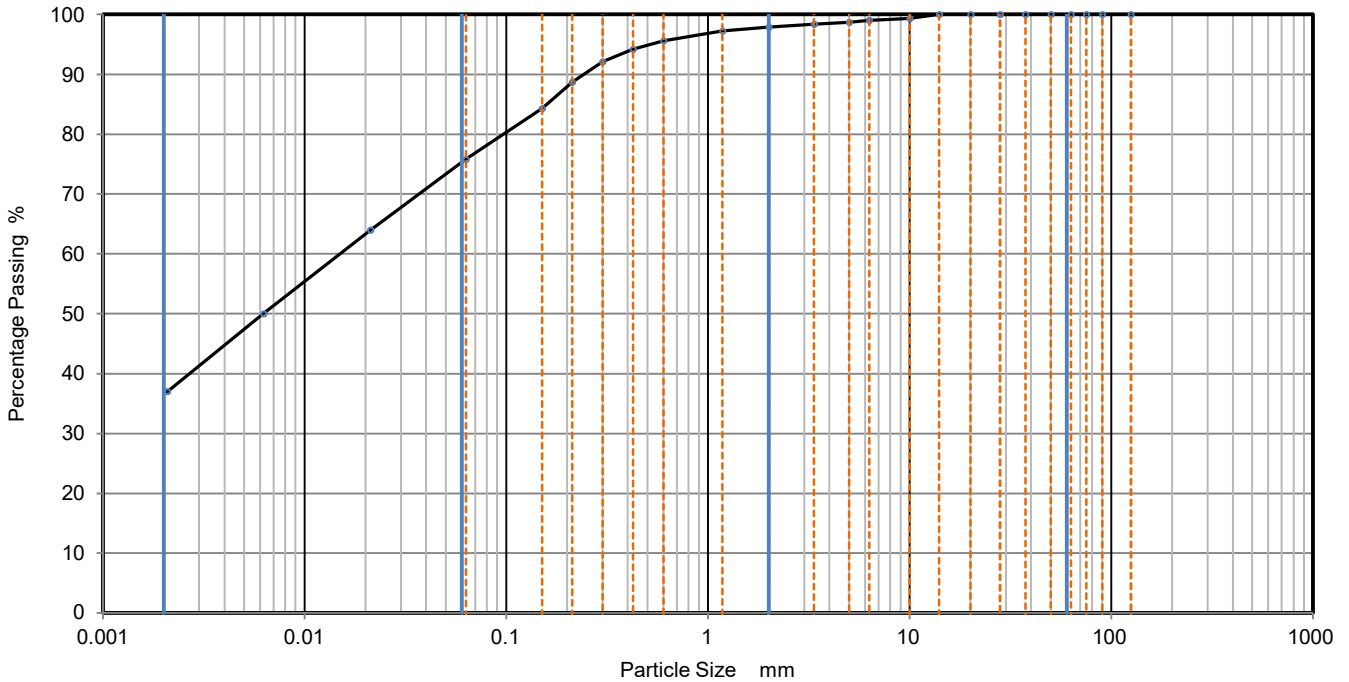


PARTICLE SIZE DISTRIBUTION

Job Ref	D10557U
Borehole/Pit No.	Clay
Sample No.	MS2301/6
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022072629

Site Name	Giga One Envision, Washington	
Soil Description	Brown, Slightly Sandy, Slightly Silty CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0212	64
90	100	0.0062	50
75	100	0.0021	37
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	99		
3.35	98		
2	98		
1.18	97		
0.6	96	Particle density (measured) 2.52 Mg/m ³	
0.425	94		
0.3	92		
0.212	89		
0.15	84		
0.063	76		

Method of pre-treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	22
Fines <0.063mm	76

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
28/07/2022 09:20	N O'Brien		



Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557U
Borehole / Pit No	Clay
Sample No	MS2301/1
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022072624

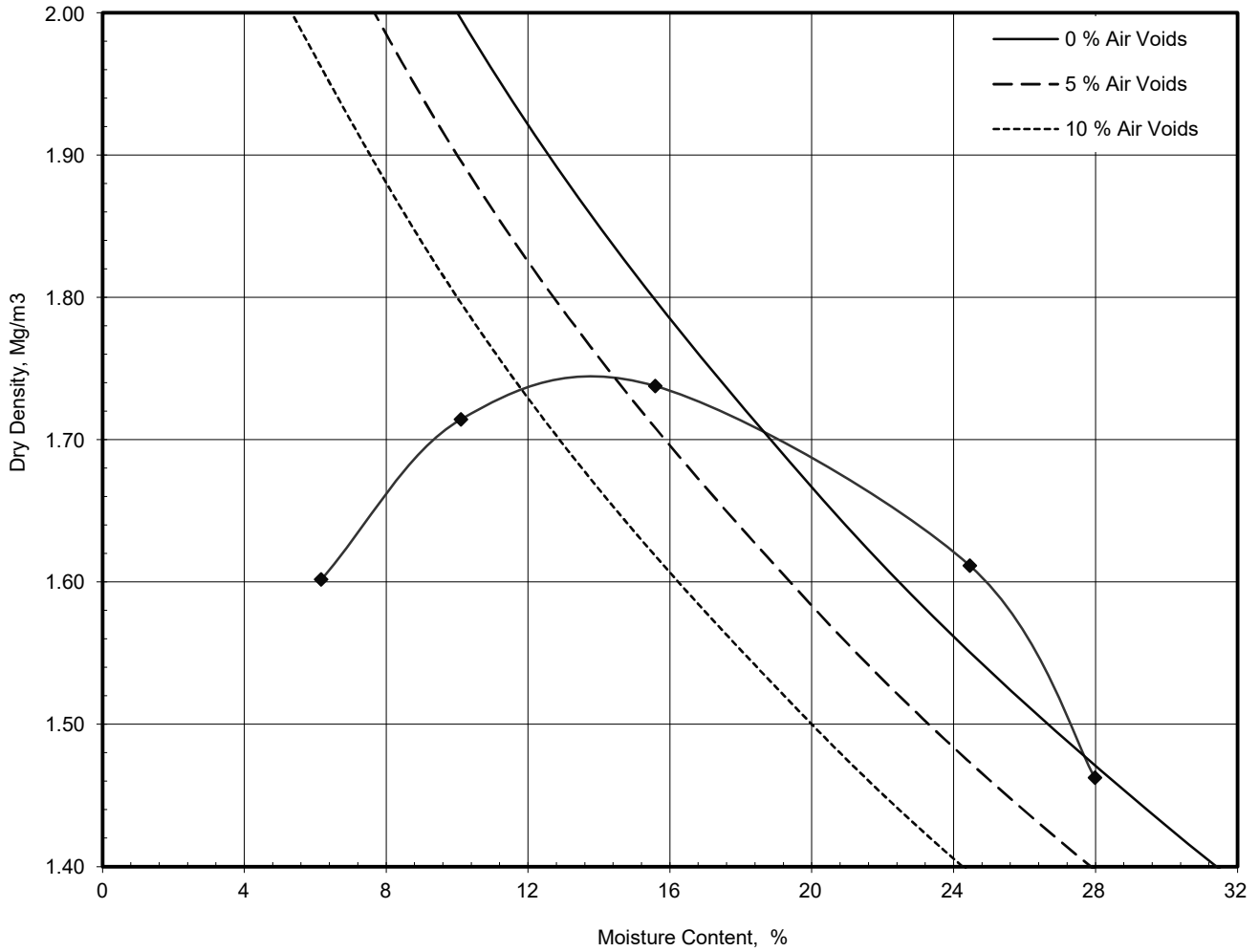
Site Name: **Giga One Envision, Washington**

