S	-	1	3	3	3	3	4	13		*			
BH301	6.00	59.89	S	-	4	5	9	11	12	13	45				*	
BH301	7.50	58.39	S	-	4	8	7	10	11	14	42				*	
BH301	9.00	56.89	S	-	4	8	11	14	19	6/10	50/235					>
BH301	10.00	55.89	S	-	3	7	12	18	20/70		50/220					>
Driller			Kris Roebuck			Remarks										
Hammer No.			AR2475													
Energy Ratio, Er (%)			67.00													
Calibration Date			16/10/2020													

-/- Blows/penetration (mm) after seating

-*/- Total blows/penetration (mm)

SWP Penetration under own weight (mm)

S - Standard Penetration Test (SPT)

C - SPT with cone

L - Split Spoon with liner used

GEOTECHNICS

Draft

Project GRAVEN HILL, BICESTER, LAND TRANSFER
AREA 2 (LTA2)

Engineer

**WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITED**

Borehole
Project No

TP325
PC207899

Client **GRAVEN HILL VILLAGE DEVELOPMENT
COMPANY LIMITED**

National Grid Coordinates

458964.9 E
221117.7 N

Ground Level 68.89 m OD

Sampling			Properties			Strata		Scale 1:50						
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD					
0.10- 0.20	B					MADE GROUND: Asphalt.	G.L.		68.89					
0.10- 0.20	D						0.20		68.69					
0.10- 0.20	ES													
0.10- 0.20			PID=<0.1			MADE GROUND: Grey and brown slightly sandy gravel with a high cobble content of granite and limestone. Gravel is angular to subangular fine to coarse granite and limestone.	0.60		68.29					
0.20- 0.40	B						0.80		68.09					
0.20- 0.30	D													
0.20- 0.30	ES		PID=<0.1			MADE GROUND: Soft dark brown and black slightly sandy gravelly clay. Gravel is angular to subangular fine to coarse ash, clinker and sandstone.	1.20		67.69					
0.20- 0.30														
0.60- 0.80	B													
0.60- 0.70	D													
0.60- 0.70	ES		PID=<0.1			Firm orangish brown slightly sandy CLAY.								
0.80- 1.00	B													
0.80- 0.90	D													
1.00- 1.10	D					Firm orangish brown mottled grey slightly sandy CLAY with occasional pockets (up to 1mm in size) of brown silt.								
1.00- 1.10	ES		PID=<0.1											
1.20- 1.80	B													
1.20- 1.65	UT40	1.20 (DRY)	78	30										
1.65- 1.70	D													
2.00- 2.10	D													
2.00- 2.10	ES		PID=<0.1											
2.00- 2.10														
2.30- 2.75	D	1.50 (DRY)			S10	Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size).	2.90		65.99					
2.90- 3.20	B													
2.90- 3.00	D													
3.20- 3.65	UT60	1.50 (DRY)	124	25										
3.65- 3.70	D													
3.70- 4.00	B													
4.00- 4.10	D													
4.30- 4.75	D	1.50 (DRY)			S17									
5.10- 5.20	D													
5.50- 5.95	UT70	1.50 (DRY)												
5.95- 6.00	D													
						End of Borehole	6.00		62.89					
Boring						Progress			Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	DC/LC	G.L.	1.50	DRY	24/07/20	08:00						None encountered during boring.
6.00		Cable Percussion	DC/LC	6.00			24/07/20	18:00						
Remarks  Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. A 50mm standpipe was installed to 3.00m with a geowrapped slotted section from 1.00m to 3.00m with flush lockable protective cover. Backfill details from base of hole: bentonite up to 3.00m, gravel filter up to 1.00m, bentonite up to 0.30m, concrete up to ground level.														
Symbols and abbreviations are explained on the accompanying key sheet.														
All dimensions are in metres.														
Logged in accordance with BS5930:2015														
Logged by SI														
Figure 1 of 1														
11/11/2020														
														

BOREHOLE RECORD - Cable Percussion

Draft

Project **GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)** Engineer **WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED** Borehole Project No **TP323 PC207899**

Client **GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED** National Grid Coordinates **458905.6 E 221095.0 N** Ground Level **69.44 m OD**

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.00- 0.20	B		PID=<0.1			MADE GROUND: Asphalt.	G.L.		69.44
0.10- 0.20	D						69.24		
0.10- 0.20	ES						69.04		
0.10- 0.20									
0.20- 0.40	B								
0.20- 0.30	D								
0.20- 0.30	ES								
0.20- 0.30									
0.40- 0.70	B								
0.70- 1.10	B								
0.70- 0.80	D	1.20 (DRY)	PID=<0.1			MADE GROUND: Light grey slightly sandy gravel with a high cobble content of subangular granite. Gravel is angular to subangular coarse granite.	0.70		68.74
0.20- 0.30	ES								
0.70- 0.80	ES								
0.70- 0.80									
1.00- 1.10	D								
1.00- 1.10	ES								
1.00- 1.10									
1.10- 1.20	D								
1.20- 1.65	UT30								
1.65- 2.20	B								
1.65- 1.70	D	1.50 (DRY)	PID=<0.1			MADE GROUND: Soft dark grey slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse sandstone and concrete.	1.10		68.34
2.00- 2.10	D								
2.00- 2.10	ES								
2.00- 2.10									
2.20- 2.30	D								
2.40- 3.00	B								
2.40- 2.85	D								
3.00- 3.10	D								
3.30- 3.75	UT50								
3.75- 3.80	D					1.50 (DRY)			
3.80- 4.20	B								
4.00- 4.10	D								
4.30- 4.75	D								
5.00- 5.50	B								
5.00- 5.10	D								
5.60- 6.05	UT65	1.50 (DRY)							
6.05- 6.10	D					Stiff dark greyish green slightly sandy CLAY with occasional shell fragments (up to 50mm in size).	3.50		65.94
			S16			End of Borehole	6.10		63.34

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			23/07/20	08:00						None encountered during boring.
6.10	0.15	Cable Percussion	DC/LC DC/LC	6.10	1.50	DRY	23/07/20	18:00						

Remarks **INS** Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
 Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
 Backfill details from base of hole: bentonite up to 0.30m, asphalt up to ground level.

Logged by **SI**
 Figure **1 of 1**
 11/11/2020

geotechnics

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Borehole Project No	BHPT434 PC207899	
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459292.3	E	Ground Level	71.54	m OD
			220925.4	N			

Sampling			Properties			Strata		Scale 1:50						
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD					
						MADE GROUND: Block paving.**	G.L.		71.54					
						MADE GROUND: Concrete.**	0.10		71.44					
0.50- 1.00 0.60 0.60 0.60	B D ES		PID=<0.1			MADE GROUND: Greyish brown sandy slightly clayey gravel with a medium cobble content of subangular to subrounded limestone and granite. Gravel is angular to subangular fine to coarse limestone and granite.	0.45		71.09					
1.10 1.10 1.20- 1.65 1.30- 2.50 1.30 1.30 1.50	ES D B ES D	1.20 (DRY)	PID=<0.1		S5	Soft light grey mottled brown slightly sandy slightly gravelly CLAY with rare pockets (up to 20mm in size) of brown sand. Gravel is angular to subangular fine to coarse limestone. Below 1.50m, with occasional pockets (up to 5mm in size) of light grey silt.	1.30		70.24					
2.50- 2.95 2.50 2.50 2.80- 3.50 3.00	D ES B D	3.00 (DRY)	PID=<0.1		S14	Firm dark grey slightly sandy CLAY. Below 3.00m, with occasional gypsum crystals (up to 3mm in size).	2.80		68.74					
3.50- 3.95	UT27	1.30 (DRY)					3.90		67.64					
3.90- 4.50 3.95- 4.10 4.20	B D D				S21	Stiff dark grey slightly sandy CLAY with occasional shell fragments (up to 20mm in size). Below 4.20m, becomes stiff.								
4.50- 4.95	D	3.00 (DRY)												
5.50	D					Below 5.50m, with many shell fragments (up to 10mm in size).								
6.00- 6.45	UT41	3.00 (DRY)				End of Borehole	6.00		65.54					
6.45- 6.60	D													
Boring			Progress			Groundwater								
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20 6.60	0.15	Inspection Pit Cable Percussion	MR/SS MR/SS	G.L. 6.45	3.00	DRY	14/08/20 14/08/20	08:00 18:00						None encountered during boring.
Remarks  Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: bentonite up to 0.50m, concrete up to 0.10m, arisings up to ground level.														
Symbols and abbreviations are explained on the accompanying key sheet.														
All dimensions are in metres.														
Logged in accordance with BS5930:2015														
Logged by JD														
Figure 1 of 1														
11/11/2020														
														

BOREHOLE RECORD - Cable Percussion

Draft

Project **GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)** Engineer **WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED** Borehole Project No **BHTP418 PC207899**

Client **GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED** National Grid Coordinates **459469.3 E 220858.4 N** Ground Level **70.31 m OD**

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
						MADE GROUND: Block paving.	G.L.		70.31		
						MADE GROUND: Concrete.	0.10		70.21		
0.50	ES		PID<0.1			MADE GROUND: Grey and brown sandy silty gravel. Gravel is angular to subangular fine to coarse limestone, concrete, granite and flint.	0.45		69.86		
0.50	D										
0.60											
1.00	D		PID<0.1			Very soft greenish brown slightly sandy slightly gravelly CLAY with a slight organic odour and occasional shell fragments (up to 10mm in size). Gravel is angular to subrounded fine to medium limestone and flint.	0.90		69.41		
1.00	ES										
1.00											
1.20- 1.65	D	1.20 (DRY)			S2						
2.00	D										
2.50- 2.95	D	1.20 (DRY)	PID<0.1		S12	Firm brown mottled light brown slightly sandy slightly gravelly CLAY with a slight organic odour and occasional gypsum crystal (up to 2mm in size). Gravel is angular to subangular fine of limestone.	2.60		67.71		
2.60- 3.50	B										
2.60	ES										
2.60	D										
3.50- 3.95	D	1.20 (DRY)			S15	Stiff grey CLAY with many shell fragments (up to 8mm in size).	3.70		66.61		
3.70- 4.50	B										
4.00	D										
4.50- 4.95	UT29	1.20 (DRY)									
4.95- 5.10	D										
5.50	D										
6.00- 6.45	D	1.20 (DRY)			S21	End of Borehole	6.45		63.86		

Boring				Progress					Groundwater						
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater	
1.20		Inspection Pit		G.L.			17/08/20	08:00						None encountered during boring.	
6.45	0.15	Cable Percussion	MR/SS MR/SS	6.45	1.20	DRY	17/08/20	18:00							

Remarks **AS** Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
 Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
 Water was added to assist boring between 2.60 and 6.00 m.
 Backfill details from base of hole: bentonite up to ground level.

Logged by **MM**
 Figure **1 of 1**
 11/11/2020

geotechnics

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Remarks  filter up to 1.50m, bentonite up to 0.20m, concrete up to ground level.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

Logged by JD

Figure 2 of 2
11/11/2020



Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Borehole Project No	BHTP417 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459407.2	E	Ground Level	70.94 m OD
			220838.8	N		

Sampling			Properties			Strata			Scale 1:50					
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD					
0.40- 1.00	B	1.20 (DRY)	PID<0.1	31	S7	MADE GROUND: Block paving.**	G.L.		70.94					
0.40	ES					MADE GROUND: Concrete. **	0.10		70.84					
0.40	D					PROBABLE MADE GROUND: Grey sandy clayey gravel with high cobble content of subangular limestone. Gravel is subangular to subrounded medium to coarse limestone.	0.40		70.54					
0.50	ES													
0.90	D	1.20 (DRY)	PID<0.1	31	S7	Soft grey mottled brown slightly sandy slightly gravelly CLAY. Gravel is subrounded medium to coarse limestone.	1.20		69.74					
0.90	ES													
1.20- 1.65	D													
1.20	ES													
1.20	B	1.20 (DRY)	PID<0.1	41	S13	Below 2.50m, becoming firm.	2.95		67.99					
2.00	D													
2.20	ES													
2.20	UT12													
2.50- 2.95	D	1.20 (DRY)	PID<0.1	29	S13	Firm light grey mottled brown slightly sandy slightly gravelly CLAY with occasional relic roots (up to 2mm in diameter) and occasional pockets (up to 30mm in size) of white slightly sandy silt. Below 3.50m, becoming fissured with occasional gypsum crystals (up to 3mm in size). Fissures are subhorizontal, extremely to very closely spaced, smooth and undulating.	3.90		67.04					
2.95- 3.10	D													
3.30	D													
3.50- 3.95	D													
3.90- 4.50	B	1.20 (DRY)	103	27	S21	Stiff dark grey slightly sandy CLAY with occasional shell fragments (up to 25mm in size).	6.45		64.49					
4.20	D													
4.50- 4.95	UT32													
4.95- 5.10	D													
5.50	D	1.20 (DRY)	PID<0.1	41	S21	Below 4.95m, with many shell fragments (up to 15mm in size).								
6.00- 6.45	D													
						End of Borehole								
Boring			Progress					Groundwater						
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	MR/SS	G.L.	1.20	DRY	14/08/20	08:00						None encountered during boring.
6.45		Cable Percussion	MR/SS	6.45			14/08/20	18:00						
Remarks Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Water was added to assist boring between 1.20 and 6.00 m. ** Drillers description. A 50mm standpipe was installed to 6.00m with a geowrapped slotted section from 1.50m to 6.00m with upright lockable protective cover. Backfill details from base of hole: gravel														
Logged in accordance with BS5930:2015														
Logged by JD														
Figure 1 of 2														
11/11/2020														

BOREHOLE RECORD - Cable Percussion

Draft

Project **GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)** Engineer **WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED** Borehole Project No **BHTP416 PC207899**

Client **GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED** National Grid Coordinates **459412.5 E 220907.6 N** Ground Level **71.00 m OD**

Sampling			Properties			Strata		Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD	
						MADE GROUND: Block paving.	G.L.		71.00	
						MADE GROUND: Concrete.	0.10		70.90	
0.40- 1.00	B					MADE GROUND: Greyish brown sandy clayey gravel with a high cobble content of angular to subangular concrete and limestone. Gravel is angular to subangular fine to coarse concrete, limestone, sandstone and flint.	0.40		70.60	
0.50	D									
0.50	ES		PID=<0.1							
0.50										
1.10	ES					Soft brown mottled grey mottled orangish brown slightly sandy CLAY.				
1.10			PID=<0.1		S6					
1.20- 1.65	D	1.20 (DRY)					1.30		69.70	
1.30- 2.50	B									
1.30	ES		PID=<0.1			Firm brown mottled dark brown CLAY with occasional pockets (up to 10mm in size) of light brown slightly sandy clay, occasional gypsum crystals (up to 2mm in size) and an organic odour.				
1.30										
1.50	D									
2.30	ES		PID=<0.1		S13	Stiff grey CLAY with many shell fragments (up to 15mm in size) and occasional gypsum crystals (up to 5mm in size).	2.60		68.40	
2.30										
2.50- 2.95	D	1.20 (DRY)								
2.60- 3.50	B									
3.00	D					End of Borehole				
3.50	UT23	1.20 (DRY)			S17		3.80		67.20	
3.80- 4.50	B									
3.95- 4.10	D					End of Borehole				
4.10	D									
4.50- 4.95	D	1.20 (DRY)								
5.50	D					End of Borehole				
6.00	UT37	1.20 (DRY)					6.45		64.55	

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit	MR/SS	G.L.			17/08/20	08:00						None encountered during boring.
6.45	0.15	Cable Percussion	MR/SS	6.45	1.20	DRY	17/08/20	18:00						

Remarks **AS** Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
 Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
 Water was added to assist boring between 2.00 and 6.00 m.
 Backfill details from base of hole: bentonite up to ground level.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

Logged by **MM**

Figure **1 of 1**
11/11/2020

geotechnics

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BHTP415 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459333.6 E 220890.6 N	Ground Level	71.53 m OD

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
0.30- 0.70	B					MADE GROUND: Block paving.**	6.10		71.53		
0.40	ES					MADE GROUND: Concrete.**	0.40		71.13		
0.50- 1.00	B		PID<0.1			MADE GROUND: Brown very sandy clayey gravel with a medium cobble content of subangular to subrounded limestone. Gravel is subangular fine to coarse limestone and metal.					
0.50	D										
0.90	ES		PID<0.1								
1.20- 1.65	D	1.20 (DRY)			S1						
1.30- 2.50	B										
1.30	ES		PID<0.1			Soft grey mottled brown slightly sandy CLAY. Between 1.30-2.50m, with rare relic rootlets (up to 6mm in size) and rare pockets (up to 30mm in size) of grey silt.	1.30		70.23		
1.30	D					At 1.50m, with rare pockets (up to 45mm in size) of brown sand.					
1.50	D										
2.30			PID<0.1								
2.50	ES	1.20 (DRY)	46	36		Below 2.50m, becoming firm.					
2.50- 2.95	UT11										
3.10- 3.50	B										
3.30	D	1.20 (DRY)			S14	Firm dark grey mottled brown slightly sandy CLAY with occasional gypsum crystals (up to 3mm in size).	3.10		68.43		
3.50- 3.95	D					Below 3.50m, with many gypsum crystals (up to 3mm in size).					
4.10- 4.50	B										
4.30	D	1.20 (DRY)				Stiff dark grey slightly sandy CLAY. Below 4.30m, with rare pockets (up to 25mm in size) of orangish brown sand.	4.10		67.43		
4.50- 4.95	UT33										
4.95- 5.10	D					Below 4.95m, with many shell fragments (up to 8mm in size).					
5.50	D										
6.00- 6.45	D	1.20 (DRY)			S21	Below 6.00m, with occasional shell fragments (up to 10mm in size).	6.45		65.08		
						End of Borehole					

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	MR/SS	6.10	1.20	DRY	13/08/20	08:00						None encountered during boring.
6.45		Cable Percussion	MR/SS	6.45			13/08/20	18:00						

Remarks	Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Water was added to assist boring between 1.20 and 6.00 m. ** Drillers description. Backfill details from base of hole: bentonite up to 0.50m, concrete up to 0.10m, arisings up to ground level. Logged in accordance with BS5930:2015	Logged by JD Figure 1 of 1 11/11/2020 geotechnics
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Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Borehole Project No	BHTP414 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459351.3 220946.0	E N	Ground Level	71.46 m OD

Sampling			Properties			Strata				Scale 1:50			
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD				
0.50- 1.00	B	1.20 (DRY)	PID<=0.1	S6	MADE GROUND: Block paving.	G.L.		71.46					
0.50	D				MADE GROUND: Concrete.	0.10		71.36					
0.50	ES				MADE GROUND: Grey and brown sandy slightly clayey gravel. Gravel is angular to subangular fine to coarse limestone and granite.	0.50		70.96					
0.50	ES					1.20		70.26					
1.00	D												
1.00	ES	PID<=0.1	S6	Soft to firm orangish brown mottled grey slightly sandy CLAY.	1.20		70.26						
1.20- 1.65	D												
1.50	D												
1.50	ES	1.50 (DRY)	25	45	Below 2.80m, with occasional decomposed rootlets and an organic odour.	3.30		68.16					
2.30- 2.75	UT21												
2.80- 3.20	B												
2.80	D												
3.30	D												
3.40- 3.85	D	1.50 (DRY)	S16	Stiff dark grey slightly sandy CLAY with occasional gypsum crystals (up to 10mm in size).	6.45		65.01						
3.50- 4.00	B												
4.00	D												
4.50- 4.95	UT41												
5.10	D												
6.00- 6.45	D	1.50 (DRY)	S24	End of Borehole	6.45		65.01						

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	KR/JT	G.L.	1.50	DRY	13/08/20	08:00						None encountered during boring.
6.45		Cable Percussion	KR/JT	6.45			13/08/20	18:00						

Remarks

 Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Backfill details from base of hole: bentonite up to 0.50m, concrete up to 0.10m, arisings up to ground level.

Logged by

JD

Figure

1 of 1

11/11/2020



All dimensions are in metres

Logged in accordance with BS5930:2015

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH819 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459041.0 E 219696.9 N	Ground Level	64.78 m OD

Sampling			Properties			Strata		Scale 1:50							
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD						
0.20- 0.30	B					MADE GROUND: Concrete.	G.L.		64.78						
0.20- 0.30	D						0.20		64.58						
0.40- 0.60	B					MADE GROUND: Light brown slightly sandy gravel. Gravel is angular to subangular fine to coarse limestone.	0.40		64.38						
0.40- 0.50	D						0.60		64.18						
0.40- 0.50	ES		PID=<0.1												
0.60- 0.50						MADE GROUND: Soft dark brown slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse brick and ash.									
0.60- 1.00	B						1.20		63.58						
0.60- 0.70	D					Soft to firm dark greyish brown slightly sandy CLAY.									
0.60- 0.70	ES		PID=<0.1												
0.60- 0.70						Soft to firm light orangish brown slightly sandy CLAY with occasional shell fragments (up to 30mm in size).									
1.00- 1.20	D						2.00		62.78						
1.00- 1.20	ES		PID=<0.1												
1.20- 1.30	D														
1.30- 1.80	B	1.30 (DAMP)			S5	Firm dark brown slightly sandy CLAY with occasional shell fragments (up to 20mm in size).									
1.30- 1.75	D														
2.00- 3.10	B														
2.00- 2.10	D														
2.00- 2.10	ES		PID=<0.1	43											
2.00- 2.10	D	1.50 (DRY)	55												
2.30- 2.75	UT40														
2.75- 2.80	D														
3.10- 3.20	D						3.10		61.68						
3.30- 3.75	D	1.30 (DAMP)			S20	Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size).									
3.80- 4.10	B														
4.10- 4.20	D														
4.30- 4.75	UT70	1.50 (DRY)	90	27											
4.75- 4.80	D														
5.30- 5.40	D														
5.50- 5.95	D	1.50 (DRY)			S31										
						End of Borehole	6.00		58.78						
Boring					Progress				Groundwater						
Depth	Hole Dia	Technique		Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit		DC/LC	G.L.	1.50	DRY	20/07/20	08:00	1.20	1.50				Seepage.
6.00		Cable Percussion		DC/LC	6.00			20/07/20	18:00	2.80				NS	Seepage.
Remarks  Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: bentonite up to ground level.															
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres.												Logged by SI Figure 1 of 1 11/11/2020			
All dimensions are in metres. Logged in accordance with BS5930:2015															

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Project GRAVEN HILL, BICESTER, LAND TRANSFER
AREA 2 (LTA2)

Engineer

**WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITED**

Borehole
Project No

BH818
PC207899

Client **GRAVEN HILL VILLAGE DEVELOPMENT
COMPANY LIMITED**

National Grid	459030.2	E
Coordinates	219643.4	N

Ground Level 64.18 m OD

[illegible]

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH815 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459259.3 E 219761.9 N	Ground Level	66.23 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.20	ES					TOPSOIL.**	6.L.		66.23
0.20							0.10		66.13
0.50- 1.00	B		PID=<0.1			Loose brown clayey TOPSOIL.**	0.30		65.93
0.50	D								
0.50	ES		PID=<0.1			Firm brown slightly sandy slightly gravelly CLAY with occasional rootlets. Gravel is angular to subangular fine limestone.			
0.50									
1.00	ES		PID=<0.1						
1.00									
1.20- 1.65	D	1.20 (DRY)			S9	Firm orangish brown mottled grey calcareous CLAY with many shell fragments (up to 3mm in size).	1.20		65.03
1.50	ES		PID=<0.1						
1.50									
1.70	D								
2.30- 2.75	UT31	1.50 (DRY)	66	33					
2.80	D								
3.00- 3.40	B								
3.40- 3.85	D	1.50 (DRY)			S18	Stiff dark greyish brown CLAY with an organic odour.	3.00		63.23
3.90	D			35					
4.60- 5.05	UT42	1.50 (DRY)	69						
5.10	D					Below 5.10m, with occasional pockets (up to 15mm in size) of orangish brown slightly sandy clay and occasional gypsum crystals (up to 2mm in size).			
6.00- 6.45	D	1.50 (DRY)			S30				

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit	KR/JT	G.L.			10/08/20	08:00						None encountered during boring.
6.45	0.15	Cable Percussion	KR/JT	6.45	1.50	DRY	10/08/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
** Drillers description.
A 50mm standpipe was installed to 6.00m with a geowrapped slotted section from 1.00m to 6.00m with upright lockable protective cover. Backfill details from base of hole: gravel filter up to 1.00m, bentonite up to 0.50m, concrete up to ground level.

All dimensions are in metres. Logged in accordance with BS5930:2015

Logged by MM
Figure 1 of 1
11/11/2020



BOREHOLE RECORD - Cable Percussion

Draft

Project **GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)** Engineer **WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED** Borehole Project No **BH814 PC207899**

Client **GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED** National Grid Coordinates **459148.5 E 219816.4 N** Ground Level **66.46 m OD**

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.00- 0.20	B	1.20 (DRY)	PID<0.1		S7	MADE GROUND: Firm dark brown slightly sandy clay with many rootlets and rare roots (up to 4mm in diameter). Gravel is angular to subangular fine to coarse sandstone.	G.L.		66.46
0.10- 0.20	D						0.20		66.26
0.10- 0.20	ES						0.60		65.86
0.10- 0.20	B								
0.20- 0.50	B		PID<0.1		MADE GROUND: Black gravelly slightly clayey sand. Gravel is angular to subangular fine to coarse coal, ash and clinker. Between 0.50-0.60m, with many pockets (up to 60mm in size) of orangish brown sandy clay.	1.90		64.56	
0.20- 0.30	D								
0.20- 0.30	ES								
0.20- 0.30	B								
0.50- 0.60	D		PID<0.1		Soft light orangish brown slightly sandy CLAY with rare roots (up to 2mm in diameter).	2.20		64.26	
0.50- 0.60	ES								
0.50- 0.60	B								
0.60- 0.90	D								
0.60- 0.70	D	PID<0.1		Soft to firm dark grey slightly sandy CLAY with occasional pockets (up to 30mm in size) of sand.	2.20				
1.00- 1.10	D								
1.00- 1.10	ES								
1.00- 1.10	UT20								
1.20- 1.65	D	1.20 (DRY)		S22	Firm dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size).	2.20			
1.65- 1.70	D								
1.90- 2.00	D								
1.90- 2.00	ES								
1.90- 2.00	B	1.50 (DAMP)				2.20			
2.20- 2.65	D								
2.60- 3.40	B								
3.00- 3.10	D								
3.40- 3.85	UT60	1.50 (DAMP)				2.20			
3.85- 3.90	D								
4.00- 4.10	D								
4.00- 4.10	D								
4.50- 4.95	D	1.50 (DRY)				2.20			
5.00- 5.50	B								
5.00- 5.10	D								
5.00- 5.10	D								
5.50- 5.95	UT70	1.50 (DRY)				2.20			
5.50- 5.95	D								
5.50- 5.95	D								
5.50- 5.95	D								
5.95- 6.00	D					2.20			
5.95- 6.00	D								
5.95- 6.00	D								
5.95- 6.00	D								
End of Borehole						6.00		60.46	

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20 6.00	0.15	Inspection Pit Cable Percussion	DC/LC DC/LC	G.L. 6.00	1.50	DRY	17/07/20 17/07/20	08:00 18:00	3.90	1.50				Seepage.

Remarks **Inspection pit hand excavated to 1.20m depth and no services were found.**
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Backfill details from base of hole: bentonite up to ground level.

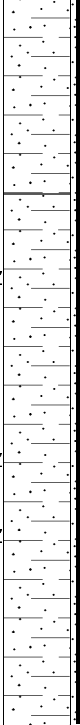
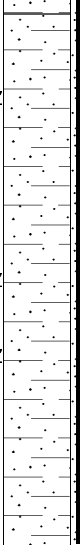
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 Figure **1 of 1**
 11/11/2020

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BOREHOLE RECORD - Cable Percussion

Draft

Project **GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)** Engineer **WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED** Borehole **BH813**
 Client **GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED** National Grid Coordinates **459117.7 E 219914.4 N** Project No **PC207899**
 Ground Level **69.10 m OD**

Sampling			Properties			Strata		Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD	
0.00- 0.20	B		PID=<0.1	22	S7	MADE GROUND: Firm dark brown slightly sandy slightly gravelly clay with many rootlets and occasional roots (up to 4mm in size). Gravel is angular to subangular fine to coarse brick.	6.L.		69.10	
0.10- 0.20	D					0.20		68.90		
0.10- 0.20	ES					MADE GROUND: Firm brown slightly sandy slightly gravelly clay with rare rootlets and rare roots (up to 3mm in size). Gravel is angular to subangular fine to coarse concrete, ash and clinker.	0.70		68.40	
0.10- 0.20	B						Stiff orangish brown mottled grey slightly sandy CLAY with rare partly-decomposed rootlets.	2.50		66.60
0.20- 0.30	D									
0.20- 0.30	D									
0.50- 0.70	B									
0.50- 0.60	D									
0.50- 0.60	ES									
0.50- 0.60	PID=<0.1									
0.70- 1.00	B									
0.70- 0.80	D	22								
1.00- 1.10	D	PID=<0.1	97	28	S13	Firm dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 20mm in size).	2.50		66.60	
1.00- 1.10	ES									
1.00- 1.10	D									
1.20- 1.65	D									
2.00- 2.10	D									
2.00- 2.10	ES									
2.00- 2.10	PID=<0.1									
2.20- 2.65	UT35									
2.20- 2.65	1.50 (DRY)									
2.65- 2.70	D									
2.70- 3.00	B	1.50 (DAMP)			S22	Below 5.50m, becoming stiff.	6.00		63.10	
3.00- 3.10	D									
3.10	W									
3.20- 3.65	D									
3.20- 3.65	1.50 (DRY)									
4.00- 4.10	D									
4.30- 4.75	UT60									
4.75- 4.80	D									
5.00- 5.10	D									
5.50- 5.95	D									
5.90- 6.00	D	End of Borehole								

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		6.1			16/07/20	08:00	4.30	1.50				
6.00	0.15	Cable Percussion	DC/LC DC/LC	6.00	1.50	3.10	16/07/20	18:00	4.80	1.50	3.10	20	NS	Seepage Fast inflow

Remarks **AS** Inspection pit hand excavated to 1.20m depth and no services were found.
 ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
 Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
 A 50mm standpipe was installed to 6.00m with a geowrapped slotted section from 1.00m to 6.00m with flush lockable protective cover. Backfill details from base of hole: gravel filter up to 1.00m, bentonite up to 0.30m, concrete up to ground level.

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 Figure **1 of 1**
 11/11/2020

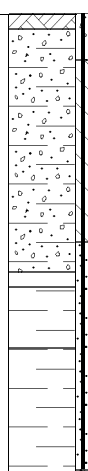
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BOREHOLE RECORD - Cable Percussion

Draft

Project **GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)** Engineer **WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED** Borehole Project No **BH812 PC207899**

Client **GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED** National Grid Coordinates **459271.1 E 219925.0 N** Ground Level **69.31 m OD**

Sampling			Properties			Strata		Scale 1:50				
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD			
0.00- 0.10	B	1.20 (DRY)	PID=<0.1 21		S7	TOPSOIL: Dark brown slightly sandy clay with many rootlets and roots (up to 5mm in diameter).	6.L.		69.31			
0.00- 0.10	D					0.10	69.21					
0.00- 0.10	ES											
0.00- 0.10												
0.10- 0.50	B											
0.10- 0.20	D											
0.50- 0.80	B						Firm to stiff brownish grey slightly sandy slightly gravelly calcareous CLAY with occasional shell fragments (up to 10mm in size), rare rootlets and roots (up to 4mm in diameter). Gravel is angular to subangular fine to coarse quartzite.					
0.50- 0.60	D											
0.50- 0.60	ES											
0.50- 0.60												
1.00- 1.10	D											
1.00- 1.10	ES											
1.00- 1.10												
1.20- 1.65	UT30					PID=<0.1 58	33			1.70		67.61
1.65- 1.70	D								Very soft dark brown organic CLAY with rare calcareous concretions (up to 3mm in size).	1.80		67.51
1.70- 1.80	D											
1.80- 2.20	B				Stiff dark brownish grey CLAY.	2.20		67.11				
1.80- 1.90	D											
1.80- 1.90	ES		PID=<0.1		Firm to stiff light brownish grey CLAY.							
2.20- 2.80	B	1.50 (DRY)										
2.20- 2.65	D											
2.80- 2.90	D											
3.20- 3.65	UT45	1.50 (DAMP)	38	34								
3.50- 3.90	B						3.50		65.81			
3.65- 3.70	D					Firm dark brownish grey slightly sandy CLAY with occasional gypsum crystals (up to 60mm in size) and rare shell fragments (up to 2mm in size).						
3.90- 4.00	D											
4.20- 4.65	D	1.50 (DRY)			S10							
4.80- 4.90	D						4.80		64.51			
4.90- 5.70	B					Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 10mm in size).						
5.70- 6.15	UT65	1.50 (DRY)										
6.15- 6.20	D					End of Borehole	6.20		63.11			

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	In Mins	Depth Sealed	Remarks on Groundwater
1.20				G.L.			16/07/20	08:00	3.20	1.50			NS	Seepage
6.20	0.15	Inspection Pit Cable Percussion	DC/LC DC/LC	6.20	1.50	DRY	16/07/20	18:00						

Remarks **Inspection pit hand excavated to 1.20m depth and no services were found.**
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
A 50mm standpipe was installed to 3.00m with a geowrapped slotted section from 1.50m to 6.00m with upright lockable protective cover. Backfill details from base of hole: bentonite up to 3.00m, gravel filter up to 1.50m, bentonite up to 0.30m, concrete up to ground level.

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 Figure **1 of 1**
 11/11/2020

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BOREHOLE RECORD - Cable Percussion

Draft

Project **GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)** Engineer **WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED** Borehole Project No **BH809 PC207899**

Client **GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED** National Grid Coordinates **459516.0 E 219985.0 N** Ground Level **66.45 m OD**

Sampling			Properties			Strata		Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD	
0.10- 0.40	B	1.20 (DRY)	PID=<0.1	26	S11	MADE GROUND: Firm dark brown slightly sandy slightly gravelly clay with many rootlets. Gravel is angular to subangular fine to coarse brick and clinker.	G.L.		66.45	
0.10	D					0.40	66.05			
0.10	ES									
0.10	B									
0.50- 1.20	D									
0.50	D									
0.50	ES									
0.50	B									
1.20- 1.65	D					1.30	65.15			
1.20	ES									
1.20	B	1.20 (DRY)	PID=<0.1	29	S41	Firm light orangish brown and grey slightly sandy CLAY.				
1.30- 2.30	B									
1.70	D									
2.30- 2.75	UT13					2.50	63.95			
2.50- 3.50	B									
2.60- 3.50	B									
2.75- 2.90	D									
3.00	D									
3.50- 4.50	B	1.20 (DRY)	92	24	S33	Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 50mm size).	3.50		62.95	
3.50- 3.95	D									
3.95- 4.10	D									
4.00	D									
4.50- 4.95	UT32									
4.95- 5.10	D									
5.50	D									
6.00- 6.45	D									
						6.45	60.00			

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	In Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	MR/SS	G.L.	1.20	DRY	21/07/20	08:00						None encountered during boring.
6.45		Cable Percussion	MR/SS	6.45			21/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Water was added to assist boring between 1.20 and 6.00 m.
Backfill details from base of hole: bentonite up to ground level.

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Figure **1 of 1**
11/11/2020



BOREHOLE RECORD - Cable Percussion

Draft

Project **GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)** Engineer **WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED** Borehole Project No **BH808 PC207899**

Client **GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED** National Grid Coordinates **459556.4 E 220016.5 N** Ground Level **66.63 m OD**

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.10- 0.40	B					MADE GROUND: Black slightly gravelly slightly clayey sand with many rootlets. Gravel is angular to subangular fine to coarse ash and clinker.	G.L.		66.63
0.20	D								
0.20	ES		PID=<0.1				0.40		66.23
0.20									
0.50- 1.20	B								
0.50	D		PID=<0.1			Firm light orangish brown mottled grey slightly sandy CLAY.			
0.50	ES								
0.50									
1.20- 1.65	D	1.20 (DRY)			S12				
1.40- 2.30	B								
1.50	ES		PID=<0.1			Soft to firm dark grey slightly sandy CLAY with occasional shell fragments (up to 20mm in size).	1.60		65.03
1.50									
1.80	D		35						
2.40- 2.85		1.20 (DRY)			S6	Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size).			
3.10- 3.50	B						3.10		63.53
3.30	D								
3.50- 3.95	D	1.20 (DRY)			S19				
4.00	D								
4.50- 4.95	UT27	1.20 (DRY)	120	24					
4.95- 5.10	D								
5.50	D								
6.00- 6.45	D	1.20 (DRY)			S30				
						End of Borehole	6.45		60.18

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			20/07/20	08:00	1.80	1.20				Seepage.
6.45	0.15	Cable Percussion	MR/SS MR/SS	6.45	1.20	DRY	20/07/20	18:00						

Remarks **Inspection pit hand excavated to 1.20m depth and no services were found.**

ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Water was added to assist boring between 1.20 and 6.00 m.
Backfill details from base of hole: bentonite up to ground level.

