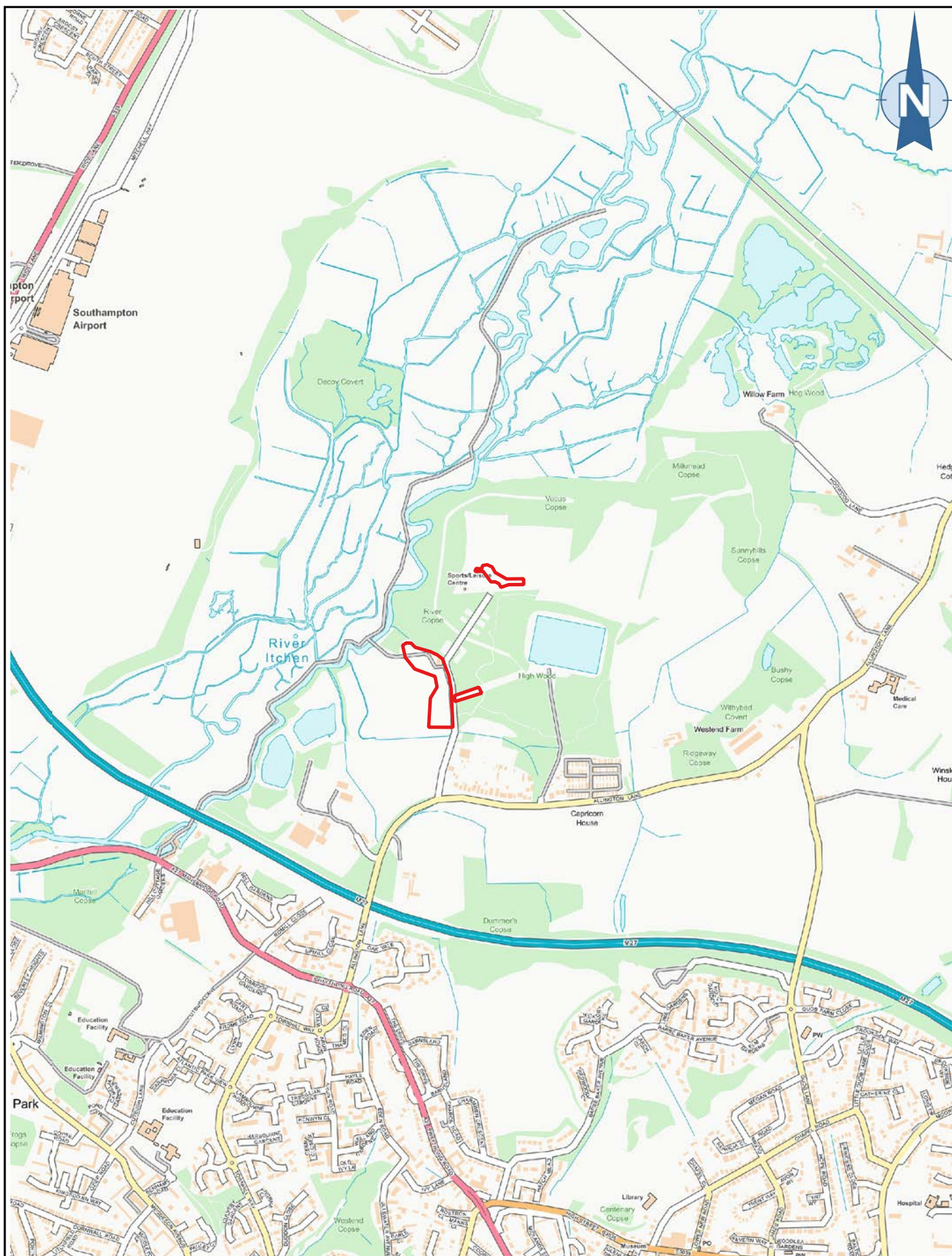




	Title: Site Location			Reference: LS6195
	Project: Itchen Valley Country Park, Hants, SO30 3HQ			Figure: 1
	Client: Eastleigh Borough Council			Date: 05/05/2022
	Prepared by: OD	Checked by: ET	Version: 01	Sheet: 1



	Title: Exploratory Hole Location Plan			Reference: LS6195
	Project: Itchen Valley Country Park, Hants, SO30 3HQ			Figure: 2
	Client: Eastleigh Borough Council			Date: 05/05/2022
	Prepared by: OD	Checked by: ET	Version: 01	Sheet: 1 of 1



	Title: Exploratory Hole Location Plan	Reference: LS6195	Prepared by: OD
	Project: Itchen Valley Country Park, Hants, SO30 3HQ	Figure: 2	Checked by: ET
	Client: Eastleigh Borough Council	Date: 05/05/2022	Version: 01