Soil Description: **Brown, Slightly Sandy, Slightly Silty CLAY**

Specimen Ref. / Specimen Depth: _____ m

Test Method: **BS1377:Part 4:1990, clause 3.3, 2.5kg rammer**

Compaction Test Reference/No. _____



Preparation	Material used was air dried
Mould Type	One Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve %	0
Material Retained on 20.0 mm Sieve %	0
Particle Density - Measured using gas jar Mg/m³	2.50

Maximum Dry Density Mg/m³	1.74
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Optimum Moisture Content %	16
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Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	27/07/2022 16:53	N. Hodson	N. O'Brien 	



Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557U
Borehole / Pit No	Clay
Sample No	MS2301/2
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022072625

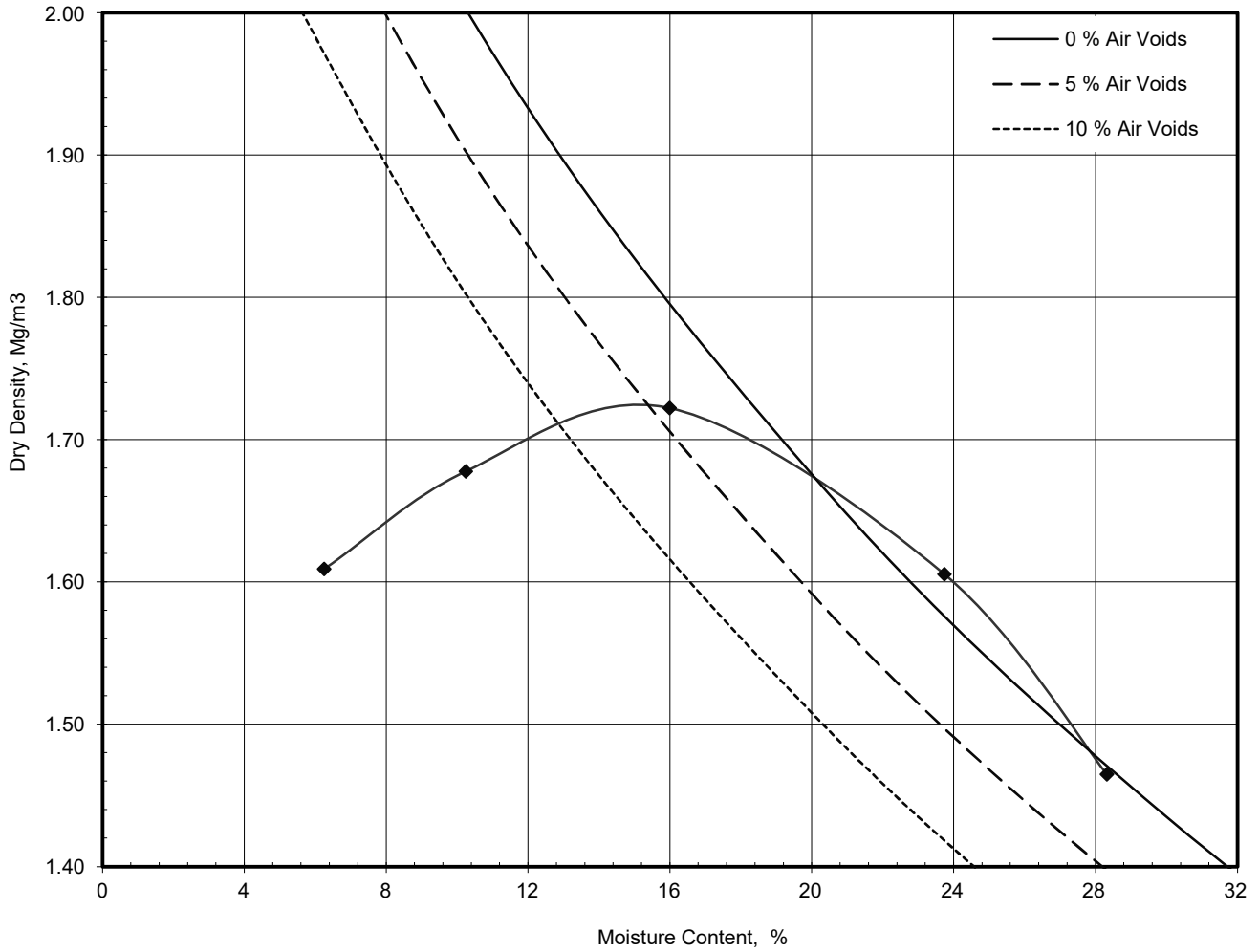
Site Name: **Giga One Envision, Washington**

Soil Description: **Brown, Slightly Sandy, Slightly Silty CLAY**

Specimen Ref. / Specimen Depth: _____ m

Test Method: **BS1377:Part 4:1990, clause 3.3, 2.5kg rammer**

Compaction Test Reference/No. _____



Preparation	Material used was air dried
Mould Type	One Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	0
Material Retained on 20.0 mm Sieve	0
Particle Density - Measured using gas jar	2.52

Maximum Dry Density	1.72
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Optimum Moisture Content	16
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Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	27/07/2022 16:53	N. Hodson	N. O'Brien 	



Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557U
Borehole / Pit No	Clay
Sample No	MS2301/3
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022072626