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Figure **1 of 1**
11/11/2020

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BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH807 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459433.9 E 220078.5 N	Ground Level	69.85 m OD

Sampling			Properties			Strata		Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD	
0.10	ES					MADE GROUND: Asphalt.	G.L.		69.85	
0.10			PID=<0.1				0.15		69.70	
0.20- 0.50	B					MADE GROUND: Light brown sandy slightly clayey gravel with a low cobble content of subangular limestone. Gravel is angular to subangular fine to coarse limestone.	0.50		69.35	
0.30	D									
0.30	ES		PID=<0.1				0.90		68.95	
0.30										
0.50- 0.90	B					MADE GROUND: Black slightly sandy slightly clayey gravel with a low cobble content of subangular clinker. Gravel is angular to subangular fine to coarse brick, ash and clinker.				
0.60	D									
0.60	ES		PID=<0.1							
0.60										
1.10	ES		PID=<0.1							
1.10			PID=<0.1							
1.20- 2.30	B					Firm brown mottled grey slightly sandy CLAY with occasional gypsum crystals (up to 60mm in size).				
1.20	UT12	1.20 (DRY)	67	38						
1.50	D									
1.65- 1.80	D									
2.10	ES		PID=<0.1							
2.10										
2.30- 2.75	D	1.20 (DRY)			S15					
						Stiff dark grey slightly sandy CLAY.	2.60		67.25	
3.00	D			37						
3.50- 3.95	UT19	1.20 (DRY)	99	23						
3.95- 4.10	D					Stiff dark greenish grey slightly sandy CLAY with shell fragments (up to 20mm in size)	3.80		66.05	
4.00- 4.50	B									
4.00	D									
4.50- 4.95	D	1.20 (DRY)			S24					
5.50	D									
6.00- 6.45	UT31	1.20 (DRY)								
6.45- 6.60	D									
						End of Borehole	6.60		63.25	

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			21/07/20	08:00						None encountered during boring.
6.60	0.15	Cable Percussion	MR/SS MR/SS	6.60	1.20	DRY	21/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
Water was added to assist boring between 1.20 and 6.00 m.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Backfill details from base of hole: bentonite up to ground level.

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Figure 1 of 1
11/11/2020

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BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH803 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459535.7 E 220168.1 N	Ground Level	70.05 m OD

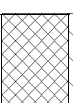
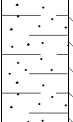
Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.10 0.10 0.20- 1.00 0.50 0.50 0.50	ES B D ES		PID=<0.1			POSSIBLE MADE GROUND: Firm dark brown slightly sandy slightly gravelly CLAY with many rootlets and rare roots (up to 4mm in diameter). Gravel is angular to subangular fine to coarse sandstone.	G.L. 0.20		70.05 69.85
1.00 1.20- 1.65 1.40- 2.20 1.50 1.50	D UT10 B D ES	1.20 (DRY)	72	28		Firm brownish grey CLAY with rare roots (up to 3mm in diameter).	1.40		68.65
2.20- 2.65 2.70- 3.40 3.20 3.40- 3.85 3.80- 4.50 3.85- 4.00 4.00	D B D UT21 B D D	1.20 (DRY)	88	31	S9	Stiff grey slightly sandy CLAY with occasional gypsum crystals (up to 63mm in size) and occasional shell fragments (up to 20mm in size).	2.70		67.35
4.50- 4.95 5.20 6.00- 6.45 6.45- 6.60	D D UT31 D	1.20 (DRY)	137	23	S22	Between 3.85-4.00m, many gypsum crystals.			
						Below 5.00m, gypsum crystals absent.			
						End of Borehole	6.60		63.45

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20 6.60	0.15	Inspection Pit Cable Percussion	MR/SS MR/SS	G.L. 6.60	1.20	DRY	15/07/20 15/07/20	08:00 18:00						None encountered during boring.

Remarks	Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Water was added to assist boring between 1.20 and 6.00m. Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: bentonite up to ground level.	Logged by SI Figure 1 of 1 11/11/2020
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Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Borehole Project No	BH802 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459611.6	E	Ground Level	68.08 m OD
			220150.9	N		

Sampling			Properties			Strata										Scale 1:50	
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD								
						MADE GROUND: Ballast**.	G.L.		68.08								
0.70	D					MADE GROUND: Firm brown slightly sandy gravelly clay. Gravel is angular to subangular fine to coarse ash, granite and sandstone.	0.60		67.48								
0.70	ES						0.90		67.18								
0.70	D																
1.00	D		PID=<0.1	21		Firm orangish brown mottled grey slightly sandy CLAY with occasional pockets (up to 2mm in size) of orangish brown sand.											
1.00	ES		PID=<0.1														
1.20- 2.00	B	1.20 (DRY)		S8													
1.20- 1.65	D																
1.50	D																
2.10	ES					Firm to stiff greyish brown slightly sandy CLAY with occasional gypsum crystals (up to 2mm in size).	2.10		65.98								
2.10			PID=<0.1	59	34												
2.30- 2.75	UT16	1.20 (DRY)															
2.70- 3.50	B																
2.75- 2.90	D																
3.20	D					Stiff grey CLAY with occasional shell fragments (up to 20mm in size).											
3.50- 3.95	D	1.20 (DRY)		S23													
3.70- 4.50	B																
4.30	D																
4.50- 4.95	UT33	1.20 (DRY)															
4.95- 5.10	D																
5.50	D																
6.00- 6.45	D	1.20 (DRY)		S27													
						End of Borehole	6.45		61.63								

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	MR/SS	G.L.	1.20	DRY	16/07/20	08:00						None encountered during boring.
6.45		Cable Percussion	MR/SS	6.45			16/07/20	18:00						

Remarks

 Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Water was added to assist boring between 1.20 and 6.00 m.
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
** Drillers description.
Backfill details from base of hole: bentonite up to ground level.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

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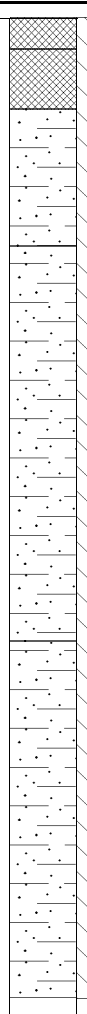
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Figure 1 of 1

11/11/2020

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Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Borehole Project No	BH801 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459585.2	E	Ground Level	69.85 m OD
			229176.8	N		

Sampling			Properties			Strata		Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD	
0.10 0.10 0.20- 0.60 0.30 0.30 0.40 0.60- 1.20 0.70 0.70 0.70 1.20- 1.65 1.50- 2.30 1.60 1.60 1.60	ES B ES D B D ES D B D ES	1.20 (DRY)	PID<0.1 PID<0.1 PID<0.1 PID<0.1 PID<0.1	27 27 27 27 27	S11	PROBABLE MADE GROUND: Firm dark brown slightly sandy clay with many rootlets and roots (up to 4mm in size). PROBABLE MADE GROUND: Firm brownish grey slightly sandy slightly gravelly clay with rare rootlets. Gravel is angular to subangular fine to coarse sandstone. Firm orangish brown and grey slightly sandy CLAY Firm orangish brown mottled grey slightly sandy CLAY with occasional pockets (up to 2mm in size) of orangish brown sand.	G.L. 0.20 0.60 1.50		69.85 69.65 69.25 68.35	
2.30- 2.75 2.75- 2.90 3.20 3.50- 3.95 4.10- 4.50 4.30 4.50- 4.95 4.95- 5.10 5.50 6.00- 6.45	UT14 D D D B D UT21 D D D	1.20 (DRY) 1.20 (DRY) 1.20 (DRY)	66 112	27 24	S10 <					

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH705 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	458489.0 E 219901.3 N	Ground Level	67.58 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.05- 0.10	B					MADE GROUND: Asphalt.	G.L.		67.58
0.05- 0.10	D						0.20		67.38
0.05- 0.10	ES								
0.20- 0.50	B					MADE GROUND: Light brown sandy clayey gravel with a high cobble content of angular to subangular limestone and granite. Gravel is angular to subangular medium to coarse granite, limestone and sandstone.	0.65		66.93
0.20- 0.30	D								
0.20- 0.30	ES								
0.20- 0.30			PID<0.1						
0.50- 0.65	B								
0.50- 0.60	D					Firm light orangish brown mottled grey slightly sandy calcareous CLAY with occasional shell fragments (up to 20mm in size).			
0.50- 0.60	ES								
0.50- 0.60			PID<0.1						
0.65- 0.90	B								
0.65- 0.75	D					Firm dark brownish grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size) and occasional pockets (up to 25mm in size) of decomposed organic material.	1.50		66.08
1.00- 1.10	D								
1.00- 1.10	ES								
1.00- 1.10			PID<0.1						
1.20- 1.65	UT40	1.20 (DRY)							
1.65- 1.70	D								
2.00- 2.10	D								
2.00- 2.10	ES								
2.00- 2.10			PID<0.1						
2.20- 3.00	B								
2.20- 2.65	D	1.50 (DRY)			S9				
3.00- 3.10	D								
3.30- 3.75	UT52	1.50 (DRY)				Stiff dark grey slightly sandy CLAY with occasional shell fragments (up to 50mm in size).	3.30		64.28
3.75- 3.80	D								
3.80- 4.30	B								
4.00- 4.10	D								
4.40- 4.85	D	1.50 (DRY)			S33				
5.00- 5.10	D								
5.60- 6.05	UT65	1.50 (DRY)							
6.05- 6.10	D					End of Borehole	6.10		61.48

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			20/07/20	08:00						None encountered during boring.
6.10	0.15	Cable Percussion	DC/LC DC/LC	1.20	NIL	DRY	20/07/20	18:00						
				1.20	NIL	DRY	21/07/20	08:00						
				6.10	1.50	DRY	21/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
 ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
 Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
 Backfill details from base of hole: bentonite up to ground level.

Logged by SI
 Figure 1 of 1
 11/11/2020

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

geotechnics

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH704 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	458704.9 E 219889.7 N	Ground Level	69.48 m OD

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
0.10	ES					MADE GROUND: Asphalt.	G.L.		69.48		
0.10							0.20		69.28		
0.20- 0.30	B		PID<0.1			MADE GROUND: Light brown slightly sandy gravel. Gravel is angular to subangular fine to coarse limestone.	0.35		69.13		
0.35- 0.80	B										
0.50	D										
0.50	ES		PID<0.1			MADE GROUND: Dark grey and black sandy clayey gravel with a low cobble content of subangular clinker. Gravel is angular to subangular fine to coarse ash, clinker and brick.					
0.50											
1.00	ES		PID<0.1				1.10		68.38		
1.00											
1.20- 2.00	B		PID<0.1								
1.20- 1.65	D	1.20 (DRY)			S9	Firm brownish grey slightly sandy CLAY.					
1.30	ES		PID<0.1								
1.30											
1.50	D										
2.20	ES		PID<0.1								
2.20											
2.30- 2.75	D	1.20 (DRY)			S12						
2.70- 3.50	B						2.70		66.78		
3.00	D					Firm orangish brown mottled grey slightly sandy calcareous CLAY with occasional pockets (up to 1mm in size) of brown silt and occasional pockets (up to 25mm in size) of decomposed organic material.					
3.50- 3.95	UT19	1.20 (DRY)									
3.95- 4.10	D										
4.30	D						4.30		65.18		
4.50- 4.95	D	1.20 (DRY)			S24	Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size).					
5.00- 6.00	B										
5.50	D										
6.00- 6.45	UT24	1.20 (DRY)									
6.45- 6.60	D						6.60		62.88		
						End of Borehole					

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			20/07/20	08:00	6.00	1.20				Seepage
6.60	0.15	Cable Percussion	MR/SS MR/SS	6.60	1.20	DRY	20/07/20	18:00						

Remarks Inspection pit hand excavated to 1.20m depth and no services were found.

ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Water was added to assist boring between 1.20 and 6.00 m.
Backfill details from base of hole: bentonite up to ground level.

Logged by SI

Figure 1 of 1
11/11/2020

geotechnics

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH703 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459014.9 E 219948.0 N	Ground Level	69.80 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.10 0.10 0.30- 1.00 0.30 0.30 0.50	ES B ES D		PID<0.1			Firm dark brown slightly sandy CLAY with many rootlets and rare roots (up to 3mm in diameter)	G.L. 0.25		69.80 69.55
1.20 1.20- 1.65 1.30- 2.40 1.20 1.50 1.65- 1.80	ES UT12 B D D	1.20 (DRY)	PID<0.1 33			Soft to firm orangish brown and grey CLAY with rare pockets (up to 10mm in size) of decomposed organic material.			
2.40- 2.85 2.70- 3.50 3.00 3.10- 4.00	D B D W	1.20 (DRY)			S8	Firm dark brownish grey sandy calcareous CLAY with occasional pockets (up to 2mm in size) of dark brownish grey sand. Between 1.40-1.70m, with rare pockets (up to 10mm in size) of organic clay.	1.30 2.70		68.50 67.10
3.50- 3.95	UT31	1.20 (DRY)				Stiff dark brownish grey slightly sandy calcareous CLAY with rare pockets (up to 2mm in size) of silt.			
4.10 4.20- 4.50 4.30 4.50- 4.95	D B D D	1.20 (3.10)			S44	Dense grey angular to subangular fine to coarse GRAVEL. Gravel is angular to subangular fine to coarse limestone.	4.00 4.20		65.80 65.60
5.30	D					Firm to stiff grey slightly sandy slightly gravelly calcareous CLAY. Gravel is angular to subangular fine to coarse limestone.			
6.00- 6.45	D	1.20 (3.60)			S45	Stiff dark grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size).	6.00 6.45		63.80 63.35
						End of Borehole			

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20 6.45	0.15	Inspection Pit Cable Percussion	MR/SS MR/SS	G.L. 6.45	1.20	3.60	17/07/20 17/07/20	08:00 18:00	4.00	1.20	3.10	20	NS	

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Water was added to assist boring between 1.20 and 4.00 m.
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
A 50mm standpipe was installed to 6.00m with a geowrapped slotted section from 1.40m to 6.00m with flush lockable protective cover. Backfill details from base of hole: gravel filter up to 1.40m, bentonite up to 0.30m, concrete up to ground level.

Logged by **SI**
Figure **1 of 1**
11/11/2020



BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH702 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459259.4 E 220027.0 N	Ground Level	70.49 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.05	ES					MADE GROUND: Asphalt.	G.L.		70.49
0.05			PID<0.1				0.10		70.39
0.10- 0.30	B		PID<0.1			MADE GROUND: Light brown slightly sandy slightly gravelly silt Gravel is angular to subangular fine to coarse limestone and sandstone.	0.30		70.19
0.10							0.60		69.89
0.20	D		PID<0.1			MADE GROUND: Light brown slightly sandy gravel with a high cobble content of angular to subangular sandstone. Gravel is angular to subangular coarse sandstone.	1.20		69.29
0.20	ES								
0.60- 1.00	B		PID<0.1			MADE GROUND: Dark grey and black slightly clayey gravelly sand. Gravel is angular to subangular fine to coarse clinker, coal, concrete and sandstone.	2.30		68.19
0.70	D								
0.70	ES		PID<0.1						
1.20- 2.30	B					Firm orangish brown mottled grey slightly sandy calcareous CLAY with rare shell fragments (up to 5mm in size) and many gypsum crystals (up to 1mm in size).			
1.20	ES		PID<0.1						
1.20- 1.65	UT12	1.20 (DRY)		23					
1.50	D		PID<0.1						
1.65- 1.80	D								
2.20	ES		PID<0.1						
2.30- 3.40	B				S9	Firm to stiff dark brownish grey slightly sandy CLAY with occasional shell fragments (up to 10mm in size).			
2.30- 2.75	D	1.20 (DRY)							
3.00	D								
3.40- 3.85	UT21	1.20 (DRY)	79	36					
3.85- 4.00	D								
4.30	D								
4.50- 4.95	D	1.20 (DRY)			S26	Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 20mm in size).	4.50		65.99
5.00- 6.00	B								
5.50	D								
6.00- 6.45	UT29	1.20 (DRY)							
6.45- 6.60	D								
						End of Borehole	6.60		63.89

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit	MR/SS	G.L.			16/07/20	08:00						None encountered during boring.
6.60	0.15	Cable Percussion	MR/SS	6.60	1.20	DRY	16/07/20	18:00						

Remarks	Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Water was added to assist boring between 1.20 and 6.00m. Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: bentonite up to 0.20m, asphalt up to ground level.	Logged by SI Figure 1 of 1 11/11/2020 geotechnics
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres. Logged in accordance with BS5930:2015		

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH701 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459479.8 E 220176.0 N	Ground Level	70.93 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.05 0.05 0.10- 0.40 0.30 0.30 0.50 0.70 0.70 1.20- 1.65 1.40- 2.20	ES B D ES B D ES D B		PID=<0.1		S6	MADE GROUND: Asphalt. MADE GROUND: Black sandy slightly clayey gravel with a medium cobble content of subangular brick and concrete and slight hydrocarbon odour. Gravel is angular to subangular fine to coarse brick, concrete and sandstone. Soft orangish brown mottled light grey slightly sandy CLAY with rare pockets (up to 20mm in size) of decomposed organic matter. Firm dark brown and brown slightly sandy CLAY with occasional gypsum crystals (up to 2mm in size).	G.L. 0.11 0.50 1.40		70.93 70.82 70.43 69.53
1.70 1.70 1.70 2.20- 2.65 2.65- 2.80 2.80- 3.40 3.20 3.40- 3.85 3.60- 4.50 4.20 4.50- 4.95 4.95- 5.10 5.50 6.00- 6.45	D ES UT13 D B D D UT20 D D	1.50 (DRY) 1.20 (DRY) 1.50 (DRY) 1.20 (DRY) 1.50 (DRY)	69	30	S13 <				

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	MR/SS	G.L.			14/07/20	08:00						None encountered during boring.
6.00		Cable Percussion	MR/SS	1.20	NIL	DRY	14/07/20	18:00						
				1.20	1.20	DRY	15/07/20	08:00						
				6.00	1.20	DRY	15/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Backfill details from base of hole: bentonite up to ground level.

Logged by SI
Figure 1 of 1
11/11/2020

geotechnics

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH610 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	457961.1 E 220795.2 N	Ground Level	64.61 m OD

Sampling			Properties			Strata		Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD	
0.20 0.20 0.30- 0.60 0.50 0.50 0.60 0.60 1.00 1.00 1.20- 1.65 1.50 1.50 1.50	ES B ES D D ES D D ES		PID=<0.1 PID=<0.1 PID=<0.1 PID=<0.1		S7	MADE GROUND: Topsoil**. MADE GROUND: Soft becoming firm brown mottled grey slightly gravelly slightly sandy clay with many rootlets and an organic odour. Gravel is angular to subgular fine to medium brick and limestone.	G.L. 0.10 			

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit	KR/JT	G.L.			11/08/20	08:00						None encountered during boring.
10.00	0.15	Cable Percussion	KR/JT	10.00	1.50	DRY	11/08/20	18:00						

Remarks Inspection pit hand excavated to 1.20m depth and no services were found.



ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Backfill details from base of hole: bentonite up to ground level.

Logged by MM

Figure 1 of 1
11/11/2020

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

geotechnics

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH609 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	458021.1 E 220757.8 N	Ground Level	64.44 m OD

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
						End of Borehole	10.25		54.19		

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks	AGS	Logged by	JD
Symbols and abbreviations are explained on the accompanying key sheet.		Figure	2 of 2
All dimensions are in metres.			11/11/2020
Logged in accordance with BS5930:2015			

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH609 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	458021.1 E 220757.8 N	Ground Level	64.44 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.10- 0.40	B					TOPSOIL: Firm brown slightly sandy silt with many rootlets.	G.L.		64.44
0.30	D						0.40		64.04
0.30	ES					Soft greyish brown slightly sandy slightly gravelly CLAY with occasional rootlets. Gravel is subangular to subrounded fine to coarse limestone.			
0.40- 1.00	B								
1.00	D								
1.30- 1.75	D	1.20 (DRY)			S6		1.50		62.94
1.30	ES					Soft greyish brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 25mm in size) of brown sand. Gravel is subangular to subrounded fine to coarse limestone.			
1.50- 2.50	B					Below 2.00m, with rare shell fragments (up to 4mm in size).			
2.00	D					Below 2.50m, becoming firm.			
2.50- 2.95	UT16	1.20 (DRY)	64	21					
2.80- 3.50	B						2.80		61.64
3.00	D					Firm grey slightly sandy CLAY with occasional pockets (up to 5mm in size) of grey sand and rare shell fragments (up to 10mm in size).			
3.50- 3.95	D	1.20 (DRY)			S16				
						Below 4.00m, becoming stiff and fissured. Fissures are subhorizontal, extremely to very closely spaced, smooth and undulating.			
4.20	D								
4.50- 4.95	UT34	1.20 (DRY)	89	28					
5.50	D					Below 5.50m, with rare pockets (up to 30mm in size) of decomposed organic material.			
6.00- 6.45	D	1.20 (DRY)			S24				
						Below 6.00m, becomes stiff.			
7.00	D								
7.50- 7.95	UT45	1.20 (DRY)							
7.95- 8.10	D								
8.30- 9.00	B						8.30		56.14
8.50	D					Very stiff grey slightly sandy CLAY.			
9.00- 9.38	D	1.20 (DRY)			S50/ 230				
						Below 9.00m, rare shell fragments (up to 5mm in size).			
9.60	D								
10.00-10.25	D	1.20 (DRY)			S50/ 130				

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit	MR/SS	G.L.			12/08/20	08:00						None encountered during boring.
10.25	0.15	Cable Percussion	MR/SS	10.25	1.20	DRY	12/08/20	18:00						

Remarks Inspection pit hand excavated to 1.20m depth and no services were found.

ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Water was added to assist boring between 1.20 and 10.00 m.
Backfill details from base of hole: bentonite up to ground level.

Logged by JD

Figure 1 of 2
11/11/2020

geotechnics

All dimensions are in metres. Logged in accordance with BS5930:2015

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH608 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	457900.1 E 220705.1 N	Ground Level	64.16 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.20	D					TOPSOIL**.	G.L.		64.16
0.20	ES					TOPSOIL: Firm dark brown slightly sandy clay with many rootlets.	0.10		64.06
0.20			PID<0.1				0.30		63.86
0.50- 1.00	B					Soft orangish brown mottled grey slightly gravelly sandy CLAY. Gravel is angular to subangular fine to medium limestone. Below 1.20m, becoming firm.			
0.50	D								
0.50	ES		PID<0.1						
0.50									
1.00	ES		PID<0.1						
1.00									
1.20- 1.65	D	1.20 (DRY)		30	S7				
1.50	D								
1.50	ES		PID<0.1						
1.50									
2.00- 2.45	UT29	1.50 (DRY)	37	36					
2.50	D					Stiff grey slightly sandy CLAY.	2.40		61.76
3.00- 3.45	D	1.50 (DRY)			S19				
3.50	D								
4.00- 4.45	UT37	1.50 (DRY)	61	24					
4.50- 5.00	B								
4.50	D								
5.00- 5.45	D	1.50 (DRY)			S22	Below 5.00m, occasional shell fragments (up to 3mm in size) and occasional pockets (up to 3mm in size) of grey silt.			
5.80	D								
6.50- 6.95	UT46	1.50 (DRY)							
7.20	D								
7.50- 8.00	B								
8.00- 8.45	D	1.50 (DRY)			S40				
8.70	D								
9.50- 9.95	D	1.50 (DRY)			S42	Below 9.50m, with occasional gypsum crystals (up to 5mm in size).			
10.00	D						10.00		54.16
						End of Borehole			

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			11/08/20	08:00						None encountered during boring.
10.00	0.15	Cable Percussion	KR/JT KR/JT	10.00	1.50	DRY	11/08/20	18:00						

Remarks Inspection pit hand excavated to 1.20m depth and no services were found.

ES sample = 2 x vial, 1 x plastic jar and 2 amber jar

Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.

** Drillers description.

A 50mm standpipe was installed to 10.00m with a geowrapped slotted section from 1.50m to 10.00m with upright lockable protective cover. Backfill details from base of hole: gravel filter up to 1.50m, bentonite up to 0.30m, concrete up to ground level.

All dimensions are in metres. Logged in accordance with BS5930:2015

Logged by MM

Figure 1 of 1
11/11/2020

geotechnics

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH607 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	457990.4 E 220647.5 N	Ground Level	64.83 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.10- 0.30	B					TOPSOIL: Firm dark brown slightly sandy organic clay with many rootlets.	G.L.		64.83
0.30	D								
0.30	ES					Firm orangish brown slightly sandy CLAY.	0.40		64.43
0.30									
0.50- 1.20	B		PID<0.1						
0.50	ES								
0.50			PID<0.1						
0.70	D					Bellow 1.20m, becomes orangish brown mottled grey.			
1.20- 1.65	D	1.20 (DRY)			S7				
1.50	ES								
1.50			PID<0.1						
1.70- 2.50	B					Firm dark brown mottled grey slightly sandy CLAY.	1.70		63.13
2.10	D								
2.50- 2.95	D	1.20 (DRY)			S15				
2.60- 3.50	B								
3.00	D					Stiff grey slightly sandy CLAY with occasional shell fragments (up to 20mm in size).	2.60		62.23
3.50- 3.95	UT29	1.20 (DRY)	97	28					
3.95- 4.10	D					Between 3.95-4.10m, with many shell fragments (up to 20mm in size).			
4.30	D								
4.50- 4.95	D	1.20 (DRY)			S22				
5.50	D								
6.00- 6.45	UT38	1.20 (DRY)							
6.45- 6.60	D								
						End of Borehole	6.60		58.23

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			11/08/20	08:00						None encountered during boring.
6.60	0.15	Cable Percussion	MR/SS MR/SS	6.60	1.20	DRY	11/08/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
A 50mm standpipe was installed to 6.00m with a geowrapped slotted section from 1.50m to 6.00m with upright lockable protective cover. Backfill details from base of hole: gravel filter up to 1.50m, bentonite up to 0.30m, arisings up to ground level.

All dimensions are in metres.

Logged in accordance with BS5930:2015

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Figure 1 of 1
11/11/2020



Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Borehole Project No	BH606 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	458063.9	E	Ground Level	65.17 m OD
			229719.9	N		

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
0.10- 0.40	B	1.20 (DRY)	PID<0.1	30	S7	MADE GROUND: Orangish brown slightly gravelly slightly silty sand with rare pockets (up to 15mm in size) of grey clay and occasional rootlets. Gravel is subangular medium to coarse red brick and plastic.	G.L.		65.17		
0.30	D					0.40		64.77			
0.30	ES										
0.40- 1.00	B										
0.80	D										
0.80	ES										
0.80											
1.20- 1.65	D										
1.30- 2.50	B										
2.20	D	1.20 (DRY)	69	30	S26	Firm grey mottled orangish brown slightly sandy CLAY with rare gypsum crystals (up to 3mm in size) and rare pockets (up to 7mm in size) of white sand.	1.30		63.87		
2.50- 2.95	UT16										
2.80- 3.50	B										
2.95- 3.10	D										
3.20	D										
3.50- 3.95	D										
4.20	D										
4.50- 4.95	UT35										
4.95- 5.10	D										
5.50	D	1.20 (DRY)	32	S32	End of Borehole	6.45		58.72			
6.00- 6.45	D										

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	MR/SS	G.L.	1.20	DRY	11/08/20	08:00						None encountered during boring.
6.45		Cable Percussion	MR/SS	6.45			11/08/20	18:00						

Remarks

 Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Backfill details from base of hole: bentonite up to ground level.

Logged by

SI

Figure

1 of 1
11/11/2020

geotechnics

All dimensions are in metres

Logged in accordance with BS5930:2015

Draft

Project GRAVEN HILL, BICESTER, LAND TRANSFER
AREA 2 (LTA2)

Engineer

**WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITED**

Borehole
Project No

BH604
PC207899

Client **GRAVEN HILL VILLAGE DEVELOPMENT
COMPANY LIMITED**

National Grid Coordinates

458228.3 E
220622.0 N

Ground Level 69.23 m OD

[illegible]

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Borehole Project No	BH602 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	458101.4	E	Ground Level	67.13 m OD
			220562.7	N		

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.00- 0.10	B		PID<=0.1			MADE GROUND: Soft dark brown slightly sandy slightly gravelly clay with many rootlets. Gravel is angular to subangular fine to coarse sandstone and brick.	6. L.		67.13
0.00- 0.10	D					0.10	67.03		
0.00- 0.10	ES					0.50	66.63		
0.00- 0.10	B								
0.10- 0.50	D					0.80	66.33		
0.10- 0.20	ES								
0.10- 0.20	B					1.60	65.53		
0.50- 0.80	D								
0.50- 0.60	ES								
0.50- 0.60	B								
0.80- 1.10	D	1.90	65.23						
0.80- 0.90	D								
1.00- 1.10	ES								
1.00- 1.10	B								
1.00- 1.10	UT45	1.20 (DRY)	49	21	14	Firm dark brown slightly sandy CLAY.			
1.20- 1.65	D								
1.65- 1.70	B								
1.90- 2.30	D								
1.90- 2.00	D	1.50 (DRY)	78	29	S5	Firm orangish brown, occasionally mottled grey, slightly sandy CLAY.			
2.10- 2.20	ES								
2.10- 2.20	D								
2.10- 2.20	D								
2.30- 2.75	UT60	1.50 (DRY)	78	29	S22	Stiff brownish grey slightly sandy CLAY with occasional shell fragments (up to 20mm in size).			
3.00- 3.10	D								
3.20- 3.65	D								
3.65- 3.70	B								
3.70- 4.00	D	1.50 (DRY)				Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size).			
4.00- 4.10	D								
4.20- 4.65	D								
4.70- 5.00	B								
5.00- 5.10	D	1.50 (DRY)				End of Borehole			
5.50- 5.95	UT70								
5.95- 6.00	D								

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20 6.00	0.15	Inspection Pit Cable Percussion	DC/LC DC/LC	G.L. 6.00	1.50	DRY	28/07/20 28/07/20	08:00 18:00	2.00	1.50				Seepage.

Remarks	 Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: bentonite up to ground level.
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Logged by **SI**
Figure **1 of 1**
11/11/2020

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions
are in metres.

Logged in accordance with BS5930:2015



BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH601 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	458040.0 E 220528.8 N	Ground Level	67.04 m OD

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
0.20	ES					MADE GROUND: Topsoil**	G.L.		67.04		
0.20						MADE GROUND: Loose brown sandy topsoil**	0.10		66.94		
0.50- 1.00	B		PID<0.1				0.30		66.74		
0.50	D					MADE GROUND: Greyish brown sandy slightly silty gravel with medium cobble content of subangular to subrounded limestone and brick. Gravel is subangular to subrounded fine to coarse limestone, brick, asphalt and quartzite.					
0.50	ES		PID<0.1								
1.00	ES		PID<0.1								
1.20- 1.65	D	1.20 (DRY)			S29		1.40		65.64		
1.40	D					MADE GROUND: Greyish brown slightly sandy slightly silty gravel with occasional pockets (up to 40mm in size) of greyish brown slightly sandy gravelly clay. Gravel is subangular to subrounded fine to coarse limestone, brick and asphalt.					
1.50	ES		PID<0.1								
2.30- 2.75	D	1.50 (DRY)			S13		2.30		64.74		
2.50	ES		PID<0.1			Firm orangish grey mottled brown slightly sandy slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse limestone and sandstone.					
2.80- 3.00	B										
2.80	D										
3.40- 3.85	UT31	1.50 (DRY)	67	28							
3.80	D					Below 3.80m, with occasional pockets (up to 15mm in size) of grey silt.					
4.30	D						4.30		62.74		
4.50- 5.00	B	1.50 (DRY)			S22	Stiff fissured dark brownish grey slightly sandy CLAY. Fissures are subhorizontal extremely to very closely spaced, smooth and undulating. Below 4.50m, with rare gypsum fragments (up to 5mm in size).					
4.50- 4.95	D										
5.50	D										
5.50- 5.95	UT42	1.50 (DRY)									
6.00	D					End of Borehole	6.00		61.04		

Boring				Progress					Groundwater				
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	In Mins	Depth Sealed
1.20	0.15	Inspection Pit	KR/JT	G.L.	1.50	DRY	12/08/20	08:00					
6.00		Cable Percussion	KR/JT	6.00			12/08/20	18:00					
None encountered during boring.													

Remarks	Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. ** Drillers description. A 50mm standpipe was installed to 6.00m with a geowrapped slotted section from 1.50m to 6.00m with upright lockable protective cover. Backfill details from base of hole: gravel filter up to 1.50m, bentonite up to 0.30m, concrete up to ground level. Logged in accordance with BS5930:2015	Logged by JD Figure 1 of 1 11/11/2020 geotechnics
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Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Borehole Project No	BH516 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459444.6	E	Ground Level	76.00 m OD
			229427.6	N		

Sampling			Properties			Strata		Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD	
0.00- 0.20	B					MADE GROUND: Firm brown slightly sandy clay with many rootlets and occasional roots (up to 4mm in diameter).	G.L.		76.00	
0.10- 0.20	D						0.20		75.80	
0.10- 0.20	ES		PID=<0.1			MADE GROUND: Soft brownish grey slightly gravelly sandy clay with rare rootlets and roots (up to 4mm in diameter). Gravel is angular to subangular fine to coarse brick and sandstone. Below 0.80m, rootlets absent.				
0.10- 0.20										
0.20- 0.40	B					MADE GROUND: Soft brownish grey slightly gravelly sandy clay with rare rootlets and roots (up to 4mm in diameter). Gravel is angular to subangular fine to coarse brick and sandstone. Below 0.80m, rootlets absent.				
0.20- 0.30	D									
0.50- 0.60	D					Firm orangish brown and light brown slightly sandy CLAY with occasional shell fragments (up to 20mm in size) and rare gypsum crystals (up to 1mm in size).				
0.50- 0.60	ES		PID=<0.1				1.10		74.90	
0.50- 0.60						Firm orangish brown and light brown slightly sandy CLAY with occasional shell fragments (up to 20mm in size) and rare gypsum crystals (up to 1mm in size).				
0.70- 0.90	B									
1.00- 1.10	D					Firm orangish brown and light brown slightly sandy CLAY with occasional shell fragments (up to 20mm in size) and rare gypsum crystals (up to 1mm in size).				
1.00- 1.10	ES									
1.10- 1.20	D		PID=<0.1			Firm orangish brown and light brown slightly sandy CLAY with occasional shell fragments (up to 20mm in size) and rare gypsum crystals (up to 1mm in size).				
1.10										
1.20- 1.65	D	1.20 (DRY)		30	S7	Firm orangish brown and light brown slightly sandy CLAY with occasional shell fragments (up to 20mm in size) and rare gypsum crystals (up to 1mm in size).				
1.35- 1.45	D									
1.35- 1.45	ES		PID=<0.1			Firm orangish brown and light brown slightly sandy CLAY with occasional shell fragments (up to 20mm in size) and rare gypsum crystals (up to 1mm in size).				
1.35- 1.45										
1.70- 2.30	B					Firm orangish brown and light brown slightly sandy CLAY with occasional shell fragments (up to 20mm in size) and rare gypsum crystals (up to 1mm in size).				
2.30- 2.40	D									
2.30- 2.40	ES		PID=<0.1			Firm orangish brown and light brown slightly sandy CLAY with occasional shell fragments (up to 20mm in size) and rare gypsum crystals (up to 1mm in size).				
2.30- 2.40										
2.40- 2.85	UT40 D	1.50 (DRY)	57	29		Firm orangish brown and light brown slightly sandy CLAY with occasional shell fragments (up to 20mm in size) and rare gypsum crystals (up to 1mm in size).				
2.85- 2.90										
3.30- 3.40	D					Firm orangish brown and light brown slightly sandy CLAY with occasional shell fragments (up to 20mm in size) and rare gypsum crystals (up to 1mm in size).				
3.50- 3.95	D	1.50 (DRY)			S11					
						Firm orangish brown and light brown slightly sandy CLAY with occasional shell fragments (up to 20mm in size) and rare gypsum crystals (up to 1mm in size).				
						Firm orangish brown and light brown slightly sandy CLAY with occasional shell fragments (up to 20mm in size) and rare gypsum crystals (up to 1mm in size).				
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						Firm orangish brown and light brown slightly sandy CLAY with occasional shell fragments (up to 20mm in size) and rare gypsum crystals (up to 1mm in size).				
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						Firm orangish brown and light brown slightly sandy CLAY with occasional shell fragments (up to 20mm in size) and rare gypsum crystals (up to 1mm in size).				