Title: Exploratory Hole Location Plan

Project: Itchen Valley Country Park, Hants, SO30 3HQ

Client: Eastleigh Borough Council

Reference: LS6195

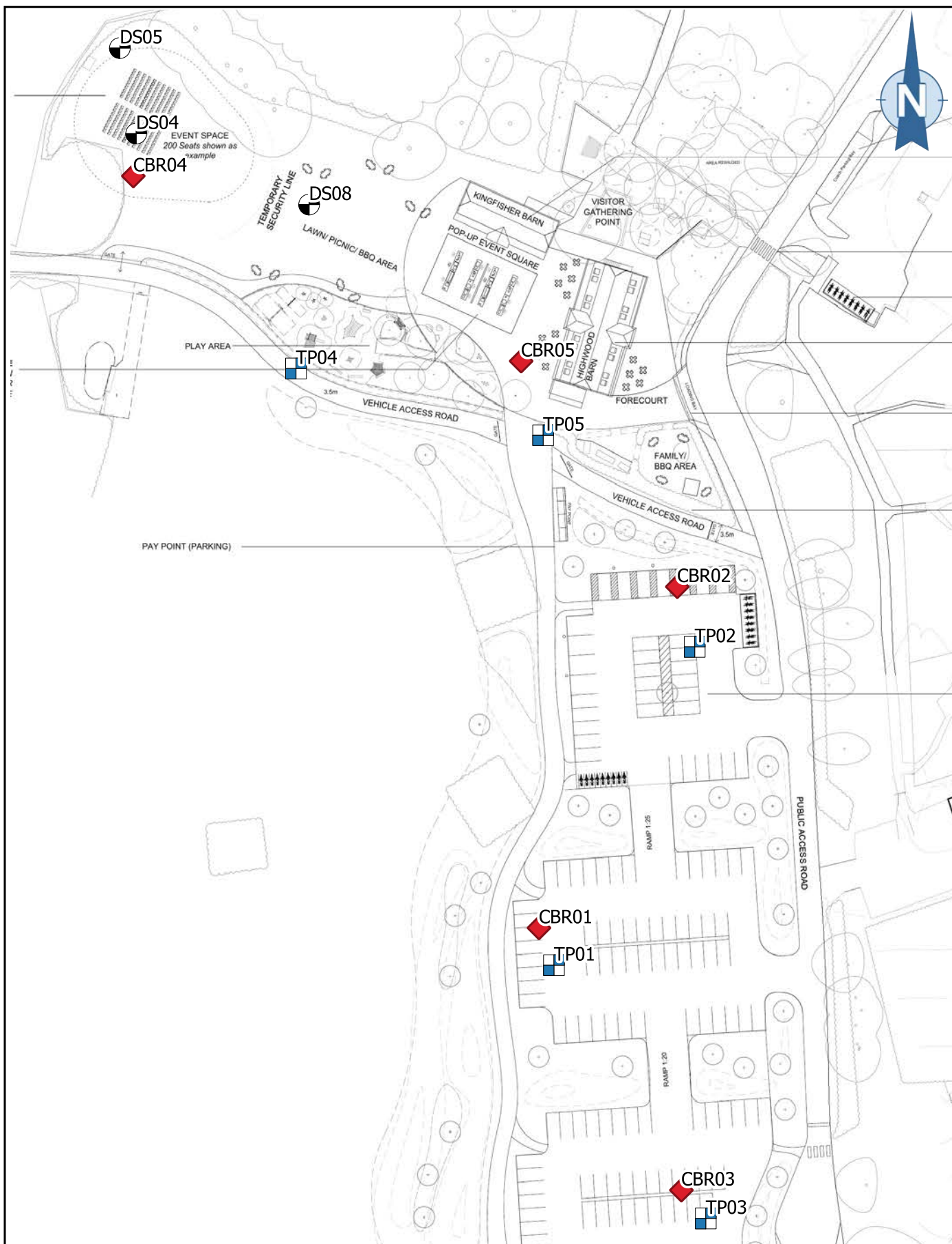
Figure: 2

Date: 05/05/2022

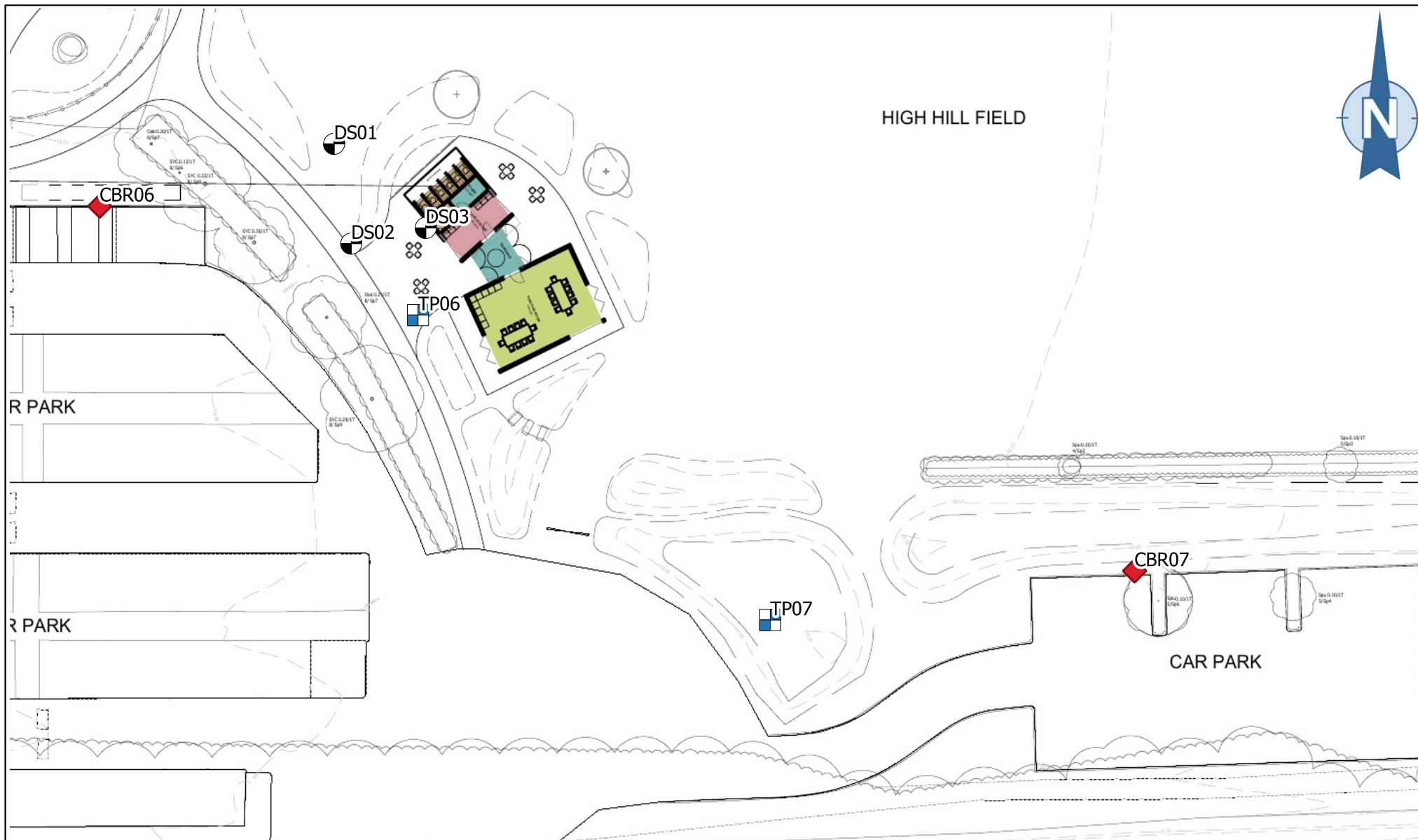
Prepared by: OD

Checked by: ET

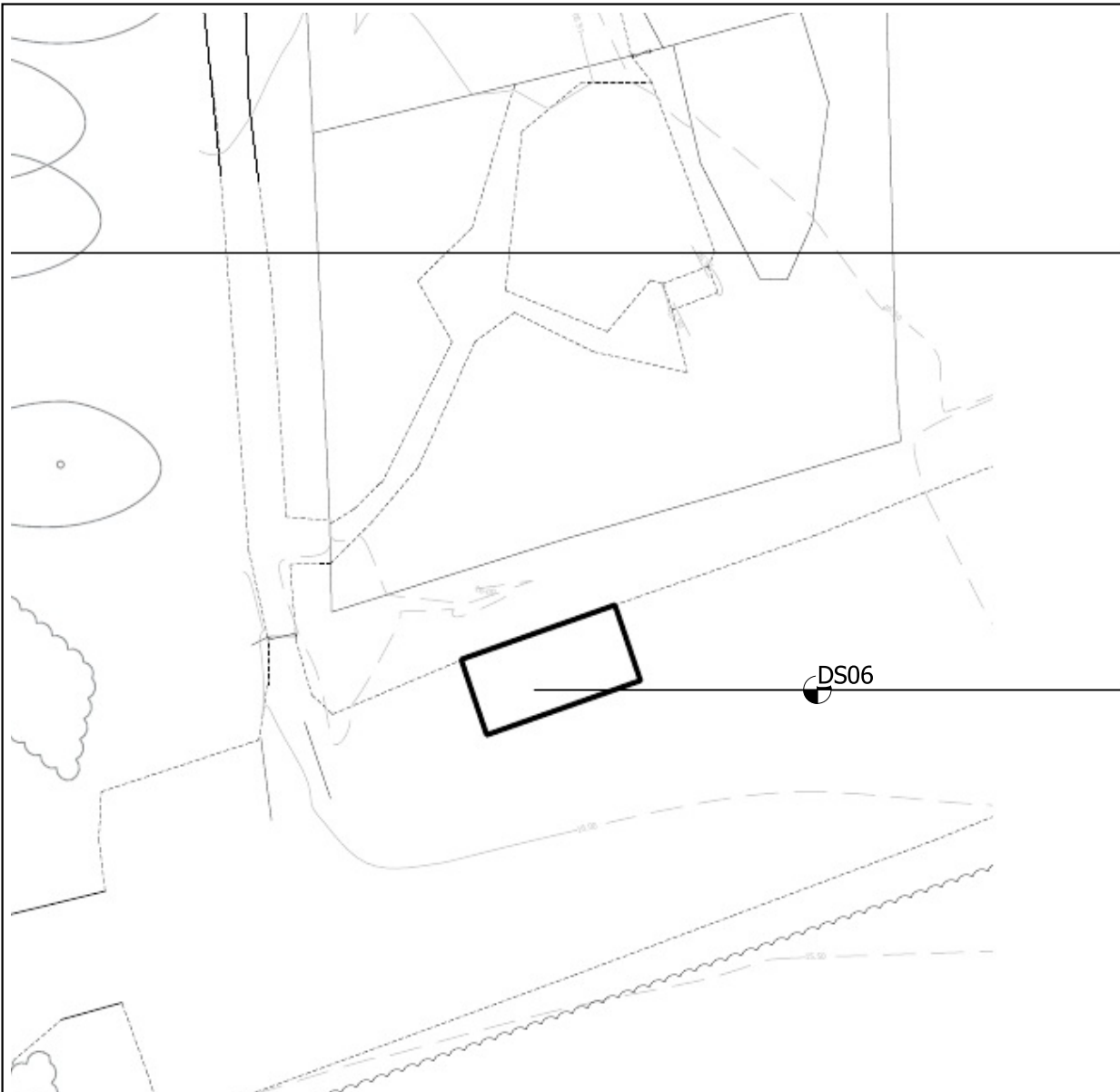
Version: 01



			Title: Proposed Development Layout	Reference: LS6195
			Project: Itchen Valley Country Park, Hants, SO30 3HQ	Figure: 3
			Client: Eastleigh Borough Council	Date: 19/05/2022
			Prepared by: EP	Checked by: ET
			Version: 01	Sheet: 1 of 1



	Title: Proposed Development Layout	Reference: LS6195	Prepared by: EP
	Project: Itchen Valley Country Park, Hants, SO30 3HQ	Figure: 3	Checked by: ET
	Client: Eastleigh Borough Council	Date: 19/05/2022	Version: 01



NEW 147 SPACE CAR PARK. REFER TO
TRANSPORT CONSULTANTS REPORT
AND DRAWING 1015 FOR LANDSCAPED
SECTION THROUGH CAR PARK.

DS07 (Abandoned)

DS06

NEW COMMERCIAL MODULAR BUILDING.
REFER TO DRAWING 2130 FOR DETAILS



Title: Proposed Development Layout

Reference: LS6195

Prepared by: EP

Project: Itchen Valley Country Park, Hants, SO30 3HQ

Figure: 3

Checked by: ET

Client: Eastleigh Borough Council

Date: 19/05/2022

Version: 01

APPENDIX A



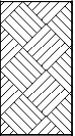
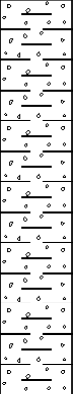
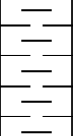
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	PROJECT: Itchen Valley Country Park			Photos 1 to 8
	CLIENT: Eastleigh Borough Council			DATE: 19/05/2022
	CHECK: MR	CHECK: ET	VERSION V1	SHEET: 1 OF 2



TITLE: Site Photos			REF: LS6195
PROJECT: Itchen Valley Country Park			Photos 9 to 15
CLIENT: Eastleigh Borough Council			DATE: 19/05/2022
CHECK: MR	CHECK: ET	VERSION V1	SHEET: 2 OF 2

APPENDIX B

Site	Itchen Valley Country Park, Eastleigh, Hants, SO30 3HQ	Number DS01
Excavation Method	Drive-in Windowless Sampler	Job Number LS6195
Dimensions		Sheet 1/2
Ground Level (mOD)	18.84	
Client	Itchen Valley Country Park	
Location	446217.185 E 116367.331 N	
Dates	27/04/2022	
Engineer	OD	

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.20	E				(0.35)	Grass over brown gravelly, sandy, silty CLAY with abundant rootlets. Sand is fine to medium. Gravels are fine to medium, sub angular to rounded flint. (TOPSOIL)			
0.45	D			18.49	0.35	Light brown mottled light grey mottled orange slightly gravelly, CLAY. Gravels are rare, fine to coarse, fine to coarse, sub angular to rounded flint. (WITTERING FORMATION)			
0.95 1.00 1.00-1.45	D HP 25kPa SPT(C) N=8		2,2/2,2,2,2		(1.05)				
1.20	D								
1.50 1.50	HP 50kPa D			17.44	1.40	Dark brown mottled orange sandy SILT. Sand is fine to medium. (WITTERING FORMATION)			
				17.29	1.55	Light brown and yellowy mottled grey and brown CLAY. (WITTERING FORMATION)			
1.95 2.00 2.00-2.45	D HP 100kPa SPT(C) N=4		Water strike(1) at 2.00m. 1,1/1,1,1,1			... Slightly sandy between 2.10mbgl to 2.30mbgl.			
2.45 2.50	D HP 75kPa					... Becomes light grey mottled orange.			
2.95 3.00 3.00-3.45	D HP 75kPa SPT(C) N=13		2,3/3,3,4,3		(2.25)				
3.45 3.50	D HP 100kPa								
3.95	D			15.04	3.80	Dark grey slightly silty stiff CLAY. (LONDON CLAY FORMATION)			

Remarks

GROUNDWATER: Ground water was struck at 2.00mbgl and was noted to 2.00mbgl after 20 minutes.
CASING: No casing used.
INSTALLATION: 50mm diameter HDPE standpipe to 4.00mbgl. Plain casing to 1.00mbgl, slotted response zone 1.00mbgl to 4.00mbgl.
BACKFILL: Bentonite sealing pellets 0.00-1.00m. Pea shingle between 1.00-4.00m.
NOTES: Hand excavated inspection pit to 0.60mbgl. Borehole completed at 5.00mbgl.

Scale (approx)
1:20

Logged By
OD

Figure No.
ls6195.DS01

Excavation Method
Drive-in Windowless Sampler

Dimensions

Ground Level (mOD)
18.84

Client
Itchen Valley Country Park

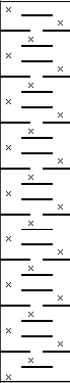
Job Number
LS6195

Location
446217.185 E 116367.331 N

Dates
27/04/2022

Engineer
OD

Sheet
2/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
4.00 4.00-4.45	HP 75kPa SPT(C) N=14		3,3/4,3,3,4						
4.45 4.50	D HP 100kPa				(1.20)				
4.90 4.95 5.00-5.45	HP 125kPa D SPT(C) N=19		4,4/5,5,5,4	13.84	5.00	Complete at 5.45m			

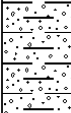
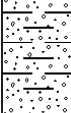
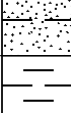
Remarks

Scale (approx)
1:20

Logged By
OD

Figure No.
ls6195.DS01

Site Itchen Valley Country Park, Eastleigh, Hants, SO30 3HQ	Number DS02
Client Itchen Valley Country Park	Job Number LS6195
Engineer OD	Sheet 1/2

Excavation Method		Dimensions		Ground Level (mOD)		Client		Job Number	
Drive-in Windowless Sampler				18.73		Itchen Valley Country Park		LS6195	
		Location		Dates		Engineer		Sheet	
		446218.805 E 116357.914 N		27/04/2022		OD		1/2	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.20	E			18.43	(0.30)	Brown/ dark brown slightly mottled orange gravelly, sandy, silty CLAY. Sand is fine to medium. Gravels are fine to coarse, sub angular to rounded flint with rare brick fragments. (TOPSOIL)			
0.45	D				0.30	Light brown mottled light grey CLAY. (WITTERING FORMATION)			
0.95 1.00 1.00-1.45	D HP 75kPa SPT(C) N=11		2,2/2,3,3,3	17.63	1.10	Brown and orange mottled darkish green, sandy, gravelly CLAY. Sand is fine to medium. Gravels are fine to coarse, angular to sub rounded flint. (WITTERING FORMATION)			
1.45 1.50	D HP 50kPa				(0.90)				
1.95 2.00 2.00-2.45	D HP 100kPa SPT(C) N=6		1,1/1,2,2,1	16.73	2.00	... Becomes dark red between 1.90mbgl to 2.00mbgl. Dark red clayey SAND. Sand is fine to coarse. (WITTERING FORMATION)			
2.45 2.50	D HP 100kPa			16.23	2.50	Light grey mottled orange and yellowy CLAY. (WITTERING FORMATION)			
2.95 3.00 3.00-3.45	D HP 75kPa SPT(C) N=13		3,3/3,3,4,3		(1.50)	... Sandy CLAY at 3.20mbgl.			
3.45 3.50	D HP 100kPa								
3.95	D								

Remarks GROUNDWATER: No groundwater encountered CASING: No casing used. INSTALLATION: 50mm diameter HDPE standpipe to 3.00mbgl. Plain casing to 1.00mbgl, slotted response zone 1.00mbgl to 3.00mbgl. BACKFILL: Bentonite sealing pellets 0.00-1.00m. Pea shingle between 1.00-3.00m. NOTES: Hand excavated inspection pit to 0.60mbgl. Borehole completed at 5.00mbgl. Borehole collapsed to 3.00mbgl due to wet granular material.							Scale (approx) 1:20	Logged By OD
							Figure No. LS6195.DS02	

Excavation Method

Drive-in Windowless Sampler

Dimensions

Location

446218.805 E 116357.914 N

Ground Level (mOD)

18.73

Dates

27/04/2022

Client

Itchen Valley Country Park

Engineer

OD

Job Number
LS6195

Sheet
2/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
4.00-4.45	SPT(C) N=12		2,3/3,3,3,3	14.73	4.00	Partial recovery. Sample too wet and potentially granular.			
					(0.80)				
4.90	HP 125kPa			13.93	4.80	Dark grey slightly silty stiff CLAY. (LONDON CLAY FORMATION)	x — x		
4.95	D				(0.20)		x — x		
5.00-5.45	SPT(C) N=17		3,3/3,4,5,5	13.73	5.00	Complete at 5.45m	x — x		

Remarks

Scale (approx)

1:20

Logged By

OD

Figure No.

LS6195.DS02

Excavation Method

Drive-in Windowless Sampler

Dimensions

Location

446225.838 E 116359.392 N

Ground Level (mOD)

18.81

Dates

27/04/2022

Client

Itchen Valley Country Park

Engineer

OD

Job Number
LS6195

Sheet
1/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.20	E			18.56	0.25	Grass over brown slightly gravelly, sandy, silty CLAY. Sand is fine to medium. Gravels are fine to coarse, sub angular to sub rounded flint. (TOPSOIL)			
0.45	D					Brown mottled orange, slightly sandy, gravelly CLAY. Sand is fine to medium. Gravels are fine to coarse, angular o sub rounded flint. (WITTERING FORMATION)			
						... Less gravelly between 0.60mbgl to 0.80mbgl.			
						... very gravelly between 0.80mbgl to 1.00mbgl.			
0.95 1.00 1.00-1.45	D HP 25kPa SPT(C) N=9		2,2/2,2,2,3		(1.85)	... Dark grey mottled red between 1.00mbgl to 1.10mbgl.			
1.45 1.50	D HP 25kPa								
1.95 2.00 2.00-2.45	D HP 25kPa SPT(C) N=5		1,1/1,1,1,2	16.71	2.10	Light grey mottled orange and yellow laminated silty, shaley CLAY. (WITTERING FORMATION)			
2.45 2.50	D HP 75kPa								
2.95 3.00 3.00-3.45	D HP 50kPa SPT(C) N=20		3,3/4,5,5,6		(1.50)				
3.45 3.50	D HP 100kPa			15.21	3.60	Dark grey slightly silty stiff CLAY. (LONDON CLAY FORMATION)			
3.95	D								

Remarks

GROUNDWATER: No groundwater encountered

CASING: No casing used.