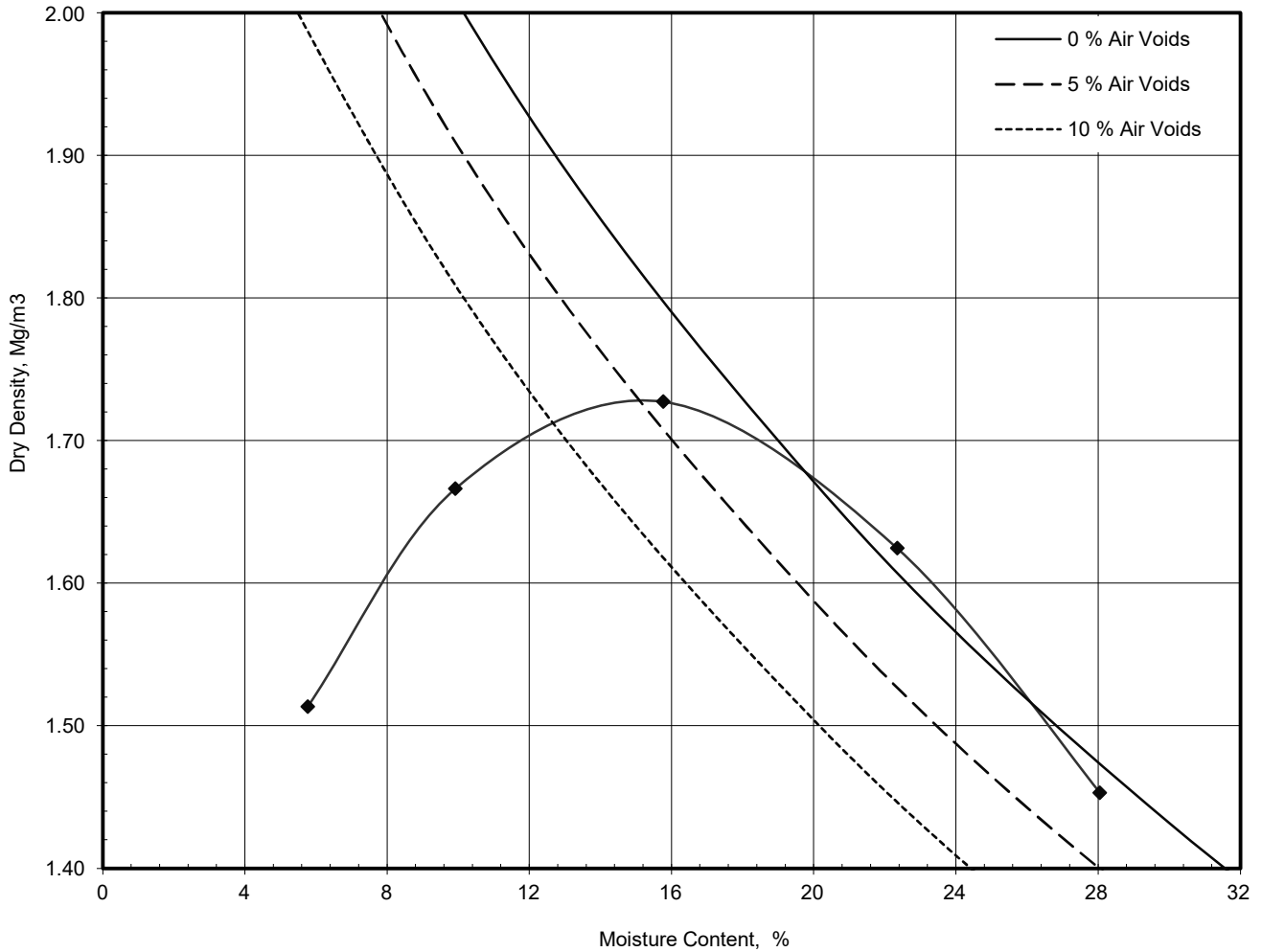
Site Name: **Giga One Envision, Washington**

Soil Description: **Brown, Slightly Sandy, Slightly Silty CLAY**

Specimen Ref. / Specimen Depth: _____ m

Test Method: **BS1377:Part 4:1990, clause 3.3, 2.5kg rammer**

Compaction Test Reference/No. _____



Preparation	Material used was air dried
Mould Type	One Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	0
Material Retained on 20.0 mm Sieve	0
Particle Density - Measured using gas jar	2.51



Maximum Dry Density	1.73
Optimum Moisture Content	16

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	27/07/2022 16:53	N. Hodson	N. O'Brien 	

Laboratory Test Report

Client	Groundwork Services (Durham) Limited
Address	Littleburn Industrial Estate Langley Moor Durham DH7 8HJ
F.A.O	Paul Barton
Project:	Giga One Factory, Washington
Project Number:	D10557W
Report Number:	L22-616
Date Received:	11th July 2022

Testing Required:	Moisture Content - BS:1377-2:1990 Determination of Liquid and Plastic Limits and Plasticity Index - BS:1377-2:1990 (Cone Penetrometer) Particle Size Distribution - BS:1377-2:1990 Sedimentation by Pipette - BS:1377-2:1990 Determination of Maximum Dry Density / Optimum Moisture Content by 2.5kg Rammer - BS:1377-4:1990 Particle Density by Gas Jar - BS:1377-2:1990 Clause 8.2
Date Started:	18th July 2022
Date Finished:	28th July 2022

Report Issue Date:	28th July 2022
Reviewed By:	 Natalie Hodson - Materials Director
Authorised By:	 Nik O'Brien - Laboratory Manager
Remarks:	(*) denotes testing is outside of UKAS Scope of Accreditation. (+) denotes subcontracted testing.

Samples will be stored for one month after the report has been issue before being disposed of.