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH515 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459473.9 E 220492.4 N	Ground Level	75.24 m OD

Sampling			Properties			Strata			Scale 1:50					
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD					
0.20	ES	1.20 (DRY)	PID<0.1		S8	TOPSOIL**.	G.L.		75.24					
0.20						0.10	75.14							
0.50- 1.00	B					0.30	74.94							
0.50	D													
0.50	ES													
0.50														
1.00	ES													
1.00														
1.20- 1.65	D													
1.50	ES													
1.50														
1.70	D						1.60		73.64					
2.30- 2.75	UT29	1.50 (DRY)	44	26		Firm brown mottled grey slightly sandy slightly gravelly CLAY with occasional shell fragments (up to 20mm in size). Gravel is angular to subangular fine to coarse limestone.								
2.80	D													
3.30- 3.75	D	1.50 (DRY)			S18	Stiff dark brown mottled grey slightly sandy CLAY with rare gypsum crystals (up to 2mm in size) and occasional pockets (up to 2mm in size) of light grey silt.	3.20		72.04					
3.80	D													
4.50- 4.95	UT45	1.50 (DRY)												
5.00- 5.50	B													
5.10	D													
6.00- 6.45	D	1.50 (DRY)			S25									
						End of Borehole	6.45		68.79					
Boring			Progress					Groundwater						
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	KR/JT	G.L.	1.50	DRY	17/08/20	08:00						None encountered during boring.
6.45		Cable Percussion	KR/JT	6.45			17/08/20	18:00						
Remarks Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. ** Drillers description. Backfill details from base of hole: bentonite up to ground level.														
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres.														
Logged in accordance with BS5930:2015														
Logged by MM Figure 1 of 1 11/11/2020														

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Borehole Project No	BH514X PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459502.0 229502.4	E N	Ground Level	73.70 m OD

Sampling				Properties			Strata					Scale 1:50		
Depth		Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD				
0.20 0.20 0.50- 1.00 0.50 0.50 0.50 1.00 1.00 1.20- 1.65 1.50 1.50 1.80		ES B D ES ES D		PID=<0.1			TOPSOIL**. Soft to firm clayey TOPSOIL**. Firm orangish brown mottled grey slightly sandy calcareous CLAY with many shell fragments (up to 3mm in size).	G.L. 0.10 0.20		73.70 73.60 73.50				
2.30- 2.75 2.80 3.10 3.40- 3.85 3.50- 4.00 4.20 4.60- 5.05 5.20 6.00- 6.45		UT27 D D D B D UT39 D D	1.20 (DRY) 1.50 (DRY) 1.50 (DRY) 1.50 (DRY)	83	36	S8 S17 S32	Below 2.30m, becoming stiff. Stiff grey slightly sandy CLAY with occasional shell fragments (up to 3mm in size) and an organic odour. End of Borehole	3.10 6.45		70.60 67.25				
Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20 6.45	0.15	Inspection Pit Cable Percussion	KR/JT KR/JT	G.L. 6.45	1.50	DRY	10/08/20	08:00						None encountered during boring.
Remarks				AGS Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. ** Drillers description. A 50mm standpipe was installed to 4.50m with a geowrapped slotted section from 3.50m to 4.50m with upright lockable protective cover. Backfill details from base of hole: bentonite up to 4.50m, gravel filter up to 3.50m, bentonite up to 0.50m, concrete up to ground level.					Logged by MM Figure 1 of 1 11/11/2020					
Symbols and abbreviations are explained on the accompanying key sheet.				geotechnics										
All dimensions are in metres				Logged in accordance with BS5930:2015										

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH514 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459395.4 E 220593.5 N	Ground Level	76.23 m OD

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
0.30	ES					MADE GROUND: Loose grey gravel**.	G.L.		76.23		
0.30						MADE GROUND: Compacted MOT Subbase**.	0.10		76.13		
0.50- 1.00	B		PID<0.1				0.50		75.73		
0.50	D					Firm brown mottled grey slightly sandy CLAY with occasional rootlets and occasional pockets (up to 25mm in size) of firm brown clay.					
0.50	ES		PID<0.1								
1.00	ES		PID<0.1								
1.00			PID<0.1								
1.20- 1.65	UT28	1.20 (DRY)	46	31							
1.50	ES		PID<0.1								
1.50											
2.00- 2.45	D	1.20 (DRY)			S9	Firm brown mottled grey calcareous CLAY with occasional gypsum crystals (up to 2mm in size) and many shell fragments (up to 10mm in size).	2.00		74.23		
3.40- 3.85	UT32	1.50 (DRY)	35	32							
3.90	D										
4.60- 4.66		1.50 (DRY)			S50/30	End of Borehole	4.66		71.57		

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	KR/JT	G.L.	1.50	DRY	05/08/20	08:00						None encountered during boring.
4.66		Cable Percussion	KR/JT	4.66			05/08/20	18:00						

Remarks	Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. The Borehole was terminated at a depth of 4.66m on the instruction of the Engineer due to the presence of an obstruction. Backfill details from base of hole: bentonite up to ground level. Chiselling: 4.60-4.66m for 15 minutes.	Logged by MM Figure 1 of 1 11/11/2020 geotechnics
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres. Logged in accordance with BS5930:2015		

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH513 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459323.0 E 220547.3 N	Ground Level	83.00 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.00- 0.10	B					TOPSOIL: Firm brown slightly sandy slightly gravelly clay with many rootlets. Gravel is angular to subangular fine to medium limestone.	G.L.		83.00
0.00- 0.10	D						0.15		82.85
0.00- 0.10	ES								
0.15- 0.50	B		PID<0.1			Firm brown slightly sandy slightly gravelly CLAY with occasional rootlets. Gravel is angular to subangular fine to medium limestone.			
0.15- 0.25	D								
0.50- 0.60	D						0.80		82.20
0.80- 1.00	B					Firm brown mottled grey slightly sandy slightly gravelly CLAY with occasional shell fragments (up to 15mm in size) and occasional gypsum crystals (up to 3mm in size). Below 1.65m, with many gypsum crystals.			
0.80- 0.90	D								
1.00- 1.10	D			25					
1.00- 1.10	ES								
1.00- 1.10			PID<0.1						
1.20- 1.65	UT65	1.20 (DRY)	82	25					
1.65- 1.70	D								
1.90- 2.00	D								
2.00- 2.10	D								
2.00- 2.10	ES								
2.00- 2.10			PID<0.1						
2.20- 2.65	D	1.50 (DRY)			S12				
3.00- 3.10	D								
3.20- 3.65	UT35	1.50 (DRY)	81	25					
3.65- 3.70	D								
4.00- 4.10	D								
4.20- 4.65	D	1.50 (DRY)			S11				
4.70- 5.00	B								
5.00- 5.10	D								
5.20- 5.65	UT50	1.50 (DRY)							
5.65- 5.70	D								
6.00- 6.50	B						6.00		77.00
6.00- 6.10	D					Stiff dark brown CLAY with occasional shell fragments (up to 20mm in size) and an organic odour.			
6.70- 7.15	D	1.50 (DRY)			S26	Stiff dark grey slightly sandy calcareous CLAY with occasional gypsum crystals (up to 6mm in size).	6.50		76.50
7.20- 7.30	D								
8.20- 8.65	UT70	1.50 (DRY)							
8.65- 8.70	D								
8.70- 9.00	B					Below 8.65m, becoming fissured. Fissures are very closely spaced fissures, randomly orientated, smooth and dull.			
9.20- 9.30	D								
9.50- 9.95	D	1.50 (DRY)			S37	Below 9.50m, with many shell fragments (up to 5mm in size).			
							10.00		73.00
						End of Borehole			

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		6.L.			30/07/20	08:00	5.20	1.50			NS	Seepage.
10.00	0.15	Cable Percussion	DC/LC DC/LC	10.00	1.50	DRY	30/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
A 50mm standpipe was installed to 6.00m with a geowrapped slotted section from 1.00m to 6.00m with upright lockable protective cover. Backfill details from base of hole: bentonite up to 6.00m, gravel filter up to 1.00m, bentonite up to 0.30m, concrete up to ground level.

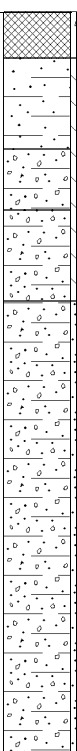
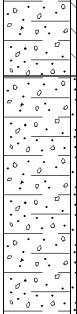
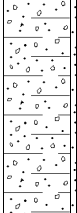
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Figure 1 of 1
11/11/2020

geotechnics

BOREHOLE RECORD - Cable Percussion

Draft

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2) Engineer WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED Borehole Project No BH512X PC207899
Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED National Grid Coordinates 459484.0 E 220416.3 N Ground Level 73.85 m OD

Sampling			Properties			Strata		Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD	
0.10 0.10 0.30- 0.70 0.40 0.40 0.50 0.70- 1.20	ES B ES D B		PID=<0.1 PID=<0.1			MADE GROUND: Firm dark brown slightly sandy slightly gravelly clay with many rootlets and roots (up to 5mm in size). Gravel is angular to subangular fine to coarse brick and limestone.	G.L. 0.30 0.90		73.85 73.55 72.95	
1.20 1.20 1.20- 1.65 1.30- 1.90 1.20 1.40 1.50 1.65- 1.80 1.80 1.90- 2.40 2.20 2.40- 2.85	D ES UT13 B ES D D B D	1.20 (DRY)	74 PID=<0.1 PID=<0.1		S10	Firm light brown slightly sandy calcareous CLAY with occasional rootlets and roots (up to 5mm in size). Below 0.35m, roots and rootlets absent. Below 0.35m becomes light brown mottled light grey with occasional shell fragments (up to 80mm in size).	1.30 1.90		72.55 71.95	
2.80- 3.50 3.00 3.50- 3.95 3.95- 4.10 4.30 4.50- 4.95	B D UT19 D D	1.20 (DRY)	86	35	S21	Firm light brown, occasionally mottled grey, slightly sandy slightly gravelly calcareous CLAY with occasional pockets (up to 20mm in size) of dark orangish brown sandy silt and rare pockets (up to 150mm in size) of decomposed organic material. Gravel is angular to subangular fine to coarse grey limestone.	 4.90		 68.95	
4.90- 6.00 5.50 6.00- 6.45 6.45- 6.60	B D UT34 D	1.20 (DRY)	126	24		Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 50mm in size).	 6.60		 67.25	
						End of Borehole				

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			21/07/20	08:00						None encountered during boring.
6.60	0.15	Cable Percussion	MR/SS MR/SS	6.60	1.20	DRY	21/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Water was added to assist boring between 1.20 and 6.00 m.
A 50mm standpipe was installed to 4.90m with a geowrapped slotted section from 1.90m to 4.90m with upright lockable protective cover. Backfill details from base of hole: bentonite up to 4.90m, gravel filter up to 1.90m, bentonite up to 0.30m, concrete up to ground level.
Logged in accordance with BS5930:2015

Logged by SI
Figure 1 of 1
11/11/2020


Symbols and abbreviations are explained on the accompanying key sheet.
All dimensions are in metres.

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH512 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459316.8 E 220461.0 N	Ground Level	82.94 m OD

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
10.45-10.60	D					End of Borehole	10.60		72.34		

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks	AGS	Logged by	SI
Symbols and abbreviations are explained on the accompanying key sheet.		Figure	2 of 2
All dimensions are in metres.			11/11/2020
geotechnics			

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH512 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459316.8 E 220461.0 N	Ground Level	82.94 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.10	ES					TOPSOIL: Firm dark brown slightly sandy clay with many rootlets.	6.L.		82.94
0.10							0.20		82.74
0.20- 0.80	B		PID<0.1						
0.20	ES					Firm orangish brown slightly sandy calcareous CLAY.			
0.20			PID<0.1						
0.50	D								
0.80- 1.20	B					Firm orangish brown occasionally mottled grey slightly sandy calcareous CLAY.	0.80		82.14
1.00	D								
1.20- 2.40	B	1.20 (DRY)			S10	Firm orangish brown and grey slightly sandy CLAY with occasional gypsum crystals (up to 60mm in size).	1.20		81.74
1.20- 1.65	D								
1.20	ES		PID<0.1						
2.00	D			30					
2.40- 2.85	UT16	1.20 (DRY)	102	28		Below 2.40m, becoming stiff.			
2.85- 3.00	D								
3.30	D								
3.50- 3.95	D	1.20 (DRY)			S15				
4.30	D								
4.50- 4.95	UT17	1.20 (DRY)	97	29					
4.95- 5.10	D								
5.40	D								
5.60- 6.05	D	1.20 (DRY)			S12				
6.10- 7.30	B					Between 5.20-5.90m, with occasional pockets (up to 30mm in size) of orangish brown sand.			
7.00	D								
7.30- 8.60	B								
7.30- 7.75	UT39	1.20 (DRY)							
7.75- 7.90	D								
8.00	D					Below 8.00m, shell fragments becomes rare.			
8.50- 8.95	D	1.20 (DRY)			S36				
9.60	D								
10.00-10.45	UT55	1.20 (DRY)							

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		6.L.			04/08/20	08:00						None encountered during boring.
10.60	0.15	Cable Percussion	MR/SS MR/SS	10.60	1.20	DRY	04/08/20	18:00						

Remarks Inspection pit hand excavated to 1.20m depth and no services were found.

ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Water was added to assist boring between 1.20 and 10.00 m.
Backfill details from base of hole: bentonite up to ground level.

Logged by SI

Figure 1 of 2
11/11/2020

geotechnics

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH511 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459398.2 E 220502.2 N	Ground Level	78.09 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.00	ES					MADE GROUND: Asphalt.	G.L.		78.09
0.10			PID=<0.1			MADE GROUND: Concrete.	0.10		77.99
0.30- 0.50	B								
0.30	ES		PID=<0.1			Firm orangish brown slightly sandy calcareous CLAY.	0.60		77.49
0.30			PID=<0.1						
0.50	ES		PID=<0.1						
0.50									
0.60- 1.00	B								
0.60	D								
1.00	ES		PID=<0.1						
1.00									
1.20- 1.65	D	1.20 (DRY)			S9	Firm greyish brown slightly sandy CLAY with rare shell fragments (up to 20mm in size). Below 2.00m, becoming stiff.	1.65		76.44
1.50	ES		PID=<0.1						
1.50									
2.00- 2.45	UT32	1.50 (DRY)	128	37					
2.50	D								
3.00- 3.45	D	1.50 (DRY)			S11	Between 3.00-3.45m, with occasional pockets (up to 10mm in size) of orangish brown sand.			
3.50	D					Below 3.50m, with occasional pockets (up to 1mm in size) of grey silt.			
4.00- 4.45	UT33	1.50 (DRY)		37					
4.50	D								
5.00- 5.50	B								
5.00- 5.45	D	1.50 (DRY)			S23	Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size).	4.60		73.49
5.50- 6.00	B								
6.00- 6.45	UT48	1.50 (DRY)							
6.50	D					End of Borehole	6.50		71.59

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			05/08/20	08:00						None encountered during boring.
6.50	0.15	Cable Percussion	KR/JT	6.50	1.50	DRY	05/08/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Backfill details from base of hole: bentonite up to ground level.

Logged by SI

Figure 1 of 1
11/11/2020

geotechnics

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH510 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459361.0 E 220404.9 N	Ground Level	77.63 m OD

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
0.10	ES					MADE GROUND: Asphalt**	G.L.		77.63		
0.10							0.20		77.43		
0.20- 0.60	B		PID<0.1			MADE GROUND: Concrete**	0.40		77.23		
0.30	ES										
0.30			PID<0.1			MADE GROUND: Grey and brown sandy silty gravel. Gravel is angular to subangular fine to coarse concrete, limestone, ash and clinker.	0.70		76.93		
0.50	D										
0.50	ES		PID<0.1								
0.50											
0.70- 1.20	B					Firm brown mottled grey and greenish grey slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to medium limestone.	1.40		76.23		
0.80	ES		PID<0.1								
0.80											
1.00	D										
1.20- 1.65	D	1.20 (DRY)			S11	Firm grey mottled brown slightly sandy calcareous CLAY with occasional gypsum crystals (up to 2mm in size), occasional pockets (up to 20mm in size) of grey silt and rare shell fragments (up to 3mm in size).					
1.40- 2.50	B										
1.70	D			29							
1.80	ES		PID<0.1								
1.80											
2.50- 2.95	UT16	1.20 (DRY)	127	27		Below 2.50m, becoming stiff.					
						Below 2.90m, with many gypsum crystals (up to 2mm).					
2.95- 3.10	D										
3.20- 3.60	B						3.20		74.43		
3.20- 3.60	D					Firm dark brown mottled grey slightly sandy calcareous CLAY with many shell fragments (up to 15mm in size) and occasional pockets (up to 10mm in size) of grey silt.					
3.40	D	1.20 (DRY)			S12						
3.60- 4.05	D										
4.00	D						4.40		73.23		
4.60- 5.05	UT33	1.20 (DRY)				Stiff dark grey mottled brown slightly sandy calcareous CLAY with many shell fragments (up to 25mm in size).					
5.00- 5.60	B										
5.05- 5.20	D										
5.50	D										
6.00- 6.38	D	1.20 (DRY)			S50/ 230		6.38		71.25		
						End of Borehole					

Boring				Progress					Groundwater				
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed
1.20		Inspection Pit		G.L.			05/08/20	08:00					
6.38	0.15	Cable Percussion	MR/SS MR/SS	6.38	1.20	DRY	05/08/20	18:00					

Remarks	Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Water was added to assist boring between 1.20 and 6.00 m. ** Drillers description. Backfill details from base of hole: bentonite up to 0.40m, concrete up to 0.20m, asphalt up to ground level.	Logged by MM Figure 1 of 1 11/11/2020
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres.	Logged in accordance with BS5930:2015	geotechnics

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH509 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459446.3 E 220340.0 N	Ground Level	73.84 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.00- 0.20	B					MADE GROUND: Asphalt.	G.L.		73.84
0.10- 0.20	D						0.20		73.64
0.10- 0.20	ES		PID=<0.1			MADE GROUND: Dark grey and brown slightly sandy gravel with a low cobble content of subangular granite. Gravel is angular to subangular fine to coarse brick and granite.	0.40		73.44
0.10- 0.10									
0.20- 0.40	B								
0.20- 0.30	D								
0.20- 0.30	ES		PID=<0.1			MADE GROUND: Black slightly gravelly clayey sand. Gravel is angular to subangular fine to coarse ash, clinker and sandstone.	0.70		73.14
0.20- 0.30							0.90		72.94
0.40- 0.70	B								
0.40- 0.50	D								
0.40- 0.50	ES		PID=<0.1			MADE GROUND: Firm dark greenish grey, occasionally mottled grey, slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse claystone and brick.			
0.40- 0.50									
0.70- 0.90	B								
0.70- 0.80	D								
0.70- 0.80	ES		PID=<0.1						
0.70- 0.80									
0.90- 1.00	D				33	Firm light brownish grey slightly sandy slightly gravelly calcareous CLAY with occasional shell fragments (up to 10mm in size) and rare pockets (up to 2mm in size) of grey silt. Gravel is angular to subangular fine to coarse mudstone.			
1.00- 1.10	D								
1.00- 1.10	ES		PID=<0.1						
1.00- 1.10									
1.20- 1.80	B						2.60		71.24
1.20- 1.65	UT30	1.20 (DRY)	72	29					
1.65- 1.70	D								
2.00- 2.10	D								
2.00- 2.10	ES		PID=<0.1						
2.00- 2.10									
2.20- 2.65	D	1.50 (DRY)			S10				
2.70- 3.00	B								
3.00- 3.10	D								
3.30- 3.75	UT42	1.50 (DRY)	55	41					
3.75- 3.80	D								
4.00- 4.10	D								
4.00- 4.10	D								
4.30- 4.75	D					Below 4.40m, becoming stiff.			
4.40- 4.85	D	1.50 (DRY)			S27				
5.10- 5.20	D								
5.40- 5.65	UT100	1.50 (DRY)		28					
5.65- 5.70	D								
5.70- 6.00	B								
6.00- 6.10	D								
6.90- 7.35	D	1.50 (DRY)			S30	Below 6.90m, becoming very stiff.			
7.40- 7.50	D								
8.00- 8.10	D								
8.40- 8.85	UT80	1.50 (DRY)							
8.85- 8.90	D								
9.30- 9.40	D								
9.50- 9.95	D	1.50 (DRY)			S32				
9.90-10.00	D						10.00		63.84
End of Borehole									

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	In Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			21/07/20	08:00						None encountered during boring.
10.00	0.15	Cable Percussion	DC/LC DC/LC	10.00	1.50	DRY	21/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Backfill details from base of hole: bentonite up to ground level.

Logged by SI
Figure 1 of 1
11/11/2020

geotechnics

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH508 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459328.5 E 220356.6 N	Ground Level	78.23 m OD

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
						End of Borehole	10.26		67.97		

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks	AGS	Logged by	MM
Symbols and abbreviations are explained on the accompanying key sheet.		Figure	2 of 2
All dimensions are in metres.			11/11/2020
Logged in accordance with BS5930:2015			

geotechnics

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH508 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459328.5 E 220356.6 N	Ground Level	78.23 m OD

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
0.10	ES					MADE GROUND: Asphalt.	G.L.		78.23		
0.10							0.25		77.98		
0.25- 0.65	B		PID<0.1			MADE GROUND: Brown and dark grey very sandy slightly clayey gravel with low cobble content of angular brick. Gravel is angular to subangular fine to coarse clinker, brick, limestone and ash.	0.65		77.58		
0.30	ES		PID<0.1								
0.40	D										
0.65- 1.20	B					Firm brown mottled grey slightly sandy slightly gravelly CLAY with rare decomposed rootlets. Gravel is angular to subangular fine to medium limestone. Between 1.20-1.70m, with rare shell fragments (up to 20mm in size).					
0.70	D										
0.70	ES		PID<0.1		S7						
1.20- 1.65	D	1.20 (DRY)									
1.70- 2.50	B		PID<0.1			Firm grey mottled brown slightly sandy calcareous CLAY with occasional gypsum crystals (up to 3mm in size).	1.70		76.53		
1.70											
2.30	D										
2.50- 2.95	D	1.20 (DRY)			S13						
3.20	D					Below 3.20m, with many gypsum crystals (up to 2mm in size).					
3.50- 3.95	UT18	1.20 (DRY)	83	36 40		Below 3.50m, becoming stiff.					
3.95- 4.10	D										
4.00- 4.50	B					Stiff dark brown mottled grey CLAY with many shell fragments (up to 30mm in size).	3.95		74.28		
4.00	D										
4.60	D										
4.70- 5.15	D	1.20 (DRY)			S22						
5.30	D					Below 5.30m, becoming fissured. Fissures are randomly orientation, extremely to very closely spaced, smooth and undulating.					
5.90- 6.35	UT56	1.20 (DRY)									
6.35- 6.50	D										
6.50- 7.50	B										
7.00	D										
7.50- 7.88	D	1.20 (DRY)			S50/ 230	Below 7.50m, becoming very stiff.					
8.50	D										
9.00- 9.29	D	1.20 (DRY)			S50/ 155						
9.50	D										
10.00-10.26	D	1.20 (DRY)			S50/ 150						

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit	MR/SS	G.L.			05/08/20	08:00						None encountered during boring.
10.26	0.15	Cable Percussion	MR/SS	10.26	1.20	DRY	05/08/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Water was added to assist boring between 1.20 and 10.00 m.
Backfill details from base of hole: bentonite up to 0.25m, asphalt up to ground level.

Logged by MM

Figure 1 of 2
11/11/2020



BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH507 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459392.3 E 220294.0 N	Ground Level	73.82 m OD

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
						End of Borehole	10.45		63.37		

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater

Remarks	AGS	Logged by	BA
Symbols and abbreviations are explained on the accompanying key sheet.		Figure	2 of 2
All dimensions are in metres.			11/11/2020
Logged in accordance with BS5930:2015			

geotechnics

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH507 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459392.3 E 220294.0 N	Ground Level	73.82 m OD

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
0.05	D					MADE GROUND: Stiff dark grey slightly gravelly sandy clay with many rootlets. Gravel is angular to subangular fine to medium sandstone. MADE GROUND: Firm to stiff greyish brown slightly sandy slightly gravelly clay with occasional rootlets. Gravel is angular to subangular fine to coarse sandstone, limestone and brick. Firm brownish grey slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to medium limestone. Below 1.20m, becoming stiff with occasional shell fragments (up to 10mm in size).	G.L.		73.82		
0.05	ES						0.10		73.72		
0.05							0.30		73.52		
0.10- 0.30	B		PID<0.1								
0.20	D										
0.20	ES										
0.20			PID<0.1								
0.30- 1.00	B										
0.50	D			24							
0.50	ES										
0.50			PID<0.1								
1.20- 1.65	D	1.20 (DRY)			S15	Below 1.20m, becoming stiff with occasional shell fragments (up to 10mm in size). Stiff brownish grey slightly sandy CLAY with many shell fragments (up to 10mm in size) and many gypsum crystals (up to 3mm in size). Below 3.50m, becoming dark brownish grey with occasional decomposed organic material (up to 20mm in size). At 4.50m, with occasional shell fragments (up to 3mm in size). Below 4.60m, becoming dark grey. Below 7.00m, becoming very stiff bluish grey. Gypsum crystals absent.					
1.50	D										
1.50	ES		PID<0.1								
1.50					S22						
2.00- 2.45	D	1.20 (DRY)									
2.60- 3.00	B						2.60		71.22		
2.60	D										
3.20- 3.65	UT12	1.20 (DRY)	105	29							
3.65- 3.80	D										
3.80- 4.50	B										
4.00	D										
4.50- 4.95	D	1.20 (DRY)			S29						
4.60- 5.50	B										
5.00	D										
5.50- 5.95	UT32	1.20 (DRY)									
5.95- 6.10	D										
6.30	D										
7.00- 7.43	D	1.20 (DRY)			S50/ 280						
7.60	D										
7.90	W										
8.50- 8.91	D	1.20 (8.20)			S50/ 255						
9.40	D										
10.00-10.32	D	1.20 (9.10)			S50/ 165						

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	MR/SS	G.L.	1.20	9.10	13/07/20	08:00	7.90	1.20	7.55	20		
10.32		Cable Percussion	MR/SS	10.32			13/07/20	18:00						

Remarks Inspection pit hand excavated to 1.20m depth and no services were found.

ES sample = 2 x vial, 1 x plastic jar and 2 amber jar

Water was added to assist boring between 1.20 and 7.90m.

Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.

Backfill details from base of hole: bentonite up to ground level.

Logged by BA

Figure 1 of 2
11/11/2020

geotechnics

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:2015

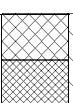
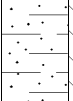
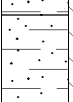
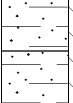
Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Borehole Project No	BH506 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459471.1	E	Ground Level	71.40 m OD
			220229.2	N		

Sampling			Properties			Strata			Scale 1:50					
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD					
0.10 0.10 0.10 0.30- 1.00 0.40 0.40 0.50	D ES B ES D		PID=<0.1			MADE GROUND: Firm dark brown slightly sandy slightly gravelly clay with many rootlets and rare roots (up to 5mm in diameter). Gravel is angular to subangular fine to coarse brick and sandstone. Below 0.2m, rootlets absent. Firm orangish brown and grey slightly sandy CLAY with rare roots (up to 3mm in diameter). Below 0.80m, roots absent.	G.L.		71.40					
1.20- 1.65 1.30- 2.10 1.40 1.40 1.50	D B ES D	1.20 (DRY)	PID=<0.1		S14		0.30		71.10					
2.20- 2.65	UT16	1.20 (DRY)	139	26		Below 2.20m, becoming stiff.								
2.65- 2.80 2.80- 3.20 3.00	D B D					Stiff grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size) and many gypsum crystals (up to 2mm in size).	2.70		68.70					
3.30- 3.75 3.60- 4.10 3.80	D B D	1.20 (DRY)			S19									
4.50- 4.95	UT21	1.20 (DRY)	109	25										
4.95- 5.10	D													
5.50	D													
6.00- 6.45	D	1.20 (DRY)			S41	Below 6.00, becoming very stiff.								
						End of Borehole	6.45		64.95					
Boring			Progress			Groundwater								
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20 6.45	0.15	Inspection Pit Cable Percussion	MR/SS MR/SS	G.L. 6.45	1.20	DRY	14/07/20	08:00						None encountered during boring.
Remarks			AGS Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Water was added to assist boring between 1.20 and 6.00m. Backfill details from base of hole: bentonite up to ground level.											
Symbols and abbreviations are explained on the accompanying key sheet.			Logged by SI Figure 1 of 1 11/11/2020											
All dimensions are in metres.			geotechnics											
Logged in accordance with BS5930:2015														

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Borehole Project No	BH504 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459561.4	E	Ground Level	71.02 m OD
			229363.4	N		

Sampling			Properties			Strata		Scale 1:50						
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD					
0.00- 0.30	B					MADE GROUND: Ballast.	G.L.		71.02					
0.10- 0.20	D													
0.10- 0.20	ES						0.30		70.72					
0.10- 0.20			PID=<0.1			MADE GROUND: Soft orangish brown and grey slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse granite.	0.70		70.32					
0.30- 0.50	B													
0.30- 0.40	D													
0.30- 0.40	ES													
0.30- 0.40			PID=<0.1			Stiff dark brownish grey slightly sandy CLAY with rare rootlets and rare pockets (up to 1mm in size) of brown silt.								
0.50- 0.70	B													
0.50- 0.60	D													
0.50- 0.60	ES													
0.50- 0.60			PID=<0.1											
0.70- 0.90	B													
0.70- 0.80	D													
1.00- 1.10	D													
1.00- 1.10	ES													
1.00- 1.10			PID=<0.1			Firm dark grey slightly sandy CLAY with occasional gypsum crystals (up to 60mm in size).	2.00		69.02					
1.20- 2.00	B													
1.20- 1.65	UT45	1.20 (DRY)	80	32										
1.65- 1.70	D													
2.00- 2.10	D													
2.00- 2.10	ES													
2.00- 2.10			PID=<0.1											
2.10- 2.55	D	1.50 (DRY)			S15	Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 40mm in size).	2.90		68.12					
2.90- 3.00	D	1.50 (DRY)	123	25										
3.20- 3.65	UT85	1.50 (DRY)												
3.65- 3.70	D													
3.70- 4.10	B													
4.10- 4.20	D	1.50 (DRY)			S26									
4.20- 4.65	D													
5.10- 5.20	D													
5.40- 5.85	UT90	1.50 (DRY)	91	21										
5.85- 5.90	D													
6.10- 6.20	D													
7.00- 7.45	D	1.50 (DRY)			S33	Below 7.00m, becoming very stiff.								
8.00- 8.10	D													
8.50- 8.95	UT75	1.50 (DRY)												
8.95- 9.00	D													
9.40- 9.50	D													
9.50- 9.95	D	1.50 (DRY)			S36									
9.90-10.00	D													
						End of Borehole	10.00		61.02					
Boring			Progress			Groundwater								
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit	DC/LC	G.L.			22/07/20	08:00						None encountered during boring.
10.00	0.15	Cable Percussion	DC/LC	10.00	1.50	DRY	22/07/20	18:00						
Remarks  Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: bentonite up to ground level.														
Symbols and abbreviations are explained on the accompanying key sheet.														
All dimensions are in metres.														
Logged in accordance with BS5930:2015														
Logged by SI														
Figure 1 of 1 11/11/2020														
														

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH502 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459519.0 E 220492.5 N	Ground Level	73.67 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.00- 0.20	B					TOPSOIL: Firm dark brown slightly sandy clay with many rootlets.	G.L.		73.67
0.10- 0.20	D						0.20		73.47
0.10- 0.20	ES		PID=<0.1						
0.10- 0.20						Firm light brownish grey slightly sandy calcareous CLAY with occasional shell fragments (up to 20mm in size) and rare roots (up to 4mm in diameter).			
0.20- 0.50	B			29					
0.20- 0.30	D								
0.50- 0.60	D								
0.50- 0.60	ES		PID=<0.1						
0.50- 0.60									
1.00- 1.10	D								
1.00- 1.10	ES		PID=<0.1						
1.00- 1.10						Below 1.50m, roots absent.			
1.20- 1.65	UT50	1.20 (DRY)	69	28					
1.65- 1.70	D								
2.00- 2.10	D								
2.00- 2.10	ES		PID=<0.1		S7	Firm dark greenish grey slightly sandy CLAY with occasional pockets (up to 60mm in size) of light yellowish brown silt, occasional gypsum crystals (up to 2mm in size) and occasional shell fragments (up to 30mm in size).	2.00		71.67
2.00- 2.10		1.50 (DRY)							
2.20- 2.65	D								
2.80- 3.20	B								
3.00- 3.10	D								
3.20- 3.65	UT55	1.50 (DRY)	56	32					
3.65- 3.70	D								
4.00- 4.10	D								
4.20- 4.65	D	1.50 (DRY)			S29	Below 4.20m, becoming stiff.			
4.40	W					Below 4.50m, pockets of silt absent.			
5.00- 5.10	D								
5.20- 5.65	UT65	1.50 (4.40)							
5.65- 5.70	D								
6.00- 6.10	D								
6.70- 7.15	D	6.00 (DRY)			S37				
7.20- 7.30	D								
8.00- 8.10	D								
8.30- 8.75	UT90	6.00 (DRY)							
8.75- 8.80	D								
9.00- 9.10	D								
9.50- 9.95	D	6.00 (DRY)			S45				
End of Borehole							10.00		63.67

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	DC/LC	G.L.	6.00	DRY	14/07/20	08:00	5.20	1.50	4.40	20	6.00	Fast inflow.
10.00		Cable Percussion	DC/LC	10.00			14/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Upon completion and after removing the casing, water was standing at a depth of 5.00m.
Backfill details from base of hole: bentonite up to ground level.

Logged by SI
Figure 1 of 1
11/11/2020

geotechnics

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH431 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459306.2 E 220606.7 N	Ground Level	80.42 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.00- 0.20	B					TOPSOIL: Dark brown slightly sandy slightly gravelly clay with many rootlets. Gravel is angular to subangular fine to coarse sandstone.	G.L.		80.42
0.10- 0.20	D						0.20		80.22
0.10- 0.20	ES		PID=<0.1			Firm to stiff light brown slightly sandy calcareous CLAY with rare rootlets. Below 0.50m, rootlets absent.			
0.20- 0.50	B								
0.20- 0.30	D					Firm orangish brown slightly sandy calcareous CLAY with rare shell fragments (up to 10mm in size).			
0.50- 0.60	D						0.80		79.62
0.50- 0.60	ES		PID=<0.1						
0.80- 0.90	D								
1.00- 1.10	D								
1.00- 1.10	ES		PID=<0.1						
1.20- 2.00	B								
1.20- 1.65	UT35	1.20 (DRY)	50	27					
1.65- 1.70	D								
2.00- 2.10	D								
2.00- 2.10	ES		PID=<0.1						
2.00- 2.10	D	1.50 (DRY)			S8				
2.20- 2.65									
3.00- 3.10	D					Below 3.00m, becoming dark brown mottled grey with occasional gypsum crystals (up to 10mm in size). Below 3.20m, becoming stiff.			
3.20- 3.65	UT40	1.50 (DRY)	92	32					
3.65- 3.70	D					Between 3.65-3.70m, with occasional pockets (up to 2mm in size) of orangish brown sand.			
4.00- 4.10	D						4.00		76.42
4.30- 5.00	B					Stiff dark greyish brown slightly sandy CLAY with occasional shell fragments (up to 30mm in size) and occasional gypsum crystals (up to 15mm in size).			
4.30- 4.75	D	1.50 (DRY)			S17				
5.00- 5.10	D								
5.40- 5.85	UT40	1.50 (DRY)							
5.85- 5.90	D								
6.00- 6.90	D								
6.90- 7.35	D	1.50 (DRY)			S27				
7.90- 8.40	B					Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 50mm in size) and a slight organic odour.	7.90		72.52
7.90- 8.00	D								
8.40- 8.60	UT100	1.50 (DRY)							
8.60- 8.70	D								
9.20- 9.30	D								
9.50- 9.95	D	1.50 (DRY)			S50	Below 9.50m, becoming very stiff.			
							10.00		70.42
						End of Borehole			

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			31/07/20	08:00						None encountered during boring.
10.00	0.15	Cable Percussion	DC/LC DC/LC	10.00	1.50	DRY	31/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Backfill details from base of hole: bentonite up to ground level.

Logged by SI
Figure 1 of 1
11/11/2020



BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH430 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459377.2 E 220637.3 N	Ground Level	74.68 m OD

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
0.00- 0.20	B					TOPSOIL: Firm brown slightly sandy slightly gravelly clay with many rootlets. Gravel is angular to subangular fine to coarse sandstone	6.L.		74.68		
0.10- 0.20	D						0.20		74.48		
0.10- 0.20	ES		PID=<0.1				0.50		74.18		
0.20- 0.50	B			26		Firm light brown slightly sandy calcareous CLAY with occasional rootlets.					
0.20- 0.30	D			27							
0.50- 0.70	B					Firm dark brown slightly sandy CLAY with rare rootlets.	1.10		73.58		
0.50- 0.60	D					Below 0.70m, becoming light brown.	1.20		73.48		
0.50- 0.60	ES		PID=<0.1								
0.70- 1.00	B					Stiff dark brown mottled grey slightly sandy CLAY with occasional shell fragments (up to 10mm in size).					
0.70- 0.80	D										
1.00- 1.10	D										
1.00- 1.10	ES		PID=<0.1								
1.20- 2.00	B					Firm orangish brown mottled grey slightly sandy CLAY with occasional pockets (up to 2mm in size) of orangish brown sand and shell fragments (up to 10mm in size).					
1.20- 1.65	D	1.20 (DRY)			S10						
2.00- 2.10	D										
2.00- 2.10	ES		PID=<0.1								
2.00- 2.10			52	29							
2.10- 2.55	UT30	1.50 (DRY)									
2.55- 2.60	D										
3.00- 3.20	D					Below 3.20m, becoming stiff.					
3.20- 4.00	D					Between 3.20-4.00m, driller notes pushing mudstone boulder.					
3.20- 3.65		1.50 (DRY)			C17						
4.00- 4.10	D										
4.20- 5.00	B					Between 4.20-5.00m, driller notes pushing mudstone boulder.					
4.20- 4.65	UTF 50	1.50 (DRY)				Below 4.20m, with rare gypsum crystals (up to 1mm in size).					
5.00- 5.10	D						5.00		69.68		
5.10- 5.55	UT65	1.50 (DRY)				Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size) and rare gypsum crystals (up to 2mm in size).					
5.55- 5.60	D										
5.60- 6.10	B										
6.10- 6.20	D						6.20		68.48		
						End of Borehole					

Boring				Progress					Groundwater				
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed
1.20		Inspection Pit		6.L.			30/07/20	08:00					
6.20	0.15	Cable Percussion	DC/LC DC/LC	6.20	1.50	DRY	30/07/20	18:00					
													None encountered during boring.