INSTALLATION: 50mm diameter HDPE standpipe to 3.80mbgl. Plain casing to 0.80mbgl, slotted response zone 0.80mbgl to 3.80mbgl.

BACKFILL: Bentonite sealing pellets 0.00-1.00m. Pea shingle between 1.00-3.80m.

NOTES: Hand excavated inspection pit to 0.60mbgl. Borehole completed at 5.00mbgl. Borehole collapsed to 3.00mbgl due to wet granular material.

Scale (approx)

1:20

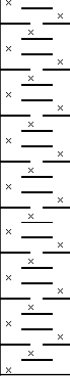
Logged By

OD

Figure No.

LS6195.DS03

Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD) 18.81	Client Itchen Valley Country Park	Job Number LS6195
	Location 446225.838 E 116359.392 N	Dates 27/04/2022	Engineer OD	Sheet 2/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
4.00 4.00-4.45	HP 75kPa SPT(C) N=19		3,3/4,5,5,5		(1.40)				
4.45 4.50	D HP 125kPa								
4.90 4.95 5.00-5.45	HP 100kPa D SPT(C) N=21		5,5/6,5,5,5	13.81	5.00	Complete at 5.45m			

Remarks	Scale (approx) 1:20	Logged By OD
	Figure No. LS6195.DS03	

Excavation Method

Drive-in Windowless Sampler

Dimensions

Location

445995.039 E 116133.739 N

Ground Level (mOD)

13.37

Dates

27/04/2022

Client

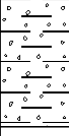
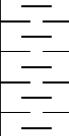
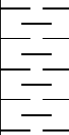
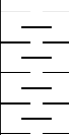
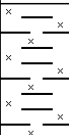
Itchen Valley Country Park

Engineer

OD

Job Number
LS6195

Sheet
1/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.20	E				(0.35)	Brown/ dark brown mottled orange slightly gravelly, sandy CLAY with rootlets. Sand is fine to medium. Gravels are fine to coarse, sub angular to rounded flint and rare brick fragments. (TOPSOIL)			
0.45	D			13.02	0.35	Light brown mottled light grey slightly gravelly CLAY. Gravels are fine to coarse, sub angular to sub rounded flint. (WITTERING FORMATION) ... No gravel at 0.45mbgl.			
0.95 1.00 1.00-1.45	D HP 25kPa SPT(C) N=6		1,1/1,1,2,2		(1.45)				
1.45 1.50	D HP 25kPa								
1.95 2.00 2.00-2.45	D HP 75kPa SPT(C) N=10		2,2/2,2,3,3	11.57	1.80	Grey slightly purple mottled orange slightly shaley CLAY. (WITTERING FORMATION)			
2.50	HP 50kPa				(1.45)				
3.00 3.00-3.45	HP 50kPa SPT(C) N=9		2,2/2,2,2,3						
3.45 3.50	D HP 75kPa			10.12	3.25	Dark grey slightly silty stiff CLAY. (LONDON CLAY FORMATION)			
3.95	D								

Remarks

GROUNDWATER: No groundwater encountered
CASING: No casing used.
INSTALLATION: 50mm diameter HDPE standpipe to 4.00mbgl. Plain casing to 1.00mbgl, slotted response zone 1.00mbgl to 4.00mbgl.
BACKFILL: Bentonite sealing pellets 0.00-1.00m. Pea shingle between 1.00-4.00m.
NOTES: Hand excavated inspection pit to 0.60mbgl. Borehole completed at 5.00mbgl.

Scale (approx)

1:20

Logged By

OD

Figure No.

LS6195.DS04

Excavation Method

Drive-in Windowless Sampler

Dimensions

Ground Level (mOD)

13.37

Client

Itchen Valley Country Park

Job Number
LS6195

Location

445995.039 E 116133.739 N

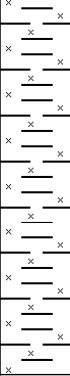
Dates

27/04/2022

Engineer

OD

Sheet
2/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
4.00 4.00-4.45	HP 100kPa SPT(C) N=12		2,2/3,3,3,3		(1.75)				
4.45 4.50	D HP 75kPa								
4.90 4.95 5.00-5.45	HP 125kPa D SPT(C) N=15		3,3/3,4,4,4	8.37	5.00	Complete at 5.45m			

Remarks

Scale (approx)

1:20

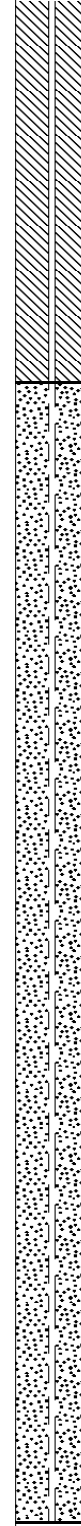
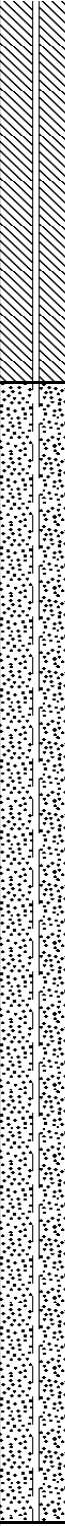
Logged By

OD

Figure No.

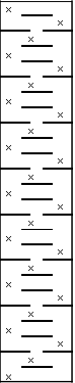
LS6195.DS04

Site Itchen Valley Country Park, Eastleigh, Hants, SO30 3HQ	Number DS05
Client Itchen Valley Country Park	Job Number LS6195
Engineer OD	Sheet 1/2

Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD) 13.67	
		Location 445992.096 E 116149.185 N		Dates 27/04/2022	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)
0.20	E			13.27	(0.40)
0.45	D				0.40
0.95 1.00 1.00-1.45	D HP 25kPa SPT(C) N=9		2,4/3,2,2,2		
1.45 1.50	D HP 50kPa				
1.95 2.00 2.00-2.45	D HP 50kPa SPT(C) N=12		2,2/2,3,3,4		
2.45 2.50	D HP 75kPa				(3.50)
2.95 3.00 3.00-3.45	D HP 75kPa SPT(C) N=15		2,2/2,3,4,6		
3.45 3.50	D HP 50kPa				
3.85 4.00 4.00-4.45	D HP 100kPa SPT(C) N=12		3,3/3,3,3,3	9.77	3.90
Description Brown/ dark brown mottled orange slightly gravelly, sandy CLAY with rootlets. Sand is fine to medium. Gravels are fine to coarse, sub angular to rounded flint and rare brick fragments. (TOPSOIL) Light brown and slightly yellowy mottled light grey CLAY. (WITTERING FORMATION) ... Slightly gravelly at 0.80mbgl. ... Very gravelly between 1.10mbgl to 1.35mbgl. ... Becomes greyey brown and slightly purple mottled orange from 2.20mbgl to 3.00mbgl. ... Becomes grey slightly purple mottled orange and red between 3.50mbgl to 3.90mbgl. Dark grey slightly silty stiff CLAY. (LONDON CLAY FORMATION)					
Legend 					
Water 					
Instr 					

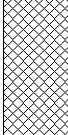
Remarks GROUNDWATER: No groundwater encountered CASING: No casing used. INSTALLATION: 50mm diameter HDPE standpipe to 4.00mbgl. Plain casing to 1.00mbgl, slotted response zone 1.00mbgl to 4.00mbgl. BACKFILL: Bentonite sealing pellets 0.00-1.00m. Pea shingle between 1.00-4.00m. NOTES: Hand excavated inspection pit to 0.60mbgl. Borehole completed at 5.00mbgl.				Scale (approx) 1:20	Logged By OD
				Figure No. LS6195.DS05	

Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD) 13.67	Client Itchen Valley Country Park	Job Number LS6195
	Location 445992.096 E 116149.185 N	Dates 27/04/2022	Engineer OD	Sheet 2/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
4.45 4.50	D HP 100kPa				(1.10)				
4.90 4.95 5.00-5.45	HP 150kPa D SPT(C) N=12		3,3/3,3,3,3	8.67	5.00	Complete at 5.45m			

Remarks	Scale (approx) 1:20	Logged By OD
	Figure No. LS6195.DS05	

Site Itchen Valley Country Park, Eastleigh, Hants, SO30 3HQ	Number DS06
Client Itchen Valley Country Park	Job Number LS6195
Engineer OD	Sheet 1/1

Excavation Method		Dimensions		Ground Level (mOD)		Client		Job Number	
Drive-in Windowless Sampler				17.37		Itchen Valley Country Park		LS6195	
		Location		Dates		Engineer		Sheet	
		446154.46 E 116018.142 N		27/04/2022		OD		1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
0.20	D			17.32	(0.05)	Loam/ plant remains and chips of wood.			
					0.05	Brown slightly gravelly, slightly sandy, CLAY with occasional roots. Sand is fine to medium. Gravels are fine to coarse, sub angular to sub rounded flint and rare concrete and brick fragments. (MADE GROUND)			
					(0.45)				
				16.87	0.50	Light brown and light yellow mottled light grey slightly gravelly CLAY. Gravels are rare, medium to coarse, sub rounded to rounded flint. (WITTERING FORMATION)			
0.95	HP 100kPa D				(1.10)				
0.95									

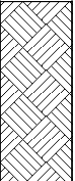
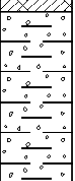
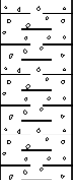
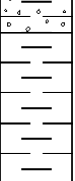
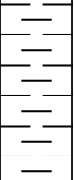
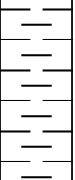
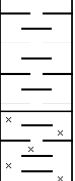
Remarks
GROUNDWATER: No groundwater encountered
CASING: No casing used.
INSTALLATION: No installation.
BACKFILL: Backfilled with arisings.
NOTES: Hand excavated inspection pit to 0.60mbgl. Borehole abandoned at 1.60mbgl due to potential water pipe.

Scale (approx)
1:20

Logged By
OD

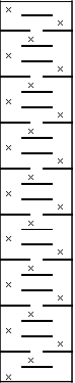
Figure No.
ls6195.DS06

Excavation Method Drive-in Windowless Sampler		Dimensions		Ground Level (mOD)		Client Itchen Valley Country Park		Job Number LS6195	
		Location		Dates 01/04/2022		Engineer OD		Sheet 1/2	

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
0.20	E				(0.50)	Grass over brown, gravelly, sandy CLAY. Sand is fine to medium. Gravels are fine to coarse, angular to sub rounded flint and rare brick fragments. (TOPSOIL)			
0.45	D				0.50	Light brown mottled light grey slightly gravelly CLAY. Gravels are fine to coarse, sub angular to sub rounded flint. (WITTERING FORMATION)			
0.95 1.00 1.00-1.45	D HP 75kPa SPT(C) N=6		1,1/1,1,2,2		(1.00)				
1.45 1.50	D HP 100kPa				1.50	Grey slightly purple mottled orange slightly shaley CLAY. (WITTERING FORMATION)			
1.95 2.00-2.45	D SPT(C) N=13		2,3/3,3,3,4						
2.45 2.50	D HP 100kPa				(2.10)				
2.95 3.00-3.45	D SPT(C) N=12		4,3/3,3,3,3						
3.45 3.50	D HP 125kPa				3.60	Dark grey slightly silty stiff CLAY. (LONDON CLAY FORMATION)			
3.95	D								

Remarks GROUNDWATER: No groundwater encountered CASING: No casing used. INSTALLATION: 50mm diameter HDPE standpipe to 4.00mbgl. Plain casing to 1.00mbgl, slotted response zone 1.00mbgl to 4.00mbgl. BACKFILL: Bentonite sealing pellets 0.00-1.00m. Pea shingle between 1.00-4.00m. NOTES: Hand excavated inspection pit to 0.60mbgl. Borehole completed at 5.00mbgl.							Scale (approx) 1:20	Logged By OD
							Figure No. ls6195.DS08	

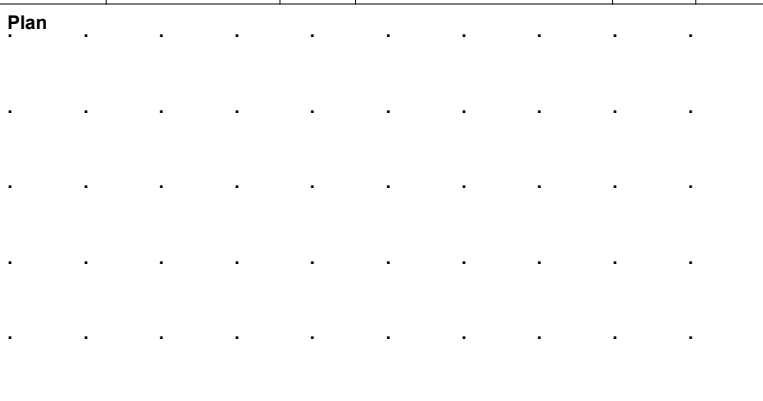
Excavation Method Drive-in Windowless Sampler	Dimensions	Ground Level (mOD)	Client Itchen Valley Country Park	Job Number LS6195
	Location	Dates 01/04/2022	Engineer OD	Sheet 2/2