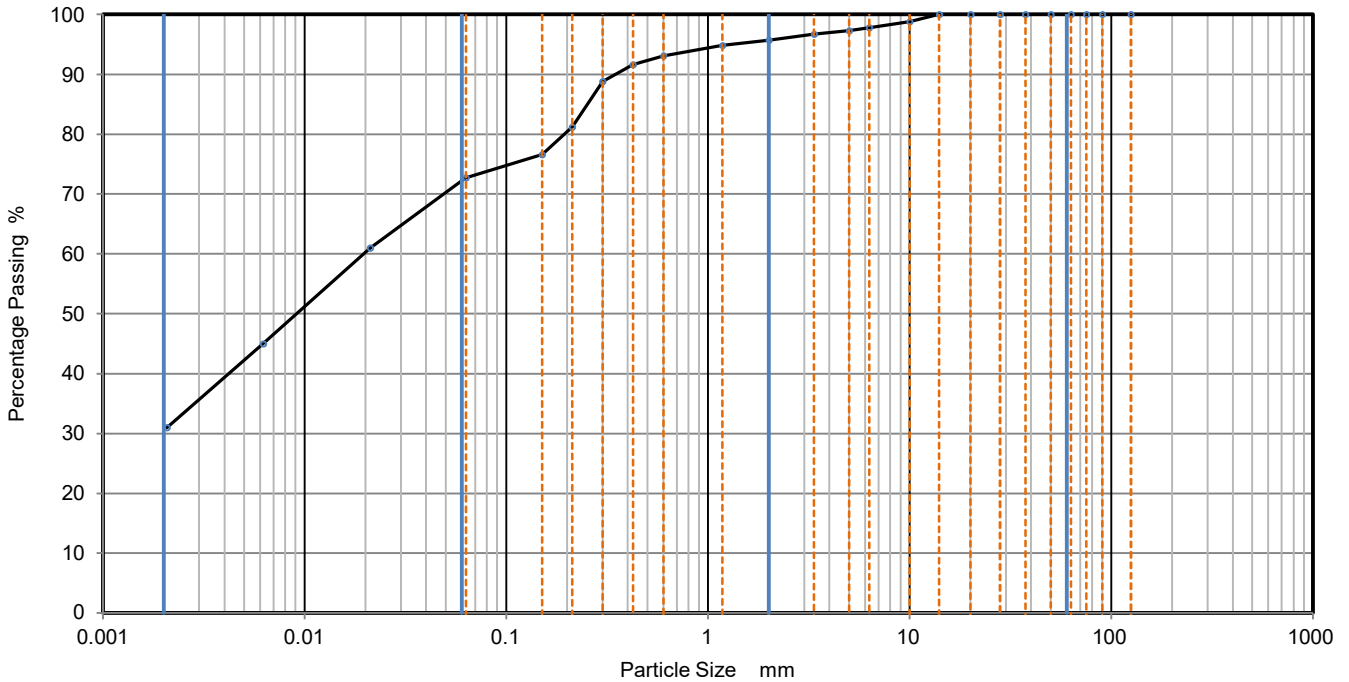
The published results appertain only to the specimens tested.

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PARTICLE SIZE DISTRIBUTION

Job Ref	D10557W
Borehole/Pit No.	Clay
Sample No.	MS2302/1
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022072630

Site Name	Giga One Envision, Washington	
Soil Description	Brown, Sandy, Slightly Silty CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0211	61
90	100	0.0062	45
75	100	0.0021	31
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	98		
5	97		
3.35	97		
2	96		
1.18	95		
0.6	93	Particle density (measured) 2.53 Mg/m ³	
0.425	92		
0.3	89		
0.212	81		
0.15	77		
0.063	73		

Method of pre-treatment	Sodium Hexametaphosphate
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Sample Proportions	% dry mass
Very coarse	0
Gravel	4
Sand	23
Fines <0.063mm	73

Grading Analysis		
D ₁₀₀	mm	
D ₆₀	mm	0.0192
D ₃₀	mm	
D ₁₀	mm	
Uniformity Coefficient		
Curvature Coefficient		

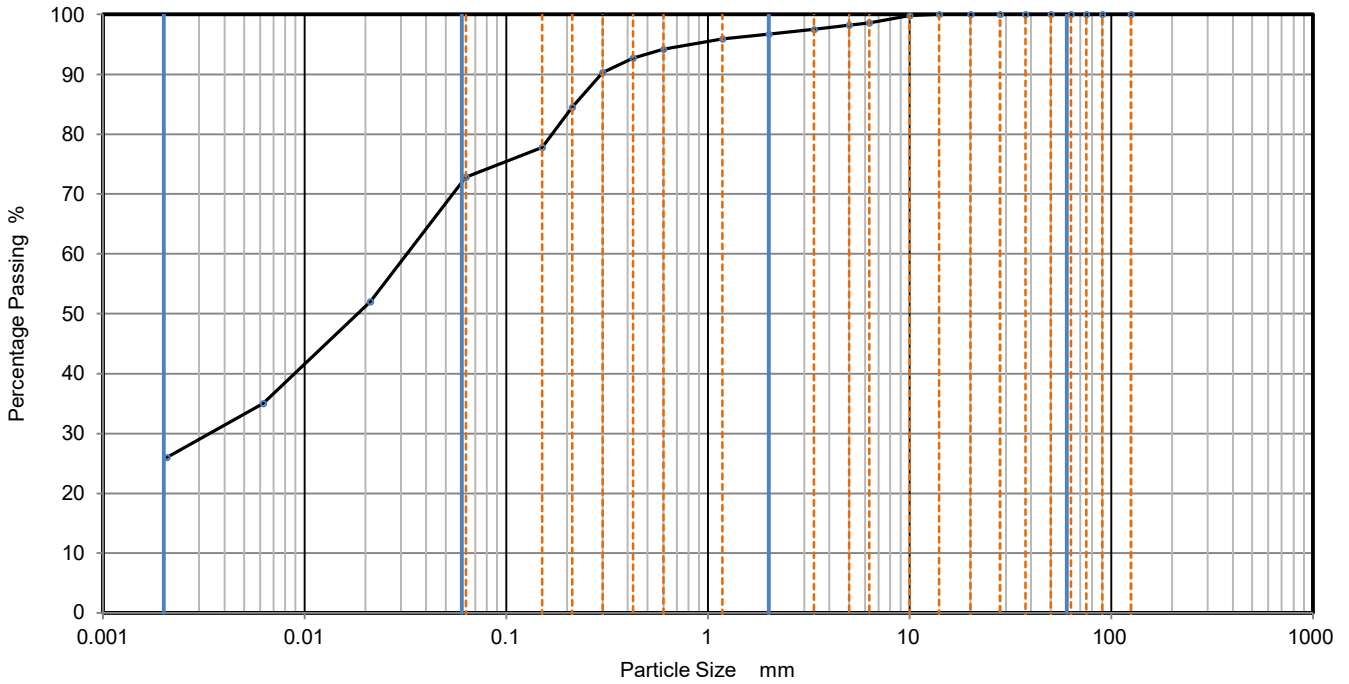
Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
28/07/2022 09:28	N O'Brien		

PARTICLE SIZE DISTRIBUTION

Job Ref	D10557W
Borehole/Pit No.	Clay
Sample No.	MS2302/2
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022072631

Site Name	Giga One Envision, Washington	
Soil Description	Brown, Slightly Sandy, Slightly Silty CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0211	52
90	100	0.0062	35
75	100	0.0021	26
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	98		
3.35	98		
2	97		
1.18	96		
0.6	94	Particle density (measured) 2.53 Mg/m3	
0.425	93		
0.3	90		
0.212	85		
0.15	78		
0.063	73		