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
A 50mm standpipe was installed to 6.20m with a geowrapped slotted section from 1.00m to 6.20m with upright lockable protective cover. Backfill details from base of hole: gravel filter up to 1.00m, bentonite up to 0.30m, concrete up to ground level.

Logged by SI
Figure 1 of 1
11/11/2020

geotechnics

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Borehole Project No	BH429 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459354.6	E	Ground Level	73.75 m OD
			229681.3	N		

Sampling			Properties			Strata					Scale 1:50			
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD					
0.00 0.00 0.30 0.30 0.50- 0.50 0.50 1.00 1.00 1.20- 1.50 1.50	ES ES B D ES ES D ES	 1.20 (DRY)	PID<<0.1 PID<<0.1 PID<<0.1 PID<<0.1 PID<<0.1	 	S8	MADE GROUND: Asphalt** MADE GROUND: Light brown and grey sandy silty gravel. Gravel is angular to subangular fine to medium limestone and ash. Soft to firm greenish grey mottled orangish brown slightly sandy calcareous CLAY with occasional shell fragments (up to 3mm in size).	G.L. 0.20 0.50		73.75 73.55 73.25					
2.30- 2.75 2.80 3.40- 3.85	UT28 D D	1.50 (DRY) 1.50 (DRY)	83	28	 S10	Below 2.80m, with many shell fragments (up to 10mm in size). Firm brown slightly sandy CLAY with occasional gypsum crystals (up to 2mm in size).	4.00		69.75					
4.60- 5.05 5.10 6.00- 6.45	UT36 D D	1.50 (DRY) 1.50 (DRY)			S25	Stiff grey calcareous CLAY with many shell fragments (up to 6mm in size) and rare pockets (up to 30mm in size) of orangish brown sandy clay. End of Borehole	5.50 6.45		68.25 67.30					
Boring			Progress					Groundwater						
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20 6.45	0.15	Inspection Pit Cable Percussion	KR/JT KR/JT	G.L. 6.45	1.50	DRY	05/08/20 05/08/20	08:00 18:00						None encountered during boring.
Remarks  Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. ** Drillers description. Backfill details from base of hole: bentonite up to 0.20m, asphalt up to ground level.														
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres. Logged in accordance with BS5930:2015														
Logged by MM Figure 1 of 1 11/11/2020 														

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH428 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459492.7 E 220673.1 N	Ground Level	71.83 m OD

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
0.10 0.10 0.30- 0.80 0.40 0.40 0.80- 1.20 0.90 0.90 1.20- 1.65 1.30- 2.30 1.30 1.30	ES B D ES B D ES D B D ES		PID<0.1			MADE GROUND: Asphalt.	G.L.		71.83		
			PID<0.1			MADE GROUND: Light orangish brown slightly sandy slightly clayey gravel with a low cobble content of subangular limestone and sandstone. Gravel is angular to subangular fine to coarse concrete, limestone and sandstone.	0.30		71.53		
			PID<0.1			MADE GROUND: Firm dark greenish grey slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse brick and ash.	0.80		71.03		
		1.20 (DRY)	PID<0.1		S7	Firm brown mottled grey slightly sandy CLAY with occasional pockets (up to 1mm in size) of grey silt.	1.30		70.53		
			PID<0.1	34							
2.30 2.30- 2.75 2.30 2.70- 3.50 3.00	ES UT13 B D	1.20 (DRY)	72	33		Firm dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 20mm in size).	2.70		69.13		
			PID<0.1								
3.50- 3.95	D	1.20 (DRY)			S12						
4.00- 4.50	B										
4.20	D										
4.50- 4.95	UT35	1.20 (DRY)									
4.95- 5.10	D										
5.50	D										
6.00- 6.45	D	1.20 (DRY)			S23	Below 6.00m, becoming stiff.					
						End of Borehole	6.45		65.38		

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20 6.45	0.15	Inspection Pit Cable Percussion	MR/SS MR/SS	G.L. 6.45	1.20	DRY	22/07/20 22/07/20	08:00 18:00	3.50	1.20			NS	Seepage.

Remarks	Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Water was added to assist boring between 1.20 and 3.50 m. A 50mm standpipe was installed to 5.00m with a geowrapped slotted section from 2.50m to 5.00m with flush lockable protective cover. Backfill details from base of hole: bentonite up to 5.00m, gravel filter up to 2.50m, bentonite up to 0.30m, concrete up to ground level. Logged in accordance with BS5930:2015	Logged by SI Figure 1 of 1 11/11/2020 geotechnics
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Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH427 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459534.6 E 220671.9 N	Ground Level	71.54 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.10	ES					MADE GROUND: Asphalt.	G.L.		71.54
0.10									
0.25- 0.45	B		PID=<0.1			MADE GROUND: Concrete.	0.25		71.29
0.30	ES						0.45		71.09
0.30			PID=<0.1						
0.50- 1.20	B					Very soft brown mottled grey slightly sandy slightly gravelly CLAY with occasional pockets (up to 30mm in size) of soft grey clay and an organic odour. Gravel is angular to subrounded fine to medium limestone. Below 1.20m, with rare shell fragments (up to 5mm in size).			
0.50	D		38						
0.50	ES		PID=<0.1						
1.20- 1.80	B	1.20 (DRY)			S3				
1.20- 1.65	D								
1.50	D								
1.50	ES		PID=<0.1						
1.80- 2.50	B					Soft brown slightly sandy CLAY with many pockets (up to 40mm in size) of firm dark brown clay and an organic odour.	1.80		69.74
2.00	D								
2.50- 2.95	UT8	1.20 (DRY)	26	43					
2.95- 3.10	D								
3.10- 3.60	B					Firm becoming stiff dark brown mottled brown slightly sandy CLAY with occasional decomposed rootlets, an organic odour and with rare shell fragments (up to 2mm in size). Between 3.60-3.90m, with occasional gypsum crystals (up to 2mm in size).	2.95		68.59
3.30	D								
3.60- 4.05	D	1.20 (DRY)	34		S18				
3.90- 4.60	B		104	27		Stiff dark grey slightly sandy CLAY with rare shell fragments (up to 2mm in size) and many shell fragments (up to 30mm in size).	3.90		67.64
4.30	D								
4.50- 4.95	UT29	1.20 (DRY)							
4.95- 5.10	D								
5.50	D					Below 5.50m, becoming dark grey mottled brown.			
6.00- 6.45	D	1.20 (DRY)			S26				
						End of Borehole	6.45		65.09

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			06/08/20	08:00						None encountered during boring.
6.45	0.15	Cable Percussion	MR/SS MR/SS	6.45	1.20	DRY	06/08/20	18:00						

Remarks	Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Water was added to assist boring between 1.20 and 6.00 m. A 50mm standpipe was installed to 3.50m with a geowrapped slotted section from 1.50m to 3.50m with flush lockable protective cover. Backfill details from base of hole: bentonite up to 3.50m, gravel filter up to 1.50m, bentonite up to 0.30m, concrete up to ground level. Logged in accordance with BS5930:2015	Logged by SI Figure 1 of 1 11/11/2020 geotechnics
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Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH426 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459468.4 E 220721.9 N	Ground Level	71.23 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.10- 0.30	B					MADE GROUND: Firm dark brown and grey slightly sandy slightly gravelly clay with many rootlets. Gravel is angular to subangular fine to coarse brick, concrete and sandstone.	G.L.		71.23
0.20	D								
0.20	ES						0.30		70.93
0.30- 0.80	B		PID=<0.1			MADE GROUND: Light brown and brown sandy gravel with a low cobble content of subangular brick and concrete. Gravel is angular to subangular fine to coarse brick and concrete.			
0.50	D								
0.50	ES		PID=<0.1				0.90		70.33
0.90- 1.20	B					PROBABLE MADE GROUND: Soft light orangish brown mottled grey slightly sandy slightly gravelly clay with a low cobble content of angular to subangular sandstone. Gravel is angular to subangular fine to coarse sandstone.			
1.00	D								
1.00	ES		PID=<0.1						
1.20- 1.65	D	1.20 (DRY)			S6				
1.50- 2.50	B								
2.00	D								
2.00	ES		PID=<0.1						
2.50- 2.54		1.20 (DRY)			S50/20				
3.00- 3.50	B								
3.00	D								
3.00	ES		PID=<0.1						
3.50- 3.95	D	1.20 (DRY)			S23				
3.60- 4.50	B					Stiff dark grey slightly sandy CLAY with occasional shell fragments (up to 10mm in size).	3.60		67.63
3.70	D								
3.70	ES		PID=<0.1			Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 20mm in size).	4.00		67.23
4.50- 4.95	UT27	1.20 (DRY)							
4.70	ES								
4.70			PID=<0.1						
4.95- 5.10	D								
6.00- 6.45	D	1.20 (DRY)			S29				
						End of Borehole	6.45		64.78

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			22/07/20	08:00						None encountered during boring.
6.45	0.15	Cable Percussion	MR/SS MR/SS	6.45	1.20	DRY	22/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Backfill details from base of hole: bentonite up to ground level.
Chiselling: 2.50-2.70m for 30 minutes.

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Figure 1 of 1
11/11/2020

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Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Borehole Project No	BH425 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459402.4 220783.7	E N	Ground Level	70.68 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.10- 0.30 0.20 0.20 0.20 0.30- 1.20 0.40 0.40 0.60	B D ES B ES D					TOPSOIL: Firm dark brown slightly sandy slightly gravelly clay with many rootlets and rare roots (up to 5mm in diameter). Gravel is angular to subangular fine to coarse limestone.	G.L. 0.30		70.68 70.38
1.20- 1.65 1.30 1.30 1.40- 2.50 1.80	D ES B D	1.20 (DRY)	PID<=0.1 PID<=0.1		S19	Stiff brown slightly sandy CLAY with rare rootlets. Below 0.60m, rootlets absent.	1.40		69.28
2.50- 2.95	UT47	1.20 (DRY)	26	46		Between 2.90-3.20m, driller notes the presence of a gravel band.**			
3.40 3.50- 4.50 3.50- 3.95 4.00	D B D D	1.20 (DRY)			S20	Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size) and rare gypsum crystals (up to 2mm in size).	3.20		67.48
4.50- 4.95 4.95- 5.10 5.50	UT34 D D	1.20 (DRY)							
6.00- 6.45	D	1.20 (DRY)			S22				
						End of Borehole	6.45		64.23

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20 6.45	0.15	Inspection Pit Cable Percussion	MR/SS MR/SS	G.L. 6.45	1.20	DRY	04/08/20 04/08/20	08:00 18:00	3.00	1.20				Seepage.

Remarks	ACS Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. At 2.50m, UT shoe damaged during sampling. Water was added to assist boring between 1.20 and 6.00 m. Backfill details from base of hole: arisings up to ground level.
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Figure **1 of 1**
11/11/2020



BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH424 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459460.1 E 220809.1 N	Ground Level	70.15 m OD

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
0.25- 1.00	B					MADE GROUND: Block paving.	G.L.		70.15		
0.50	D					MADE GROUND: Concrete.	0.10		70.05		
0.50	ES		PID<0.1			MADE GROUND: Dark brown and grey very sandy clayey gravel with a medium cobble content of angular to subangular fine to coarse brick and concrete. Gravel is angular to subangular fine to coarse brick, concrete, sandstone and plastic.	0.25		69.90		
1.00	ES		PID<0.1				1.15		69.00		
1.20- 2.40	B	1.20 (DRY)			S8	Soft greyish brown slightly sandy slightly gravelly CLAY. Gravel is rare angular to subangular fine to coarse mudstone.					
1.20- 1.65	D		PID<0.1								
1.30	ES										
1.30	D										
1.50	D										
2.30	ES		PID<0.1		S13	Firm dark brownish grey slightly sandy CLAY with occasional shell fragments (up to 10mm in size) and occasional gypsum crystals (up to 1mm in size).	2.20		67.95		
2.30	B	1.50 (DRY)									
2.40- 3.50	D										
2.40- 2.85	D										
3.00	D										
3.50- 3.95	UT17	1.50 (DRY)									
3.95- 4.10	D										
4.30	D				S25	Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size) and occasional gypsum crystals (up to 2mm in size).	4.20		65.95		
4.50- 4.95	D	1.50 (DRY)									
5.00- 6.00	B										
5.50	D										
6.00- 6.45	UT29	1.50 (DRY)									
6.45- 6.60	D										
						End of Borehole	6.60		63.55		

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	MR/SS	G.L.	1.50	DRY	28/07/20	08:00						None encountered during boring.
6.60		Cable Percussion	MR/SS	6.60			28/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Water was added to assist boring between 1.20 and 6.00 m.
A 50mm standpipe was installed to 6.00m with a geowrapped slotted section from 1.50m to 6.00m with flush lockable protective cover. Backfill details from base of hole: gravel filter up to 1.50m, bentonite up to 0.30m, concrete up to ground level.

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Figure **1 of 1**
11/11/2020



BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH423 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459456.8 E 220832.8 N	Ground Level	70.39 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
						MADE GROUND: Block paving.	G.L.		70.39
						MADE GROUND: Concrete.	0.10		70.29
0.40- 1.00	B						0.40		69.99
0.50	D								
0.50	ES					MADE GROUND: Brown and grey slightly sandy gravel. Gravel is angular to subangular fine to coarse ash, sandstone, brick, concrete and tarmac.			
0.50			PID<0.1						
1.00	ES								
1.00			PID<0.1						
1.20- 2.30	B					Firm dark brownish grey slightly sandy CLAY with rare pockets (up to 2mm in size) of light brown silty sand and rare gypsum crystals (up to 2mm in size).	1.10		69.29
1.20- 1.65	D	1.20 (DRY)			S6				
1.20	ES		PID<0.1						
1.20									
1.50	D								
2.20	ES		PID<0.1						
2.20									
2.30- 2.75	D	1.50 (DRY)			S10				
3.30- 3.90	B					Stiff dark brownish grey slightly sandy CLAY with occasional gypsum crystals (up to 60mm in size).	3.30		67.09
3.40	D		37						
3.50- 3.95	D	1.50 (DRY)			S13				
4.00- 4.50	B					Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 20mm in size).	4.00		66.39
4.00	D								
4.00- 4.45	UTF	1.50 (DRY)							
5.10- 5.55	D	1.50 (DRY)			S23				
5.70	D								
6.00- 6.45	D	1.50 (DRY)			S20				
						End of Borehole	6.45		63.94

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			28/07/20	08:00						None encountered during boring.
6.45	0.15	Cable Percussion	MR/SS MR/SS	6.45	1.50	DRY	28/07/20	18:00						

Remarks Inspection pit hand excavated to 1.20m depth and no services were found.

ES sample = 2 x vial, 1 x plastic jar and 2 amber jar

Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.

Water was added to assist boring between 1.20 and 6.00 m.

Backfill details from base of hole: bentonite up to 0.50m, concrete up to 0.10m, arisings up to ground level.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

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Figure 1 of 1
11/11/2020

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Remarks	AGS	Logged by	SI
Symbols and abbreviations are explained on the accompanying key sheet.		Figure	2 of 2
All dimensions are in metres.	Logged in accordance with BS5930:2015		11/11/2020
			

BOREHOLE RECORD - Cable Percussion

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Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH422 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459529.7 E 220780.4 N	Ground Level	69.52 m OD

Sampling			Properties			Strata		Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD	
0.30- 1.00	B					MADE GROUND: Block paving.	G.L.		69.52	
0.50	ES					MADE GROUND: Brown sand.	0.10		69.42	
0.50			PID<0.1			MADE GROUND: Dark grey and black slightly gravelly sand. Gravel is angular to subangular fine to coarse ash, brick, concrete and clinker.	0.30		69.22	
0.60	D									
1.00	ES		PID<0.1							
1.00										
1.20- 2.40	B					Firm orangish brown mottled grey slightly sandy CLAY.	1.20		68.32	
1.20- 1.65	D	1.20 (DRY)			S10					
1.30	ES		PID<0.1							
1.30										
1.50	D			46						
2.30	ES									
2.30			PID<0.1							
2.40- 4.85	UT16	1.50 (DRY)	76	34						
2.80- 3.50	B					Firm brownish grey slightly sandy CLAY with occasional gypsum crystals (up to 2mm in size).	2.80		66.72	
2.85- 3.00	D									
2.85- 3.00	D									
3.20	D									
3.50- 3.95	D	1.50 (DRY)			S13					
4.10- 4.50	B									
4.30	D					Stiff dark greyish green slightly sandy CLAY with occasional shell fragments (up to 20mm in size).	4.10		65.42	
4.50- 4.95	UT41	1.50 (DRY)								
4.95- 5.10	D									
5.30	D									
5.50- 5.95	D	1.50 (DRY)			S17					
6.50	D									
7.00- 7.45	UT43	1.50 (DRY)								
7.45- 7.60	D									
8.00	D									
8.50- 8.95	D	1.50 (DRY)			S27					
9.50	D									
10.00-10.45	D	1.50 (DRY)			S32					

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			27/07/20	08:00						None encountered during boring.
10.45	0.15	Cable Percussion	MR/SS MR/SS	10.45	1.50	DRY	27/07/20	18:00						

Remarks Inspection pit hand excavated to 1.20m depth and no services were found.

ES sample = 2 x vial, 1 x plastic jar and 2 amber jar

Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.

Water was added to assist boring between 1.20 and 10.00 m.

Backfill details from base of hole: bentonite up to 0.50m, concrete up to 0.10m, arisings up to ground level.

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Figure 1 of 2

11/11/2020

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:2015

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Project GRAVEN HILL, BICESTER, LAND TRANSFER
AREA 2 (LTA2)

Engineer

**WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITED**

Borehole
Project No

BH421
PC207899

Client **GRAVEN HILL VILLAGE DEVELOPMENT
COMPANY LIMITED**

National Grid	459544.1	E
Coordinates	220833.3	N

Ground Level **69.08** m OD

Sampling				Properties			Strata		Scale 1:50				
Depth		Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD			
0.10- 0.40		B	1.20 (0.80)	PID<=0.1	S1	MADE GROUND: Soft brown slightly sandy gravelly clay with occasional rootlets. Gravel is subangular to subrounded fine to coarse limestone, ceramic and quartzite.	G.L.		69.08				
0.30		D					0.50		68.58				
0.30		ES											
0.50- 1.20		B		PID<=0.1		MADE GROUND: Very soft dark brown slightly sandy gravelly clay with rare rootlets. Gravel is subangular to subrounded fine to coarse limestone, clinker, brick and slag.	3.00		66.08				
0.60		ES											
0.60		D											
1.00		ES		PID<=0.1									
1.00		D											
1.20- 1.65		D											
2.00		ES	PID<=0.1										
2.00													
2.50- 2.95		D	1.20 (1.90)	PID<=0.1	S1	Firm greyish brown slightly sandy CLAY with occasional pockets (up to 10mm in size) of light orangish brown silt.	4.40	64.68					
3.00		ES											
3.00													
3.50- 3.95		D	3.00 (DRY)	PID<=0.1	S16	Firm grey slightly sandy CLAY with occasional shell fragments (up to 5mm in size) and rare pockets (up to 10mm in size) of dark grey clay.	6.45	62.63					
4.20		D											
4.50- 6.00		B	3.00 (DRY)		S22			Below 5.50, with occasional gypsum crystals (up to 7mm in size).					
4.50- 4.95		UT30											
4.95- 5.10		D											
5.50		D				Below 6.00m, becoming stiff.							
6.00- 6.45		D	3.00 (DRY)			End of Borehole							

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Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH420 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459506.0 E 220885.5 N	Ground Level	70.07 m OD

Sampling			Properties			Strata				Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD			
						MADE GROUND: Block paving.	G.L.		70.07			
						MADE GROUND: Concrete.	0.10		69.97			
0.40- 0.90	B		PID=<0.1			MADE GROUND: Dark grey and black sandy slightly clayey gravel with a low cobble content of subangular concrete. Gravel is angular to subangular fine to coarse ash, brick, concrete and clinker.	0.40		69.67			
0.50	ES		PID=<0.1			Soft orangish brown mottled grey slightly sandy CLAY.	0.90		69.17			
0.50												
0.60	D											
1.10	ES				S4							
1.10												
1.20	D	1.20 (DRY)										
1.20- 1.65												
1.30- 2.40	B			40								
1.50	D											
2.10	ES		PID=<0.1									
2.10												
2.50- 2.95	UT12	1.20 (DRY)	47	37		Firm dark greyish brown slightly sandy CLAY with occasional shell fragments (up to 20mm in size).	2.60		67.47			
2.60- 3.30	B											
2.95- 3.10	D											
3.20	D											
3.50- 4.50	B				S17	Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 40mm in size).	3.30		66.77			
3.50- 3.95	D	1.20 (DRY)										
4.00	D											
4.50- 4.95	UT35	1.20 (DRY)										
4.95- 5.10	D											
5.50	D											
6.00- 6.45	D	1.20 (DRY)			S24							
						</						

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Borehole Project No	BH419 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459464.1	E	Ground Level	70.46 m OD
			229876.7	N		

Sampling			Properties			Strata		Scale 1:50						
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD					
						MADE GROUND: Block paving.	G.L.		70.46					
						MADE GROUND: Concrete.	0.10		70.36					
0.50- 1.00	B	1.20 (DRY)	PID<0.1		S5	MADE GROUND: Brown and grey gravelly sand with a low cobble content of angular to subangular brick and concrete. Gravel is angular to subangular fine to coarse sandstone, brick and concrete.	0.45		70.01					
0.50	D													
0.50	ES													
0.50														
1.00	ES													
1.00														
1.20- 2.30	B													
1.20- 1.65	D													
1.30	ES													
1.30														
1.50	D													
2.30	ES	1.20 (DRY)	PID<0.1	65	35									
2.30														
2.40- 2.85	UT14													
2.85- 3.00	D													
3.40	D	1.20 (DRY)			S20	Stiff greenish grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size). Below 3.40m, with occasional gypsum crystals (up to 60mm in size). Below 3.50m, becoming stiff.	3.30		67.16					
3.50- 4.50	B													
3.50- 3.95	D													
4.00	D													
4.50- 4.95	UT41	1.20 (DRY)												
4.95- 5.10	D													
5.50	D	1.20 (DRY)			S30									
6.00- 6.45	D													
						End of Borehole	6.45		64.01					
Boring					Progress				Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	MR/SS	G.L.	1.20	DRY	03/08/20	08:00						None encountered during boring.
6.45		Cable Percussion	MR/SS	6.45			03/08/20	18:00						
Remarks  Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar. Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Water was added to assist boring between 1.20 and 6.00 m. Backfill details from base of hole: bentonite up to 0.50m, concrete up to 0.10m, arisings up to ground level.														
Symbols and abbreviations are explained on the accompanying key sheet.														
All dimensions are in metres.														
Logged in accordance with BS5930:2015														
Logged by SI														
Figure 1 of 1														
11/11/2020														
														

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH418 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459480.9 E 220899.1 N	Ground Level	70.32 m OD

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
						MADE GROUND: Block paving.	G.L.		70.32		
						MADE GROUND: Concrete	0.10		70.22		
0.50- 1.00	B					MADE GROUND: Dark grey and brown very sandy clayey gravel with a low cobble content of subangular concrete. Gravel is angular to subangular fine to coarse brick, concrete and limestone.	0.45		69.87		
0.50	ES		PID<0.1								
0.60	D										
1.00	ES		PID<0.1				1.00		69.32		
1.20- 1.65	UT9	1.20 (DRY)	59	36		Firm orangish brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse limestone and mudstone.					
1.30- 2.40	B										
1.30	ES		PID<0.1								
1.60	D			38							
2.30	ES					Stiff greenish grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size).					
2.30			PID<0.1		S9						
2.50- 2.95	D	1.20 (DRY)					2.90		67.42		
2.90- 3.50	B										
3.20	D					End of Borehole					
3.50- 3.95	UT37	1.20 (DRY)									
3.95- 4.10	D										
4.30	D				S17						
4.50- 4.95	D	1.20 (DRY)				End of Borehole					
5.50	D										
6.00- 6.45	UT40	1.20 (DRY)									
6.45- 6.60	D						6.60		63.72		

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	MR/SS	G.L.	1.20	DRY	31/07/20	08:00						None encountered during boring.
6.60		Cable Percussion	MR/SS	6.60			31/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Water was added to assist boring between 1.20 and 6.00 m.
Backfill details from base of hole: bentonite up to 0.50m, concrete up to 0.10m, arisings up to ground level.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

Logged by SI
Figure 1 of 1
11/11/2020



Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Borehole Project No	BH417 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459428.5	E	Ground Level	70.73 m OD
			220949.0	N		

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
0.40- 1.00 0.50 0.50 0.70 1.00 1.00 1.10- 2.40 1.20 1.20- 1.65 1.50 1.20	B	1.50 (DRY)	PID<0.1	39	43	MADE GROUND: Block paving.	G.L.		70.73		
	ES					MADE GROUND: Concrete.	0.10		70.63		
	D					MADE GROUND: Black gravelly sand with a low cobble content of subangular clinker. Gravel is angular to subangular fine to coarse brick, concrete, ash and clinker.	0.40		70.33		
	ES					Firm light orangish brown slightly sandy CLAY.	1.10		69.63		
	B					Firm dark brownish grey slightly sandy CLAY.	2.30			68.43	
	ES										
	D										
	D										
	D										
	2.20 2.20 2.40- 3.50 2.40- 2.85					B	1.50 (DRY)		PID<0.1	S11	Firm dark brownish grey slightly sandy CLAY.
D											
D											
D											
D											
3.00	D	1.50 (DRY)	PID<0.1	S21	Firm dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 20mm in size) and occasional gypsum crystals (up to 2mm in size).	3.50		67.23			
3.50- 4.50 3.50- 3.95	B										
3.95- 4.10 4.00	UT21										
4.50- 4.95	D										
5.50	D										
6.00- 6.45	UT41	1.50 (DRY)	PID<0.1	S21	Below 4.50m, becoming stiff.	6.60		64.13			
6.45- 6.60	D										
End of Borehole											

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	MR/SS	G.L.	1.50	DRY	30/07/20	08:00						None encountered during boring.
6.60		Cable Percussion	MR/SS	6.60			30/07/20	18:00						

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Water was added to assist boring between 1.20 and 6.00 m.
Backfill details from base of hole: bentonite up to 0.40m, concrete up to 0.10m, arisings up to ground level.

Logged in accordance with BS5930:2015

Symbols and abbreviations are explained on the accompanying key sheet.
All dimensions are in metres.

Logged by **SI**
Figure **1 of 1**
11/11/2020

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Borehole Project No	BH416 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459389.4	E	Ground Level	71.17 m OD
			220931.9	N		

Sampling			Properties			Strata		Scale 1:50			
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
0.50- 0.80 0.50 0.50 0.50 1.00 1.00 1.20- 1.65 1.50 1.50 1.50 1.70- 2.20	B	1.20 (DRY)	PID<0.1	32	S8	MADE GROUND: Block paving.	G.L.		71.17		
	D					0.10	71.07				
	ES					0.50	70.67				
	ES					1.10	70.07				
	D	1.50 (DRY)	PID<0.1	S18	MADE GROUND: Firm greenish grey mottled orangish brown slightly sandy slightly gravelly clay with a slight organic odour. Gravel is angular to subangular fine to medium limestone and brick.	2.50	68.67				
	D				3.30	67.87					
	ES										
	B										
	2.30- 2.75	UT29	1.50 (DRY)	PID<0.1	S28	Firm dark brown mottled brown slightly sandy CLAY with occasional gypsum crystals (up to 3mm in size).	6.45		64.72		
	2.80- 3.30	B									
2.80	D										
3.40- 3.85	D										
4.00	D	1.50 (DRY)	PID<0.1	S28	Stiff grey CLAY with rare gypsum crystals (up to 2mm in size) and occasional shell fragments (up to 10mm in size).						
4.50- 4.95	UT43										
5.10	D										
6.00- 6.45	D										
						End of Borehole					

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	KR/JT	G.L.	1.50	DRY	14/08/20	08:00						None encountered during boring.
6.45		Cable Percussion	KR/JT	6.45			14/08/20	18:00						

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Backfill details from base of hole: bentonite up to 0.50m, concrete up to 0.10m, arisings up to ground level.

Logged by

MM

Figure

1 of 1
11/11/2020

All dimensions are in metres

Logged in accordance with BS5930:2015

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH415 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459370.1 E 220976.6 N	Ground Level	71.17 m OD

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
0.30- 0.50	B					MADE GROUND: Block paving.	G.L.		71.17		
0.40	D					MADE GROUND: Concrete.	0.10		71.07		
0.40	ES						0.30		70.87		
0.40							0.50		70.67		
0.50- 1.00	B		PID<0.1			MADE GROUND: Brown and light grey slightly sandy slightly silty gravel. Gravel is angular to subrounded fine to coarse limestone, sandstone and granite.					
0.60	D										
0.90	ES						1.10		70.07		
0.90			PID<0.1			MADE GROUND: Grey and brown very gravelly silty sand with a low cobble content of subangular concrete. Gravel is angular to subangular fine to coarse concrete, brick, limestone and ash.					
1.20- 2.50	B	1.20 (DRY)			S6						
1.20- 1.65	D										
1.20	ES		PID<0.1								
1.20											
1.50	D			42		Firm brown mottled grey slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to medium limestone.					
2.20	ES		PID<0.1								
2.20											
2.50- 2.95	UT16	1.20 (DRY)	32	41							
2.90- 3.50	B					Stiff dark brown mottled orangish brown slightly sandy CLAY with occasional gypsum crystals (up to 3mm in size), occasional pockets (up to 10mm in size) of grey slightly sandy clay and an organic odour.	2.90		68.27		
3.20	D										
3.50- 3.95	D	1.20 (DRY)			S16						
3.80- 4.50	B					Stiff dark grey slightly sandy CLAY with occasional shell fragments (up to 5mm in size).	3.80		67.37		
4.10	D										
4.50- 4.95	UT44	1.20 (DRY)	108	25							
4.95- 5.10	D					Below 5.00m, with occasional gypsum crystals (up to 3mm in size).					
5.50	D										
6.00- 6.45	D	1.20 (DRY)			S30	Below 6.00m, with many shell fragments (up to 10mm in size).					
						End of Borehole	6.45		64.72		

Boring				Progress					Groundwater				
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed
1.20		Inspection Pit		G.L.			18/08/20	08:00					
6.45	0.15	Cable Percussion	MR/SS MR/SS	6.45	1.20	DRY	18/08/20	18:00					
													None encountered during boring.

Remarks	Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Water was added to assist boring between 1.20 and 6.00 m. A 50mm standpipe was installed to 6.00m with a slotted section from 1.50m to 6.00m with upright lockable protective cover. Backfill details from base of hole: gravel filter up to 1.50m, bentonite up to 0.20m, concrete up to ground level. Logged in accordance with BS5930:2015	Logged by MM Figure 1 of 1 11/11/2020 geotechnics
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Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Borehole Project No	BH414 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459332.4	E	Ground Level	71.55 m OD
			220945.4	N		

Sampling			Properties			Strata		Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD	
						MADE GROUND: Block paving.	G.L.		71.55	
						MADE GROUND: Concrete.	0.10		71.45	
0.50- 1.00	B		PID=<0.1		S7	MADE GROUND: Loose light grey and brown sandy slightly silty gravel. Gravel is angular to subangular fine to coarse limestone, sandstone and granite.	0.50		71.05	
0.50	D									
0.50	ES									
0.50										
1.00	ES		PID=<0.1							
1.00										
1.20- 1.65	D	1.20 (DRY)								
1.60- 2.00	B					Soft to firm orangish brown mottled grey slightly sandy CLAY with occasional shell fragments (up to 2mm in size).	1.60		69.95	
1.60- 2.00	B									
1.60	D		PID=<0.1							
1.60	ES									
2.30- 2.75	D	1.50 (DRY)			S10	Firm grey mottled brown slightly sandy CLAY with occasional pockets (up to 20mm in size) of orangish brown slightly sandy clay and a low organic odour.	2.30		69.25	
2.90	D					Stiff dark grey mottled brown slightly sandy CLAY with occasional gypsum crystals (up to 2mm in size).	2.90		68.65	
3.40- 3.85	UT28	1.50 (DRY)								
3.90	D									
4.00- 4.50	B									
4.50- 4.95	D	1.50 (DRY)			S23					
5.00	D									
5.50- 5.95	D									
5.50- 5.95	UT44	1.50 (DRY)								
6.00	D					End of Borehole	6.00		65.55	

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit	KR/JT	G.L.			13/08/20	08:00						None encountered during boring.
6.00	0.15	Cable Percussion	KR/JT	6.00	1.50	DRY	13/08/20	18:00						

Remarks

Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Backfill details from base of hole: bentonite up to 0.50m, concrete up to 0.10m, arisings up to ground level.

Logged by MM

Figure 1 of 1
11/11/2020

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH413 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459274.6 E 220985.5 N	Ground Level	71.91 m OD

Sampling			Properties			Strata				Scale 1:50					
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD						
0.10- 0.30	B	1.20 (DRY)	PID=<0.1		S5	MADE GROUND: Soft dark brown slightly sandy slightly gravelly clay with a low cobble content of subangular brick and occasional rootlets. Gravel is angular to subangular fine to coarse brick and concrete.	G.L.		71.91						
0.20	ES						0.30		71.61						
0.30- 1.00	B														
0.50	ES														
0.60	D														
1.00	ES														
1.20- 2.20	B														
1.20- 1.65	D														
1.50	D														
2.00	ES														
2.00	UT17	1.20 (DRY)	PID=<0.1	26	46	Below 2.65m, becoming firm with many gypsum crystals (up to 5mm in size).									
2.20- 2.65															
2.65- 2.80	D														
3.30	D	1.20 (DRY)	S14		Firm dark brown slightly sandy CLAY.		3.30		68.61						
3.40- 3.85	D														
3.70- 4.50	B														
4.00	D														
4.50- 4.95	UT37	1.20 (DRY)													
4.95- 5.10	D														
5.50	D														
6.00- 6.45	D	1.20 (DRY)				S26		End of Borehole	6.45	65.46					
Boring			Progress						Groundwater						
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater	
1.20	0.15	Inspection Pit	MR/SS	G.L.	1.20	DRY	29/07/20	08:00						None encountered during boring.	
6.45		Cable Percussion	MR/SS	6.45			29/07/20	18:00							
Remarks Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Water was added to assist boring between 1.20 and 6.00 m. Backfill details from base of hole: bentonite up to ground level.															
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres.												Logged by SI Figure 1 of 1 11/11/2020			
Logged in accordance with BS5930:2015															

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Borehole Project No	BH412 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459268.2	E	Ground Level	71.42 m OD
			220923.6	N		

Sampling			Properties			Strata		Scale 1:50						
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD					
0.10- 0.90	B	1.20 (DRY)	PID<0.1	30	40	MADE GROUND: Dark brown and black sandy gravel. Gravel is angular to subangular fine to coarse ash, brick, concrete and sandstone.	6.L.		71.42					
0.30	ES						1.00		70.42					
0.30														
0.50	D													
0.50	ES													
1.00- 1.20	B						1.30		70.12					
1.10	D													
1.10	ES													
1.10														
1.20- 1.65	D													
1.30- 2.40	B	1.20 (DRY)	PID<0.1	S11	PROBABLE MADE GROUND: Firm dark brown and grey slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse limestone and sandstone.									
1.40	ES													
1.40														
1.60	D													
2.40	ES													
2.40- 2.85	UT7													
2.40														
3.20- 3.50	B													
3.30	D													
3.50- 3.95														
4.00	D	1.20 (DRY)	PID<0.1	S17	Firm dark greyish brown slightly sandy CLAY.									
4.50- 4.95	D													
5.50	D													
6.00- 6.45	D													
					End of Borehole	6.45		64.97						
Boring			Progress					Groundwater						
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	MR/SS	6.L.	1.20	DRY	29/07/20	08:00	2.90	1.20				Seepage.
6.45		Cable Percussion		MR/SS			6.45	29/07/20						
Remarks														
AGS Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Water was added to assist boring between 1.20 and 6.00 m. A 50mm standpipe was installed to 3.50m with a geowrapped slotted section from 1.20m to 3.50m with upright lockable protective cover. Backfill details from base of hole: bentonite up to 3.50m, gravel filter up to 1.20m, bentonite up to 0.30m, concrete up to ground level.														
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres. Logged in accordance with BS5930:2015														
Figure 1 of 1 11/11/2020 geotechnics														

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH411 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459297.5 E 220928.2 N	Ground Level	71.56 m OD

Sampling			Properties			Strata	Scale 1:50			
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD	
0.50- 1.00 0.50 0.50 0.50 1.00 1.00 1.20 1.20- 1.65 1.30- 2.40 1.40 1.40 1.60	B D ES ES D B ES D		PID=<0.1 PID=<0.1 PID=<0.1		S3	MADE GROUND: Block Paving.	G.L.		71.56	
						MADE GROUND: Concrete.	0.10		71.46	
						MADE GROUND: Dark grey and black sandy gravel with a low cobble content of subangular concrete and brick. Gravel is angular to subangular fine to coarse brick, concrete and clinker.	0.45		71.11	
							Soft grey slightly sandy CLAY with occasional pockets (up to 2mm in size) of orangish brown sand.		1.30	70.26
						Firm greenish grey slightly sandy CLAY with occasional shell fragments (up to 40mm in size).			2.90	68.66
						Below 4.50m, becoming stiff.			7.85	63.71

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			28/07/20	08:00	2.50	1.50				Seepage
7.85	0.15	Cable Percussion	MR/SS MR/SS	7.85	3.00	DRY	28/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Water was added to assist boring between 1.20 and 7.40 m.
A 50mm standpipe was installed to 4.00m with a geowrapped slotted section from 1.50m to 4.00m with flush lockable protective cover. Backfill details from base of hole: bentonite up to 4.00m, gravel filter up to 1.50m, bentonite up to 0.30m, concrete up to ground level.