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	Instr
4.00 4.00-4.45	HP 100kPa SPT(C) N=11		2,2/2,3,3,3		(1.40)				
4.45 4.50	D HP 100kPa								
4.90 4.95 5.00-5.45	HP 125kPa D SPT(C) N=17		3,3/4,4,4,5		5.00	Complete at 5.45m			

Remarks	Scale (approx) 1:20	Logged By OD
	Figure No. ls6195.DS08	

Excavation Method Trial Pit	Dimensions	Ground Level (mOD) 14.37	Client Itchen Valley Country Park	Job Number LS6195
	Location 446067.779 E 115990.298 N	Dates 05/05/2022	Engineer OD	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						Grass over brown slightly gravelly CLAY with occasional rootlets. (TOPSOIL)		
				14.07	0.30	Complete at 0.30m		

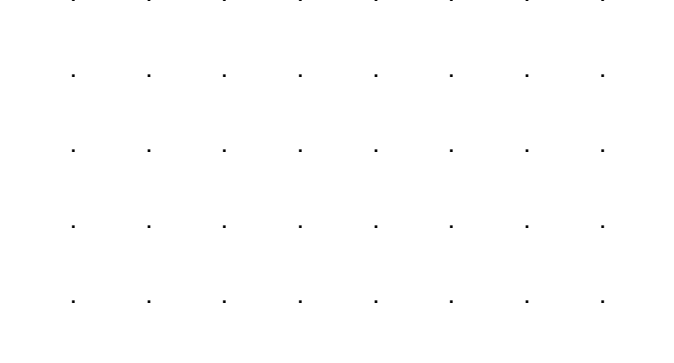
Plan 	Remarks		
	Scale (approx) 1:20	Logged By OD	Figure No. Is6195.CBR01

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						Grass over brown slightly gravelly CLAY with occasional rootlets. (TOPSOIL)		
				16.11	0.30	Complete at 0.30m		

Produced by the GEotechnical Database SYstem (GEODASY) © all rights reserved

Excavation Method Trial Pit	Dimensions	Ground Level (mOD) 12.82	Client Itchen Valley Country Park	Job Number LS6195
	Location 446093.499 E 115942.938 N	Dates 05/05/2022	Engineer OD	Sheet 1/1

[illegible]

Plan 	Remarks		
	Scale (approx) 1:20	Logged By OD	Figure No. LS6195.CBR03

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						Grass over brown slightly gravelly CLAY with occasional rootlets. (TOPSOIL)		
				12.67	0.30	Complete at 0.30m		

Produced by the GEOTECHNICAL DATABASE SYStem (GEODASY) © all rights reserved

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						Grass over brown slightly gravelly CLAY with occasional rootlets. (TOPSOIL)		
				18.16	0.30	Complete at 0.30m		

Produced by the GEOTECHNICAL DATABASE SYStem (GEODASY) © all rights reserved

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
						Grass over brown slightly gravelly CLAY with occasional rootlets. (TOPSOIL)		
				18.22	0.30	Complete at 0.30m		

Produced by the GEOTECHNICAL DATABASE SYStem (GEODASY) © all rights reserved

Excavation Method Trial Pit	Dimensions		Ground Level (mOD) 14.38	Client Itchen Valley Country Park	Job Number LS6195
	Location 446070.484 E 115983.57 N		Dates 26/04/2022	Engineer OD	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10	D			14.18	(0.20)	Grass over dark brown/ brown gravelly, sandy, clayey SILT with abundant rootlets. Sand is fine to medium. Gravels are fine to coarse, sub angular to rounded flints and rare tile fragments. (TOPSOIL)		
				14.03	(0.15)	Brown/ dark brown gravelly, sandy CLAY with abundant rootlets. Sand is fine to coarse. Gravels are fine to coarse sub angular to rounded flints. (HEAD DEPOSITS)		
						Light brown mottled light grey CLAY. (WITTERING FORMATION)		
0.95	D				(1.20)	... Becomes mottled orange from 1.20mbgl.		
1.45	D			12.83	1.55	Complete at 1.55m		

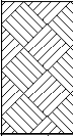
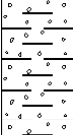
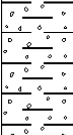
Plan					Remarks		
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					Scale (approx)	Logged By	Figure No.
					1:20	OD	Is6195.TP01

Excavation Method Trial Pit	Dimensions		Ground Level (mOD) 16.23	Client Itchen Valley Country Park	Job Number LS6195
	Location 446095.904 E 116041.058 N		Dates 25/04/2022	Engineer OD	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D			15.98	0.25	Brown mottled orange gravelly, sandy CLAY with abundant rootlets. Sand is fine to medium. Gravels are fine to coarse, sub angular to rounded flints. (TOPSOIL)		
0.50	D					Light brown mottled light grey CLAY. (WITTERING FORMATION)		
1.00	D				(1.20)	... Becomes mottled orange from 0.90mbgl.		
						... Slightly gravelly at 1.10mbgl. Gravels are fine to coarse, sub rounded to rounded flint.		
				14.78	1.45	Complete at 1.45m		

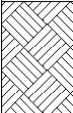
Plan					Remarks		
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					Scale (approx)	Logged By	Figure No.
					1:20	OD	LS6195.TP02

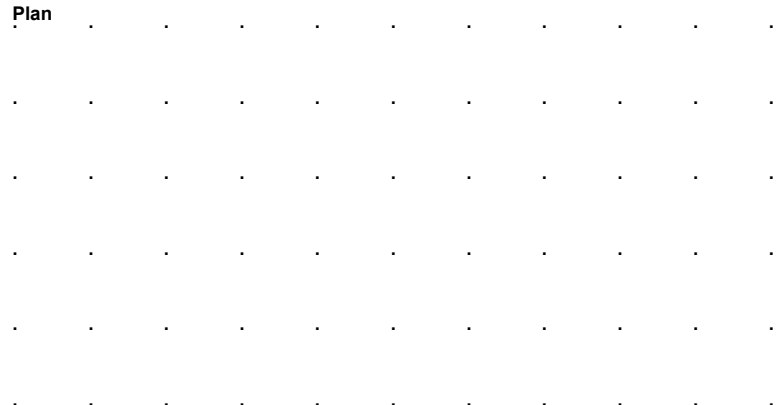
Excavation Method Trial Pit	Dimensions		Ground Level (mOD) 12.66	Client Itchen Valley Country Park	Job Number LS6195
	Location 446097.901 E 115937.831 N		Dates 26/04/2022	Engineer OD	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D			12.31	(0.35)	Brown/ dark brown slightly mottled orange gravelly, sandy, silty CLAY. Sand is fine to medium. Gravels are fine to coarse, sub angular to rounded flint. (TOPSOIL)		
0.95	D				0.35	Light brown and slightly yellowy mottled light grey slightly gravelly, CLAY. Gravels are medium to coarse, sub rounded to rounded flints. (WITTERING FORMATION)		
1.45	D				(1.95)	... Becomes mottled orange between 1.60mbgl to 2.00mbgl. ... Becomes slightly silty and slightly friable between 1.70mbgl to 2.30mbgl. ... Becomes dark brown mottled orange between 1.80mbgl to 2.30mbgl.		
				10.36	2.30	Complete at 2.30m		

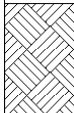
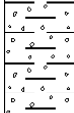
Plan					Remarks		
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					Scale (approx)	Logged By	Figure No.
					1:20	OD	Is6195.TP03

Excavation Method Trial Pit	Dimensions		Ground Level (mOD) 13.73	Client Itchen Valley Country Park	Job Number LS6195
	Location 446023.901 E 116091.318 N		Dates 26/04/2022	Engineer OD	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.20	D			13.43	0.30	Brown/ dark brown slightly mottled orange gravelly, sandy, silty CLAY. Sand is fine to medium. Gravels are fine to coarse, sub angular to rounded flint with rare fine to medium angular to sub angular brick fragments. (TOPSOIL)		
0.95	D				(1.30)	Light brown and slightly yellowy mottled light grey slightly gravelly, CLAY. Gravels are rare, medium to coarse, sub rounded to rounded flints. (WITTERING FORMATION)		
1.45	D			12.13	1.60	... Becomes slightly silty between 1.40mbgl to 1.60mbgl.		
						Complete at 1.60m		

Plan 	Remarks		
	Scale (approx) 1:20	Logged By OD	Figure No. Is6195.TP04

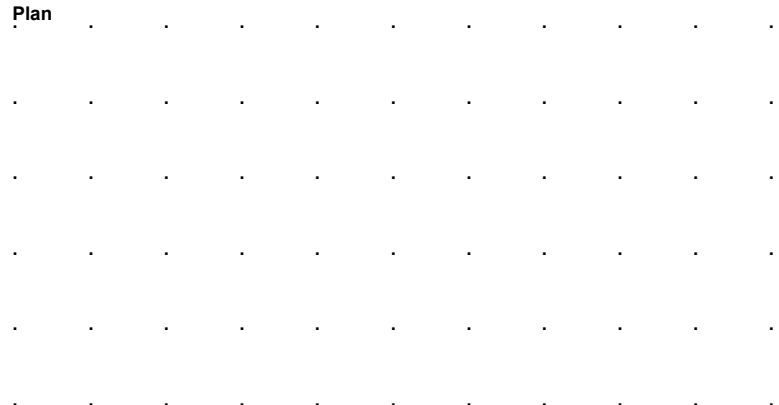
Site Itchen Valley Country Park, Eastleigh, Hants, SO30 3HQ	Trial Pit Number TP05
Client Itchen Valley Country Park	Job Number LS6195
Engineer OD	Sheet 1/1

Excavation Method		Dimensions		Ground Level (mOD)		Client		Job Number	
Trial Pit				16.37		Itchen Valley Country Park		LS6195	
		Location		Dates		Engineer		Sheet	
		446068.532 E 116079.261 N		26/04/2022		OD		1/1	
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description		Legend	Water
0.20	D			16.07	0.30	Grass over brown/ dark brown slightly mottled orange slightly mottled white gravelly, sandy, clayey SILT. Sand is fine to medium. Gravels are fine to coarse, sub angular to rounded flint. (TOPSOIL)			
0.70	D					Light brown and slightly yellowy mottled light grey slightly gravelly CLAY. Gravels are rare medium to coarse sub rounded to rounded flints. (WITTERING FORMATION)			
1.45	D				(2.00)	... Becomes mottled orange and red between 1.40mbgl to 1.80mbgl. ... Becomes slightly silty/ friable between 1.40mbgl to 1.80mbgl.			
1.95	D					... Becomes slightly laminated with silty clay layers between 1.80mbgl to 2.30mbgl.			
			Water strike(1) at 2.25m.	14.07	2.30	Complete at 2.30m			▽1

Plan					Remarks		
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					Scale (approx)	Logged By	Figure No.
					1:20	OD	Is6195.TP05

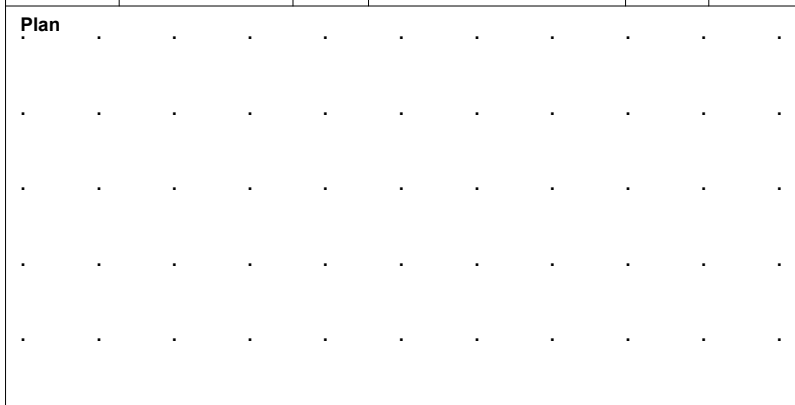
Excavation Method Trial Pit	Dimensions		Ground Level (mOD) 18.76	Client Itchen Valley Country Park	Job Number LS6195
	Location 446225.106 E 116351.165 N		Dates 25/04/2022	Engineer OD	Sheet 1/1

Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10	D				(0.20)	Grass over brown gravelly, sandy, silty CLAY with abundant rootlets. Sand is fine to medium. Gravels are fine to medium, sub angular to rounded flint. (TOPSOIL)		
0.20	D			18.56	0.20 (0.10)	Brown mottled orange slightly gravelly, sandy, silty CLAY with occasional rootlets. Sand is fine to medium. Gravels are fine to medium sub angular to sub rounded flint. (SUBSOIL)		
				18.46	0.30			
0.45	D					Light brown mottled orange and light grey slightly gravelly CLAY. Gravels are fine to medium, sub angular to sub rounded flint. (WITTERING FORMATION)		
					(1.10)	... Becomes mottled red from 1.10mbgl.		
1.35	D			17.36	1.40	Complete at 1.40m		