Method of pre-treatment	Sodium Hexametaphosphate
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Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	24
Fines <0.063mm	73

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
28/07/2022 09:29	N O'Brien		

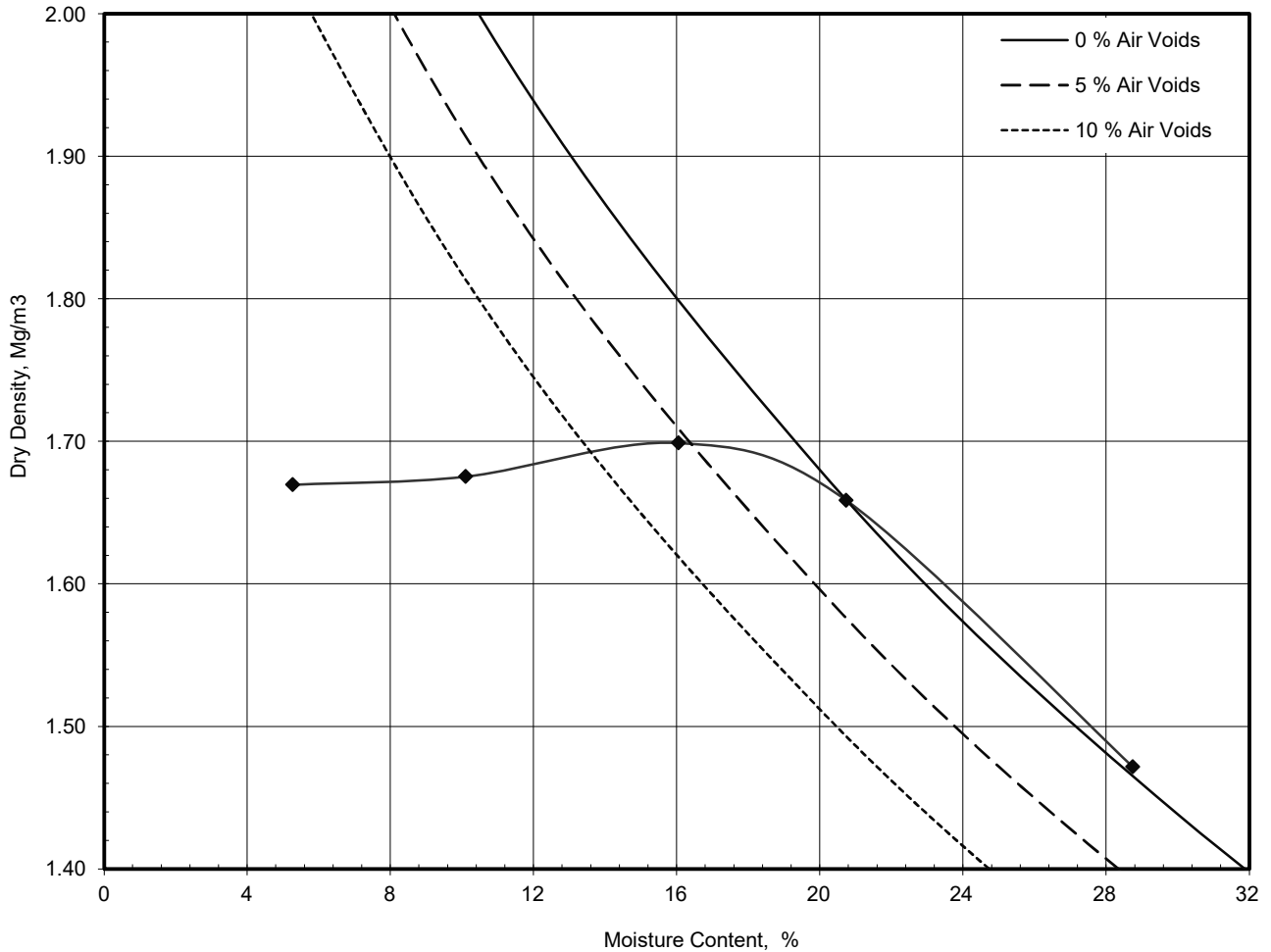


Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557W
Borehole / Pit No	Clay
Sample No	MS2302/1
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022072630

Site Name	Giga One, Washington	Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer
Soil Description	Brown, Slightly Sandy, Slightly Silty CLAY	Specimen Ref.	
Specimen Ref.	Specimen Depth	m	

Compaction Test Reference/No.



Preparation	Material used was air dried
Mould Type	One Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	%
Material Retained on 20.0 mm Sieve	%
Particle Density - Measured using gas jar	Mg/m ³



Maximum Dry Density	1.70
Optimum Moisture Content	16

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	28/07/2022 09:35	N. Hodson	N. O'Brien 	

Laboratory Test Report

Client	Groundwork Services (Durham) Limited
Address	Littleburn Industrial Estate Langley Moor Durham DH7 8HJ
F.A.O	Paul Barton
Project:	Giga One Factory, Washington
Project Number:	D10557X
Report Number:	L22-617
Date Received:	12th July 2022

Testing Required:	Moisture Content - BS:1377-2:1990 Determination of Liquid and Plastic Limits and Plasticity Index - BS:1377-2:1990 (Cone Penetrometer) Particle Size Distribution - BS:1377-2:1990 Sedimentation by Pipette - BS:1377-2:1990
Date Started:	13th July 2022
Date Finished:	19th July 2022

Report Issue Date:	20th July 2022
Reviewed By:	 Natalie Hodson - Materials Director
Authorised By:	 Nik O'Brien - Laboratory Manager
Remarks:	(*) denotes testing is outside of UKAS Scope of Accreditation. (+) denotes subcontracted testing.

Samples will be stored for one month after the report has been issue before being disposed of.