Logged by SI

Figure 1 of 1
11/11/2020

geotechnics

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Borehole Project No	BH410 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459299.7 220913.4	E N	Ground Level	71.57 m OD

Sampling			Properties			Strata				Scale 1:50				
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD					
						MADE GROUND: Block paving.	G.L. 0.10		71.57 71.47					
						MADE GROUND: Concrete.	0.45		71.12					
0.50- 1.10 0.50 0.50 0.50 1.00 1.00 1.10- 2.50 1.20- 1.65 1.20 1.20 1.50	B D ES ES B D ES D	1.20 (DRY)	PID<<0.1 PID<<0.1 PID<<0.1		S4	MADE GROUND: Dark grey and black sandy gravel. Gravel is angular to subangular fine to coarse ash, concrete, brick, clinker and plastic. Between 0.60-0.75m, dry mix concrete.	1.10		70.47					
2.20 2.20 2.50- 2.95	ES UT11	1.20 (DRY)	PID<<0.1 45	34		Soft dark brown mottled grey slightly sandy CLAY with occasional pockets (up to 1mm in size) of grey silt.	2.80		68.77					
2.95- 3.10 3.00- 3.50 3.20	D B D	1.20 (DRY)			S17	Firm dark greyish brown slightly sandy CLAY with occasional pockets (up to 25mm in size) of orangish brown sand and occasional gypsum crystals (up to 10mm in size).	4.00		67.57					
4.00- 4.50 4.30 4.50- 4.95	B D UT37	1.20 (DRY)				Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 40mm in size).	7.60		63.97					
4.95- 5.10 5.30 5.50- 5.95	D D D	1.20 (DRY)			S27									
6.30	D													
7.00- 7.45 7.45- 7.60	UT39 D	1.20 (DRY)				End of Borehole								
Boring			Progress			Groundwater								
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20 7.60	0.15	Inspection Pit Cable Percussion	MR/SS MR/SS	G.L. 7.60	1.20	DRY	29/07/20 29/07/20	08:00 18:00						None encountered during boring.
Remarks Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Water was added to assist boring between 1.20 and 7.00 m. Backfill details from base of hole: bentonite up to 0.45m, concrete up to 0.10m, arisings up to ground level.														
Symbols and abbreviations are explained on the accompanying key sheet.														
All dimensions are in metres.														
Logged in accordance with BS5930:2015														
Logged by SI Figure 1 of 1 11/11/2020														

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH409 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459338.9 E 220898.5 N	Ground Level	71.48 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
						MADE GROUND: Block paving.	G.L.		71.48
						MADE GROUND: Concrete.	0.10		71.38
0.40- 1.00	B						0.40		71.08
0.50	D								
0.50	ES					MADE GROUND: Brown sandy slightly silty gravel with a low cobble content of subangular limestone and concrete. Gravel is subangular to subrounded fine to coarse concrete and quartzite.			
0.50			PID<0.1						
1.00	ES								
1.00			PID<0.1						
1.30- 1.75	D	1.20 (DRY)			S7		1.40		70.08
1.40- 2.50	B								
1.40	ES					Soft light grey mottled brown slightly sandy slightly gravelly CLAY with occasional pockets (up to 30mm in size) of grey silt. Gravel is subangular to subrounded fine to coarse limestone.			
1.40			PID<0.1						
1.50	D								
2.40	ES								
2.40			PID<0.1			Below 2.50m, becoming firm with rare pockets (up to 30mm in size) of brown sand.			
2.50- 2.95	D	1.20 (DRY)			S11				
3.40	D						3.30		68.18
3.50- 3.95	UT29	1.20 (DRY)	51	19		Firm fissured grey mottled brown slightly sandy CLAY with occasional gypsum crystals (up to 3mm in size). Fissures are subhorizontal, extremely to very closely spaced small and undulating.			
3.95- 4.10	D								
4.40	D						4.30		67.18
4.50- 5.00	B					Stiff fissured dark grey slightly sandy CLAY with many fossil fragments (up to 25mm in size). Fissures are subhorizontal, extremely to very closely spaced, smooth and undulating.			
4.50- 4.95	D	1.20 (DRY)			S24				
5.50	D								
6.00- 6.60	D								
6.00- 6.45	UT42	1.20 (DRY)							
6.45- 6.60	D						6.60		64.88
						End of Borehole			

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20	0.15	Inspection Pit	MR/SS	G.L.	1.20	DRY	13/08/20	08:00						None encountered during boring.
6.60		Cable Percussion	MR/SS	6.60			13/08/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Water was added to assist boring between 1.20 and 6.00 m.
Backfill details from base of hole: bentonite up to ground level.

Logged by SI
Figure 1 of 1
11/11/2020

geotechnics

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH408 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459281.7 E 220891.0 N	Ground Level	71.35 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.10- 0.80	B					MADE GROUND: Firm dark brown slightly sandy slightly gravelly clay with a low cobble content of subangular concrete and many rootlets. Gravel is angular to subangular fine to coarse concrete, limestone and brick.	G.L.		71.35
0.50	D								
0.50	ES								
0.50									
0.90	W					MADE GROUND: Very soft grey mottled brown slightly gravelly slightly sandy clay with occasional pockets (up to 30mm in size) of soft dark grey organic clay. Gravel is angular to subangular fine to medium brick. Between 1.20-2.40m, no recovery.	0.90		70.45
1.00	D								
1.00	ES								
1.20- 1.65									
1.00		1.20 (0.90)			S1				
2.40- 3.00	B					Firm dark brown mottled orangish brown slightly sandy CLAY with a medium organic odour and with occasional gypsum crystals (up to 3mm in size).	2.40		68.95
2.40- 2.85	D								
2.50	D	1.20 (0.90)			S8				
2.50	ES								
2.50									
3.40	ES					Stiff dark grey slightly sandy CLAY with many shell fragments (up to 30mm in size).	3.20		68.15
3.40									
3.50- 4.50	B								
3.50- 3.95	D	3.00 (DRY)			S50/295				
4.00	D								
4.50- 4.95	UT36	3.00 (DRY)				Below 4.95m, with rare gypsum crystals (up to 2mm in size).			
4.95- 5.10	D								
5.50	D								
6.00- 6.45	D	3.00 (DRY)			S39	End of Borehole			
							6.45		64.90

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	In Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			30/07/20	08:00	0.90	NIL			3.00	Standing within pit.
6.45	0.15	Cable Percussion	MR/SS MR/SS	6.45	3.00	DRY	30/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Water was added to assist boring between 3.00 and 6.00 m.
A 50mm standpipe was installed to 3.00m with a geowrapped slotted section from 1.00m to 3.00m with upright lockable protective cover. Backfill details from base of hole: bentonite up to 3.00m, gravel filter up to 1.00m, bentonite up to 0.30m, concrete up to ground level.

Symbols and abbreviations are explained on the accompanying key sheet.
All dimensions are in metres.

Logged in accordance with BS5930:2015

Logged by MM
Figure 1 of 1
11/11/2020



BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH407 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459192.1 E 220893.8 N	Ground Level	72.26 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.10- 0.30	B					Wood chipping**.	G.L.		72.26
0.20	D						0.10		72.16
0.20	ES		PID=<0.1			Firm, locally soft, light brown mottled greenish grey slightly sandy clay with many rootlets, occasional decomposed roots (up to 25mm in size) and an organic odour.	0.35		71.91
0.40- 1.00	B		PID=<0.1						
0.50	ES								
1.00	D					Soft light brown mottled greenish brown slightly sandy slightly gravelly CLAY with many decomposed rootlets and a slight organic odour. Gravel is angular to subangular fine to coarse limestone. Between 1.20-1.65m, with a strong organic odour.			
1.20	D	1.20 (DRY)			S5				
1.20- 1.65	ES		PID=<0.1						
1.50									
2.20	D								
2.50- 2.95	UT13	1.20 (DRY)	42	34		Below 2.50m, becoming firm.			
2.90- 3.50	B						2.90		69.36
2.95- 3.10	D					Stiff dark greyish brown mottled brown slightly sandy CLAY with occasional decomposed rootlets and a strong organic odour.			
3.20	D								
3.50	D	1.20 (DRY)			S21				
3.50- 3.95							3.90		68.36
3.90- 4.50	B					Stiff dark brownish grey slightly sandy CLAY with many shell fragments (up to 15mm in size).			
4.20	D								
4.50- 4.95	UT40	1.20 (DRY)							
4.95- 5.10	D								
5.50	D					Below 5.50m, with occasional shell fragments (up to 2mm in size).			
6.00- 6.45	D	1.20 (DRY)			S19		6.45		65.81
						End of Borehole			

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit	MR/SS	G.L.	1.20	DRY	11/08/20	08:00						None encountered during boring.
6.45	0.15	Cable Percussion	MR/SS	6.45			11/08/20	18:00						

Remarks Inspection pit hand excavated to 1.20m depth and no services were found.

ES sample = 2 x vial, 1 x plastic jar and 2 amber jar

Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.

** Drillers description.

Backfill details from base of hole: bentonite up to ground level.

Logged by MM

Figure 1 of 1
11/11/2020

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

geotechnics

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH406 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459328.5 E 220823.2 N	Ground Level	71.00 m OD

Sampling			Properties			Strata			Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD		
0.10- 0.50	B					MADE GROUND: Soft brown slightly sandy gravelly clay with occasional rootlets and a low cobble content of subangular limestone. Gravel is subangular to subrounded fine to coarse limestone.	G.L.		71.00		
0.30	D										
0.30	ES						0.50		70.50		
0.30											
0.50- 1.10	B		PID<0.1			MADE GROUND: Very soft brown slightly sandy gravelly clay with a high cobble content of subangular to subrounded limestone. Gravel is subangular to subrounded fine to coarse limestone.					
0.80	ES										
0.80							1.10		69.90		
1.00	D		PID<0.1	31							
1.20- 2.50	B					Firm greyish brown slightly sandy CLAY.					
1.20- 1.65	D										
1.20	ES	1.20 (DRY)	PID<0.1		S7						
2.00	D										
2.20	ES										
2.20			PID<0.1								
2.50- 2.95	D	1.20 (DRY)			S13						
2.70- 3.50	B					Stiff fissured dark grey slightly sandy CLAY, with occasional shell fragments (up to 15mm in size). Fissures are subhorizontal, extremely to very closely spaced smooth and undulating. Below 3.00m, with many relic rootlets. Below 3.50m, becoming very stiff. At 3.50m, driller records the presence of a cobble.	2.70		68.30		
3.00	D										
3.50- 3.56		1.20 (DRY)			S50/30						
3.70- 4.50	B										
4.00	D										
4.50	UT41	1.20 (DRY)	58	24							
4.95- 5.10	D					Below 4.95m, with rare shell fragments (up to 30mm in size).					
5.50	D										
6.00- 6.45	D	1.20 (DRY)			S32						
						End of Borehole	6.45		64.55		

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			18/08/20	08:00	0.70					Seepage.
6.45	0.15	Cable Percussion	MR/SS MR/SS	6.45	1.20	DRY	18/08/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Water was added to assist boring between 1.20 and 6.00 m.
Backfill details from base of hole: bentonite up to ground level.
Chiselling: 3.50-3.70m for 30 minutes.

Logged by MM
Figure 1 of 1
11/11/2020

geotechnics

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH404 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459173.5 E 220734.9 N	Ground Level	74.54 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.00	ES					MADE GROUND: Asphalt.	G.L.		74.54
0.00			PID<0.1				0.10		74.44
0.30- 0.50	B					MADE GROUND: Grey and black very sandy slightly clayey gravel with a low cobble content of subangular granite. Gravel is angular to subangular fine to coarse clinker and granite.			
0.30	ES		PID<0.1				0.70		73.84
0.30									
0.50	ES		PID<0.1						
0.50									
0.70- 1.00	B					Soft to firm greyish brown slightly sandy calcareous CLAY with occasional pockets (up to 2mm in size) of orangish brown sand and occasional shell fragments (up to 20mm in size).			
0.70	D								
1.00	ES		PID<0.1		S9				
1.20- 1.65	D	1.20 (DRY)		30					
1.50	D								
1.50	ES		PID<0.1						
1.50									
2.00- 2.45	UT26	1.50 (DRY)		23					
2.50	D								
3.00- 3.45	D	1.50 (DRY)			S14				
4.00- 4.45	UT34	1.50 (DRY)		27					
4.50	D					Below 4.50m, with occasional gypsum crystals (up to 15mm in size). Pockets up to 30mm in size.			
5.00- 5.50	B						5.00		69.54
5.00- 5.45	D	1.50 (DRY)			S33	Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size).			
6.00- 6.45	UT38	1.50 (DRY)							
6.50	D					End of Borehole	6.50		68.04

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit	KR/JT	G.L.			04/08/20	08:00						None encountered during boring.
6.50	0.15	Cable Percussion	KR/JT	6.50	1.50	DRY	04/08/20	18:00						

Remarks	Inspection pit hand excavated to 1.20m depth and no services were found. ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: bentonite up to 0.50m, concrete up to 0.20m, asphalt up to ground level.	Logged by SI Figure 1 of 1 11/11/2020 geotechnics
Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres. Logged in accordance with BS5930:2015		

BOREHOLE RECORD - Cable Percussion

Draft

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2) Engineer WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED Borehole Project No BH403 PC207899
Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED National Grid Coordinates 459280.8 E 220716.6 N Ground Level 73.50 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.10 0.10 0.30 0.30 0.50- 1.00 0.50 0.50 0.50 1.00 1.00 1.20- 1.65 1.50 1.50 1.50 1.50 2.00- 2.45	ES ES B D ES ES D D D ES D	 1.20 (DRY) 1.50 (DRY)	 						

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20				G.L.			04/08/20	08:00						None encountered during boring.
6.45	0.15	Inspection Pit Cable Percussion	KR/JT KR/JT	6.45	1.50	DRY	04/08/20	18:00						

Remarks Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
A 50mm standpipe was installed to 5.00m with a geowrapped slotted section from 4.00m to 5.00m with flush lockable protective cover. Backfill details from base of hole: bentonite up to 5.00m, gravel filter up to 4.00m, bentonite up to 0.50m, concrete up to 0.20m, asphalt up to ground level.
Logged in accordance with BS5930:2015

Logged by SI
Figure 1 of 1
11/11/2020
geotechnics

BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH402 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459263.7 E 220675.4 N	Ground Level	75.26 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.00- 0.20	B					TOPSOIL: Firm dark brown slightly sandy slightly gravelly clay with many rootlets. Gravel is angular to subangular fine to coarse sandstone.	G.L.		75.26
0.10- 0.20	D						0.20		75.06
0.10- 0.20	ES		PID<0.1						
0.10- 0.20									
0.20- 0.50	B					Firm to stiff light brown slightly sandy CLAY with rare rootlets.			
0.20- 0.30	D		25			Below 0.50m, rootlets absent.	0.80		74.46
0.50- 0.60	D								
0.50- 0.60	ES		PID<0.1			Stiff orangish brown slightly sandy slightly gravelly calcareous CLAY. Gravel is angular to subangular fine to coarse mudstone.	1.20		74.06
0.80- 0.90	D								
1.00- 1.10	D					Firm orangish brown mottled grey slightly sandy calcareous CLAY.			
1.00- 1.10	ES		PID<0.1						
1.00- 1.10									
1.20- 1.70	B								
1.20- 1.30	D								
1.20- 1.30	UTF	1.20 (DRY)					2.00		73.26
1.70- 2.15	UT35	1.50 (DRY)	39	33		Firm dark greyish brown slightly sandy calcareous CLAY with occasional shell fragments (up to 20mm in size).			
2.15- 2.20	D								
2.20- 2.70	B					Between 2.70-4.20m, with occasional pockets (up to 2mm in size) of orangish brown sand.			
2.20- 2.30	D								
2.20- 2.30	ES		PID<0.1		S12				
2.20- 2.30		1.50 (DRY)							
2.70- 3.15	D								
3.20- 3.30	D					Below 3.70m, becoming stiff.			
3.70- 4.15	UT45	1.50 (DRY)	116	29					
4.15- 4.20	D								
4.50- 4.70	B						4.50		70.76
4.50- 4.60	D					Stiff dark grey slightly sandy calcareous CLAY with many shell fragments (up to 50mm in size).			
4.70- 5.15	D	1.50 (DRY)			S32				
5.20- 5.40	D								
5.20- 5.20	D	1.50 (DRY)			C50/0	Strong dark grey LIMESTONE, recovered as angular to subangular fine to coarse gravel	5.20		70.06
5.40- 5.60	D								
5.60- 5.80	D						5.60		69.66
5.80- 6.25	UT100	1.50 (DRY)				Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size). Below 6.00m, becoming non-calcareous.			
6.25- 6.30	D						6.30		68.96
						End of Borehole			

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			29/07/20	08:00						None encountered during boring.
6.30	0.15	Cable Percussion	DC/LC DC/LC	6.30	1.50	DRY	29/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
A 50mm standpipe was installed to 5.00m with a geowrapped slotted section from 1.00m to 5.00m with upright lockable protective cover. Backfill details from base of hole: bentonite up to 5.00m, gravel filter up to 1.00m, bentonite up to 0.30m, concrete up to ground level.
Chiselling: 5.20-5.60m for 60 minutes.

Logged by SI
Figure 1 of 1
11/11/2020

geotechnics

BOREHOLE RECORD - Cable Percussion

Draft

Project **GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)** Engineer **WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED** Borehole Project No **BH401 PC207899**

Client **GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED** National Grid Coordinates **459159.4 E 220638.8 N** Ground Level **82.32 m OD**

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.00- 0.10	B					TOPSOIL: Firm brown slightly sandy clay with many rootlets.	G.L.		82.32
0.00- 0.10	D						0.10		82.22
0.00- 0.10	ES		PID=<0.1			Stiff light orangish brown slightly sandy calcareous CLAY.	0.35		81.97
0.00- 0.10							0.50		81.82
0.10- 0.20	B					Stiff orangish brown slightly sandy slightly gravelly calcareous CLAY with rare gypsum crystals (up to 2mm in size). Gravel is angular to subangular fine to coarse limestone.			
0.10- 0.20	D								
0.35- 0.50	B								
0.35- 0.45	D					Stiff orangish brown slightly sandy calcareous CLAY.	1.50		80.82
0.50- 0.80	B								
0.50- 0.60	D		PID=<0.1		24				
0.50- 0.60	ES								
0.50- 0.60			PID=<0.1		24	Stiff light orangish brown, occasionally mottled grey, slightly sandy slightly gravelly CLAY with occasional gypsum crystals (up to 60mm in size). Gravel is angular to subangular fine to coarse mudstone.			
1.00- 1.10	D								
1.00- 1.10	ES								
1.00- 1.10			PID=<0.1		24				
1.20- 1.65	UT60	1.20 (DRY)							
1.65- 1.70	D								
1.70- 2.00	B								
2.00- 2.10	D								
2.00- 2.10	ES		PID=<0.1						
2.00- 2.10									
2.20- 2.65	D	1.20 (DRY)			S9				
3.00- 3.10	D								
3.20- 3.65	UT50	1.50 (DRY)	130	23					
3.65- 3.70	D								
4.00- 4.80	B					Between 4.00-4.80m, with many gypsum crystals (up to 60mm in size)			
4.00- 4.10	D					Between 4.00-4.10m, driller notes a layer of gravel.			
4.30- 4.75	D	1.50 (DRY)			S15				
5.00- 5.10	D								
5.30- 5.75	UT50	1.50 (DRY)	120	27					
5.75- 5.80	D								
6.00- 6.90	B								
6.00- 6.10	D					Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 30mm in size).	6.00		76.32
6.90- 7.35	D	1.50 (DRY)			S25				
7.40- 7.80	B								
7.40- 7.50	D								
8.40- 8.85	UT90	1.50 (DRY)							
8.85- 8.90	D								
9.10- 9.20	D								
9.50- 9.95	D	1.50 (DRY)			S38	Below 9.50m, becoming very stiff.			
9.90-10.00	D						10.00		72.32
End of Borehole									

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		G.L.			29/07/20	08:00						None encountered during boring.
10.00	0.15	Cable Percussion	DC/LC DC/LC	10.00	1.50	DRY	29/07/20	18:00						

Remarks **Inspection pit hand excavated to 1.20m depth and no services were found.**
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Backfill details from base of hole: bentonite up to ground level.

Logged by **SI**
 Figure **1 of 1**
 11/11/2020

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BOREHOLE RECORD - Cable Percussion

Draft

Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Borehole Project No	BH319 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	459604.6 E 220626.6 N	Ground Level	71.83 m OD

Sampling			Properties			Strata	Scale 1:50		
Depth	Sample Type	Depth Cased & (to Water)	Strength kPa	w %	SPT N	Description	Depth	Legend	Level m OD
0.00- 0.10	B					MADE GROUND: Firm dark brown slightly sandy slightly gravelly clay with many rootlets and rare roots (up to 4mm in diameter). Gravel is angular to subangular fine to coarse sandstone.	6.1.		71.83
0.00- 0.10	D						0.10		71.73
0.00- 0.10	ES		PID=<0.1				0.30		71.53
0.10- 0.30	B					MADE GROUND: Firm brownish grey slightly sandy gravelly clay with rare roots (up to 3mm in diameter). Gravel is angular to subangular fine to coarse brick.			
0.10- 0.20	D								
0.10- 0.20	ES		PID=<0.1				0.80		71.03
0.10- 0.20									
0.30- 0.60	B					Firm dark brown slightly sandy CLAY with rare roots (up to 3mm in diameter).			
0.30- 0.40	D								
0.50- 0.60	D								
0.50- 0.60	ES		PID=<0.1						
0.50- 0.60									
0.80- 0.90	D					Stiff light brown slightly sandy CLAY.			
1.00- 1.10	D								
1.00- 1.10	ES			23					
1.00- 1.10			PID=<0.1						
1.20- 1.65	D	1.20 (DRY)			S7				
1.70- 2.20	B								
2.00- 2.10	D								
2.00- 2.10	ES						2.60		69.23
2.00- 2.10			PID=<0.1						
2.20- 2.65	UT25	1.50 (DRY)	27	36		Firm dark greyish brown slightly sandy CLAY with a slight organic odour.			
2.65- 2.70	D								
3.30- 3.40	D						3.30		68.53
3.40- 3.85	D	1.50 (DRY)			S19	Stiff dark greenish grey slightly sandy CLAY with occasional shell fragments (up to 20mm in size) and rare gypsum crystals (up to 1mm in size).			
3.90- 4.30	B								
4.30- 4.40	D								
4.40- 4.85	UT51	1.50 (DRY)							
4.85- 4.90	D								
5.30- 5.40	D								
5.50- 5.95	D	1.50 (DRY)			S26				
5.90- 6.00	D						6.00		65.83
						End of Borehole			

Boring				Progress					Groundwater					
Depth	Hole Dia	Technique	Crew	Depth of Hole	Depth Cased	Depth to Water	Date	Time	Depth Struck	Depth Cased	Rose to	in Mins	Depth Sealed	Remarks on Groundwater
1.20		Inspection Pit		6.1.	1.50	DRY	15/07/20	08:00	4.40	1.50	4.40	20		Seepage.
6.00	0.15	Cable Percussion	DC/LC DC/LC	6.00			15/07/20	18:00						

Remarks  Inspection pit hand excavated to 1.20m depth and no services were found.
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Backfill details from base of hole: bentonite up to ground level.

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Figure 1 of 1
11/11/2020

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Project GRAVEN HILL, BICESTER, LAND TRANSFER
AREA 2 (LTA2)

Engineer

**WATERMAN INFRASTRUCTURE &
ENVIRONMENT LIMITED**

Trial Pit
Project No

TP331
PC207899

Client **GRAVEN HILL VILLAGE DEVELOPMENT
COMPANY LIMITED**

National Grid Coordinates

458302.1 E
220694.4 N

Ground Level 70.32 m OD

Samples and Tests				Scale 1:50				
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD	
					G.L.		70.32	
0.20	D			MADE GROUND: Dark brown very gravelly silty sand with many rootlets. Gravel is angular fine to coarse clinker, brick, slag and limestone.	0.30		70.02	
0.20	ES		PID=<0.1		0.40		69.92	
0.45	B				0.70		69.62	
0.45	D		Av=80kPa					
0.50	HV							
0.80	B				MADE GROUND: Stiff light grey mottled orangish brown slightly sandy clay.			
0.80	D				MADE GROUND: Stiff dark orangish brown mottled dark grey slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to coarse brick.			
0.80	ES		PID=<0.1		Firm light grey mottled orangish brown slightly sandy CLAY.	1.40		68.92
1.00	HV		Av=51kPa					
1.30	D		mc=37%					
1.50	B			Firm dark greyish brown mottled orangish brown slightly sandy CLAY with many gypsum crystals (up to 4mm in size) and occasional pockets (up to 50mm in size) of orangish brown slightly silty sand.				
1.50	D							
1.50	ES							
1.50	HV		Av=51kPa					
1.50			PID=<0.1					
2.00	D		mc=38%					
2.00	HV		Av=52kPa					
2.50	D							
2.50	HV		Av=53kPa					
3.00	D							
3.60	B			Stiff grey sightly sandy CLAY with occasional shell fragments (up to 15mm in size).	3.50		66.82	
3.60	D		Av=94kPa					
3.70	HV							
4.00	D							
4.50	D			End of Excavation	4.50		65.82	

Excavation				Groundwater		
Plant	JCB 3CX	Width (B)	0.60	Depth Observed	Depth of Pit	Details
Date	24/07/2020	Length (C)	2.80			
Shoring	None.	Orientation	304 deg			
Stability	Stable during excavation.					None encountered during excavation.
		Date Backfilled	24/07/2020			

Remarks	AGS	Logged by	MJ
ES sample = 2 x vial, 1 x plastic jar and 2 amber jar			
Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.			
Backfill details from base of hole: arisings up to ground level.			

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

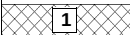
Logged in accordance with BS5930:2015

Figure 1 of 1

11/11/2020

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Project	GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer	WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED		Trial Pit Project No	TP332 PC207899
Client	GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates	458264.0	E	Ground Level	67.73 m OD
			220861.6	N		

Samples and Tests				Strata	Scale 1:50		
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
0.10	ES		PID=<0.1	MADE GROUND: Dark brown slightly gravelly slightly silty sand with many rootlets. Gravel is angular to subangular flint, quartzite and clinker.	6.L.		67.73
0.10					0.20		67.53
0.40					B		MADE GROUND: Dark grey slightly silty sand and gravel. Gravel is angular to subangular fine to coarse brick, concrete, slag and clinker.
1.00	B	Below 0.40m, with a high cobble content and low boulder content of angular to subangular limestone.	1.20	66.53			
1.00	D		POSSIBLE MADE GROUND: Firm dark grey mottled dark reddish brown slightly sandy CLAY.	2.50	65.23		
1.00	ES					Firm light grey mottled orangish brown slightly sandy CLAY.	
1.00	HV						
1.40	B	Soft dark brown mottled light brown slightly sandy CLAY with many gypsum crystals (up to 4mm in size) and rare pockets (up to 3mm in size) of light grey silt.	3.10	64.63			
1.40	D				Below 2.50m, with rare relict rootlets.		
1.40	HV						
2.00	D	Stiff grey slightly sandy CLAY with occasional shell fragments (up to 80mm in size).	4.50	63.23			
2.00	ES						
2.00							
2.50	D	Av=67kPa PID=<0.1	Av=45kPa	3.10	64.63		
2.50	HV						
2.70	B						
2.70	D	Av=44kPa	Av=40kPa	4.50	63.23		
2.70	HV						
2.70							
3.50	B	PID=<0.1		4.50	63.23		
3.50	D						
4.00	D						
4.50	D	End of Excavation					

Excavation				Groundwater		
Plant	JCB 3CX	Width (B)	0.60	Depth	Depth	Details
Date	23/07/2020	Length (C)	2.40	Observed	of Pit	
Shoring	None.	Orientation	218 deg			None encountered during excavation.
Stability	Stable during excavation.	Date Backfilled	23/07/2020			

Remarks	ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
AGS	Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
Symbols and abbreviations are	Backfill details from base of hole: arisings up to ground level.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions
are in metres.

Logged in accordance with BS5930:2015

Logged by MJ

Figure 1 of 1
11/11/2020



Project **GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)** Engineer **WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED** Trial Pit Project No **TP333 PC207899**

Client **GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED** National Grid Coordinates **458517.2 E 220837.8 N** Ground Level **70.95 m OD**

Samples and Tests				Strata	Scale 1:50		
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
0.10 0.10	ES		PID=<0.1	MADE GROUND: Asphalt.	G.L.		70.95
0.40 0.40 0.40	B ES		PID=<0.1	MADE GROUND: Dark reddish grey silty sand and gravel. Gravel is angular to subangular fine to coarse granite and quartzite.	0.20 0.45		70.75 70.50
				End of Excavation			

Excavation				Groundwater		
Plant JCB 3CX	Width (B) 0.60	Depth Observed	Length (C) 2.50	Depth of Pit	Details	
Date 22/07/2020	Orientation 317 deg		Date Backfilled 22/07/2020			
Shoring None.					None encountered during excavation.	
Stability Stable during excavation.						

Remarks  ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
 Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
 The Trial Pit was terminated at a depth of 0.45m on the instruction of the Engineer due to the presence of service tape.
 Backfill details from base of hole: arisings up to ground level.

Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres.

Logged in accordance with BS5930:2015

Logged by **MJ**
 Figure **1 of 1**
 11/11/2020



Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2) Engineer WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED Trial Pit TP334 Project No PC207899

Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED National Grid Coordinates 458454.1 E 220956.0 N Ground Level 69.82 m OD

Samples and Tests				Strata	Scale 1:50		
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
0.20	B			MADE GROUND: Soft dark brown slightly sandy slightly gravelly clay with many rootlets and occasional roots (up to 5mm in diameter). Gravel is angular to subangular fine to medium brick and quartzite.	G.L.		69.82
0.20	D				0.30		69.52
0.20	ES		PID=<0.1				
0.20							
0.60	B			MADE GROUND: Stiff to very stiff brown mottled grey slightly sandy clay.	1.00		68.82
0.60	D						
0.70	HV		Av=109kPa		1.50		68.32
1.00	D			MADE GROUND: Firm brown mottled grey slightly sandy slightly gravelly clay. Gravel is angular to subangular fine to medium brick.			
1.00	ES		Av=88kPa				
1.00	HV		PID=<0.1	Below 1.45m, becoming soft.	2.30		67.52
1.50	HV		Av=53kPa				
1.60	B			MADE GROUND: Firm dark greyish brown slightly sandy slightly gravelly clay with occasional decomposed organic material (up to 10mm in size) and many rootlets. Gravel is angular to subangular fine to medium brick, quartzite and limestone.	3.10		66.72
1.60	D						
1.60	ES		PID=<0.1				
1.60							
2.00	D						
2.00	HV		Av=67kPa				
2.40	B			Firm to stiff light grey mottled light orangish brown sandy CLAY.			
2.40	D			Below 2.50m, becoming slightly sandy.			
2.50	HV		Av=83kPa				
3.00	D						
3.00	ES			Firm dark grey mottled orangish brown slightly sandy CLAY with many gypsum crystals (up to 5mm in size).			
3.00	HV		Av=86kPa				
3.00			PID=<0.1				
3.20	B			Between 3.10-4.10m, becoming dark grey mottled yellowish brown.			
3.20	D						
4.00	B			Below 3.50m, becoming stiff.	4.50		65.32
4.00	D						
				End of Excavation			

Excavation				Groundwater		
Plant	JCB 3CX	Width (B)	0.60	Depth Observed	Depth of Pit	Details
Date	22/07/2020	Length (C)	2.70			
Shoring	None.	Orientation	038 deg			None encountered during excavation.
Stability	Stable during excavation.	Date Backfilled	22/07/2020			

Remarks: ES sample = 2 x vial, 1 x plastic jar and 2 amber jar
 Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected.
 Backfill details from base of hole: arisings up to ground level.

Symbols and abbreviations are explained on the accompanying key sheet.

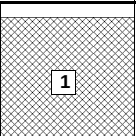
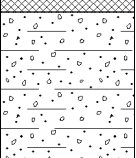
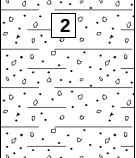
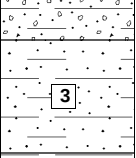
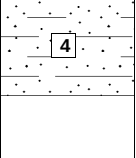
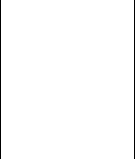
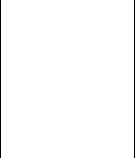
All dimensions are in metres.

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 Figure 1 of 1
 11/11/2020

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Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Trial Pit TP601 Project No PC207899
Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates 458114.1 E 220810.1 N	Ground Level 66.12 m OD

Samples and Tests				Strata	Scale 1:50		
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
				MADE GROUND: Firm dark brown slightly sandy gravelly clay with many rootlets and roots (up to 15mm in diameter). Gravel is angular to subrounded fine to coarse quartzite, brick, plastic and pottery.	G.L.		66.12
0.30 0.30 0.30 0.30	B D ES		PID=<0.1				
1.00 1.00 1.00 1.00 1.00 1.50	B D ES HV HV		Av=109kPa PID=<0.1 Av=65kPa	Stiff light grey mottled light orangish brown slightly sandy slightly gravelly CLAY. Gravel is angular to subangular fine to coarse mudstone and limestone. Below 1.30m, becoming firm.	0.85		65.27
2.00 2.00	D HV		Av=73kPa				
2.50 2.50	D HV		Av=69kPa				
3.20 3.20 3.60	B D D			Below 2.90m, becoming dark grey mottled dark orangish brown. Firm dark grey slightly sandy CLAY with a slight organic odour and occasional pockets (up to 20mm in size) of decomposed organic material.	3.10		63.02
4.00 4.00	B D			Stiff grey slightly sandy CLAY with occasional shell fragments (up to 50mm in size).	3.85		62.27
4.50	D			End of Excavation	4.50		61.62

Excavation				Groundwater		
Plant JCB 3CX	Width (B) 0.60	Depth Observed	Depth of Pit	Details		
Date 27/07/2020	Length (C) 3.10					
Shoring None.	Orientation 320 deg	None encountered during excavation.				
Stability Stable during excavation.	Date Backfilled 27/07/2020					

Remarks  ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: arisings up to ground level.	Logged by MJ Figure 1 of 1 11/11/2020 
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Symbols and abbreviations are explained on the accompanying key sheet.
All dimensions are in metres. Logged in accordance with BS5930:2015

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Trial Pit Project No TP608 PC207899
Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates 458123.3 E 220705.2 N	Ground Level 65.99 m OD

Samples and Tests				Strata	Scale 1:50		
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
0.00- 0.20 0.10 0.10 0.20 0.30- 0.45 0.35 0.40 0.40	B ES D B D ES		PID=<0.1	MADE GROUND: Firm brownish grey slightly gravelly sandy clay with a low cobble content of subangular brick, many rootlets and occasional roots (up to 20mm in diameter). Gravel is angular to subangular fine to coarse glass, brick and flint.	G.L. 0.30 0.45	   	65.99 65.69 65.54
0.50- 1.00 0.50 0.65 0.65 0.80 1.45 1.45	B HV ES D ES		PID=<0.1 mc=16% Av=110kPa PID=<0.1 PID=<0.1	MADE GROUND: Stiff brown mottled grey slightly sandy slightly gravelly clay with occasional rootlets and rare roots (up to 20mm in diameter). Gravel is angular fine brick.	1.10		64.89
1.50- 2.00 1.50 1.50 1.80 2.50	B D HV D D		Av=82kPa	Stiff orangish brown mottled grey slightly sandy CLAY with occasional rootlets and rare roots (up to 20mm in diameter). Stiff grey mottled reddish brown slightly sandy CLAY with occasional pockets (up to 50mm in size) of firm sandy clay and occasional shell fragments (up to 10mm in size). Below 2.00m, with occasional gypsum crystals (up to 4mm in size). End of Excavation	2.60		63.39

Excavation				Groundwater		
Plant JCB 3CX	Width (B) 0.60	Depth Observed	Length (C) 2.70	Depth of Pit	Details	
Date 21/07/2020	Orientation 120 deg		Date Backfilled 21/07/2020			
Shoring None.					None encountered during excavation.	
Stability Stable during excavation.						