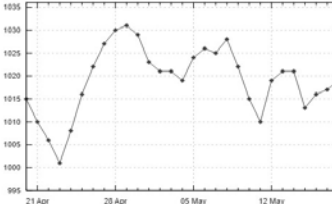
Plan 	Remarks		
	Scale (approx) 1:20	Logged By OD	Figure No. Is6195.TP06

Excavation Method Trial Pit	Dimensions		Ground Level (mOD) 19.54	Client Itchen Valley Country Park	Job Number LS6195
	Location 446258.366 E 116322.375 N		Dates 25/04/2022	Engineer OD	Sheet 1/1

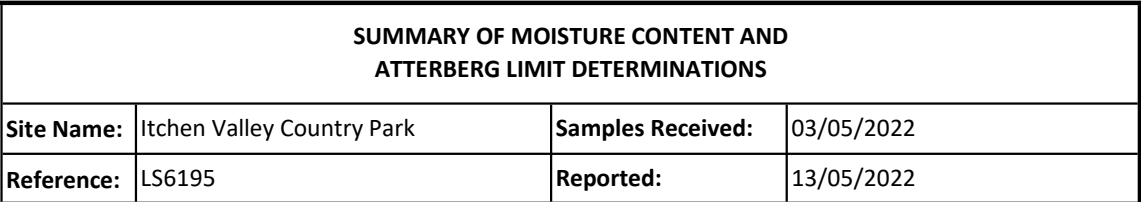
Depth (m)	Sample / Tests	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.10	D			19.29	(0.25)	Grass over brown/ light brown gravelly, clayey SAND. Sand is fine to medium. Gravels are fine to medium, sub angular to sub rounded flint and brick fragments. (MADE GROUND)		
0.50	D				0.25	Brown and dark grey mottled red gravelly, CLAY. Gravels are angular to sub rounded brick, concrete and rare glass fragments. (MADE GROUND) Black plastic tarp at 0.25mbgl.		
0.95	D				(0.85)	Concrete cobble between 0.20mbgl to 0.50mbgl.		
1.45	D			18.44	1.10	Light brown mottled orange slightly gravelly CLAY. Gravels are fine to coarse, sub angular to rounded flint. (WITTERING FORMATION)		
					(0.45)			
				17.99	1.55	Complete at 1.55m		

Plan 	Remarks		
	Scale (approx) 1:20	Logged By OD	Figure No. ls6195.TP07

APPENDIX C

GROUND GAS AND GROUNDWATER MONITORING												
Project: Itchen Valley			Ref: LS6195									
Date: 05/05/2022			Visit: 1									
Engineer: OD			Check: MR									
Weather: Cloudy			Page: 1									
Atmospheric Pressure			before: 1018 mB Time									
			after: 1018 mB Time									
Published pressure trend:			Rising high (Southampton Airport)									
Remarks:			Equipment used: GFX 430, Phocheck PID, Dipmeter									
Position	Flow (l/hr)		Common Gases (%)				VOC's (ppm)	Groundwater (m)				Remarks
	High	Low	Time	CO2	CH4	O2		LNAPL	Water	DNAPL	Base	
Calibration Check	0.0	0.0	15s	0.0	0.0	19.9	0.0	-	-	-	-	Calibration check passed
			30s	0.0	0.0	20.1						
			60s	0.0	0.0	20.2						
DS01	0.0	0.0	15s	1.0	0.0	19.8	0.0		1.53		3.60	
			30s	0.9	0.0	20.1						
			60s	0.9	0.0	20.2						
			120s	0.9	0.0	20.0						
			180s	0.9	0.0	20.0						
			240s	0.9	0.0	20.0						
DS02	0.0	0.0	300s	1.0	0.0	20.0	0.0		1.43		2.90	
			15s	1.1	0.0	20.1						
			30s	1.2	0.0	20.0						
			60s	1.2	0.0	19.9						
			120s	1.2	0.0	19.9						
			180s	1.2	0.0	19.9						
DS03	0.0	0.0	240s	1.2	0.0	19.9	0.0		1.48		3.55	
			300s	1.2	0.0	19.9						
			15s	0.8	0.0	20.1						
			30s	0.9	0.0	19.9						
			60s	0.9	0.0	19.8						
			120s	0.9	0.0	19.8						
DS04	0.0	0.0	180s	0.9	0.0	19.9	0.0		2.90		3.95	
			240s	0.9	0.0	19.8						
			300s	0.9	0.0	19.8						
			15s	2.7	0.0	19.0						
			30s	3.0	0.0	19.0						
			60s	3.0	0.0	18.9						
DS05	0.0	0.0	120s	3.0	0.0	18.9	0.0		2.05		3.79	
			180s	3.0	0.0	18.9						
			240s	3.0	0.0	18.9						
			300s	3.0	0.0	18.9						
			15s	1.6	0.0	19.9						
			30s	1.8	0.0	19.6						
DS07	0.0	0.0	60s	2.0	0.0	19.4	0.0		1.50		3.87	
			120s	2.1	0.0	19.3						
			180s	2.1	0.0	19.3						
			240s	2.1	0.0	19.3						
			300s	2.1	0.0	19.3						
			15s	2.0	0.0	19.8						
Calibration Check	0.0	0.0	30s	2.1	0.0	19.4	0.0					Calibration check passed
			60s	2.1	0.0	19.3						
			120s	2.1	0.0	19.3						
Calibration Check	0.0	0.0	15s	0.0	0.0	20.2	0.0					Calibration check passed
			30s	0.0	0.0	20.2						
			60s	0.0	0.0	20.3						

APPENDIX D

[illegible]

Elliot Toms
Land Science
Unit 10
19 Albert Drive
Burgess Hill
West Sussex
RH15 9TN

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

e: elliot.toms@landscience.co.uk

Analytical Report Number : 22-56740

Project / Site name: Itchen Valley Country Park, Eastleigh,
Hants, SO30 3HQ

Samples received on: 06/05/2022

Your job number: LS6195

**Samples instructed on/
Analysis started on:** 06/05/2022

Your order number:

Analysis completed by: 16/05/2022

Report Issue Number: 1

Report issued on: 17/05/2022

Samples Analysed: 7 soil samples

Signed:

Izabela Wójcik
Izabela Wójcik
Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-56740

Project / Site name: Itchen Valley Country Park, Eastleigh, Hants, SO30 3HQ

Lab Sample Number				2266945	2266946	2266947	2266948	2266949
Sample Reference				DS01	DS02	DS03	DS04	DS05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.45	0.95	0.45	0.45	0.95
Date Sampled				27/04/2022	27/04/2022	27/04/2022	27/04/2022	27/04/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	16	44	< 0.1
Moisture Content	%	0.01	NONE	20	15	11	8.3	20
Total mass of sample received	kg	0.001	NONE	1	1	1	1	1

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	7	5.2	7.1	7.4	7.5
Water Soluble SO ₄ 10ml extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.012	0.014	0.0085	0.0093	0.017

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-56740

Project / Site name: Itchen Valley Country Park, Eastleigh, Hants, SO30 3HQ

Lab Sample Number				2266950	2266951
Sample Reference				DS06	DS08
Sample Number				None Supplied	None Supplied
Depth (m)				1.45	0.95
Date Sampled				27/04/2022	27/04/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	< 0.1	< 0.1
Moisture Content	%	0.01	NONE	18	17
Total mass of sample received	kg	0.001	NONE	1	1

General Inorganics

pH - Automated	pH Units	N/A	MCERTS	5.7	8.3
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.15	0.032

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 22-56740

Project / Site name: Itchen Valley Country Park, Eastleigh, Hants, SO30 3HQ

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2266945	DS01	None Supplied	0.45	Brown clay and loam with vegetation.
2266946	DS02	None Supplied	0.95	Brown clay and loam.
2266947	DS03	None Supplied	0.45	Brown clay and loam with gravel and stones.
2266948	DS04	None Supplied	0.45	Brown clay and loam with gravel and stones.
2266949	DS05	None Supplied	0.95	Brown clay and loam with gravel.
2266950	DS06	None Supplied	1.45	Brown clay and loam with gravel and vegetation.
2266951	DS08	None Supplied	0.95	Brown clay and loam.

Analytical Report Number : 22-56740

Project / Site name: Itchen Valley Country Park, Eastleigh, Hants, SO30 3HQ

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30oC.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.



Certificate for the Determination of the In-Situ California Bearing Ratio (CBR) of Soil to BS 1377 Part 9 : 1990 Clause 4.3

Report No: 7879-1

Report Date: 06/05/2022

Client: Land Science Ltd
Address: Unit 10, 19 Albert Drive
Burgess Hill
West Sussex
RH15 9TN

Site: Woodland Cafe, Itchen Valley Park, Allington Lane, Southampton, SO30 3HQ

Test Details

Test Location: 1

Layer/Depth: 0.3m BGL

Material Class: Formation

Date of Test: 05/05/2022

Weather Conditions: Dry

Surcharge mass (kg): 13

Equivalent overburden pressure (kPa): 2.7

Particles >20mm below plunger: No

Water content test method: BS EN ISO 17892-1

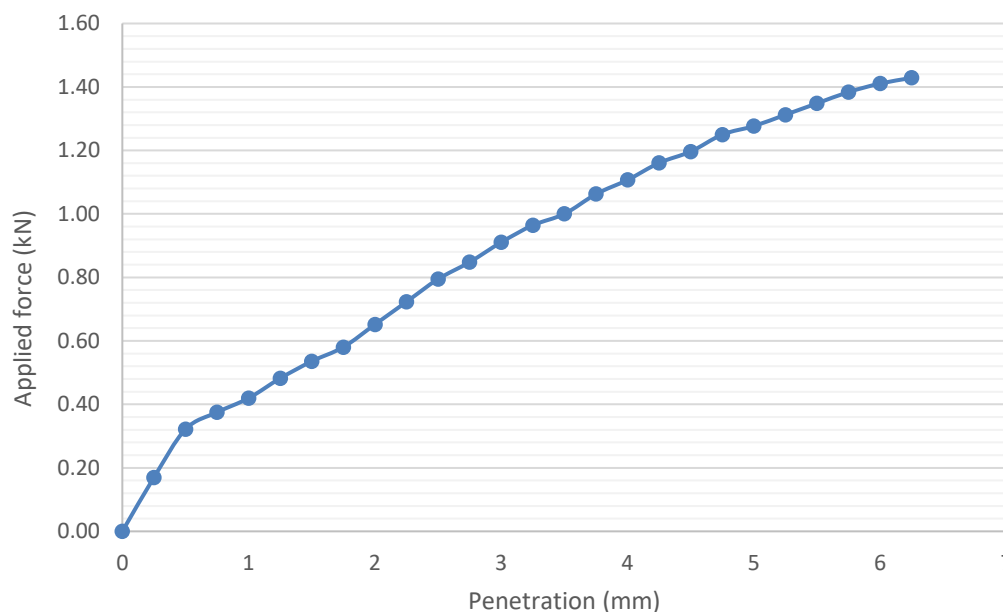
Description: Brown Slightly Gravelly CLAY with Occasional Rootlets

Condition: The results apply only to the location tested and the material was tested in an 'as found' condition

Test Results

CBR Value (%):	6.4
Water Content (%):	15.2

Relationship Between Applied Force and Penetration



For and on Behalf of Hixtra Ltd

Kevin Shorthouse
Authorised signatory





Certificate for the Determination of the In-Situ California Bearing Ratio (CBR) of Soil to BS 1377 Part 9 : 1990 Clause 4.3

Report No: 7879-2

Report Date: 06/05/2022

Client: Land Science Ltd
Address: Unit 10, 19 Albert Drive
Burgess Hill
West Sussex
RH15 9TN

Site: Woodland Cafe, Itchen Valley Park, Allington Lane, Southampton, SO30 3HQ

Test Details

Test Location: 2

Layer/Depth: 0.3m BGL

Material Class: Formation

Date of Test: 05/05/2022

Weather Conditions: Dry

Surcharge mass (kg): 13

Equivalent overburden pressure (kPa): 2.7

Particles >20mm below plunger: No

Water content test method: BS EN ISO 17892-1

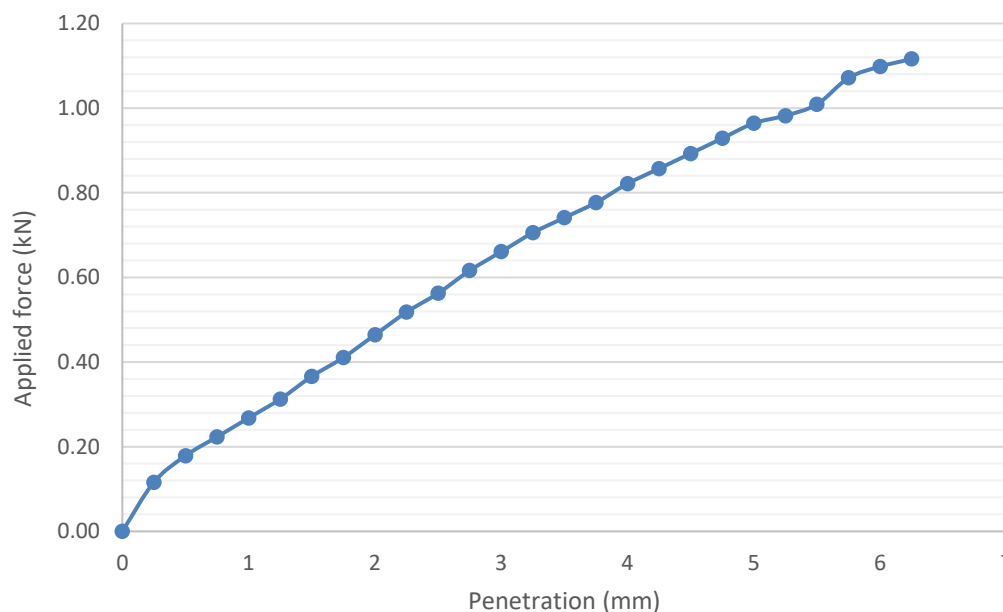
Description: Brown Slightly Gravelly CLAY with Occasional Rootlets