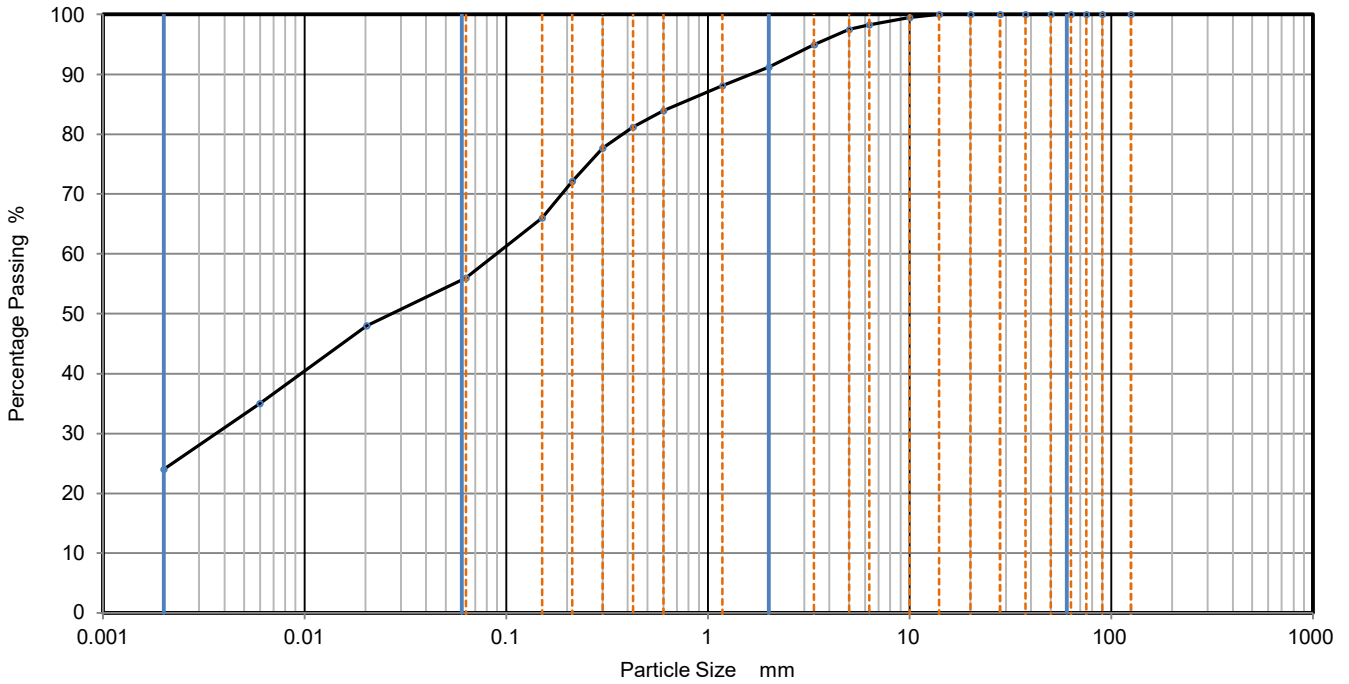
The published results appertain only to the specimens tested.

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PARTICLE SIZE DISTRIBUTION

Job Ref	D10557X
Borehole/Pit No.	Fill
Sample No.	MS2276/1
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022072221

Site Name	Giga One Envision, Washington	
Soil Description	Brown slightly gravelly Sandy CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	48
90	100	0.0060	35
75	100	0.0020	24
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	98		
5	98		
3.35	95		
2	91		
1.18	88		
0.6	84	Particle density (assumed) 2.65 Mg/m ³	
0.425	81		
0.3	78		
0.212	72		
0.15	66		
0.063	56		

Method of pre-treatment	Sodium Hexametaphosphate
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Sample Proportions	% dry mass
Very coarse	0
Gravel	9
Sand	35
Silt	32
Clay	25

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

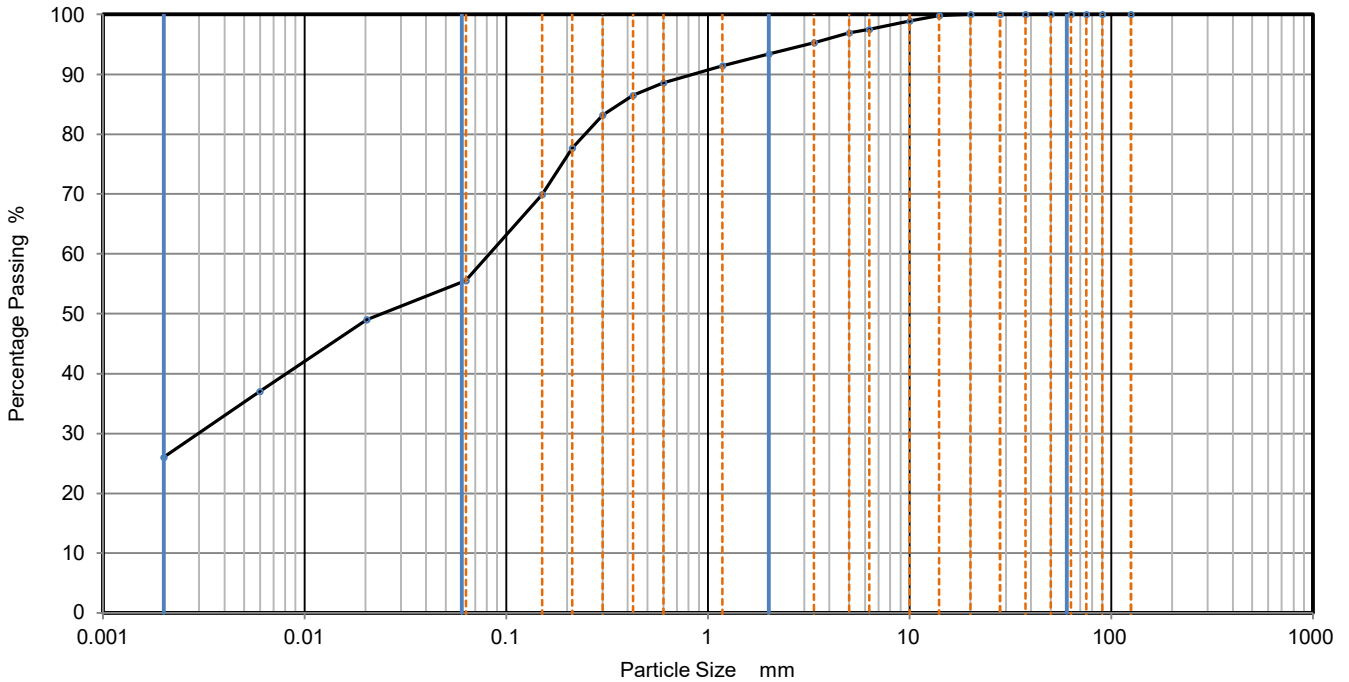
Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
28/07/2022 09:41	N O'Brien		

PARTICLE SIZE DISTRIBUTION

Job Ref	D10557X
Borehole/Pit No.	Fill
Sample No.	MS2276/2
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022072222

Site Name	Giga One Envision, Washington	
Soil Description	Brown slightly gravelly Sandy CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	49
90	100	0.0060	37
75	100	0.0020	26
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	98		
5	97		
3.35	95		
2	93		
1.18	91		
0.6	89	Particle density (assumed) 2.65 Mg/m ³	
0.425	87		
0.3	83		
0.212	78		
0.15	70		
0.063	56		