Remarks  ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: arisings up to ground level.	Logged by MM Figure 1 of 1 11/11/2020 	Symbols and abbreviations are explained on the accompanying key sheet. All dimensions are in metres. Logged in accordance with BS5930:2015
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Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Trial Pit TP609 Project No PC207899
Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates 458151.1 E 220708.6 N	Ground Level 66.42 m OD

Samples and Tests				Strata	Scale 1:50		
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
				MADE GROUND: Dark brown slightly sandy slightly gravelly clay with many rootlets and roots (up to 10mm in diameter). Gravel is angular to subangular fine to coarse quartzite and brick.	G.L.		66.42
0.20	B				0.30		66.12
0.20	D						
0.20	ES						
0.20			PID=<0.1				
0.40	HV		Av=51kPa	Firm brown mottled grey slightly sandy CLAY with occasional rootlets.			
0.50	B						
0.50	D						
1.00	D						
1.00	ES						
1.00	HV		Av=66kPa				
1.00			PID=<0.1	Between 1.40-1.70m, with rare pockets (up to 50mm in size) of orangish brown silty sand.			
1.50	D		mc=21%				
1.50	HV		Av=39kPa	Between 1.50-1.80m, becoming soft.			
2.00	D						
2.00	HV		Av=54kPa				
2.50	D						
2.50	HV		Av=75kPa	Firm dark grey slightly sandy CLAY with occasional decomposed organic matter (up to 5mm in size).	2.60		63.82
2.70	B						
2.70	D		mc=33%	Below 2.70m, with many gypsum crystals (up to 5mm in size).			
3.00	HV		Av=83kPa				
3.50	D			Below 3.00m, becomes stiff with many shell fragments (up to 10mm in size).			
4.00	D						
4.50	D						
				End of Excavation	4.50		61.92

Excavation				Groundwater		
Plant	JCB 3CX	Width (B)	0.60	Depth Observed	Depth of Pit	Details
Date	21/07/2020	Length (C)	2.60	1.50	1.50	Seepage. Moderate inflow.
Shoring	None.	Orientation	130 deg	1.60	2.50	
Stability	Stable during excavation.					
		Date Backfilled	21/07/2020			

Remarks  ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: arisings up to ground level.	Logged by MJ Figure 1 of 1 11/11/2020 
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Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:2015

Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Trial Pit Project No TP610 PC207899
Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates 458174.7 E 220680.6 N	Ground Level 67.02 m OD

Samples and Tests				Strata	Scale 1:50		
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
0.15- 0.30	B			MADE GROUND: Concrete	G.L.		67.02
0.20	ES				0.15		66.87
0.20			PID=<0.1	MADE GROUND: Brown and reddish brown gravelly silty sand with a low cobble content of angular brick. Gravel is angular to subrounded fine to coarse brick, flint and limestone.	0.30		66.72
0.25	D						
0.30- 0.50	B				0.75		66.27
0.35	ES			Below 0.25m, with black ash.			
0.35			PID=<0.1				
0.50	D						
0.50	HV		Av=65kPa	MADE GROUND: Firm dark greenish grey mottled brown slightly sandy slightly gravelly clay with rare rootlets and occasional pockets (up to 25mm in size) of black ash and decomposed organic matter. Gravel is angular to subangular fine to coarse limestone and brick.	1.60		65.42
0.80- 1.20	B						
1.00	ES		Av=65kPa				
1.00	HV		PID=<0.1		2.10		64.92
1.10	D						
1.60- 2.00	B		mc=23%	Firm grey mottled orangish brown slightly sandy CLAY with occasional gypsum crystals (up to 2mm in size), occasional shell fragments (up to 10mm in size), rare pockets (up to 3mm in size) of soft dark brown clay and occasional pockets (up to 40mm in size) of sandy clay.	2.50		64.52
1.70	D						
1.80	ES						
1.80	HV		Av=63kPa				
1.80			PID=<0.1				
2.10- 2.50	B			Firm orangish brown mottled grey CLAY with many pockets (up to 50mm in size) of orangish brown sandy clay.			
2.30	D			Firm thinly to thickly laminated brown mottled grey slightly sandy CLAY with and occasional pockets (up to 10mm in size) of light brown sandy clay and occasional gypsum crystals (up to 3mm in size).			
				End of Excavation			

Excavation				Groundwater		
Plant JCB 3CX	Width (B) 0.60	Depth Observed	Details	Depth of Pit		
Date 21/07/2020	Length (C) 2.50					
Shoring None.	Orientation 150 deg					
	Date Backfilled 21/07/2020					
Stability Stable during excavation.				None encountered during excavation.		

Remarks ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: arisings up to ground level.	Logged by MM Figure 1 of 1 11/11/2020 	All dimensions are in metres. Logged in accordance with BS5930:2015
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Project GRAVEN HILL, BICESTER, LAND TRANSFER AREA 2 (LTA2)	Engineer WATERMAN INFRASTRUCTURE & ENVIRONMENT LIMITED	Trial Pit Project No TP611 PC207899
Client GRAVEN HILL VILLAGE DEVELOPMENT COMPANY LIMITED	National Grid Coordinates 458200.1 E 220638.8 N	Ground Level 68.38 m OD

Samples and Tests				Strata	Scale 1:50		
Depth	Type	Stratum No	Results	Description	Depth	Legend	Level m OD
					G.L.		68.38
0.20	D		PID=<0.1	MADE GROUND: Dark brown gravelly slightly silty sand with many rootlets and roots (up to 50mm in size). Gravel is angular to subangular fine to coarse flint and brick.	0.25		68.13
0.20							
0.40	HV						
0.50	B						
0.50	D						
1.00							
1.00	B			MADE GROUND: Stiff light brown mottled grey slightly sandy clay with many roots (up to 4mm in diameter).	1.00		67.38
1.00	D			At 0.65m, roots absent.			
1.00	ES						
1.00	HV		Av=130kPa	At 0.70m, an angular brick cobble.	1.45		66.93
1.00							
1.50	B			POSSIBLE MADE GROUND: Stiff light grey mottled light brown slightly sandy CLAY with occasional relic rootlets.	1.90		66.48
1.50	D						
2.00							
2.00	B			Stiff light grey and brown slightly sandy CLAY with occasional relic rootlets.			
2.00	D						
2.00	ES						
2.00			PID=<0.1	Below 1.80m, becoming dark grey.			
2.50	D						
				Stiff dark greyish brown mottled light yellow sandy CLAY.	2.90		65.48
				Stiff grey slightly sandy CLAY with occasional shell fragments (up to 15mm in size).			
3.30	B						
3.30	D						
4.00	D						
4.50	D				4.50		63.88
				End of Excavation			

Excavation				Groundwater		
Plant	JCB 3CX	Width (B)	0.60	Depth Observed	Depth of Pit	Details
Date	24/07/2020	Length (C)	3.20			
Shoring	None.	Orientation	110 deg			None encountered during excavation.
Stability	Stable during excavation.	Date Backfilled	24/07/2020			

Remarks  ES sample = 2 x vial, 1 x plastic jar and 2 amber jar Radioactive screening at discrete sample depths, using a Thermo Scientific Mini 900E. No activity detected. Backfill details from base of hole: arisings up to ground level.	Logged by MJ Figure 1 of 1 11/11/2020	
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Symbols and abbreviations are explained on the accompanying key sheet.

All dimensions are in metres. Logged in accordance with BS5930:2015

Appendix C

Chemical Testing Results

- **Laboratory Results Sheets (Home Zones 3 Geoenvironmental)**
- **Waterman Soil Data Assessment Tool – Residential End Use (WIE11386-147-HZ3 – SoilDAT – A02)**

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land

Lab No	1719071	1719072	1719073	1719074	1719075	1719076
Sample ID	BH305	BH305	BH311	BH311	BH311	BH303
Depth	0.10	1.00	0.10	0.30	1.00	0.30
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	06/08/2020	06/08/2020	06/08/2020	06/08/2020	06/08/2020	06/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg		10			3.1	11
Barium	DETSC 2301#	1.5	mg/kg		120			14	58
Beryllium	DETSC 2301#	0.2	mg/kg		2.6			< 0.2	1.1
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg		1.1			0.3	1.8
Cadmium	DETSC 2301#	0.1	mg/kg		0.2			< 0.1	0.4
Chromium	DETSC 2301#	0.15	mg/kg		24			4.5	45
Chromium, Hexavalent	DETSC 2204*	1	mg/kg		< 1.0			< 1.0	< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg		9.2			9.7	10
Copper	DETSC 2301#	0.2	mg/kg		26			23	27
Iron	DETSC 2301	25	mg/kg		21000			23000	29000
Lead	DETSC 2301#	0.3	mg/kg		14			4.4	22
Mercury	DETSC 2325#	0.05	mg/kg		< 0.05			< 0.05	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg		1.7			< 0.4	3.1
Nickel	DETSC 2301#	1	mg/kg		21			5.1	33
Selenium	DETSC 2301#	0.5	mg/kg		< 0.5			< 0.5	0.6
Vanadium	DETSC 2301#	0.8	mg/kg		37			55	56
Zinc	DETSC 2301#	1	mg/kg		63			54	100
Inorganics									
Organic matter	DETSC 2002#	0.1	%					6.2	
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01			< 0.01		
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01			< 0.01		
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01			< 0.01		
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5			< 1.5		
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	1.5			< 1.2		
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	11			< 1.5		
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	520			43		
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg	170			< 3.4		
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	530			43		
Aliphatic C5-C40	DETSC 3072*	10	mg/kg	700			43		
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01			< 0.01		
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01			< 0.01		
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01			< 0.01		
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9			< 0.9		
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5			< 0.5		
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	17			< 0.6		
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	1800			230		
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg	820			< 1.4		
Aromatic C5-C35	DETSC 3072*	10	mg/kg	1800			230		
Aromatic C5-C40	DETSC 3072*	10	mg/kg	2600			230		

Summary of Chemical Analysis Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land

Lab No	1719071	1719072	1719073	1719074	1719075	1719076
Sample ID	BH305	BH305	BH311	BH311	BH311	BH303
Depth	0.10	1.00	0.10	0.30	1.00	0.30
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	06/08/2020	06/08/2020	06/08/2020	06/08/2020	06/08/2020	06/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
TPH Ali/Aro Total	DETS 3072*	10	mg/kg	2300			270		
Benzene	DETS 3321#	0.01	mg/kg	< 0.01			< 0.01		
Ethylbenzene	DETS 3321#	0.01	mg/kg	< 0.01			< 0.01		
Toluene	DETS 3321#	0.01	mg/kg	< 0.01			< 0.01		
Xylene	DETS 3321#	0.01	mg/kg	< 0.01			< 0.01		
MTBE	DETS 3321	0.01	mg/kg	< 0.01			< 0.01		
PAHs									
Naphthalene	DETS 3301	0.1	mg/kg		< 0.1	< 1.0		< 0.1	< 0.1
Acenaphthylene	DETS 3301	0.1	mg/kg		0.6	< 1.0		< 0.1	< 0.1
Acenaphthene	DETS 3301	0.1	mg/kg		1.6	< 1.0		< 0.1	< 0.1
Fluorene	DETS 3301	0.1	mg/kg		1.8	< 1.0		< 0.1	< 0.1
Phenanthrene	DETS 3301	0.1	mg/kg		7.0	< 1.0		< 0.1	< 0.1
Anthracene	DETS 3301	0.1	mg/kg		2.9	< 1.0		< 0.1	< 0.1
Fluoranthene	DETS 3301	0.1	mg/kg		9.7	< 1.0		< 0.1	< 0.1
Pyrene	DETS 3301	0.1	mg/kg		8.2	< 1.0		< 0.1	< 0.1
Benzo(a)anthracene	DETS 3301	0.1	mg/kg		3.4	< 1.0		< 0.1	< 0.1
Chrysene	DETS 3301	0.1	mg/kg		3.5	< 1.0		< 0.1	< 0.1
Benzo(b)fluoranthene	DETS 3301	0.1	mg/kg		2.6	< 1.0		< 0.1	< 0.1
Benzo(k)fluoranthene	DETS 3301	0.1	mg/kg		1.5	< 1.0		< 0.1	< 0.1
Benzo(a)pyrene	DETS 3301	0.1	mg/kg		3.5	< 1.0		< 0.1	< 0.1
Indeno(1,2,3-c,d)pyrene	DETS 3301	0.1	mg/kg		2.7	< 1.0		< 0.1	< 0.1
Dibenzo(a,h)anthracene	DETS 3301	0.1	mg/kg		0.3	< 1.0		< 0.1	< 0.1
Benzo(g,h,i)perylene	DETS 3301	0.1	mg/kg		1.6	< 1.0		< 0.1	< 0.1
Coronene	DETS 3301*	0.1	mg/kg		< 0.1			< 0.1	< 0.1
PAH Total	DETS 3301	1.6	mg/kg		51	< 16.0		< 1.6	< 1.6
Phenols									
Phenol - Monohydric	DETS 2130#	0.3	mg/kg			< 0.3			
Phenol	DETS 3451*	0.01	mg/kg			< 0.10			
4-Chloro-3-methylphenol	DETS 3451*	0.01	mg/kg			< 0.10			
2,4-Dichlorophenol	DETS 3451*	0.01	mg/kg			< 0.10			
2,4-Dimethylphenol	DETS 3451*	0.01	mg/kg			< 0.10			
p-cresol	DETS 3451*	0.01	mg/kg			< 0.10			
2,6-Dimethylphenol	DETS 3451*	0.01	mg/kg			< 0.10			
2,6-Dichlorophenol	DETS 3451*	0.01	mg/kg			< 0.10			
2,4,6-Trichlorophenol	DETS 3451*	0.01	mg/kg			< 0.10			

Summary of Asbestos Analysis

Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land Transfer Area 2 (LTA2)

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1719065	BH418 0.50	SOIL	NAD	none	Steven Lambert
1719067	TP820 0.25	SOIL	NAD	none	Steven Lambert
1719068	TP430 0.20	SOIL	NAD	none	Steven Lambert
1719069	BH425 0.20	SOIL	NAD	none	Steven Lambert
1719071	BH305 0.10	SOIL	NAD	none	Steven Lambert
1719076	BH303 0.30	SOIL	NAD	none	Steven Lambert
1719077	BH303 0.50	SOIL	NAD	none	Steven Lambert
1719079	TP816 0.40	SOIL	NAD	none	Steven Lambert
1719088	BH611 0.30	SOIL	NAD	none	Steven Lambert
1719089	BH611 0.80	SOIL	NAD	none	Steven Lambert
1719090	BH301 0.30	SOIL	NAD	none	Steven Lambert
1719091	TP522A 0.10	SOIL	NAD	none	Steven Lambert
1719093	TP507 0.40	SOIL	NAD	none	Steven Lambert
1719096	TP412 1.00	SOIL	NAD	none	Steven Lambert
1719097	TP412 2.00	SOIL	NAD	none	Steven Lambert
1719102	TP411A 0.40	SOIL	NAD	none	Steven Lambert
1719107	BH508 0.30	SOIL	NAD	none	Steven Lambert
1719111	BH610 0.20	SOIL	NAD	none	Steven Lambert
1719112	BH608 0.20	SOIL	NAD	none	Steven Lambert
1719115	BH601 0.20	SOIL	NAD	none	Steven Lambert
1719120	TP803 0.10	SOIL	NAD	none	Steven Lambert
1719121	TP803 0.40	SOIL	NAD	none	Steven Lambert
1719122	TP705 0.30	SOIL	NAD	none	Steven Lambert
1719125	BH403 0.50	SOIL	NAD	none	Steven Lambert
1719126	RC807 0.10	SOIL	NAD	none	Steven Lambert
1719127	RC807 0.50	SOIL	NAD	none	Steven Lambert
1719128	RC808 0.10	SOIL	NAD	none	Steven Lambert
1719131	BH404 0.30	SOIL	NAD	none	Steven Lambert
1719132	BH512 0.10	SOIL	Chrysotile	bundles of Chrysotile	Steven Lambert
1719134	BH313 0.30	SOIL	NAD	none	Steven Lambert
1719135	BH409 0.50	SOIL	NAD	none	Steven Lambert
1719136	BH414 0.50	SOIL	NAD	none	Steven Lambert
1719137	BHTP415 0.40	SOIL	NAD	none	Steven Lambert
1719138	BHTP417 0.40	SOIL	Chrysotile	Small bundle of Chrysotile	Steven Lambert
1719141	BHTP416 0.50	SOIL	NAD	none	Steven Lambert
1719142	BH415 0.40	SOIL	NAD	none	Steven Lambert
1719143	BH415 0.90	SOIL	NAD	none	Steven Lambert
1719145	BH406A 0.45	SOIL	NAD	none	Steven Lambert
1719149	TP408X 0.70	SOIL	NAD	none	Steven Lambert
1721342	BH815 0.20	SOIL	NAD	none	Steven Lambert

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716907	1716908	1716909	1716910	1716911	1716912
Sample ID	TP615	TP404	TP431	BH309	TP331	TP331
Depth	0.50	0.10	0.10	0.10-0.20	0.20	0.80
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	27/07/2020	28/07/2020	28/07/2020	27/07/2020	24/07/2020	24/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	4.0	17	13	13	9.7	7.3
Barium	DETSC 2301#	1.5	mg/kg	170	79	87	76	100	47
Beryllium	DETSC 2301#	0.2	mg/kg	1.6	1.2	1.1	1.1	1.0	1.1
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	0.2	1.4	1.6	1.5	1.5	1.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.3	0.3	0.4	0.3	0.1
Chromium	DETSC 2301#	0.15	mg/kg	14	41	31	34	29	44
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg	3.1	16	12	15	11	13
Copper	DETSC 2301#	0.2	mg/kg	16	33	31	27	30	34
Iron	DETSC 2301	25	mg/kg	12000	38000	28000	31000	24000	28000
Lead	DETSC 2301#	0.3	mg/kg	6.2	42	36	25	31	14
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	0.05	< 0.05	0.07	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	< 0.4	1.2	1.3	1.6	2.0	2.6
Nickel	DETSC 2301#	1	mg/kg	4.1	42	31	39	28	33
Selenium	DETSC 2301#	0.5	mg/kg	1.1	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	40	56	51	46	37	34
Zinc	DETSC 2301#	1	mg/kg	48	130	100	100	120	120
Inorganics									
Organic matter	DETSC 2002#	0.1	%	2.5	6.1	8.2			
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01					
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01					
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01					
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5					
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2					
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5					
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4					
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg	< 3.4					
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10					
Aliphatic C5-C40	DETSC 3072*	10	mg/kg	< 10					
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01					
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01					
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01					
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9					
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5					
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	6.3					
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	89					
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg	< 1.4					
Aromatic C5-C35	DETSC 3072*	10	mg/kg	95					
Aromatic C5-C40	DETSC 3072*	10	mg/kg	95					

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716907	1716908	1716909	1716910	1716911	1716912
Sample ID	TP615	TP404	TP431	BH309	TP331	TP331
Depth	0.50	0.10	0.10	0.10-0.20	0.20	0.80
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	27/07/2020	28/07/2020	28/07/2020	27/07/2020	24/07/2020	24/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg	95					
Benzene	DETSC 3321#	0.01	mg/kg	< 0.01					
Ethylbenzene	DETSC 3321#	0.01	mg/kg	< 0.01					
Toluene	DETSC 3321#	0.01	mg/kg	< 0.01					
Xylene	DETSC 3321#	0.01	mg/kg	< 0.01					
MTBE	DETSC 3321	0.01	mg/kg	< 0.01					
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg						
Acenaphthylene	DETSC 3303#	0.03	mg/kg						
Acenaphthene	DETSC 3303#	0.03	mg/kg						
Fluorene	DETSC 3303	0.03	mg/kg						
Phenanthrene	DETSC 3303#	0.03	mg/kg						
Anthracene	DETSC 3303	0.03	mg/kg						
Fluoranthene	DETSC 3303#	0.03	mg/kg						
Pyrene	DETSC 3303#	0.03	mg/kg						
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg						
Chrysene	DETSC 3303	0.03	mg/kg						
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg						
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg						
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg						
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg						
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg						
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg						
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	DETSC 3301	0.1	mg/kg	0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	DETSC 3301	0.1	mg/kg	1.3	0.6	0.2	< 0.1	< 0.1	< 0.1
Pyrene	DETSC 3301	0.1	mg/kg	1.4	0.8	0.5	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	0.8	0.5	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	DETSC 3301	0.1	mg/kg	1.0	0.5	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	1.1	0.8	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	0.8	0.5	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	1.5	1.2	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	1.2	1.0	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	0.1	0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	1.1	0.7	< 0.1	< 0.1	< 0.1	< 0.1
Coronene	DETSC 3301*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg						

Summary of Chemical Analysis Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716907	1716908	1716909	1716910	1716911	1716912
Sample ID	TP615	TP404	TP431	BH309	TP331	TP331
Depth	0.50	0.10	0.10	0.10-0.20	0.20	0.80
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	27/07/2020	28/07/2020	28/07/2020	27/07/2020	24/07/2020	24/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
PAH Total	DETS 3301	1.6	mg/kg	11	6.7	< 1.6	< 1.6	< 1.6	< 1.6
Phenols									
Phenol - Monohydric	DETS 2130#	0.3	mg/kg						
Phenol	DETS 3451*	0.01	mg/kg						
4-Chloro-3-methylphenol	DETS 3451*	0.01	mg/kg						
2,4-Dichlorophenol	DETS 3451*	0.01	mg/kg						
2,4-Dimethylphenol	DETS 3451*	0.01	mg/kg						
p-cresol	DETS 3451*	0.01	mg/kg						
2,6-Dimethylphenol	DETS 3451*	0.01	mg/kg						
2,6-Dichlorophenol	DETS 3451*	0.01	mg/kg						
2,4,6-Trichlorophenol	DETS 3451*	0.01	mg/kg						

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716881	1716882	1716883	1716884	1716885	1716886
Sample ID	TP324	TP324	TP304	TP304	TP304	TP305
Depth	0.10	0.60	0.10	0.50	1.00	0.40
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg		5.4		11	11	9.3
Barium	DETSC 2301#	1.5	mg/kg		120		350	150	95
Beryllium	DETSC 2301#	0.2	mg/kg		1.0		3.5	1.4	1.2
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg		3.5		0.5	2.2	0.4
Cadmium	DETSC 2301#	0.1	mg/kg		0.2		0.3	0.2	0.3
Chromium	DETSC 2301#	0.15	mg/kg		28		28	33	13
Chromium, Hexavalent	DETSC 2204*	1	mg/kg		< 1.0		< 1.0	< 1.0	< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg		15		26	18	9.4
Copper	DETSC 2301#	0.2	mg/kg		40		92	30	39
Iron	DETSC 2301	25	mg/kg		62000		44000	39000	20000
Lead	DETSC 2301#	0.3	mg/kg		19		23	21	12
Mercury	DETSC 2325#	0.05	mg/kg		0.07		< 0.05	< 0.05	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg		1.1		4.5	1.5	1.4
Nickel	DETSC 2301#	1	mg/kg		45		74	54	28
Selenium	DETSC 2301#	0.5	mg/kg		< 0.5		< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg		54		120	39	48
Zinc	DETSC 2301#	1	mg/kg		120		100	130	85
Inorganics									
Organic matter	DETSC 2002#	0.1	%				2.9		2.3
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg				< 0.01		
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg				< 0.01		
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg				< 0.01		
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg				< 1.5		
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg				< 1.2		
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg				< 1.5		
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg				< 3.4		
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg				< 3.4		
Aliphatic C5-C35	DETSC 3072*	10	mg/kg				< 10		
Aliphatic C5-C40	DETSC 3072*	10	mg/kg				< 10		
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg				< 0.01		
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg				< 0.01		
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg				< 0.01		
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg				< 0.9		
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg				< 0.5		
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg				< 0.6		
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg				< 1.4		
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg				< 1.4		
Aromatic C5-C35	DETSC 3072*	10	mg/kg				< 10		
Aromatic C5-C40	DETSC 3072*	10	mg/kg				< 10		

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716881	1716882	1716883	1716884	1716885	1716886
Sample ID	TP324	TP324	TP304	TP304	TP304	TP305
Depth	0.10	0.60	0.10	0.50	1.00	0.40
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg				< 10		
Benzene	DETSC 3321#	0.01	mg/kg				< 0.01		
Ethylbenzene	DETSC 3321#	0.01	mg/kg				< 0.01		
Toluene	DETSC 3321#	0.01	mg/kg				< 0.01		
Xylene	DETSC 3321#	0.01	mg/kg				< 0.01		
MTBE	DETSC 3321	0.01	mg/kg				< 0.01		
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg						
Acenaphthylene	DETSC 3303#	0.03	mg/kg						
Acenaphthene	DETSC 3303#	0.03	mg/kg						
Fluorene	DETSC 3303	0.03	mg/kg						
Phenanthrene	DETSC 3303#	0.03	mg/kg						
Anthracene	DETSC 3303	0.03	mg/kg						
Fluoranthene	DETSC 3303#	0.03	mg/kg						
Pyrene	DETSC 3303#	0.03	mg/kg						
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg						
Chrysene	DETSC 3303	0.03	mg/kg						
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg						
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg						
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg						
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg						
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg						
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg						
Naphthalene	DETSC 3301	0.1	mg/kg	0.2	< 0.1	< 1.0	< 0.1	< 0.1	0.7
Acenaphthylene	DETSC 3301	0.1	mg/kg	0.2	< 0.1	< 1.0	< 0.1	< 0.1	2.9
Acenaphthene	DETSC 3301	0.1	mg/kg	1.0	< 0.1	1.1	0.3	< 0.1	25
Fluorene	DETSC 3301	0.1	mg/kg	0.9	< 0.1	< 1.0	< 0.1	< 0.1	28
Phenanthrene	DETSC 3301	0.1	mg/kg	5.3	< 0.1	5.5	0.6	< 0.1	90
Anthracene	DETSC 3301	0.1	mg/kg	1.7	< 0.1	1.7	0.3	< 0.1	28
Fluoranthene	DETSC 3301	0.1	mg/kg	9.9	< 0.1	14	5.1	< 0.1	130
Pyrene	DETSC 3301	0.1	mg/kg	8.7	< 0.1	14	5.1	< 0.1	110
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	3.5	< 0.1	4.7	1.7	< 0.1	42
Chrysene	DETSC 3301	0.1	mg/kg	4.1	< 0.1	5.3	1.8	< 0.1	47
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	2.7	< 0.1	4.6	1.4	< 0.1	31
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	2.1	< 0.1	2.7	0.9	< 0.1	16
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	4.2	< 0.1	6.4	2.1	< 0.1	34
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	4.5	< 0.1	5.5	1.2	< 0.1	24
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	0.3	< 0.1	1.4	< 0.1	< 0.1	4.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	1.6	< 0.1	2.8	1.0	< 0.1	20
Coronene	DETSC 3301*	0.1	mg/kg	< 0.1	< 0.1	4.2	< 0.1	< 0.1	11
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg						

Summary of Chemical Analysis Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716881	1716882	1716883	1716884	1716885	1716886
Sample ID	TP324	TP324	TP304	TP304	TP304	TP305
Depth	0.10	0.60	0.10	0.50	1.00	0.40
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
PAH Total	DETSC 3301	1.6	mg/kg	51	< 1.6	75	22	< 1.6	640
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3		< 0.3			
Phenol	DETSC 3451*	0.01	mg/kg	< 0.10		< 0.10			
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg	< 0.10		< 0.10			
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.10		< 0.10			
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg	< 0.10		< 0.10			
p-cresol	DETSC 3451*	0.01	mg/kg	0.24		< 0.10			
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg	< 0.10		< 0.10			
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.10		< 0.10			
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.10		< 0.10			

Summary of Asbestos Analysis Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1716882	TP324 0.60	SOIL	NAD	none	Steven Lambert
1716884	TP304 0.50	SOIL	NAD	none	Steven Lambert
1716886	TP305 0.40	SOIL	NAD	none	Steven Lambert
1716887	TP332 0.10	SOIL	NAD	none	Steven Lambert
1716888	TP332 1.00	SOIL	NAD	none	Steven Lambert
1716891	RC301 0.50	SOIL	NAD	none	Steven Lambert
1716893	RC302 0.50	SOIL	Chrysotile	bundles of Chrysotile	Steven Lambert
1716895	CC308 0.50	SOIL	NAD	none	Steven Lambert
1716901	RC711 0.31-0.50	SOIL	NAD	none	Steven Lambert
1716902	RC714 0.40-0.60	SOIL	NAD	none	Steven Lambert
1716905	TP612 0.20	SOIL	NAD	none	Steven Lambert
1716906	TP601 0.30	SOIL	NAD	none	Steven Lambert
1716907	TP615 0.50	SOIL	NAD	none	Steven Lambert
1716908	TP404 0.10	SOIL	NAD	none	Steven Lambert
1716909	TP431 0.10	SOIL	NAD	none	Steven Lambert
1716910	BH309 0.10-0.20	SOIL	NAD	none	Steven Lambert
1716911	TP331 0.20	SOIL	NAD	none	Steven Lambert
1716912	TP331 0.80	SOIL	NAD	none	Steven Lambert
1716913	TP302 0.40	SOIL	NAD	none	Steven Lambert
1716914	TP611 1.00	SOIL	NAD	none	Steven Lambert
1716915	TP312 0.50	SOIL	NAD	none	Steven Lambert
1716916	TP311 0.20	SOIL	NAD	none	Steven Lambert
1716917	TP315 0.10	SOIL	NAD	none	Steven Lambert
1716918	TP316 0.10	SOIL	NAD	none	Steven Lambert
1716919	TP313 0.40	SOIL	NAD	none	Steven Lambert
1716920	TP314 0.10	SOIL	NAD	none	Steven Lambert
1716921	TP401 0.35	SOIL	NAD	none	Steven Lambert
1716922	TP402 0.10	SOIL	NAD	none	Steven Lambert
1716923	TP517 0.10	SOIL	NAD	none	Steven Lambert
1716924	TP516 0.10	SOIL	NAD	none	Steven Lambert
1716925	TP833A 0.50	SOIL	NAD	none	Steven Lambert
1716926	TP834 0.75	SOIL	NAD	none	Steven Lambert
1716927	TP836 0.20	SOIL	NAD	none	Steven Lambert
1716928	TP833A 1.00	SOIL	NAD	none	Steven Lambert
1716929	TP832A 1.00	SOIL	NAD	none	Steven Lambert
1716930	TP834A 1.00	SOIL	NAD	none	Steven Lambert
1716961	TP509 0.10	SOIL	NAD	none	Steven Lambert
1716962	TP518 0.40	SOIL	NAD	none	Steven Lambert
1716963	TP508 0.30	SOIL	NAD	none	Steven Lambert
1716965	RC602 0.45	SOIL	NAD	none	Steven Lambert
1716966	RC303 0.20	SOIL	NAD	none	Steven Lambert
1716967	RC303 0.40	SOIL	NAD	none	Steven Lambert
1716968	BH430 0.10-0.30	SOIL	NAD	none	Steven Lambert
1716969	BH402 0.10-0.30	SOIL	NAD	none	Steven Lambert
1716970	TP406 0.30	SOIL	NAD	none	Steven Lambert
1716971	TP511 0.10	SOIL	NAD	none	Steven Lambert

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716993	1716994	1716995	1716996	1716997	1716998
Sample ID	TP822	TP822	TP821	BH312	TP325	TP325
Depth	0.15	1.00	0.40	0.50	0.10-0.20	0.60-0.70
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	31/07/2020	31/07/2020	31/07/2020	24/07/2020	24/07/2020	24/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg			11	6.9		8.2
Barium	DETSC 2301#	1.5	mg/kg			50	56		290
Beryllium	DETSC 2301#	0.2	mg/kg			1.1	0.5		2.7
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg			0.9	1.1		1.8
Cadmium	DETSC 2301#	0.1	mg/kg			0.4	< 0.1		0.1
Chromium	DETSC 2301#	0.15	mg/kg			32	13		26
Chromium, Hexavalent	DETSC 2204*	1	mg/kg			< 1.0	< 1.0		< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg			14	3.2		12
Copper	DETSC 2301#	0.2	mg/kg			23	12		39
Iron	DETSC 2301	25	mg/kg			25000	10000		26000
Lead	DETSC 2301#	0.3	mg/kg			28	5.1		11
Mercury	DETSC 2325#	0.05	mg/kg			< 0.05	< 0.05		< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg			1.7	0.4		2.2
Nickel	DETSC 2301#	1	mg/kg			37	7.5		33
Selenium	DETSC 2301#	0.5	mg/kg			< 0.5	< 0.5		< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg			43	31		81
Zinc	DETSC 2301#	1	mg/kg			340	31		60
Inorganics									
Organic matter	DETSC 2002#	0.1	%				1.8		
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01				
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01				
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01				
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5				
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	50	< 1.2				
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	330	< 1.5				
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	930	< 3.4				
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg	220	< 3.4				
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	1300	< 10				
Aliphatic C5-C40	DETSC 3072*	10	mg/kg	1500	< 10				
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01				
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01				
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01				
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	1.3	< 0.9				
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	180	< 0.5				
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	1100	< 0.6				
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	2000	< 1.4				
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg	560	< 1.4				
Aromatic C5-C35	DETSC 3072*	10	mg/kg	3300	< 10				
Aromatic C5-C40	DETSC 3072*	10	mg/kg	3800	< 10				

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716993	1716994	1716995	1716996	1716997	1716998
Sample ID	TP822	TP822	TP821	BH312	TP325	TP325
Depth	0.15	1.00	0.40	0.50	0.10-0.20	0.60-0.70
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	31/07/2020	31/07/2020	31/07/2020	24/07/2020	24/07/2020	24/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg	4600	< 10				
Benzene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01				
Ethylbenzene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01				
Toluene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01				
Xylene	DETSC 3321#	0.01	mg/kg	< 0.01	< 0.01				
MTBE	DETSC 3321	0.01	mg/kg	< 0.01	< 0.01				
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg			< 0.03	< 0.03		< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg			< 0.03	< 0.03		< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg			< 0.03	0.10		0.07
Fluorene	DETSC 3303	0.03	mg/kg			< 0.03	< 0.03		0.05
Phenanthrene	DETSC 3303#	0.03	mg/kg			0.05	0.69		0.33
Anthracene	DETSC 3303	0.03	mg/kg			< 0.03	0.23		0.11
Fluoranthene	DETSC 3303#	0.03	mg/kg			0.12	2.6		0.59
Pyrene	DETSC 3303#	0.03	mg/kg			0.11	4.0		0.51
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg			0.05	1.5		0.18
Chrysene	DETSC 3303	0.03	mg/kg			0.06	1.4		0.18
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg			0.06	1.9		0.22
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg			< 0.03	0.64		0.08
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg			0.05	1.6		0.17
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg			0.04	0.62		0.09
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg			< 0.03	0.16		< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg			0.04	0.73		0.08
Naphthalene	DETSC 3301	0.1	mg/kg	2.5	< 0.1			39	
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 1.0	< 0.1			< 1.0	
Acenaphthene	DETSC 3301	0.1	mg/kg	74	< 0.1			79	
Fluorene	DETSC 3301	0.1	mg/kg	89	< 0.1			67	
Phenanthrene	DETSC 3301	0.1	mg/kg	620	< 0.1			170	
Anthracene	DETSC 3301	0.1	mg/kg	170	< 0.1			57	
Fluoranthene	DETSC 3301	0.1	mg/kg	520	< 0.1			190	
Pyrene	DETSC 3301	0.1	mg/kg	420	< 0.1			170	
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	180	< 0.1			51	
Chrysene	DETSC 3301	0.1	mg/kg	180	< 0.1			54	
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	120	< 0.1			46	
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	64	< 0.1			23	
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	130	< 0.1			52	
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	87	< 0.1			33	
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	13	< 0.1			1.9	
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	76	< 0.1			32	
Coronene	DETSC 3301*	0.1	mg/kg			< 0.1	< 0.1	4.8	< 0.1
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg			0.56	16		2.7

Summary of Chemical Analysis Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716993	1716994	1716995	1716996	1716997	1716998
Sample ID	TP822	TP822	TP821	BH312	TP325	TP325
Depth	0.15	1.00	0.40	0.50	0.10-0.20	0.60-0.70
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	31/07/2020	31/07/2020	31/07/2020	24/07/2020	24/07/2020	24/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
PAH Total	DETSC 3301	1.6	mg/kg	2700	< 1.6			1100	
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg					2.8	
Phenol	DETSC 3451*	0.01	mg/kg					< 0.10	
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg					< 0.10	
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg					< 0.10	
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg					< 0.10	
p-cresol	DETSC 3451*	0.01	mg/kg					< 0.10	
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg					< 0.10	
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg					< 0.10	
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg					< 0.10	

Summary of Asbestos Analysis Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1716972	TP809 0.50	SOIL	NAD	none	Steven Lambert
1716973	TP804 0.50	SOIL	Amosite	bundles of Amosite	Steven Lambert
1716974	TP515 0.05	SOIL	NAD	none	Steven Lambert
1716975	TP407 0.20	SOIL	NAD	none	Steven Lambert
1716976	BH602 0.00-0.10	SOIL	NAD	none	Steven Lambert
1716977	BH602 0.50-0.60	SOIL	Chrysotile	bundle of Chrysotile	Steven Lambert
1716978	BH413 1.00	SOIL	NAD	none	Steven Lambert
1716980	BH424 1.00	SOIL	NAD	none	Steven Lambert
1716981	BH410 0.50	SOIL	NAD	none	Steven Lambert
1716982	BH412 0.30	SOIL	NAD	none	Steven Lambert
1716989	TP607 0.10	SOIL	NAD	none	Steven Lambert
1716995	TP821 0.40	SOIL	NAD	none	Steven Lambert
1716996	BH312 0.50	SOIL	NAD	none	Steven Lambert
1716998	TP325 0.60-0.70	SOIL	NAD	none	Steven Lambert
1716999	BH420 0.50	SOIL	NAD	none	Steven Lambert
1717000	TP413 1.30	SOIL	NAD	none	Steven Lambert
1717001	TP413 2.30	SOIL	NAD	none	Steven Lambert
1717002	TP419 0.50	SOIL	NAD	none	Steven Lambert
1717004	TP420 0.30	SOIL	NAD	none	Steven Lambert
1717005	TP703 0.60	SOIL	NAD	none	Steven Lambert
1717006	TP702 0.15	SOIL	NAD	none	Steven Lambert
1717007	TP702 0.60	SOIL	NAD	none	Steven Lambert
1717008	TP427 0.20	SOIL	NAD	none	Steven Lambert
1717010	TP810 0.40	SOIL	NAD	none	Steven Lambert
1717013	TP521 0.05	SOIL	NAD	none	Steven Lambert
1719945	TP523A 0.20	SOIL	NAD	none	Steven Lambert

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * -not included in laboratory scope of accreditation.