Condition: The results apply only to the location tested and the material was tested in an 'as found' condition

Test Results

CBR Value (%):	4.8
Water Content (%):	20.0

Relationship Between Applied Force and Penetration



For and on Behalf of Hixtra Ltd

Kevin Shorthouse
Authorised signatory





Certificate for the Determination of the In-Situ California Bearing Ratio (CBR) of Soil to BS 1377 Part 9 : 1990 Clause 4.3

Report No: 7879-4

Report Date: 06/05/2022

Client: Land Science Ltd
Address: Unit 10, 19 Albert Drive
Burgess Hill
West Sussex
RH15 9TN

Site: Woodland Cafe, Itchen Valley Park, Allington Lane, Southampton, SO30 3HQ

Test Details

Test Location: 4

Layer/Depth: 0.3m BGL

Material Class: Formation

Date of Test: 05/05/2022

Weather Conditions: Dry

Surcharge mass (kg): 13

Equivalent overburden pressure (kPa): 2.7

Particles >20mm below plunger: No

Water content test method: BS EN ISO 17892-1

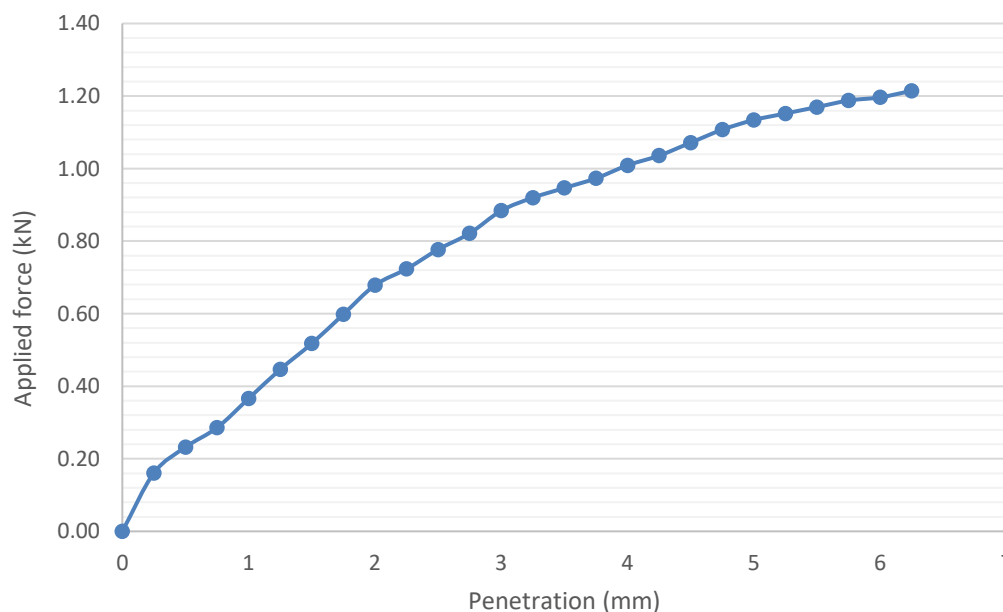
Description: Brown Slightly Gravelly CLAY with Occasional Rootlets

Condition: The results apply only to the location tested and the material was tested in an 'as found' condition

Test Results

CBR Value (%):	5.9
Water Content (%):	20.7

Relationship Between Applied Force and Penetration



For and on Behalf of Hixtra Ltd

Kevin Shorthouse
Authorised signatory





Certificate for the Determination of the In-Situ California Bearing Ratio (CBR) of Soil to BS 1377 Part 9 : 1990 Clause 4.3

Report No: 7879-5

Report Date: 06/05/2022

Client: Land Science Ltd
Address: Unit 10, 19 Albert Drive
Burgess Hill
West Sussex
RH15 9TN

Site: Woodland Cafe, Itchen Valley Park, Allington Lane, Southampton, SO30 3HQ

Test Details

Test Location: 5

Layer/Depth: 0.3m BGL

Material Class: Formation

Date of Test: 05/05/2022

Weather Conditions: Dry

Surcharge mass (kg): 13

Equivalent overburden pressure (kPa): 2.7

Particles >20mm below plunger: No

Water content test method: BS EN ISO 17892-1

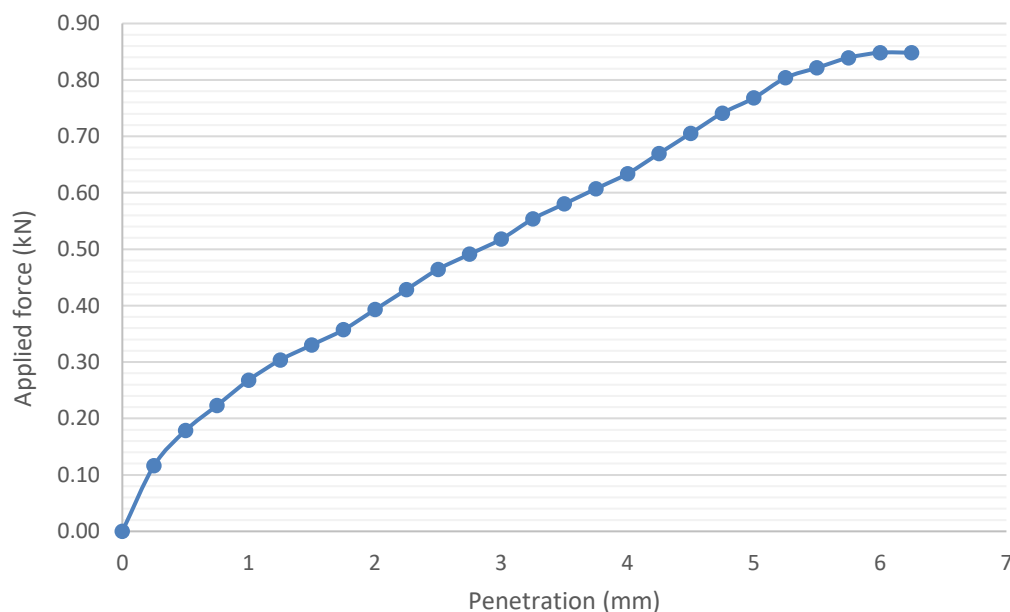
Description: Brown Slightly Gravelly CLAY with Occasional Rootlets

Condition: The results apply only to the location tested and the material was tested in an 'as found' condition

Test Results

CBR Value (%):	3.8
Water Content (%):	25.7

Relationship Between Applied Force and Penetration



For and on Behalf of Hixtra Ltd

Kevin Shorthouse
Authorised signatory





Certificate for the Determination of the In-Situ California Bearing Ratio (CBR) of Soil to BS 1377 Part 9 : 1990 Clause 4.3

Report No: 7879-6

Report Date: 06/05/2022

Client: Land Science Ltd
Address: Unit 10, 19 Albert Drive
Burgess Hill
West Sussex
RH15 9TN

Site: Woodland Cafe, Itchen Valley Park, Allington Lane, Southampton, SO30 3HQ

Test Details

Test Location: 6

Layer/Depth: 0.3m BGL

Material Class: Formation

Date of Test: 05/05/2022

Weather Conditions: Dry

Surcharge mass (kg): 13

Equivalent overburden pressure (kPa): 2.7

Particles >20mm below plunger: No

Water content test method: BS EN ISO 17892-1

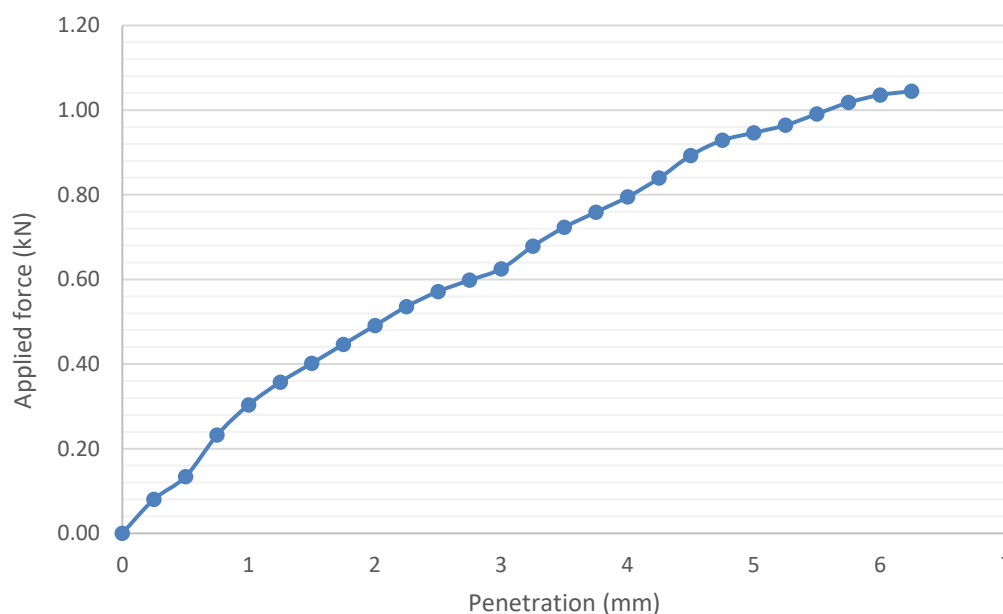
Description: Brown Slightly Gravelly CLAY with Occasional Rootlets

Condition: The results apply only to the location tested and the material was tested in an 'as found' condition

Test Results

CBR Value (%):	4.7
Water Content (%):	21.3

Relationship Between Applied Force and Penetration



For and on Behalf of Hixtra Ltd

Kevin Shorthouse
Authorised signatory





Certificate for the Determination of the In-Situ California Bearing Ratio (CBR) of Soil to BS 1377 Part 9 : 1990 Clause 4.3

Report No: 7879-7

Report Date: 06/05/2022

Client: Land Science Ltd
Address: Unit 10, 19 Albert Drive
Burgess Hill
West Sussex
RH15 9TN

Site: Woodland Cafe, Itchen Valley Park, Allington Lane, Southampton, SO30 3HQ

Test Details

Test Location: 7
Layer/Depth: 0.3m BGL
Material Class: Formation

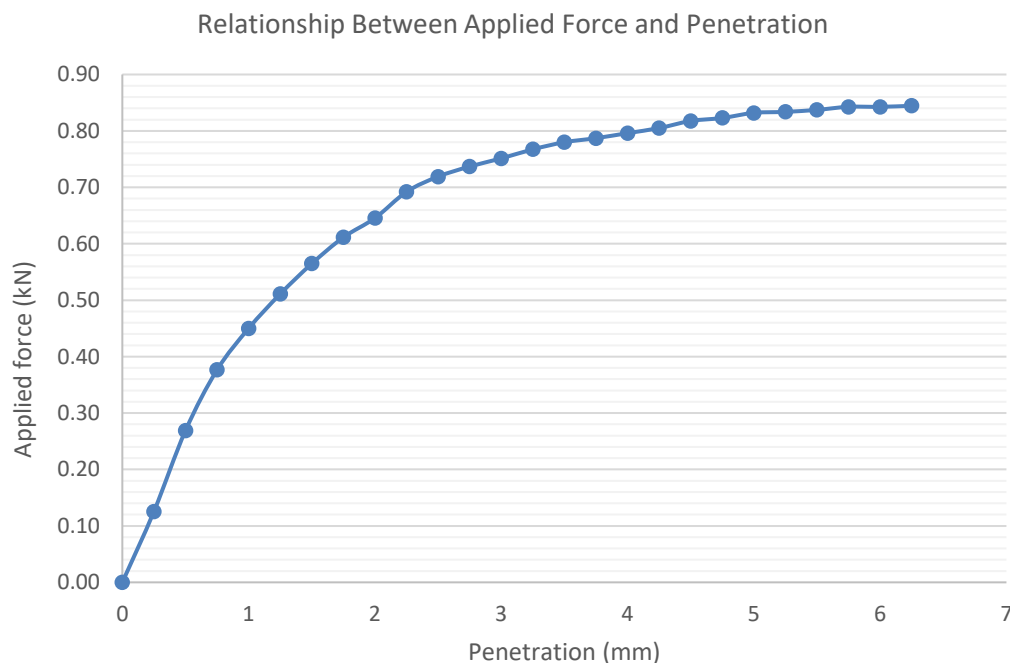
Date of Test: 05/05/2022
Weather Conditions: Dry
Surcharge mass (kg): 13
Equivalent overburden pressure (kPa): 2.7
Particles >20mm below plunger: No
Water content test method: BS EN ISO 17892-1

Description: Brown CLAY

Condition: The results apply only to the location tested and the material was tested in an 'as found' condition

Test Results

CBR Value (%):	5.4
Water Content (%):	32.8



For and on Behalf of Hixtra Ltd

Kevin Shorthouse
Authorised signatory



APPENDIX E

Elliot Toms
Land Science
Unit 10
19 Albert Drive
Burgess Hill
West Sussex
RH15 9TN

e: elliot.toms@landscience.co.uk

i2 Analytical Ltd.
7 Woodshots Meadow,
Croxley Green
Business Park,
Watford,
Herts,
WD18 8YS

t: 01923 225404
f: 01923 237404
e: reception@i2analytical.com

Analytical Report Number : 22-55547

Project / Site name: Itchen Valley Country Park, Eastleigh,
Hants, SO30 3HQ

Your job number: LS6195

Your order number:

Report Issue Number: 1

Samples Analysed: 7 leachate samples - 7 soil samples

Samples received on: 29/04/2022

**Samples instructed on/
Analysis started on:** 03/05/2022

Analysis completed by: 16/05/2022

Report issued on: 16/05/2022

Signed:

Martyna Langer
Martyna Langer
Junior Reporting Specialist
For & on behalf of i2 Analytical Ltd.