Method of pre-treatment	Sodium Hexametaphosphate
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Sample Proportions	% dry mass
Very coarse	0
Gravel	7
Sand	38
Silt	30
Clay	26

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

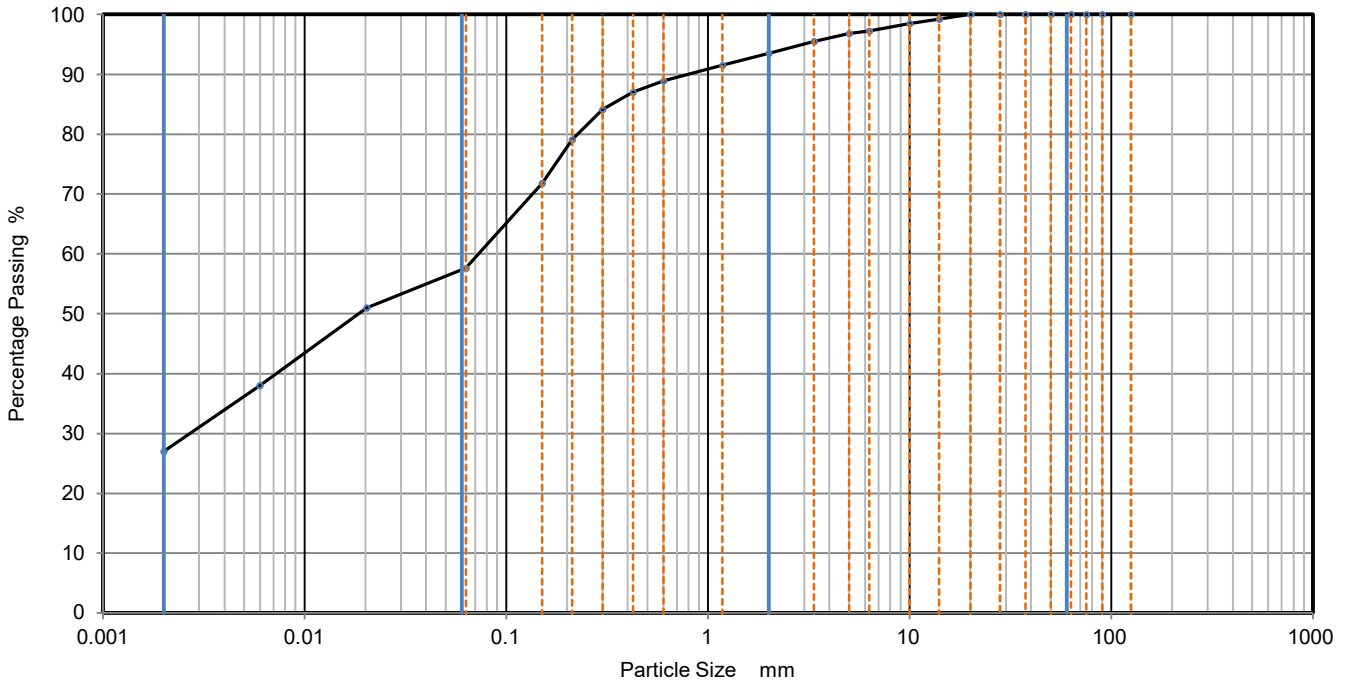
Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
28/07/2022 09:42	N O'Brien		

PARTICLE SIZE DISTRIBUTION

Job Ref	D10557X
Borehole/Pit No.	Fill
Sample No.	MS2276/3
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022072223

Site Name	Giga One Envision, Washington	
Soil Description	Brown slightly gravelly Sandy CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	51
90	100	0.0060	38
75	100	0.0020	27
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	99		
6.3	97		
5	97		
3.35	96		
2	94		
1.18	92		
0.6	89	Particle density (assumed) 2.65 Mg/m ³	
0.425	87		
0.3	84		
0.212	79		
0.15	72		
0.063	58		

Method of pre-treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	7
Sand	36
Silt	31
Clay	27

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm 0.074
D ₃₀	mm 0.0027
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	



Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
28/07/2022 09:42	N O'Brien		

Laboratory Test Report

Client	Groundwork Services (Durham) Limited
Address	Littleburn Industrial Estate Langley Moor Durham DH7 8HJ
F.A.O	Paul Barton
Project:	Giga One Factory, Washington
Project Number:	D10557Y
Report Number:	L22-618
Date Received:	13th July 2022

Testing Required:	Moisture Content - BS:1377-2:1990 Determination of Liquid and Plastic Limits and Plasticity Index - BS:1377-2:1990 (Cone Penetrometer) Particle Size Distribution - BS:1377-2:1990 Sedimentation by Pipette - BS:1377-2:1990 Determination of Maximum Dry Density / Optimum Moisture Content by 2.5kg Rammer - BS:1377-4:1990 Particle Density by Gas Jar - BS:1377-2:1990 Clause 8.2
Date Started:	18th July 2022
Date Finished:	28th July 2022

Report Issue Date:	28th July 2022
Reviewed By:	 Natalie Hodson - Materials Director
Authorised By:	 Nik O'Brien - Laboratory Manager
Remarks:	(*) denotes testing is outside of UKAS Scope of Accreditation. (+) denotes subcontracted testing.

Samples will be stored for one month after the report has been issue before being disposed of.