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land

Lab No	1719128	1719129	1719130	1719131	1719132	1719133
Sample ID	RC808	RC808	BH317	BH404	BH512	BH313
Depth	0.10	0.50	0.10	0.30	0.10	0.10
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	31/07/2020	31/07/2020	04/08/2020	04/08/2020	04/08/2020	17/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Asbestos Quantification	DETSC 1102	0.001	%					0.001
Metals								
Arsenic	DETSC 2301#	0.2	mg/kg	43		10	5.7	16
Barium	DETSC 2301#	1.5	mg/kg	66		100	220	81
Beryllium	DETSC 2301#	0.2	mg/kg	1.2		1.2	3.0	1.2
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	3.2		1.6	0.8	1.8
Cadmium	DETSC 2301#	0.1	mg/kg	0.8		0.8	0.2	0.4
Chromium	DETSC 2301#	0.15	mg/kg	39		58	22	43
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0		< 1.0	< 1.0	< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg	17		12	4.7	16
Copper	DETSC 2301#	0.2	mg/kg	130		49	26	35
Iron	DETSC 2301	25	mg/kg	55000		34000	12000	41000
Lead	DETSC 2301#	0.3	mg/kg	43		15	9.0	53
Mercury	DETSC 2325#	0.05	mg/kg	0.06		0.05	< 0.05	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	2.8		8.3	0.9	1.6
Nickel	DETSC 2301#	1	mg/kg	60		64	9.9	42
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5		0.7	1.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	60		45	69	60
Zinc	DETSC 2301#	1	mg/kg	230		140	30	130
Inorganics								
Organic matter	DETSC 2002#	0.1	%			1.6		4.6
Petroleum Hydrocarbons								
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg		< 0.01		< 0.01	
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg		< 0.01		< 0.01	
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01		< 0.01	
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg		< 1.5		< 1.5	
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg		< 1.2		8.3	
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg		< 1.5		13	
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg		< 3.4		38	
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg		< 3.4		< 3.4	
Aliphatic C5-C35	DETSC 3072*	10	mg/kg		< 10		59	
Aliphatic C5-C40	DETSC 3072*	10	mg/kg		< 10		59	
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg		< 0.01		< 0.01	
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg		< 0.01		< 0.01	
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg		< 0.01		< 0.01	
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg		< 0.9		< 0.9	
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg		< 0.5		52	
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg		< 0.6		240	
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg		< 1.4		440	
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg		< 1.4		< 1.4	
Aromatic C5-C35	DETSC 3072*	10	mg/kg		< 10		740	
Aromatic C5-C40	DETSC 3072*	10	mg/kg		< 10		740	

Summary of Chemical Analysis Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land

Lab No	1719128	1719129	1719130	1719131	1719132	1719133
Sample ID	RC808	RC808	BH317	BH404	BH512	BH313
Depth	0.10	0.50	0.10	0.30	0.10	0.10
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	31/07/2020	31/07/2020	04/08/2020	04/08/2020	04/08/2020	17/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
TPH Ali/Aro Total	DETS 3072*	10	mg/kg		< 10		790		
Benzene	DETS 3321#	0.01	mg/kg		< 0.01		< 0.01		
Ethylbenzene	DETS 3321#	0.01	mg/kg		< 0.01		< 0.01		
Toluene	DETS 3321#	0.01	mg/kg		< 0.01		< 0.01		
Xylene	DETS 3321#	0.01	mg/kg		< 0.01		< 0.01		
MTBE	DETS 3321	0.01	mg/kg		< 0.01		< 0.01		
PAHs									
Naphthalene	DETS 3301	0.1	mg/kg	< 0.1		< 0.1	< 1.0	< 0.1	< 1.0
Acenaphthylene	DETS 3301	0.1	mg/kg	< 0.1		< 0.1	8.7	< 0.1	< 1.0
Acenaphthene	DETS 3301	0.1	mg/kg	< 0.1		< 0.1	31	< 0.1	< 1.0
Fluorene	DETS 3301	0.1	mg/kg	< 0.1		< 0.1	26	< 0.1	< 1.0
Phenanthrene	DETS 3301	0.1	mg/kg	< 0.1		< 0.1	100	< 0.1	< 1.0
Anthracene	DETS 3301	0.1	mg/kg	< 0.1		< 0.1	50	< 0.1	< 1.0
Fluoranthene	DETS 3301	0.1	mg/kg	0.2		< 0.1	210	< 0.1	< 1.0
Pyrene	DETS 3301	0.1	mg/kg	0.2		< 0.1	200	< 0.1	< 1.0
Benzo(a)anthracene	DETS 3301	0.1	mg/kg	< 0.1		< 0.1	90	< 0.1	< 1.0
Chrysene	DETS 3301	0.1	mg/kg	< 0.1		< 0.1	92	< 0.1	< 1.0
Benzo(b)fluoranthene	DETS 3301	0.1	mg/kg	< 0.1		< 0.1	85	< 0.1	< 1.0
Benzo(k)fluoranthene	DETS 3301	0.1	mg/kg	< 0.1		< 0.1	44	< 0.1	< 1.0
Benzo(a)pyrene	DETS 3301	0.1	mg/kg	< 0.1		< 0.1	110	< 0.1	< 1.0
Indeno(1,2,3-c,d)pyrene	DETS 3301	0.1	mg/kg	< 0.1		< 0.1	110	< 0.1	< 1.0
Dibenzo(a,h)anthracene	DETS 3301	0.1	mg/kg	< 0.1		< 0.1	3.3	< 0.1	< 1.0
Benzo(g,h,i)perylene	DETS 3301	0.1	mg/kg	< 0.1		< 0.1	88	< 0.1	< 1.0
Coronene	DETS 3301*	0.1	mg/kg	< 0.1		< 0.1	18	< 0.1	
PAH Total	DETS 3301	1.6	mg/kg	< 1.6		< 1.6	1300	< 1.6	< 16.0
Phenols									
Phenol - Monohydric	DETS 2130#	0.3	mg/kg						< 0.3
Phenol	DETS 3451*	0.01	mg/kg						< 0.10
4-Chloro-3-methylphenol	DETS 3451*	0.01	mg/kg						< 0.10
2,4-Dichlorophenol	DETS 3451*	0.01	mg/kg						< 0.10
2,4-Dimethylphenol	DETS 3451*	0.01	mg/kg						< 0.10
p-cresol	DETS 3451*	0.01	mg/kg						< 0.10
2,6-Dimethylphenol	DETS 3451*	0.01	mg/kg						< 0.10
2,6-Dichlorophenol	DETS 3451*	0.01	mg/kg						< 0.10
2,4,6-Trichlorophenol	DETS 3451*	0.01	mg/kg						< 0.10

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land

Lab No	1719134	1719135	1719136	1719137	1719138	1719139
Sample ID	BH313	BH409	BH414	BHTP415	BHTP417	BHTP417
Depth	0.30	0.50	0.50	0.40	0.40	1.20
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	17/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%					< 0.001	
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	12	5.2	5.5	7.1	5.4	10
Barium	DETSC 2301#	1.5	mg/kg	45	45	23	32	71	71
Beryllium	DETSC 2301#	0.2	mg/kg	0.9	0.3	0.2	0.2	1.5	1.1
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	0.6	< 0.2	0.4	0.3	0.6	2.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	< 0.1	< 0.1	< 0.1	0.1	0.5
Chromium	DETSC 2301#	0.15	mg/kg	12	11	8.0	8.5	11	39
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg	4.5	19	14	14	4.1	12
Copper	DETSC 2301#	0.2	mg/kg	19	100	53	96	16	24
Iron	DETSC 2301	25	mg/kg	19000	49000	23000	43000	8900	16000
Lead	DETSC 2301#	0.3	mg/kg	9.6	22	11	17	4.3	15
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	1.5	0.5	0.7	0.4	0.9	1.9
Nickel	DETSC 2301#	1	mg/kg	12	5.6	5.3	5.3	5.1	28
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	1.0	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	33	93	46	73	35	50
Zinc	DETSC 2301#	1	mg/kg	36	97	42	71	27	99
Inorganics									
Organic matter	DETSC 2002#	0.1	%						
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5		
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2		
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5		
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	77	< 3.4	< 3.4	< 3.4		
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg	60	< 3.4	< 3.4	< 3.4		
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	78	< 10	< 10	< 10		
Aliphatic C5-C40	DETSC 3072*	10	mg/kg	140	< 10	< 10	< 10		
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9		
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	2.0	< 0.5	< 0.5	< 0.5		
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	21	< 0.6	< 0.6	< 0.6		
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	400	< 1.4	< 1.4	< 1.4		
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg	310	< 1.4	< 1.4	< 1.4		
Aromatic C5-C35	DETSC 3072*	10	mg/kg	420	< 10	< 10	< 10		
Aromatic C5-C40	DETSC 3072*	10	mg/kg	740	< 10	< 10	< 10		

Summary of Chemical Analysis Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land

Lab No	1719134	1719135	1719136	1719137	1719138	1719139
Sample ID	BH313	BH409	BH414	BHTP415	BHTP417	BHTP417
Depth	0.30	0.50	0.50	0.40	0.40	1.20
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	17/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
TPH Ali/Aro Total	DETS 3072*	10	mg/kg	500	< 10	< 10	< 10		
Benzene	DETS 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		
Ethylbenzene	DETS 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		
Toluene	DETS 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		
Xylene	DETS 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		
MTBE	DETS 3321	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		
PAHs									
Naphthalene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	DETS 3301	0.1	mg/kg	0.3	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	DETS 3301	0.1	mg/kg	0.4	< 0.1	< 0.1	< 0.1	0.4	< 0.1
Fluorene	DETS 3301	0.1	mg/kg	0.3	< 0.1	< 0.1	< 0.1	0.2	< 0.1
Phenanthrene	DETS 3301	0.1	mg/kg	1.3	< 0.1	< 0.1	< 0.1	0.9	< 0.1
Anthracene	DETS 3301	0.1	mg/kg	1.1	< 0.1	< 0.1	< 0.1	0.4	< 0.1
Fluoranthene	DETS 3301	0.1	mg/kg	7.1	< 0.1	< 0.1	0.1	2.8	0.4
Pyrene	DETS 3301	0.1	mg/kg	7.5	< 0.1	< 0.1	0.2	3.0	0.3
Benzo(a)anthracene	DETS 3301	0.1	mg/kg	3.3	< 0.1	< 0.1	< 0.1	1.2	< 0.1
Chrysene	DETS 3301	0.1	mg/kg	3.3	< 0.1	< 0.1	< 0.1	1.2	< 0.1
Benzo(b)fluoranthene	DETS 3301	0.1	mg/kg	3.9	< 0.1	< 0.1	< 0.1	1.3	< 0.1
Benzo(k)fluoranthene	DETS 3301	0.1	mg/kg	1.9	< 0.1	< 0.1	< 0.1	0.7	< 0.1
Benzo(a)pyrene	DETS 3301	0.1	mg/kg	5.2	< 0.1	< 0.1	< 0.1	2.0	< 0.1
Indeno(1,2,3-c,d)pyrene	DETS 3301	0.1	mg/kg	6.0	< 0.1	< 0.1	< 0.1	1.7	< 0.1
Dibenzo(a,h)anthracene	DETS 3301	0.1	mg/kg	0.7	< 0.1	< 0.1	< 0.1	0.2	< 0.1
Benzo(g,h,i)perylene	DETS 3301	0.1	mg/kg	4.2	< 0.1	< 0.1	< 0.1	1.2	< 0.1
Coronene	DETS 3301*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PAH Total	DETS 3301	1.6	mg/kg	47	< 1.6	< 1.6	< 1.6	17	< 1.6
Phenols									
Phenol - Monohydric	DETS 2130#	0.3	mg/kg						
Phenol	DETS 3451*	0.01	mg/kg						
4-Chloro-3-methylphenol	DETS 3451*	0.01	mg/kg						
2,4-Dichlorophenol	DETS 3451*	0.01	mg/kg						
2,4-Dimethylphenol	DETS 3451*	0.01	mg/kg						
p-cresol	DETS 3451*	0.01	mg/kg						
2,6-Dimethylphenol	DETS 3451*	0.01	mg/kg						
2,6-Dichlorophenol	DETS 3451*	0.01	mg/kg						
2,4,6-Trichlorophenol	DETS 3451*	0.01	mg/kg						

Summary of Chemical Analysis

Soil Samples

Our Ref 20-15529

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1714164	1714165	1714166	1714167	1714168	1714169
Sample ID	BH314	BH314	RC406	RC406	TP334	TP317
Depth	0.10	0.60	0.30	0.70	1.00	0.10
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	23/07/2020	23/07/2020	21/07/2020	21/07/2020	22/07/2020	22/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Metals								
Arsenic	DETS 2301#	0.2	mg/kg		12		6.1	10
Barium	DETS 2301#	1.5	mg/kg		240		89	110
Beryllium	DETS 2301#	0.2	mg/kg		3.9		0.3	2.0
Boron, Water Soluble	DETS 2311#	0.2	mg/kg		3.0		0.4	1.9
Cadmium	DETS 2301#	0.1	mg/kg		0.2		0.2	0.2
Chromium	DETS 2301#	0.15	mg/kg		32		7.3	33
Chromium, Hexavalent	DETS 2204*	1	mg/kg		< 1.0		< 1.0	< 1.0
Cobalt	DETS 2301#	0.7	mg/kg		8.9		3.0	13
Copper	DETS 2301#	0.2	mg/kg		41		17	31
Iron	DETS 2301	25	mg/kg		26000		12000	32000
Lead	DETS 2301#	0.3	mg/kg		19		6.9	16
Mercury	DETS 2325#	0.05	mg/kg		< 0.05		< 0.05	< 0.05
Molybdenum	DETS 2301#	0.4	mg/kg		2.4		0.6	2.7
Nickel	DETS 2301#	1	mg/kg		28		6.0	37
Selenium	DETS 2301#	0.5	mg/kg		1.9		< 0.5	0.8
Vanadium	DETS 2301#	0.8	mg/kg		80		25	44
Zinc	DETS 2301#	1	mg/kg		78		37	130
Petroleum Hydrocarbons								
Aliphatic C5-C6	DETS 3321*	0.01	mg/kg			< 0.01	< 0.01	
Aliphatic C6-C8	DETS 3321*	0.01	mg/kg			< 0.01	< 0.01	
Aliphatic C8-C10	DETS 3321*	0.01	mg/kg			< 0.01	< 0.01	
Aliphatic C10-C12	DETS 3072#	1.5	mg/kg			< 1.5	5.9	
Aliphatic C12-C16	DETS 3072#	1.2	mg/kg			< 1.2	34	
Aliphatic C16-C21	DETS 3072#	1.5	mg/kg			< 1.5	31	
Aliphatic C21-C35	DETS 3072#	3.4	mg/kg			< 3.4	340	
Aliphatic C35-C40	DETS 3072*	3.4	mg/kg			< 3.4	160	
Aliphatic C5-C35	DETS 3072*	10	mg/kg			< 10	420	
Aliphatic C5-C40	DETS 3072*	10	mg/kg			< 10	580	
Aromatic C5-C7	DETS 3321*	0.01	mg/kg			< 0.01	< 0.01	
Aromatic C7-C8	DETS 3321*	0.01	mg/kg			< 0.01	< 0.01	
Aromatic C8-C10	DETS 3321*	0.01	mg/kg			< 0.01	< 0.01	
Aromatic C10-C12	DETS 3072#	0.9	mg/kg			< 0.9	2.3	
Aromatic C12-C16	DETS 3072#	0.5	mg/kg			< 0.5	49	
Aromatic C16-C21	DETS 3072#	0.6	mg/kg			< 0.6	130	
Aromatic C21-C35	DETS 3072#	1.4	mg/kg			< 1.4	1000	
Aromatic C35-C40	DETS 3072*	1.4	mg/kg			< 1.4	350	
Aromatic C5-C35	DETS 3072*	10	mg/kg			< 10	1200	
Aromatic C5-C40	DETS 3072*	10	mg/kg			< 10	1600	
TPH Ali/Aro Total	DETS 3072*	10	mg/kg			< 10	1600	
Benzene	DETS 3321#	0.01	mg/kg			< 0.01	< 0.01	
Ethylbenzene	DETS 3321#	0.01	mg/kg			< 0.01	< 0.01	
Toluene	DETS 3321#	0.01	mg/kg			< 0.01	< 0.01	

Summary of Chemical Analysis Soil Samples

Our Ref 20-15529

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1714164	1714165	1714166	1714167	1714168	1714169
Sample ID	BH314	BH314	RC406	RC406	TP334	TP317
Depth	0.10	0.60	0.30	0.70	1.00	0.10
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	23/07/2020	23/07/2020	21/07/2020	21/07/2020	22/07/2020	22/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Xylene	DETSC 3321#	0.01	mg/kg			< 0.01	< 0.01		
MTBE	DETSC 3321	0.01	mg/kg			< 0.01	< 0.01		
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		0.04	< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		< 0.03	< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		3.3	< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03		2.1	< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.04		6.2	< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03		3.6	< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.06		16	< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.04		14	< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		5.9	< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03		5.4	< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		6.7	< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		2.4	< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		6.0	< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		2.2	< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		0.64	< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03		2.4	< 0.03	< 0.03
Coronene	DETSC 3301*	0.1	mg/kg	< 0.1	< 0.1		< 2.0	< 0.1	< 0.1
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	0.15		76	< 0.10	< 0.10
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg	< 0.3					< 0.3
Phenol	DETSC 3451*	0.01	mg/kg	< 0.01					< 0.01
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg	< 0.01					< 0.01
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.01					< 0.01
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg	< 0.01					< 0.01
p-cresol	DETSC 3451*	0.01	mg/kg	< 0.01					< 0.01
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg	< 0.01					< 0.01
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.01					< 0.01
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg	< 0.01					< 0.01

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land

Lab No	1719110	1719111	1719112	1719113	1719114	1719115
Sample ID	BH429	BH610	BH608	BH606	BH606	BH601
Depth	0.50	0.20	0.20	0.30	0.80	0.20
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	05/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	7.7	8.5	9.7	10	10	25
Barium	DETSC 2301#	1.5	mg/kg	43	110	67	63	49	63
Beryllium	DETSC 2301#	0.2	mg/kg	0.4	1.2	0.8	0.8	0.8	0.8
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	0.9	0.8	1.6	1.3	1.0	0.4
Cadmium	DETSC 2301#	0.1	mg/kg	0.1	0.2	0.3	0.2	< 0.1	0.3
Chromium	DETSC 2301#	0.15	mg/kg	7.6	29	28	30	27	25
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg	5.5	4.8	5.9	5.5	12	8.1
Copper	DETSC 2301#	0.2	mg/kg	30	21	22	21	14	32
Iron	DETSC 2301	25	mg/kg	17000	17000	20000	21000	28000	40000
Lead	DETSC 2301#	0.3	mg/kg	9.0	34	37	32	15	28
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	0.24	0.09	0.08	< 0.05	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	1.2	0.6	1.5	1.3	1.2	2.5
Nickel	DETSC 2301#	1	mg/kg	8.9	13	19	16	14	27
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	0.6	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	45	48	39	41	39	45
Zinc	DETSC 2301#	1	mg/kg	29	67	89	79	61	87
Inorganics									
Organic matter	DETSC 2002#	0.1	%	0.8	8.0	3.8	7.0		4.6
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg						
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg						
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg						
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg						
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg						
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg						
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg						
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg						
Aliphatic C5-C35	DETSC 3072*	10	mg/kg						
Aliphatic C5-C40	DETSC 3072*	10	mg/kg						
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg						
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg						
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg						
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg						
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg						
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg						
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg						
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg						
Aromatic C5-C35	DETSC 3072*	10	mg/kg						
Aromatic C5-C40	DETSC 3072*	10	mg/kg						

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land

Lab No	1719110	1719111	1719112	1719113	1719114	1719115
Sample ID	BH429	BH610	BH608	BH606	BH606	BH601
Depth	0.50	0.20	0.20	0.30	0.80	0.20
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	05/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
TPH Ali/Aro Total	DETS 3072*	10	mg/kg						
Benzene	DETS 3321#	0.01	mg/kg						
Ethylbenzene	DETS 3321#	0.01	mg/kg						
Toluene	DETS 3321#	0.01	mg/kg						
Xylene	DETS 3321#	0.01	mg/kg						
MTBE	DETS 3321	0.01	mg/kg						
PAHs									
Naphthalene	DETS 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	DETS 3301	0.1	mg/kg	0.4	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	DETS 3301	0.1	mg/kg	0.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	DETS 3301	0.1	mg/kg	0.7	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	DETS 3301	0.1	mg/kg	2.6	< 0.1	< 0.1	< 0.1	< 0.1	0.5
Anthracene	DETS 3301	0.1	mg/kg	1.6	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	DETS 3301	0.1	mg/kg	9.3	< 0.1	< 0.1	< 0.1	< 0.1	1.6
Pyrene	DETS 3301	0.1	mg/kg	9.7	< 0.1	< 0.1	< 0.1	< 0.1	1.6
Benzo(a)anthracene	DETS 3301	0.1	mg/kg	4.5	< 0.1	< 0.1	< 0.1	< 0.1	0.9
Chrysene	DETS 3301	0.1	mg/kg	4.6	< 0.1	< 0.1	< 0.1	< 0.1	2.2
Benzo(b)fluoranthene	DETS 3301	0.1	mg/kg	4.4	< 0.1	< 0.1	< 0.1	< 0.1	1.2
Benzo(k)fluoranthene	DETS 3301	0.1	mg/kg	2.1	< 0.1	< 0.1	< 0.1	< 0.1	0.6
Benzo(a)pyrene	DETS 3301	0.1	mg/kg	5.9	< 0.1	< 0.1	< 0.1	< 0.1	1.6
Indeno(1,2,3-c,d)pyrene	DETS 3301	0.1	mg/kg	5.1	< 0.1	< 0.1	< 0.1	< 0.1	1.3
Dibenzo(a,h)anthracene	DETS 3301	0.1	mg/kg	0.4	< 0.1	< 0.1	< 0.1	< 0.1	0.1
Benzo(g,h,i)perylene	DETS 3301	0.1	mg/kg	3.2	< 0.1	< 0.1	< 0.1	< 0.1	0.8
Coronene	DETS 3301*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PAH Total	DETS 3301	1.6	mg/kg	55	< 1.6	< 1.6	< 1.6	< 1.6	12
Phenols									
Phenol - Monohydric	DETS 2130#	0.3	mg/kg						
Phenol	DETS 3451*	0.01	mg/kg						
4-Chloro-3-methylphenol	DETS 3451*	0.01	mg/kg						
2,4-Dichlorophenol	DETS 3451*	0.01	mg/kg						
2,4-Dimethylphenol	DETS 3451*	0.01	mg/kg						
p-cresol	DETS 3451*	0.01	mg/kg						
2,6-Dimethylphenol	DETS 3451*	0.01	mg/kg						
2,6-Dichlorophenol	DETS 3451*	0.01	mg/kg						
2,4,6-Trichlorophenol	DETS 3451*	0.01	mg/kg						

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land

Lab No	1719116	1719117	1719118	1719119	1719120	1719121
Sample ID	BH601	BH605	BH605	BH603	TP803	TP803
Depth	1.50	0.20	1.00	0.30	0.10	0.40
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg					13	
Barium	DETSC 2301#	1.5	mg/kg					88	
Beryllium	DETSC 2301#	0.2	mg/kg					1.0	
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg					2.6	
Cadmium	DETSC 2301#	0.1	mg/kg					0.5	
Chromium	DETSC 2301#	0.15	mg/kg					29	
Chromium, Hexavalent	DETSC 2204*	1	mg/kg					< 1.0	
Cobalt	DETSC 2301#	0.7	mg/kg					11	
Copper	DETSC 2301#	0.2	mg/kg					32	
Iron	DETSC 2301	25	mg/kg					27000	
Lead	DETSC 2301#	0.3	mg/kg					31	
Mercury	DETSC 2325#	0.05	mg/kg					< 0.05	
Molybdenum	DETSC 2301#	0.4	mg/kg					2.4	
Nickel	DETSC 2301#	1	mg/kg					31	
Selenium	DETSC 2301#	0.5	mg/kg					0.8	
Vanadium	DETSC 2301#	0.8	mg/kg					44	
Zinc	DETSC 2301#	1	mg/kg					150	
Inorganics									
Organic matter	DETSC 2002#	0.1	%					7.4	
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5		< 1.5
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2	< 1.2	< 1.2	< 1.2		< 1.2
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5	< 1.5	< 1.5	< 1.5		< 1.5
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4		< 3.4
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg	< 3.4	< 3.4	< 3.4	< 3.4		< 3.4
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10		< 10
Aliphatic C5-C40	DETSC 3072*	10	mg/kg	< 10	< 10	< 10	< 10		< 10
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9	< 0.9	< 0.9	< 0.9		< 0.9
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	4.0	< 0.5	< 0.5	< 0.5		< 0.5
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	26	< 0.6	< 0.6	< 0.6		< 0.6
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	75	< 1.4	< 1.4	< 1.4		< 1.4
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg	< 1.4	< 1.4	< 1.4	< 1.4		< 1.4
Aromatic C5-C35	DETSC 3072*	10	mg/kg	110	< 10	< 10	< 10		< 10
Aromatic C5-C40	DETSC 3072*	10	mg/kg	110	< 10	< 10	< 10		< 10

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16427

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester, Land

Lab No	1719116	1719117	1719118	1719119	1719120	1719121
Sample ID	BH601	BH605	BH605	BH603	TP803	TP803
Depth	1.50	0.20	1.00	0.30	0.10	0.40
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020	13/08/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
TPH Ali/Aro Total	DETS 3072*	10	mg/kg	110	< 10	< 10	< 10		< 10
Benzene	DETS 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Ethylbenzene	DETS 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Toluene	DETS 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
Xylene	DETS 3321#	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
MTBE	DETS 3321	0.01	mg/kg	< 0.01	< 0.01	< 0.01	< 0.01		< 0.01
PAHs									
Naphthalene	DETS 3301	0.1	mg/kg					< 0.1	
Acenaphthylene	DETS 3301	0.1	mg/kg					< 0.1	
Acenaphthene	DETS 3301	0.1	mg/kg					< 0.1	
Fluorene	DETS 3301	0.1	mg/kg					< 0.1	
Phenanthrene	DETS 3301	0.1	mg/kg					< 0.1	
Anthracene	DETS 3301	0.1	mg/kg					< 0.1	
Fluoranthene	DETS 3301	0.1	mg/kg					0.3	
Pyrene	DETS 3301	0.1	mg/kg					0.3	
Benzo(a)anthracene	DETS 3301	0.1	mg/kg					< 0.1	
Chrysene	DETS 3301	0.1	mg/kg					< 0.1	
Benzo(b)fluoranthene	DETS 3301	0.1	mg/kg					< 0.1	
Benzo(k)fluoranthene	DETS 3301	0.1	mg/kg					< 0.1	
Benzo(a)pyrene	DETS 3301	0.1	mg/kg					< 0.1	
Indeno(1,2,3-c,d)pyrene	DETS 3301	0.1	mg/kg					< 0.1	
Dibenzo(a,h)anthracene	DETS 3301	0.1	mg/kg					< 0.1	
Benzo(g,h,i)perylene	DETS 3301	0.1	mg/kg					< 0.1	
Coronene	DETS 3301*	0.1	mg/kg					< 0.1	
PAH Total	DETS 3301	1.6	mg/kg					< 1.6	
Phenols									
Phenol - Monohydric	DETS 2130#	0.3	mg/kg						
Phenol	DETS 3451*	0.01	mg/kg						
4-Chloro-3-methylphenol	DETS 3451*	0.01	mg/kg						
2,4-Dichlorophenol	DETS 3451*	0.01	mg/kg						
2,4-Dimethylphenol	DETS 3451*	0.01	mg/kg						
p-cresol	DETS 3451*	0.01	mg/kg						
2,6-Dimethylphenol	DETS 3451*	0.01	mg/kg						
2,6-Dichlorophenol	DETS 3451*	0.01	mg/kg						
2,4,6-Trichlorophenol	DETS 3451*	0.01	mg/kg						

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716913	1716915	1716916	1716917	1716918	1716919
Sample ID	TP302	TP312	TP311	TP315	TP316	TP313
Depth	0.40	0.50	0.20	0.10	0.10	0.40
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	24/07/2020	28/07/2020	28/07/2020	28/07/2020	28/07/2020	28/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	7.4	9.6	9.8	8.4	8.0	12
Barium	DETSC 2301#	1.5	mg/kg	80	67	69	51	51	52
Beryllium	DETSC 2301#	0.2	mg/kg	0.9	1.3	0.9	0.7	0.5	0.8
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	0.9	2.5	1.6	1.2	1.1	1.3
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	0.3	0.3	0.3	0.3	0.3
Chromium	DETSC 2301#	0.15	mg/kg	12	39	29	22	18	23
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg	5.6	16	5.8	6.5	4.3	10
Copper	DETSC 2301#	0.2	mg/kg	21	33	26	30	23	21
Iron	DETSC 2301	25	mg/kg	13000	27000	22000	18000	15000	23000
Lead	DETSC 2301#	0.3	mg/kg	12	16	31	30	26	14
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	< 0.05	0.11	0.07	0.07	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	0.8	3.5	1.4	1.1	0.7	1.2
Nickel	DETSC 2301#	1	mg/kg	15	70	19	19	12	27
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	30	35	39	27	24	34
Zinc	DETSC 2301#	1	mg/kg	50	90	120	96	96	67
Inorganics									
Organic matter	DETSC 2002#	0.1	%						
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg	< 0.01					
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg	< 0.01					
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01					
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg	< 1.5					
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg	< 1.2					
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg	< 1.5					
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg	< 3.4					
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg	< 3.4					
Aliphatic C5-C35	DETSC 3072*	10	mg/kg	< 10					
Aliphatic C5-C40	DETSC 3072*	10	mg/kg	< 10					
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg	< 0.01					
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg	< 0.01					
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg	< 0.01					
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg	< 0.9					
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg	< 0.5					
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg	< 0.6					
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg	< 1.4					
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg	< 1.4					
Aromatic C5-C35	DETSC 3072*	10	mg/kg	< 10					
Aromatic C5-C40	DETSC 3072*	10	mg/kg	< 10					

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716913	1716915	1716916	1716917	1716918	1716919
Sample ID	TP302	TP312	TP311	TP315	TP316	TP313
Depth	0.40	0.50	0.20	0.10	0.10	0.40
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	24/07/2020	28/07/2020	28/07/2020	28/07/2020	28/07/2020	28/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg	< 10					
Benzene	DETSC 3321#	0.01	mg/kg	< 0.01					
Ethylbenzene	DETSC 3321#	0.01	mg/kg	< 0.01					
Toluene	DETSC 3321#	0.01	mg/kg	< 0.01					
Xylene	DETSC 3321#	0.01	mg/kg	< 0.01					
MTBE	DETSC 3321	0.01	mg/kg	< 0.01					
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg						
Acenaphthylene	DETSC 3303#	0.03	mg/kg						
Acenaphthene	DETSC 3303#	0.03	mg/kg						
Fluorene	DETSC 3303	0.03	mg/kg						
Phenanthrene	DETSC 3303#	0.03	mg/kg						
Anthracene	DETSC 3303	0.03	mg/kg						
Fluoranthene	DETSC 3303#	0.03	mg/kg						
Pyrene	DETSC 3303#	0.03	mg/kg						
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg						
Chrysene	DETSC 3303	0.03	mg/kg						
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg						
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg						
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg						
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg						
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg						
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg						
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Phenanthrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Pyrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Chrysene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Coronene	DETSC 3301*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg						

Summary of Chemical Analysis Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716913	1716915	1716916	1716917	1716918	1716919
Sample ID	TP302	TP312	TP311	TP315	TP316	TP313
Depth	0.40	0.50	0.20	0.10	0.10	0.40
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	24/07/2020	28/07/2020	28/07/2020	28/07/2020	28/07/2020	28/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
PAH Total	DETSC 3301	1.6	mg/kg	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6	< 1.6
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg						
Phenol	DETSC 3451*	0.01	mg/kg						
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg						
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg						
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg						
p-cresol	DETSC 3451*	0.01	mg/kg						
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg						
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg						
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg						

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708105	1708107	1708108	1708109	1708110	1708111
Sample ID	TP308	TP409	CC302	RC715	RC715	RC713
Depth	0.10	0.00-0.20	0.25-0.40	0.30-0.50	0.50-0.75	0.70-0.90
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	23/07/2020	22/07/2020	22/07/2020	28/07/2020	28/07/2020	28/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	7.8	11	13		6.9	4.9
Barium	DETSC 2301#	1.5	mg/kg	42	55	270		27	10
Beryllium	DETSC 2301#	0.2	mg/kg	0.7	1.0	2.9		< 0.2	0.2
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	1.1	2.9	0.8		< 0.2	< 0.2
Cadmium	DETSC 2301#	0.1	mg/kg	0.4	0.4	0.6		0.2	< 0.1
Chromium	DETSC 2301#	0.15	mg/kg	29	35	21		4.6	6.4
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0		< 1.0	< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg	6.3	8.1	29		1.8	3.8
Copper	DETSC 2301#	0.2	mg/kg	24	24	79		6.2	14
Iron	DETSC 2301	25	mg/kg	19000	31000	34000		7100	13000
Lead	DETSC 2301#	0.3	mg/kg	19	31	16		3.1	3.3
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	0.08	< 0.05		< 0.05	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	2.5	1.6	4.5		0.4	0.5
Nickel	DETSC 2301#	1	mg/kg	24	25	55		4.0	6.1
Selenium	DETSC 2301#	0.5	mg/kg	0.6	< 0.5	< 0.5		< 0.5	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	35	52	62		22	33
Zinc	DETSC 2301#	1	mg/kg	120	100	180		30	31
Inorganics									
Organic matter	DETSC 2002#	0.1	%	6.2					
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg				< 0.01	< 0.01	
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg				< 0.01	< 0.01	
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg				< 0.01	< 0.01	
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg				< 1.5	< 1.5	
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg				< 1.2	< 1.2	
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg				< 1.5	< 1.5	
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg				< 3.4	< 3.4	
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg				< 3.4	< 3.4	
Aliphatic C5-C35	DETSC 3072*	10	mg/kg				< 10	< 10	
Aliphatic C5-C40	DETSC 3072*	10	mg/kg				< 10	< 10	
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg				< 0.01	< 0.01	
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg				< 0.01	< 0.01	
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg				< 0.01	< 0.01	
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg				< 0.9	< 0.9	
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg				< 0.5	< 0.5	
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg				< 0.6	< 0.6	
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg				< 1.4	< 1.4	
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg				< 1.4	< 1.4	
Aromatic C5-C35	DETSC 3072*	10	mg/kg				< 10	< 10	
Aromatic C5-C40	DETSC 3072*	10	mg/kg				< 10	< 10	
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg				< 10	< 10	

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708105	1708107	1708108	1708109	1708110	1708111
Sample ID	TP308	TP409	CC302	RC715	RC715	RC713
Depth	0.10	0.00-0.20	0.25-0.40	0.30-0.50	0.50-0.75	0.70-0.90
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	23/07/2020	22/07/2020	22/07/2020	28/07/2020	28/07/2020	28/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Benzene	DETSC 3321#	0.01	mg/kg				< 0.01	< 0.01	
Ethylbenzene	DETSC 3321#	0.01	mg/kg				< 0.01	< 0.01	
Toluene	DETSC 3321#	0.01	mg/kg				< 0.01	< 0.01	
Xylene	DETSC 3321#	0.01	mg/kg				< 0.01	< 0.01	
MTBE	DETSC 3321	0.01	mg/kg				< 0.01	< 0.01	
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03		< 0.03	< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03		< 0.03	< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03		< 0.03	< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03		< 0.03	< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03		< 0.03	< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03		< 0.03	< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03		< 0.03	< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03		< 0.03	< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03		< 0.03	< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03		< 0.03	< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03		< 0.03	< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03		< 0.03	< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03		< 0.03	< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03		< 0.03	< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03		< 0.03	< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03		< 0.03	< 0.03
Coronene	DETSC 3301*	0.1	mg/kg	< 0.1	< 0.1	< 0.1		< 0.1	< 0.1
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10		< 0.10	< 0.10
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg						
Phenol	DETSC 3451*	0.01	mg/kg						
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg						
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg						
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg						
p-cresol	DETSC 3451*	0.01	mg/kg						
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg						
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg						
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg						

Summary of Chemical Analysis

Soil Samples

Our Ref 20-15529

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1714156	1714159	1714160	1714161	1714162	1714163
Sample ID	TP309	BH426	BH428	BH428	TP323	TP323
Depth	0.10	0.50	0.10	0.40	0.10-0.20	0.20-0.30
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	23/07/2020	22/07/2020	27/07/2020	27/07/2020	23/07/2020	23/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units					
Metals								
Arsenic	DETSC 2301#	0.2	mg/kg	9.4	8.2			9.2
Barium	DETSC 2301#	1.5	mg/kg	55	57			440
Beryllium	DETSC 2301#	0.2	mg/kg	1.0	1.0			11
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	0.6	0.4			5.4
Cadmium	DETSC 2301#	0.1	mg/kg	0.2	< 0.1			< 0.1
Chromium	DETSC 2301#	0.15	mg/kg	29	6.4			34
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0			< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg	12	3.4			1.8
Copper	DETSC 2301#	0.2	mg/kg	26	12			12
Iron	DETSC 2301	25	mg/kg	24000	9600			10000
Lead	DETSC 2301#	0.3	mg/kg	26	6.7			3.7
Mercury	DETSC 2325#	0.05	mg/kg	0.06	0.06			< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	2.6	0.9			< 0.4
Nickel	DETSC 2301#	1	mg/kg	29	7.5			4.0
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5			5.1
Vanadium	DETSC 2301#	0.8	mg/kg	35	18			88
Zinc	DETSC 2301#	1	mg/kg	100	24			17
Petroleum Hydrocarbons								
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg			< 0.01		
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg			< 0.01		
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01		
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg			< 1.5		
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg			< 1.2		
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg			< 1.5		
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg			< 3.4		
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg			< 3.4		
Aliphatic C5-C35	DETSC 3072*	10	mg/kg			< 10		
Aliphatic C5-C40	DETSC 3072*	10	mg/kg			< 10		
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg			< 0.01		
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg			< 0.01		
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01		
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg			< 0.9		
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg			< 0.5		
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg			< 0.6		
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg			< 1.4		
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg			< 1.4		
Aromatic C5-C35	DETSC 3072*	10	mg/kg			< 10		
Aromatic C5-C40	DETSC 3072*	10	mg/kg			< 10		
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg			< 10		
Benzene	DETSC 3321#	0.01	mg/kg			< 0.01		
Ethylbenzene	DETSC 3321#	0.01	mg/kg			< 0.01		
Toluene	DETSC 3321#	0.01	mg/kg			< 0.01		

Summary of Chemical Analysis

Soil Samples

Our Ref 20-15529

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1714156	1714159	1714160	1714161	1714162	1714163
Sample ID	TP309	BH426	BH428	BH428	TP323	TP323
Depth	0.10	0.50	0.10	0.40	0.10-0.20	0.20-0.30
Other ID						
Sample Type	SOIL	SOIL	SOIL	SOIL	SOIL	SOIL
Sampling Date	23/07/2020	22/07/2020	27/07/2020	27/07/2020	23/07/2020	23/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Xylene	DETSC 3321#	0.01	mg/kg				< 0.01		
MTBE	DETSC 3321	0.01	mg/kg				< 0.01		
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03		0.04	0.06
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03		< 0.03	0.08
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.05	< 0.03		0.15	0.50
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03		0.06	0.30
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.55	0.50		0.14	2.0
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	0.19	0.08		0.05	0.88
Fluoranthene	DETSC 3303#	0.03	mg/kg	0.07	1.5	0.12		0.15	7.2
Pyrene	DETSC 3303#	0.03	mg/kg	0.06	1.4	0.57		0.19	6.8
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	0.03	0.91	0.26		0.05	3.5
Chrysene	DETSC 3303	0.03	mg/kg	0.04	0.81	0.69		0.11	3.3
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	0.05	1.2	0.24		0.23	6.4
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	0.44	0.06		0.05	2.1
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.95	0.33		0.18	5.9
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	0.36	< 0.03		0.13	2.7
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	0.09	0.09		< 0.03	0.77
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	0.39	0.32		0.16	3.1
Coronene	DETSC 3301*	0.1	mg/kg	< 0.1	< 0.1	< 2.0		< 2.0	< 2.0
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	0.21	8.8	3.3		1.7	45
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg			< 0.3		< 0.3	
Phenol	DETSC 3451*	0.01	mg/kg			< 0.01		< 0.01	
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg			< 0.01		< 0.01	
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.01		< 0.01	
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg			< 0.01		< 0.01	
p-cresol	DETSC 3451*	0.01	mg/kg			< 0.01		< 0.01	
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg			< 0.01		< 0.01	
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.01		< 0.01	
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.01		< 0.01	

Summary of Asbestos Analysis Soil Samples

Our Ref 20-15529

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	Sample ID	Material Type	Result	Comment*	Analyst
1714156	TP309 0.10	SOIL	NAD	none	Rebecca Burgess
1714157	BH316 0.15-0.25	SOIL	NAD	none	Rebecca Burgess
1714158	BH426 0.20	SOIL	NAD	none	Rebecca Burgess
1714159	BH426 0.50	SOIL	NAD	none	Rebecca Burgess
1714163	TP323 0.20-0.30	SOIL	NAD	none	Rebecca Burgess
1714168	TP334 1.00	SOIL	NAD	none	Rebecca Burgess
1714170	TP317 0.50	SOIL	NAD	none	Rebecca Burgess
1714171	TP317 1.00	SOIL	NAD	none	Rebecca Burgess
1714173	TP318 0.50	SOIL	NAD	none	Rebecca Burgess

Crocidolite = Blue Asbestos, Amosite = Brown Asbestos, Chrysotile = White Asbestos. Anthophyllite, Actinolite and Tremolite are other forms of Asbestos. Samples are analysed by DETSC 1101 using polarised light microscopy in accordance with HSG248 and documented in-house methods. NAD = No Asbestos Detected. Where a sample is NAD, the result is based on analysis of at least 2 sub-samples and should be taken to mean 'no asbestos detected in sample'. Key: * - not included in laboratory scope of accreditation.