Standard Geotechnical, Asbestos and Chemical Testing Laboratory located at: ul. Pionierów 39, 41 -711 Ruda Śląska, Poland.

Accredited tests are defined within the report, opinions and interpretations expressed herein are outside the scope of accreditation.

Standard sample disposal times, unless otherwise agreed with the laboratory, are :

soils - 4 weeks from reporting
leachates - 2 weeks from reporting
waters - 2 weeks from reporting
asbestos - 6 months from reporting

Excel copies of reports are only valid when accompanied by this PDF certificate.

Any assessments of compliance with specifications are based on actual analytical results with no contribution from uncertainty of measurement.
Application of uncertainty of measurement would provide a range within which the true result lies.
An estimate of measurement uncertainty can be provided on request.

Analytical Report Number: 22-55547

Project / Site name: Itchen Valley Country Park, Eastleigh, Hants, SO30 3HQ

Lab Sample Number				2260098	2260099	2260100	2260101	2260102
Sample Reference				DS01	DS02	DS03	DS04	DS05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.20	0.20	0.20	0.20
Date Sampled				27/04/2022	27/04/2022	27/04/2022	27/04/2022	27/04/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status					
Stone Content	%	0.1	NONE	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Moisture Content	%	0.001	NONE	13	11	12	13	12
Total mass of sample received	kg	0.001	NONE	0.8	0.8	0.8	0.8	0.8

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected	Not-detected	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SZS	SZS	SZS	SZS	SZS

General Inorganics

pH - Manual	pH Units	N/A	MCERTS	6.3	6.4	5.8	6.8	6.2
pH - Automated	pH Units	N/A	MCERTS	6.5	6.7	6.3	7.7	7.2
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.011	0.013	0.012	0.005	0.0075
Sulphide	mg/kg	1	MCERTS	63	1.9	4.5	47	< 1.0
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.017	0.019	0.015	0.0091	0.018
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.7	1.9	1.5	0.9	1.8
Loss on Ignition @ 450°C	%	0.2	MCERTS	3.4	4.2	3.5	2.5	4.2
Acid Neutralisation Capacity	mmol/kg	-999	NONE	-0.02	-0.01	-5.1	-0.02	-0.02

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Total PAH

Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	< 0.85	< 0.85	< 0.85	< 0.85
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Analytical Report Number: 22-55547

Project / Site name: Itchen Valley Country Park, Eastleigh, Hants, SO30 3HQ

Lab Sample Number	2260098	2260099	2260100	2260101	2260102
Sample Reference	DS01	DS02	DS03	DS04	DS05
Sample Number	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)	0.20	0.20	0.20	0.20	0.20
Date Sampled	27/04/2022	27/04/2022	27/04/2022	27/04/2022	27/04/2022
Time Taken	None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	8.5	9.2	9.3	8.9	8.4
Barium (aqua regia extractable)	mg/kg	1	MCERTS	29	32	30	28	34
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.39	0.4	0.42	0.56	0.55
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	0.5	0.3	0.2	< 0.2
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	< 0.2	< 0.2	< 0.2	< 0.2	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	< 1.2	< 1.2	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	17	17	21	20	18
Copper (aqua regia extractable)	mg/kg	1	MCERTS	16	13	11	13	12
Lead (aqua regia extractable)	mg/kg	1	MCERTS	39	30	28	24	36
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	6.5	6.9	7.2	8.4	8
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	31	31	33	33	34
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	31	32	33	44	50

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Total BTEX	µg/kg	10	MCERTS	< 10	< 10	< 10	< 10	< 10
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Petroleum Hydrocarbons

Mineral Oil (C10 - C40) _{EH, CU, ID, AL}	mg/kg	10	NONE	< 10	< 10	< 10	< 10	< 10
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PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001

Total PCBs by GC-MS

Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007	< 0.007	< 0.007	< 0.007
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U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-55547

Project / Site name: Itchen Valley Country Park, Eastleigh, Hants, SO30 3HQ

Lab Sample Number				2260103	2260104
Sample Reference				DS06	DS08
Sample Number				None Supplied	None Supplied
Depth (m)				0.20	0.20
Date Sampled				27/04/2022	27/04/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		
Stone Content	%	0.1	NONE	62	< 0.1
Moisture Content	%	0.01	NONE	4.8	17
Total mass of sample received	kg	0.001	NONE	0.8	0.8

Asbestos in Soil	Type	N/A	ISO 17025	Not-detected	Not-detected
Asbestos Analyst ID	N/A	N/A	N/A	SZS	SZS

General Inorganics

pH - Manual	pH Units	N/A	MCERTS	7.8	7.9
pH - Automated	pH Units	N/A	MCERTS	7.4	7.6
Total Cyanide	mg/kg	1	MCERTS	< 1.0	< 1.0
Water Soluble SO ₄ 16hr extraction (2:1 Leachate Equivalent)	g/l	0.00125	MCERTS	0.02	0.0065
Sulphide	mg/kg	1	MCERTS	46	11
Fraction Organic Carbon (FOC) Automated	N/A	0.001	MCERTS	0.011	0.021
Total Organic Carbon (TOC) - Automated	%	0.1	MCERTS	1.1	2.1
Loss on Ignition @ 450°C	%	0.2	MCERTS	2.4	4.5
Acid Neutralisation Capacity	mmol/kg	-999	NONE	12	10

Total Phenols

Total Phenols (monohydric)	mg/kg	1	MCERTS	< 1.0	< 1.0
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Speciated PAHs

Naphthalene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Acenaphthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluorene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Phenanthrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(a)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Chrysene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(b)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(k)fluoranthene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(a)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Indeno(1,2,3-cd)pyrene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Dibenz(a,h)anthracene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Benzo(ghi)perylene	mg/kg	0.05	MCERTS	< 0.05	< 0.05
Coronene	mg/kg	0.05	NONE	< 0.05	< 0.05

Total PAH

Total WAC-17 PAHs	mg/kg	0.85	NONE	< 0.85	< 0.85
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Analytical Report Number: 22-55547

Project / Site name: Itchen Valley Country Park, Eastleigh, Hants, SO30 3HQ

Lab Sample Number				2260103	2260104
Sample Reference				DS06	DS08
Sample Number				None Supplied	None Supplied
Depth (m)				0.20	0.20
Date Sampled				27/04/2022	27/04/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Soil Analysis)	Units	Limit of detection	Accreditation Status		

Heavy Metals / Metalloids

Arsenic (aqua regia extractable)	mg/kg	1	MCERTS	7.6	13
Barium (aqua regia extractable)	mg/kg	1	MCERTS	340	58
Beryllium (aqua regia extractable)	mg/kg	0.06	MCERTS	0.26	0.56
Boron (water soluble)	mg/kg	0.2	MCERTS	0.3	0.9
Cadmium (aqua regia extractable)	mg/kg	0.2	MCERTS	0.8	< 0.2
Chromium (hexavalent)	mg/kg	1.2	NONE	< 1.2	< 1.2
Chromium (aqua regia extractable)	mg/kg	1	MCERTS	8.3	21
Copper (aqua regia extractable)	mg/kg	1	MCERTS	28	18
Lead (aqua regia extractable)	mg/kg	1	MCERTS	36	45
Mercury (aqua regia extractable)	mg/kg	0.3	MCERTS	< 0.3	< 0.3
Nickel (aqua regia extractable)	mg/kg	1	MCERTS	8.9	8.9
Selenium (aqua regia extractable)	mg/kg	1	MCERTS	< 1.0	< 1.0
Vanadium (aqua regia extractable)	mg/kg	1	MCERTS	11	41
Zinc (aqua regia extractable)	mg/kg	1	MCERTS	88	46

Monoaromatics & Oxygenates

Benzene	µg/kg	1	MCERTS	< 1.0	< 1.0
Toluene	µg/kg	1	MCERTS	< 1.0	< 1.0
Ethylbenzene	µg/kg	1	MCERTS	< 1.0	< 1.0
p & m-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0
o-xylene	µg/kg	1	MCERTS	< 1.0	< 1.0

Total BTEX	µg/kg	10	MCERTS	< 10	< 10
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Petroleum Hydrocarbons

Mineral Oil (C10 - C40) EH_CU_ID_AL	mg/kg	10	NONE	< 10	< 10
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PCBs by GC-MS

PCB Congener 28	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 52	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 101	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 118	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 138	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 153	mg/kg	0.001	MCERTS	< 0.001	< 0.001
PCB Congener 180	mg/kg	0.001	MCERTS	< 0.001	< 0.001

Total PCBs by GC-MS

Total PCBs	mg/kg	0.007	MCERTS	< 0.007	< 0.007
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U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number: 22-55547

Project / Site name: Itchen Valley Country Park, Eastleigh, Hants, SO30 3HQ

Lab Sample Number				2260105	2260106	2260107	2260108	2260109
Sample Reference				DS01	DS02	DS03	DS04	DS05
Sample Number				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Depth (m)				0.20	0.20	0.20	0.20	0.20
Date Sampled				27/04/2022	27/04/2022	27/04/2022	27/04/2022	27/04/2022
Time Taken				None Supplied	None Supplied	None Supplied	None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status					

10:1 WAC Leachate

Arsenic	mg/l	0.001	ISO 17025	0.0025	0.0017	0.0025	< 0.0010	0.001
Barium	mg/l	0.00005	ISO 17025	0.0115	0.0411	0.0043	0.0054	0.0088
Cadmium	mg/l	0.0001	ISO 17025	< 0.0001	< 0.0001	< 0.0001	< 0.0001	< 0.0001
Chromium	mg/l	0.0004	ISO 17025	0.0025	0.0025	< 0.0004	0.0017	0.0012
Copper	mg/l	0.0007	ISO 17025	0.0074	0.0099	0.0026	0.0039	0.01
Mercury	mg/l	0.0005	ISO 17025	0.0011	< 0.0005	< 0.0005	< 0.0005	< 0.0005
Molybdenum	mg/l	0.0004	ISO 17025	0.0007	0.001	0.0008	0.001	0.0014
Nickel	mg/l	0.0003	ISO 17025	0.0051	0.0041	0.0039	0.0048	0.0058
Lead	mg/l	0.001	ISO 17025	0.0063	0.0055	0.0045	0.0028	0.004
Antimony	mg/l	0.0017	ISO 17025	< 0.0017	< 0.0017	< 0.0017	< 0.0017	< 0.0017
Selenium	mg/l	0.004	ISO 17025	< 0.0040	0.0045	< 0.0040	< 0.0040	< 0.0040
Zinc	mg/l	0.0004	ISO 17025	0.01	0.0076	0.0062	0.0062	0.014
Chloride	mg/l	0.15	ISO 17025	2.5	2.4	2.2	2.2	2.3
Fluoride	mg/l	0.05	ISO 17025	0.11	0.11	< 0.050	0.16	0.12
Sulphate	mg/l	0.1	ISO 17025	3.9	3.5	3.4	6.2	3.4
Total dissolved solids	mg/l	4	ISO 17025	28	25	23	26	28
Total monohydric phenols	mg/l	0.01	ISO 17025	< 0.010	< 0.010	< 0.010	< 0.010	< 0.010
Dissolved organic carbon	mg/l	0.1	NONE	18.8	17.3	15.2	16.6	20