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716887	1716888	1716889	1716890	1716891	1716892
Sample ID	TP332	TP332	TP310	RC301	RC301	RC302
Depth	0.10	1.00	0.10	0.10	0.50	0.15
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	15	8.3			11	
Barium	DETSC 2301#	1.5	mg/kg	150	45			320	
Beryllium	DETSC 2301#	0.2	mg/kg	1.7	0.8			9.4	
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	1.3	1.3			0.4	
Cadmium	DETSC 2301#	0.1	mg/kg	0.6	0.2			0.1	
Chromium	DETSC 2301#	0.15	mg/kg	18	24			39	
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0			< 1.0	
Cobalt	DETSC 2301#	0.7	mg/kg	11	7.9			6.2	
Copper	DETSC 2301#	0.2	mg/kg	41	25			22	
Iron	DETSC 2301	25	mg/kg	26000	19000			15000	
Lead	DETSC 2301#	0.3	mg/kg	34	24			3.8	
Mercury	DETSC 2325#	0.05	mg/kg	< 0.05	0.06			< 0.05	
Molybdenum	DETSC 2301#	0.4	mg/kg	2.4	1.7			< 0.4	
Nickel	DETSC 2301#	1	mg/kg	32	19			6.3	
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5			2.4	
Vanadium	DETSC 2301#	0.8	mg/kg	41	34			96	
Zinc	DETSC 2301#	1	mg/kg	110	79			28	
Inorganics									
Organic matter	DETSC 2002#	0.1	%					1.3	
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg					< 0.01	
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg					< 0.01	
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg					< 0.01	
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg					< 1.5	
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg					< 1.2	
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg					< 1.5	
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg					< 3.4	
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg					< 3.4	
Aliphatic C5-C35	DETSC 3072*	10	mg/kg					< 10	
Aliphatic C5-C40	DETSC 3072*	10	mg/kg					< 10	
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg					< 0.01	
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg					< 0.01	
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg					< 0.01	
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg					< 0.9	
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg					< 0.5	
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg					9.6	
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg					32	
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg					< 1.4	
Aromatic C5-C35	DETSC 3072*	10	mg/kg					42	
Aromatic C5-C40	DETSC 3072*	10	mg/kg					42	

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716887	1716888	1716889	1716890	1716891	1716892
Sample ID	TP332	TP332	TP310	RC301	RC301	RC302
Depth	0.10	1.00	0.10	0.10	0.50	0.15
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg					42	
Benzene	DETSC 3321#	0.01	mg/kg					< 0.01	
Ethylbenzene	DETSC 3321#	0.01	mg/kg					< 0.01	
Toluene	DETSC 3321#	0.01	mg/kg					< 0.01	
Xylene	DETSC 3321#	0.01	mg/kg					< 0.01	
MTBE	DETSC 3321	0.01	mg/kg					< 0.01	
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg						
Acenaphthylene	DETSC 3303#	0.03	mg/kg						
Acenaphthene	DETSC 3303#	0.03	mg/kg						
Fluorene	DETSC 3303	0.03	mg/kg						
Phenanthrene	DETSC 3303#	0.03	mg/kg						
Anthracene	DETSC 3303	0.03	mg/kg						
Fluoranthene	DETSC 3303#	0.03	mg/kg						
Pyrene	DETSC 3303#	0.03	mg/kg						
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg						
Chrysene	DETSC 3303	0.03	mg/kg						
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg						
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg						
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg						
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg						
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg						
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg						
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	< 1.0	< 0.1	0.7
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	2.2	< 0.1	2.7
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	15	< 0.1	11
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	9.1	< 0.1	8.4
Phenanthrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	30	0.1	49
Anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	17	0.1	21
Fluoranthene	DETSC 3301	0.1	mg/kg	0.2	< 0.1	< 1.0	220	1.0	120
Pyrene	DETSC 3301	0.1	mg/kg	0.3	< 0.1	< 1.0	210	1.2	110
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	75	0.6	44
Chrysene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	81	0.6	45
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	86	0.8	35
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	42	0.5	21
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	95	1.1	44
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	64	0.8	32
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	7.1	0.1	5.7
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	< 0.1	< 0.1	< 1.0	58	0.6	33
Coronene	DETSC 3301*	0.1	mg/kg	3.4	< 0.1	< 1.0	< 1.0	< 0.1	9.8
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg						

Summary of Chemical Analysis Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716887	1716888	1716889	1716890	1716891	1716892
Sample ID	TP332	TP332	TP310	RC301	RC301	RC302
Depth	0.10	1.00	0.10	0.10	0.50	0.15
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020	23/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
PAH Total	DETSC 3301	1.6	mg/kg	3.9	< 1.6	< 16.0	1000	7.6	590
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg			< 0.3	0.5		0.9
Phenol	DETSC 3451*	0.01	mg/kg			< 0.10	< 0.10		< 0.10
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg			< 0.10	< 0.10		< 0.10
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.10	< 0.10		< 0.10
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg			< 0.10	< 0.10		< 0.10
p-cresol	DETSC 3451*	0.01	mg/kg			< 0.10	< 0.10		< 0.10
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg			< 0.10	< 0.10		< 0.10
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.10	< 0.10		< 0.10
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg			< 0.10	< 0.10		< 0.10

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708124	1708125	1708126	1708127	1708128	1708129
Sample ID	TP603	TP602	TP610	SSC704	SSC803	SSC802
Depth	0.20	0.60	0.35	0.10	0.10	0.10
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	21/07/2020	21/07/2020	21/07/2020	22/07/2020	22/07/2020	22/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	14	7.5	12	9.8	11	14
Barium	DETSC 2301#	1.5	mg/kg	89	53	110	48	75	70
Beryllium	DETSC 2301#	0.2	mg/kg	1.4	0.7	1.4	0.9	0.8	1.0
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	1.4	0.5	1.1	2.0	2.4	0.7
Cadmium	DETSC 2301#	0.1	mg/kg	0.3	0.2	0.5	0.5	8.3	1.3
Chromium	DETSC 2301#	0.15	mg/kg	49	21	19	36	31	35
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg	9.3	6.8	12	8.4	14	16
Copper	DETSC 2301#	0.2	mg/kg	25	14	34	34	36	81
Iron	DETSC 2301	25	mg/kg	40000	21000	25000	25000	25000	36000
Lead	DETSC 2301#	0.3	mg/kg	28	10	21	22	52	22
Mercury	DETSC 2325#	0.05	mg/kg	0.07	< 0.05	< 0.05	< 0.05	0.06	< 0.05
Molybdenum	DETSC 2301#	0.4	mg/kg	1.8	0.5	3.4	2.9	2.2	2.2
Nickel	DETSC 2301#	1	mg/kg	29	19	28	33	35	36
Selenium	DETSC 2301#	0.5	mg/kg	< 0.5	< 0.5	0.6	< 0.5	0.7	< 0.5
Vanadium	DETSC 2301#	0.8	mg/kg	69	36	63	42	35	45
Zinc	DETSC 2301#	1	mg/kg	140	70	130	150	1800	320
Inorganics									
Organic matter	DETSC 2002#	0.1	%	3.4	0.6				
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg			< 0.01			
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg			< 0.01			
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01			
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg			< 1.5			
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg			< 1.2			
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg			< 1.5			
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg			< 3.4			
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg			< 3.4			
Aliphatic C5-C35	DETSC 3072*	10	mg/kg			< 10			
Aliphatic C5-C40	DETSC 3072*	10	mg/kg			< 10			
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg			< 0.01			
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg			< 0.01			
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg			< 0.01			
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg			< 0.9			
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg			< 0.5			
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg			< 0.6			
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg			< 1.4			
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg			< 1.4			
Aromatic C5-C35	DETSC 3072*	10	mg/kg			< 10			
Aromatic C5-C40	DETSC 3072*	10	mg/kg			< 10			
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg			< 10			

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708124	1708125	1708126	1708127	1708128	1708129
Sample ID	TP603	TP602	TP610	SSC704	SSC803	SSC802
Depth	0.20	0.60	0.35	0.10	0.10	0.10
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	21/07/2020	21/07/2020	21/07/2020	22/07/2020	22/07/2020	22/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Benzene	DETSC 3321#	0.01	mg/kg			< 0.01			
Ethylbenzene	DETSC 3321#	0.01	mg/kg			< 0.01			
Toluene	DETSC 3321#	0.01	mg/kg			< 0.01			
Xylene	DETSC 3321#	0.01	mg/kg			< 0.01			
MTBE	DETSC 3321	0.01	mg/kg			< 0.01			
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Fluorene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Anthracene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.05		< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	0.05		< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Chrysene	DETSC 3303	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg	< 0.03	< 0.03	< 0.03	< 0.03		< 0.03
Coronene	DETSC 3301*	0.1	mg/kg	< 0.1	< 0.1	< 0.1	< 0.1		6.1
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg	< 0.10	< 0.10	< 0.10	0.11		< 0.10
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg						
Phenol	DETSC 3451*	0.01	mg/kg						
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg						
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg						
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg						
p-cresol	DETSC 3451*	0.01	mg/kg						
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg						
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg						
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg						

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708112	1708113	1708114	1708115	1708116	1708117
Sample ID	SSC 304	SSC 303	SSC 302	SSC 605	SSC 301	SSC 306
Depth	0.10	0.10	0.10	0.10	0.10	0.10
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	21/07/2020	21/07/2020	21/07/2020	21/07/2020	21/07/2020	21/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg	11	11	19	14	12	6.5
Barium	DETSC 2301#	1.5	mg/kg	97	64	92	83	71	69
Beryllium	DETSC 2301#	0.2	mg/kg	0.3	0.6	1.0	1.1	0.9	0.7
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg	4.6	3.6	7.9	3.3	2.3	4.9
Cadmium	DETSC 2301#	0.1	mg/kg	15	8.9	17	4.2	2.4	0.5
Chromium	DETSC 2301#	0.15	mg/kg	15	27	61	34	34	27
Chromium, Hexavalent	DETSC 2204*	1	mg/kg	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg	17	7.5	18	17	15	6.8
Copper	DETSC 2301#	0.2	mg/kg	34	51	76	45	46	46
Iron	DETSC 2301	25	mg/kg	57000	26000	32000	34000	29000	16000
Lead	DETSC 2301#	0.3	mg/kg	15	49	39	44	34	26
Mercury	DETSC 2325#	0.05	mg/kg	0.06	0.10	0.15	0.09	0.09	0.06
Molybdenum	DETSC 2301#	0.4	mg/kg	2.7	7.7	14	2.6	3.8	3.5
Nickel	DETSC 2301#	1	mg/kg	25	25	39	45	36	25
Selenium	DETSC 2301#	0.5	mg/kg	1.0	1.8	2.4	< 0.5	1.8	1.2
Vanadium	DETSC 2301#	0.8	mg/kg	53	37	67	53	47	36
Zinc	DETSC 2301#	1	mg/kg	2500	830	4200	870	840	170
Inorganics									
Organic matter	DETSC 2002#	0.1	%						
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg						
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg						
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg						
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg						
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg						
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg						
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg						
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg						
Aliphatic C5-C35	DETSC 3072*	10	mg/kg						
Aliphatic C5-C40	DETSC 3072*	10	mg/kg						
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg						
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg						
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg						
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg						
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg						
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg						
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg						
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg						
Aromatic C5-C35	DETSC 3072*	10	mg/kg						
Aromatic C5-C40	DETSC 3072*	10	mg/kg						
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg						

Summary of Chemical Analysis

Soil Samples

Our Ref 20-14433

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1708112	1708113	1708114	1708115	1708116	1708117
Sample ID	SSC 304	SSC 303	SSC 302	SSC 605	SSC 301	SSC 306
Depth	0.10	0.10	0.10	0.10	0.10	0.10
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	21/07/2020	21/07/2020	21/07/2020	21/07/2020	21/07/2020	21/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Benzene	DETSC 3321#	0.01	mg/kg						
Ethylbenzene	DETSC 3321#	0.01	mg/kg						
Toluene	DETSC 3321#	0.01	mg/kg						
Xylene	DETSC 3321#	0.01	mg/kg						
MTBE	DETSC 3321	0.01	mg/kg						
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		< 0.03
Acenaphthylene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		< 0.03
Acenaphthene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		< 0.03
Fluorene	DETSC 3303	0.03	mg/kg		< 0.03		< 0.03		< 0.03
Phenanthrene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		< 0.03
Anthracene	DETSC 3303	0.03	mg/kg		< 0.03		< 0.03		< 0.03
Fluoranthene	DETSC 3303#	0.03	mg/kg		0.03		< 0.03		< 0.03
Pyrene	DETSC 3303#	0.03	mg/kg		0.03		< 0.03		< 0.03
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		< 0.03
Chrysene	DETSC 3303	0.03	mg/kg		< 0.03		< 0.03		< 0.03
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg		0.03		< 0.03		< 0.03
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		< 0.03
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		< 0.03
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		< 0.03
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		< 0.03
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg		< 0.03		< 0.03		< 0.03
Coronene	DETSC 3301*	0.1	mg/kg		< 0.1		< 0.1		< 0.1
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg		< 0.10		< 0.10		< 0.10
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg						
Phenol	DETSC 3451*	0.01	mg/kg						
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg						
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg						
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg						
p-cresol	DETSC 3451*	0.01	mg/kg						
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg						
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg						
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg						

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716932	1716933	1716934	1716935	1716936	1716937
Sample ID	SSC606	SSC305	SSC601	SSC602	SSC603	SSC604
Depth	0.10	0.10	0.10	0.10	0.10	0.10
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
Asbestos Quantification	DETSC 1102	0.001	%						
Metals									
Arsenic	DETSC 2301#	0.2	mg/kg		6.5		23		18
Barium	DETSC 2301#	1.5	mg/kg		160		110		100
Beryllium	DETSC 2301#	0.2	mg/kg		1.0		0.9		1.0
Boron, Water Soluble	DETSC 2311#	0.2	mg/kg		2.3		1.6		2.1
Cadmium	DETSC 2301#	0.1	mg/kg		0.7		0.8		0.8
Chromium	DETSC 2301#	0.15	mg/kg		32		37		35
Chromium, Hexavalent	DETSC 2204*	1	mg/kg		< 1.0		< 1.0		< 1.0
Cobalt	DETSC 2301#	0.7	mg/kg		8.0		11		21
Copper	DETSC 2301#	0.2	mg/kg		45		45		36
Iron	DETSC 2301	25	mg/kg		20000		32000		27000
Lead	DETSC 2301#	0.3	mg/kg		39		74		28
Mercury	DETSC 2325#	0.05	mg/kg		0.06		0.34		0.10
Molybdenum	DETSC 2301#	0.4	mg/kg		4.0		1.2		3.1
Nickel	DETSC 2301#	1	mg/kg		24		23		29
Selenium	DETSC 2301#	0.5	mg/kg		1.3		< 0.5		0.9
Vanadium	DETSC 2301#	0.8	mg/kg		59		53		50
Zinc	DETSC 2301#	1	mg/kg		120		190		160
Inorganics									
Organic matter	DETSC 2002#	0.1	%						
Petroleum Hydrocarbons									
Aliphatic C5-C6	DETSC 3321*	0.01	mg/kg						
Aliphatic C6-C8	DETSC 3321*	0.01	mg/kg						
Aliphatic C8-C10	DETSC 3321*	0.01	mg/kg						
Aliphatic C10-C12	DETSC 3072#	1.5	mg/kg						
Aliphatic C12-C16	DETSC 3072#	1.2	mg/kg						
Aliphatic C16-C21	DETSC 3072#	1.5	mg/kg						
Aliphatic C21-C35	DETSC 3072#	3.4	mg/kg						
Aliphatic C35-C40	DETSC 3072*	3.4	mg/kg						
Aliphatic C5-C35	DETSC 3072*	10	mg/kg						
Aliphatic C5-C40	DETSC 3072*	10	mg/kg						
Aromatic C5-C7	DETSC 3321*	0.01	mg/kg						
Aromatic C7-C8	DETSC 3321*	0.01	mg/kg						
Aromatic C8-C10	DETSC 3321*	0.01	mg/kg						
Aromatic C10-C12	DETSC 3072#	0.9	mg/kg						
Aromatic C12-C16	DETSC 3072#	0.5	mg/kg						
Aromatic C16-C21	DETSC 3072#	0.6	mg/kg						
Aromatic C21-C35	DETSC 3072#	1.4	mg/kg						
Aromatic C35-C40	DETSC 3072*	1.4	mg/kg						
Aromatic C5-C35	DETSC 3072*	10	mg/kg						
Aromatic C5-C40	DETSC 3072*	10	mg/kg						

Summary of Chemical Analysis

Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716932	1716933	1716934	1716935	1716936	1716937
Sample ID	SSC606	SSC305	SSC601	SSC602	SSC603	SSC604
Depth	0.10	0.10	0.10	0.10	0.10	0.10
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

Test	Method	LOD	Units						
TPH Ali/Aro Total	DETSC 3072*	10	mg/kg						
Benzene	DETSC 3321#	0.01	mg/kg						
Ethylbenzene	DETSC 3321#	0.01	mg/kg						
Toluene	DETSC 3321#	0.01	mg/kg						
Xylene	DETSC 3321#	0.01	mg/kg						
MTBE	DETSC 3321	0.01	mg/kg						
PAHs									
Naphthalene	DETSC 3303#	0.03	mg/kg						
Acenaphthylene	DETSC 3303#	0.03	mg/kg						
Acenaphthene	DETSC 3303#	0.03	mg/kg						
Fluorene	DETSC 3303	0.03	mg/kg						
Phenanthrene	DETSC 3303#	0.03	mg/kg						
Anthracene	DETSC 3303	0.03	mg/kg						
Fluoranthene	DETSC 3303#	0.03	mg/kg						
Pyrene	DETSC 3303#	0.03	mg/kg						
Benzo(a)anthracene	DETSC 3303#	0.03	mg/kg						
Chrysene	DETSC 3303	0.03	mg/kg						
Benzo(b)fluoranthene	DETSC 3303#	0.03	mg/kg						
Benzo(k)fluoranthene	DETSC 3303#	0.03	mg/kg						
Benzo(a)pyrene	DETSC 3303#	0.03	mg/kg						
Indeno(1,2,3-c,d)pyrene	DETSC 3303#	0.03	mg/kg						
Dibenzo(a,h)anthracene	DETSC 3303#	0.03	mg/kg						
Benzo(g,h,i)perylene	DETSC 3303#	0.03	mg/kg						
Naphthalene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Acenaphthylene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Acenaphthene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Fluorene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Phenanthrene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Anthracene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Pyrene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Benzo(a)anthracene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Chrysene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Benzo(b)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Benzo(k)fluoranthene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Benzo(a)pyrene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Indeno(1,2,3-c,d)pyrene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Dibenzo(a,h)anthracene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Benzo(g,h,i)perylene	DETSC 3301	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
Coronene	DETSC 3301*	0.1	mg/kg	< 0.1		< 0.1		< 0.1	
PAH - USEPA 16, Total	DETSC 3303	0.1	mg/kg						

Summary of Chemical Analysis Soil Samples

Our Ref 20-16110

Client Ref PC207899

Contract Title Ground Investigation for Graven Hill, Bicester

Lab No	1716932	1716933	1716934	1716935	1716936	1716937
Sample ID	SSC606	SSC305	SSC601	SSC602	SSC603	SSC604
Depth	0.10	0.10	0.10	0.10	0.10	0.10
Other ID						
Sample Type	ES	ES	ES	ES	ES	ES
Sampling Date	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020	29/07/2020
Sampling Time	n/s	n/s	n/s	n/s	n/s	n/s

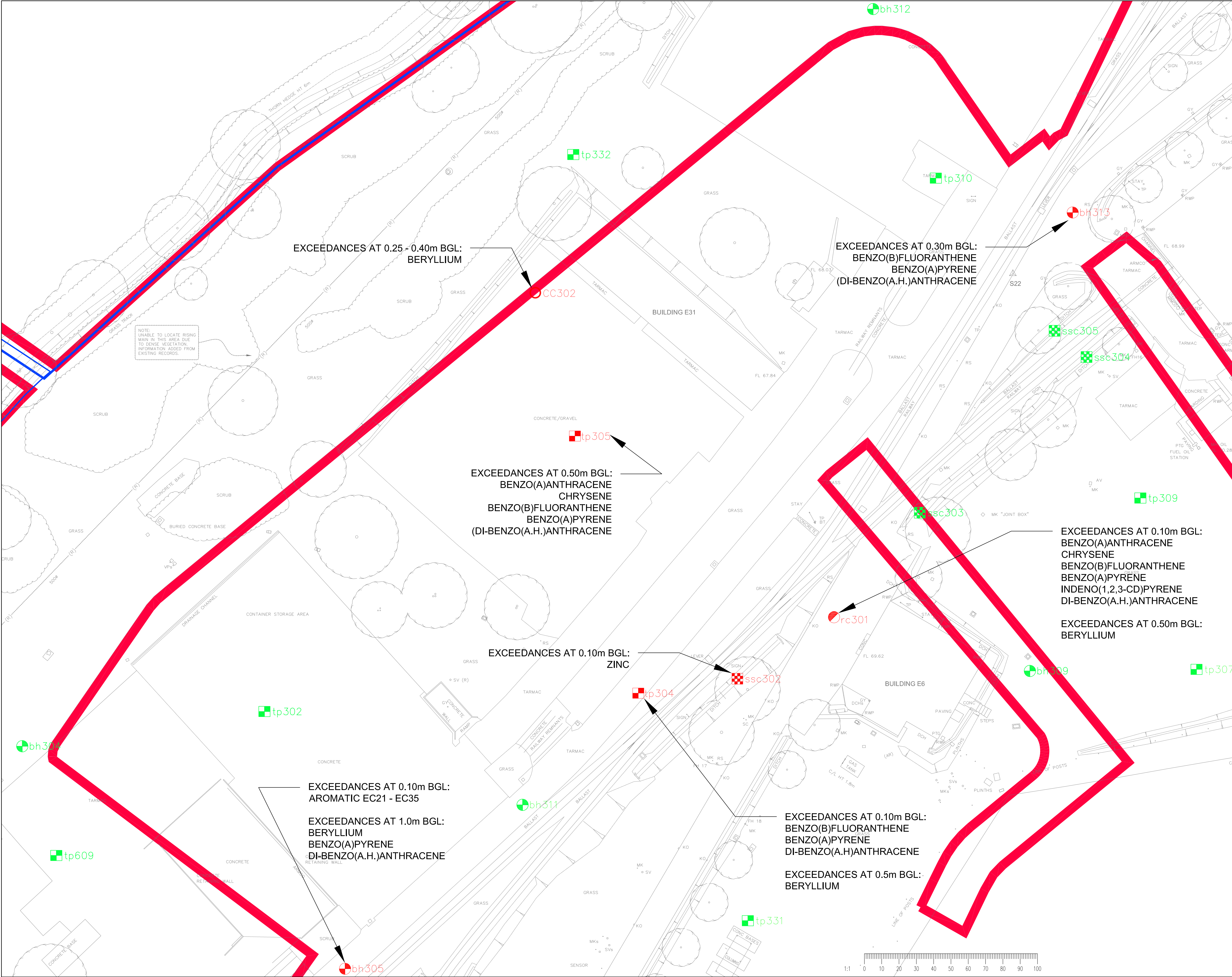
Test	Method	LOD	Units						
PAH Total	DETSC 3301	1.6	mg/kg	< 1.6		< 1.6		< 1.6	
Phenols									
Phenol - Monohydric	DETSC 2130#	0.3	mg/kg						
Phenol	DETSC 3451*	0.01	mg/kg						
4-Chloro-3-methylphenol	DETSC 3451*	0.01	mg/kg						
2,4-Dichlorophenol	DETSC 3451*	0.01	mg/kg						
2,4-Dimethylphenol	DETSC 3451*	0.01	mg/kg						
p-cresol	DETSC 3451*	0.01	mg/kg						
2,6-Dimethylphenol	DETSC 3451*	0.01	mg/kg						
2,6-Dichlorophenol	DETSC 3451*	0.01	mg/kg						
2,4,6-Trichlorophenol	DETSC 3451*	0.01	mg/kg						

[illegible]

Appendix D

Soil Exceedances Plans

- **Residential End Use GAC Soil Exceedance Drawings (WIE11386-147-87- 300 to 304 – HZ3 resi exceedances)**



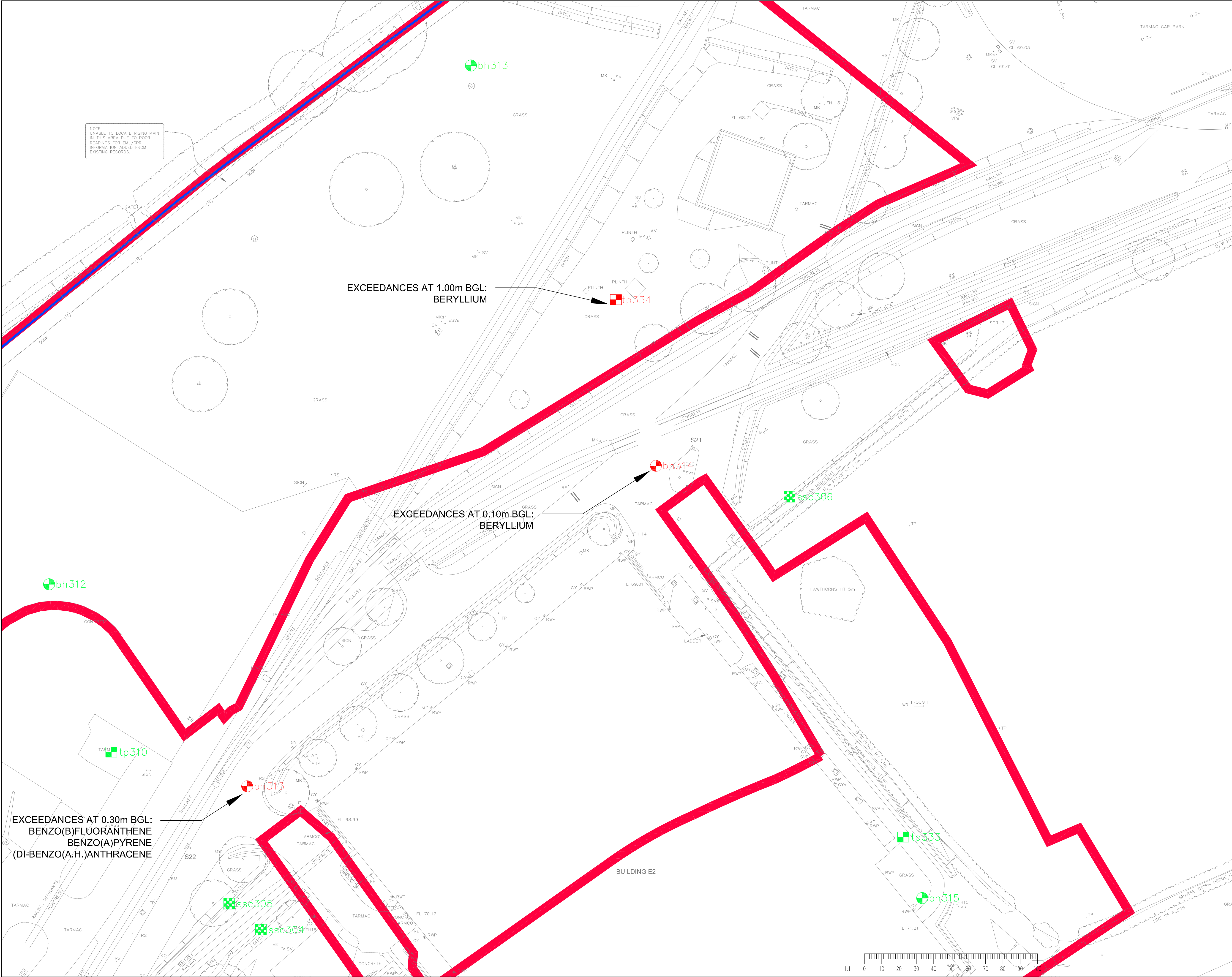
GENERAL NOTES

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ENGINEER'S, ARCHITECT'S OR OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.
- ALL DIMENSIONS AND LEVELS ARE TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO PREPARING ANY WORKING DRAWINGS OR COMMENCING ON SITE.
- THE CONTRACTOR MUST ENSURE AND WILL BE HELD RESPONSIBLE FOR THE OVERALL STABILITY OF THE BUILDING/STRUCTURE/EXCAVATION AT ALL STAGES OF THE WORK.
- ALL WORK BY THE CONTRACTOR MUST BE CARRIED OUT IN SUCH A WAY THAT ALL REQUIREMENTS UNDER THE HEALTH AND SAFETY AT WORK ACT ARE SATISFIED.
- ALL WORK IS TO BE CARRIED OUT IN COMPLIANCE WITH THE REQUIREMENTS OF THE RELEVANT STATUTORY AUTHORITIES AND REGULATIONS.

bh313 LOCATIONS NOT EXCEEDING RESIDENTIAL GAC

cc302 LOCATIONS EXCEEDING RESIDENTIAL GAC

A01	26.08.21	GI LOCATIONS ADDED	TB
Rev	Date	Description	By
Amendments			
Project GRAVEN HILL, BICESTER			
Title HOME ZONES 3 LOCATIONS EXCEEDING RESIDENTIAL GAC SHEET 2 OF 4			
Client Graven Hill Village Development Company Limited			
Office Address Telephone & Fax numbers mail@watermangroup.com www.watermangroup.com			
Drawing Status PRELIMINARY			
Designed by	TB	Checked by	PE
Drawn by	TB	Date	10.11.21
Scales @ A1 work to figured dimensions only		Computer File No WIE11386-147-87-302-1422 res exceedances 10.12.20	
Publisher	Zone	Category	Number
WIE	147	87	302
			Revision
			A02



NOTE:
UNABLE TO LOCATE RISING MAIN
IN THIS AREA DUE TO POOR
READINGS FOR EML/GPR.
INFORMATION ADDED FROM
EXISTING RECORDS.

EXCEEDANCES AT 1.00m BGL:
BERYLLIUM

EXCEEDANCES AT 0.10m BGL:
BERYLLIUM

EXCEEDANCES AT 0.30m BGL:
BENZO(B)FLUORANTHENE
BENZO(A)PYRENE
(DI-BENZO(A.H.)ANTHRACENE

GENERAL NOTES

1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL ENGINEER'S, ARCHITECT'S OR OTHER RELEVANT DRAWINGS AND SPECIFICATIONS.
2. ALL DIMENSIONS AND LEVELS ARE TO BE CHECKED ON SITE BY THE CONTRACTOR PRIOR TO PREPARING ANY WORKING DRAWINGS OR COMMENCING ON SITE.
3. THE CONTRACTOR MUST ENSURE AND WILL BE HELD RESPONSIBLE FOR THE OVERALL STABILITY OF THE BUILDING/STRUCTURE/EXCAVATION AT ALL STAGES OF THE WORK.
4. ALL WORK BY THE CONTRACTOR MUST BE CARRIED OUT IN SUCH A WAY THAT ALL REQUIREMENTS UNDER THE HEALTH AND SAFETY AT WORK ACT ARE SATISFIED.
5. ALL WORK IS TO BE CARRIED OUT IN COMPLIANCE WITH THE REQUIREMENTS OF THE RELEVANT STATUTORY AUTHORITIES AND REGULATIONS.

- bh313 LOCATIONS NOT EXCEEDING RESIDENTIAL GAC
- cc302 LOCATIONS EXCEEDING RESIDENTIAL GAC

Rev	Date	Description	By
A02	09.11.21	GI LOCATIONS AMENDED	TB
A01	26.08.21	GI LOCATIONS ADDED	TB

Amendments	
Project	GRAVEN HILL, BICESTER
Title	HOME ZONES 3 LOCATIONS EXCEEDING RESIDENTIAL GAC SHEET 3 OF 4
Client	 Graven Hill Village Development Company Limited

Office Address Telephone & Fax numbers mail@watermangroup.com www.watermangroup.com	
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