10:1 WAC Leachate

Arsenic	mg/kg	0.01	NONE	0.0216	0.0146	0.0214	< 0.0100	< 0.0100
Barium	mg/kg	0.0005	NONE	0.0976	0.346	0.0371	0.044	0.0743
Cadmium	mg/kg	0.0008	NONE	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008
Chromium	mg/kg	0.004	NONE	0.021	0.021	< 0.0040	0.014	0.0098
Copper	mg/kg	0.007	NONE	0.063	0.083	0.023	0.032	0.085
Mercury	mg/kg	0.005	NONE	0.009	< 0.0050	< 0.0050	< 0.0050	< 0.0050
Molybdenum	mg/kg	0.004	NONE	0.0063	0.0085	0.0073	0.0079	0.0121
Nickel	mg/kg	0.003	NONE	0.043	0.035	0.034	0.04	0.049
Lead	mg/kg	0.01	NONE	0.054	0.046	0.039	0.023	0.034
Antimony	mg/kg	0.017	NONE	< 0.017	< 0.017	< 0.017	< 0.017	< 0.017
Selenium	mg/kg	0.04	NONE	< 0.040	< 0.040	< 0.040	< 0.040	< 0.040
Zinc	mg/kg	0.004	NONE	0.088	0.064	0.054	0.051	0.12
Chloride	mg/kg	1.5	NONE	22	20	19	18	19
Fluoride	mg/kg	0.5	NONE	0.97	0.93	< 0.50	1.3	1
Sulphate	mg/kg	1	NONE	34	29	29	51	29
Total dissolved solids	mg/kg	40	ISO 17025	240	210	200	220	240
Total monohydric phenols	mg/kg	0.1	NONE	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10
Dissolved organic carbon	mg/kg	1	NONE	161	146	132	137	170

U/S = Unsuitable Sample I/S = Insufficient Sample



Analytical Report Number: 22-55547

Project / Site name: Itchen Valley Country Park, Eastleigh, Hants, SO30 3HQ

Lab Sample Number				2260110	2260111
Sample Reference				DS06	DS08
Sample Number				None Supplied	None Supplied
Depth (m)				0.20	0.20
Date Sampled				27/04/2022	27/04/2022
Time Taken				None Supplied	None Supplied
Analytical Parameter (Leachate Analysis)	Units	Limit of detection	Accreditation Status		

10:1 WAC Leachate

Arsenic	mg/l	0.001	ISO 17025	0.0022	0.0035
Barium	mg/l	0.00005	ISO 17025	0.078	0.0134
Cadmium	mg/l	0.0001	ISO 17025	< 0.0001	< 0.0001
Chromium	mg/l	0.0004	ISO 17025	0.0011	0.0013
Copper	mg/l	0.0007	ISO 17025	0.0033	0.006
Mercury	mg/l	0.0005	ISO 17025	< 0.0005	< 0.0005
Molybdenum	mg/l	0.0004	ISO 17025	0.0008	0.0017
Nickel	mg/l	0.0003	ISO 17025	0.004	0.0055
Lead	mg/l	0.001	ISO 17025	0.0047	0.0037
Antimony	mg/l	0.0017	ISO 17025	< 0.0017	< 0.0017
Selenium	mg/l	0.004	ISO 17025	< 0.0040	0.0076
Zinc	mg/l	0.0004	ISO 17025	0.009	0.0055
Chloride	mg/l	0.15	ISO 17025	2	2.5
Fluoride	mg/l	0.05	ISO 17025	0.27	0.22
Sulphate	mg/l	0.1	ISO 17025	4	3.6
Total dissolved solids	mg/l	4	ISO 17025	67	60
Total monohydric phenols	mg/l	0.01	ISO 17025	< 0.010	< 0.010
Dissolved organic carbon	mg/l	0.1	NONE	11.8	16.4

10:1 WAC Leachate

Arsenic	mg/kg	0.01	NONE	0.0202	0.0299
Barium	mg/kg	0.0005	NONE	0.73	0.114
Cadmium	mg/kg	0.0008	NONE	< 0.0008	< 0.0008
Chromium	mg/kg	0.004	NONE	0.0099	0.011
Copper	mg/kg	0.007	NONE	0.031	0.051
Mercury	mg/kg	0.005	NONE	< 0.0050	< 0.0050
Molybdenum	mg/kg	0.004	NONE	0.0071	0.0148
Nickel	mg/kg	0.003	NONE	0.038	0.047
Lead	mg/kg	0.01	NONE	0.044	0.032
Antimony	mg/kg	0.017	NONE	< 0.017	< 0.017
Selenium	mg/kg	0.04	NONE	< 0.040	0.065
Zinc	mg/kg	0.004	NONE	0.084	0.047
Chloride	mg/kg	1.5	NONE	19	21
Fluoride	mg/kg	0.5	NONE	2.5	1.9
Sulphate	mg/kg	1	NONE	37	31
Total dissolved solids	mg/kg	40	ISO 17025	630	510
Total monohydric phenols	mg/kg	0.1	NONE	< 0.10	< 0.10
Dissolved organic carbon	mg/kg	1	NONE	111	139

U/S = Unsuitable Sample I/S = Insufficient Sample

Analytical Report Number : 22-55547

Project / Site name: Itchen Valley Country Park, Eastleigh, Hants, SO30 3HQ

* These descriptions are only intended to act as a cross check if sample identities are questioned. The major constituent of the sample is intended to act with respect to MCERTS validation. The laboratory is accredited for sand, clay and loam (MCERTS) soil types. Data for unaccredited types of solid should be interpreted with care.

Stone content of a sample is calculated as the % weight of the stones not passing a 10 mm sieve. Results are not corrected for stone content.

Lab Sample Number	Sample Reference	Sample Number	Depth (m)	Sample Description *
2260098	DS01	None Supplied	0.2	Brown clay and loam with gravel and vegetation.
2260099	DS02	None Supplied	0.2	Brown clay and loam with gravel and vegetation.
2260100	DS03	None Supplied	0.2	Brown clay and loam with gravel and vegetation.
2260101	DS04	None Supplied	0.2	Brown clay with gravel and vegetation.
2260102	DS05	None Supplied	0.2	Brown clay and loam with gravel and vegetation.
2260103	DS06	None Supplied	0.2	Brown clay and sand with stones and vegetation.
2260104	DS08	None Supplied	0.2	Brown clay with gravel and vegetation.

Analytical Report Number : 22-55547

Project / Site name: Itchen Valley Country Park, Eastleigh, Hants, SO30 3HQ

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Sulphate, water soluble, in soil (16hr extraction)	Determination of water soluble sulphate by ICP-OES. Results reported directly (leachate equivalent) and corrected for extraction ratio (soil equivalent).	In house method.	L038-PL	D	MCERTS
Metals in soil by ICP-OES	Determination of metals in soil by aqua-regia digestion followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil.	L038-PL	D	MCERTS
BS EN 12457-2 (10:1) Leachate Prep	10:1 (as recieved, moisture adjusted) end over end extraction with water for 24 hours. Eluate filtered prior to analysis.	In-house method based on BSEN12457-2.	L043-PL	W	NONE
Acid neutralisation capacity of soil	Determination of acid neutralisation capacity by addition of acid or alkali followed by electronic probe.	In-house method based on Guidance an Sampling and Testing of Wastes to Meet Landfill Waste Acceptance"	L046-PL	W	NONE
Asbestos identification in soil	Asbestos Identification with the use of polarised light microscopy in conjunction with disperion staining techniques.	In house method based on HSG 248	A001-PL	D	ISO 17025
Boron, water soluble, in soil	Determination of water soluble boron in soil by hot water extract followed by ICP-OES.	In-house method based on Second Site Properties version 3	L038-PL	D	MCERTS
Loss on ignition of soil @ 450oC	Determination of loss on ignition in soil by gravimetrically with the sample being ignited in a muffle furnace.	In house method.	L047-PL	D	MCERTS
Mineral Oil (Soil) C10 - C40	Determination of mineral oil fraction extractable hydrocarbons in soil by GC-MS/GC-FID.	In-house method with silica gel split/clean up.	L076-PL	D	NONE
Moisture Content	Moisture content, determined gravimetrically. (30 oC)	In house method.	L019-UK/PL	W	NONE
Monohydric phenols in soil	Determination of phenols in soil by extraction with sodium hydroxide followed by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (skalar)	L080-PL	W	MCERTS
Speciated WAC-17 PAHs in soil	Determination of PAH compounds in soil by extraction in dichloromethane and hexane followed by GC-MS with the use of surrogate and internal standards.	In-house method based on USEPA 8270. MCERTS accredited except Coronene.	L064-PL	D	MCERTS
PCB's By GC-MS in soil	Determination of PCB by extraction with acetone and hexane followed by GC-MS.	In-house method based on USEPA 8082	L027-PL	D	MCERTS
pH in soil (automated)	Determination of pH in soil by addition of water followed by automated electrometric measurement.	In house method.	L099-PL	D	MCERTS
pH at 20oC in soil	Determination of pH in soil by addition of water followed by electrometric measurement.	In house method.	L005-PL	W	MCERTS
Sulphide in soil	Determination of sulphide in soil by acidification and heating to liberate hydrogen sulphide, trapped in an alkaline solution then assayed by ion selective electrode.	In-house method	L010-PL	D	MCERTS
Stones content of soil	Standard preparation for all samples unless otherwise detailed. Gravimetric determination of stone > 10 mm as % dry weight.	In-house method based on British Standard Methods and MCERTS requirements.	L019-UK/PL	D	NONE
Total cyanide in soil	Determination of total cyanide by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton (Skalar)	L080-PL	W	MCERTS

Analytical Report Number : 22-55547

Project / Site name: Itchen Valley Country Park, Eastleigh, Hants, SO30 3HQ

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
Total organic carbon (Automated) in soil	Determination of organic matter in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method.	L009-PL	D	MCERTS
BTEX in soil (Monoaromatics)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073B-PL	W	MCERTS
Total BTEX in soil (Poland)	Determination of BTEX in soil by headspace GC-MS.	In-house method based on USEPA8260	L073-PL	W	MCERTS
Fraction Organic Carbon FOC Automated	Determination of fraction of organic carbon in soil by oxidising with potassium dichromate followed by titration with iron (II) sulphate.	In house method	L009	D	MCERTS
Hexavalent chromium in soil (Lower Level)	Determination of hexavalent chromium in soil by extraction in water then by acidification, addition of 1,5 diphenylcarbazide followed by colorimetry.	In-house method	L080-PL	W	NONE
D.O. for Gravimetric Quant if Screen/ID positive	Dependent option for Gravimetric Quant if Screen/ID positive scheduled.	In house asbestos methods A001 & A006.	A006-PL	D	NONE
Metals in leachate by ICP-OES	Determination of metals in leachate by acidification followed by ICP-OES.	In-house method based on MEWAM 2006 Methods for the Determination of Metals in Soil"	L039-PL	W	ISO 17025
Chloride 10:1 WAC	Determination of Chloride colorimetrically by discrete analyser.	In house based on MEWAM Method ISBN 0117516260.	L082-PL	W	ISO 17025
Fluoride 10:1 WAC	Determination of fluoride in leachate by 1:1ratio with a buffer solution followed by Ion Selective Electrode.	In-house method based on Use of Total Ionic Strength Adjustment Buffer for Electrode Determination"	L033B-PL	W	ISO 17025
Sulphate 10:1 WAC	Determination of sulphate in leachate by ICP-OES	In-house method based on MEWAM 1986 Methods for the Determination of Metals in Soil"	L039-PL	W	ISO 17025
Total dissolved solids 10:1 WAC	Determination of total dissolved solids in water by EC probe using a factor of 0.6.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L004-PL	W	ISO 17025
Monohydric phenols 10:1 WAC	Determination of phenols in leachate by distillation followed by colorimetry.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L080-PL	W	ISO 17025
Dissolved organic carbon 10:1 WAC	Determination of dissolved inorganic carbon in leachate by TOC/DOC NDIR Analyser.	In-house method based on Examination of Water and Wastewater 20th Edition: Clesceri, Greenberg & Eaton	L037-PL	W	NONE

For method numbers ending in 'UK' analysis have been carried out in our laboratory in the United Kingdom.

For method numbers ending in 'PL' analysis have been carried out in our laboratory in Poland.

Soil analytical results are expressed on a dry weight basis. Where analysis is carried out on as-received the results obtained are multiplied by a moisture correction factor that is determined gravimetrically using the moisture content which is carried out at a maximum of 30°C.

Unless otherwise indicated, site information, order number, project number, sampling date, time, sample reference and depth are provided by the client. The instructed on date indicates the date on which this information was provided to the laboratory.

Analytical Report Number : 22-55547

Project / Site name: Itchen Valley Country Park, Eastleigh, Hants, SO30 3HQ

Water matrix abbreviations:

Surface Water (SW) Potable Water (PW) Ground Water (GW) Process Waters (PrW) Final Sewage Effluent (FSE) Landfill Leachate (LL)

Analytical Test Name	Analytical Method Description	Analytical Method Reference	Method number	Wet / Dry Analysis	Accreditation Status
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Information in Support of Analytical Results

List of HWOL Acronyms and Operators

Acronym	Descriptions
HS	Headspace Analysis
MS	Mass spectrometry
FID	Flame Ionisation Detector
GC	Gas Chromatography
EH	Extractable Hydrocarbons (i.e. everything extracted by the solvent(s))
CU	Clean-up - e.g. by Florisil®, silica gel
1D	GC - Single coil/column gas chromatography
2D	GC-GC - Double coil/column gas chromatography
Total	Aliphatics & Aromatics
AL	Aliphatics
AR	Aromatics
#1	EH_2D_Total but with humics mathematically subtracted
#2	EH_2D_Total but with fatty acids mathematically subtracted
-	Operator - understore to separate acronyms (exception for +)
+	Operator to indicate cumulative e.g. EH+HS_Total or EH_CU+HS_Total