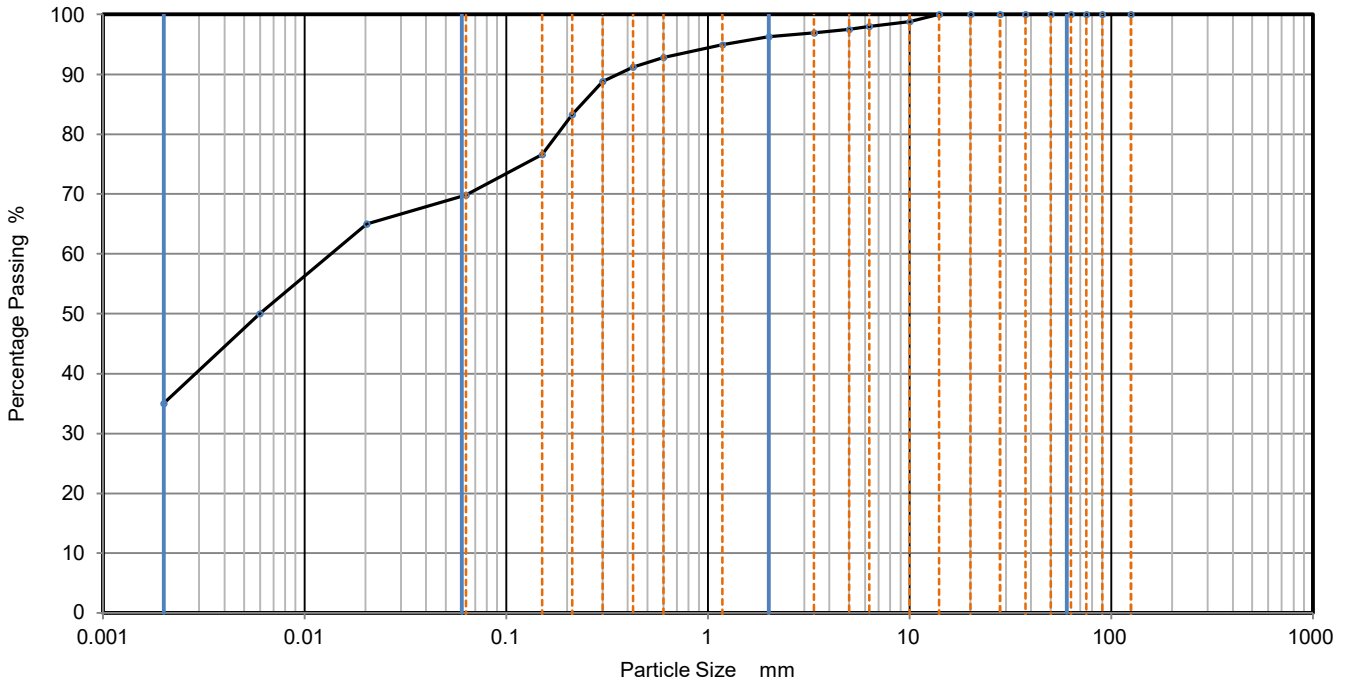
The published results appertain only to the specimens tested.

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PARTICLE SIZE DISTRIBUTION

Job Ref	D10557Y
Borehole/Pit No.	Fill
Sample No.	MS2303/1
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022072612

Site Name	Giga One, Envision, Washington	
Soil Description	Brown, Slightly Gravelly, Sandy CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	65
90	100	0.0060	50
75	100	0.0020	35
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	98		
5	98		
3.35	97		
2	96		
1.18	95		
0.6	93	Particle density (assumed) 2.65 Mg/m3	
0.425	91		
0.3	89		
0.212	83		
0.15	77		
0.063	70		

Method of pre-treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	4
Sand	27
Silt	35
Clay	35

Grading Analysis		
D ₁₀₀	mm	
D ₆₀	mm	0.0135
D ₃₀	mm	
D ₁₀	mm	
Uniformity Coefficient		
Curvature Coefficient		

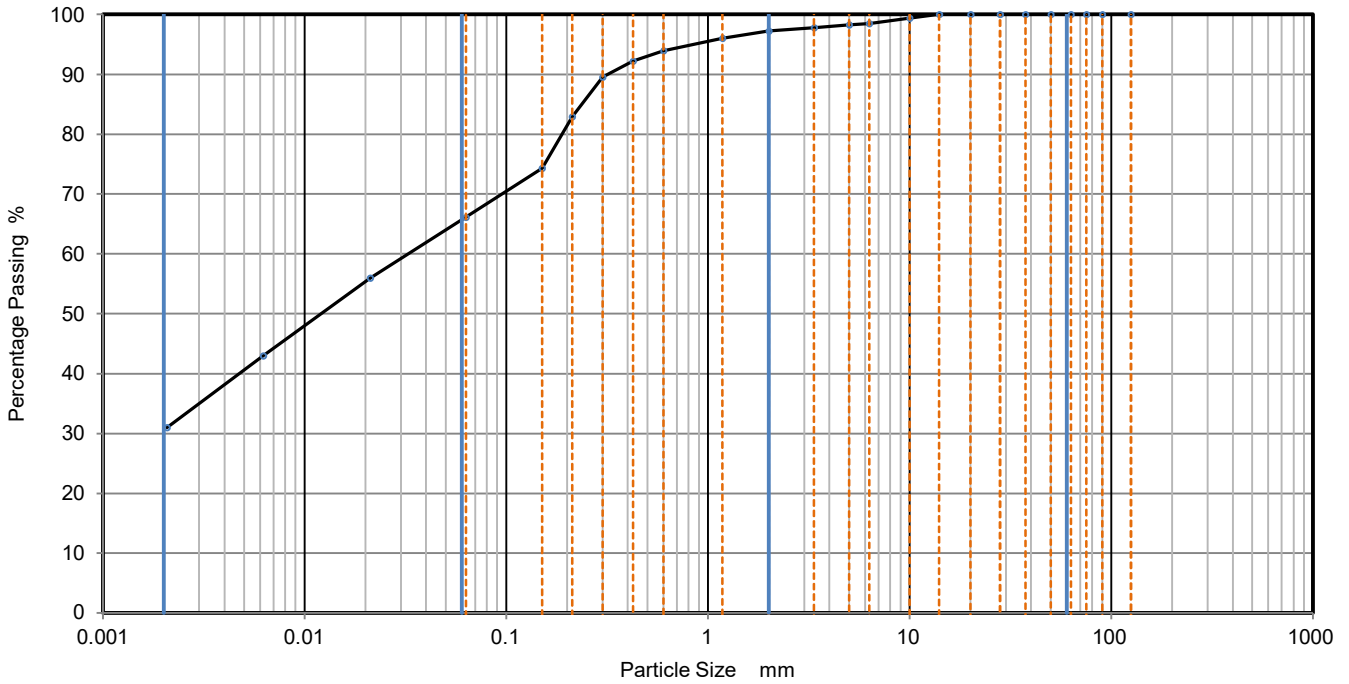
Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
28/07/2022 09:49	N O'Brien		

PARTICLE SIZE DISTRIBUTION

Job Ref	D10557Y
Borehole/Pit No.	Fill
Sample No.	MS2303/2
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022072613

Site Name	Giga One, Envision, Washington	
Soil Description	Brown, Slightly Gravelly, Sandy CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0211	56
90	100	0.0062	43
75	100	0.0021	31
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	98		
3.35	98		
2	97		
1.18	96		
0.6	94	Particle density (measured) 2.53 Mg/m3	
0.425	92		
0.3	90		
0.212	83		
0.15	74		
0.063	66		

Method of pre-treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	31
Fines <0.063mm	66

Grading Analysis		
D ₁₀₀	mm	
D ₆₀	mm	0.032
D ₃₀	mm	
D ₁₀	mm	
Uniformity Coefficient		
Curvature Coefficient		

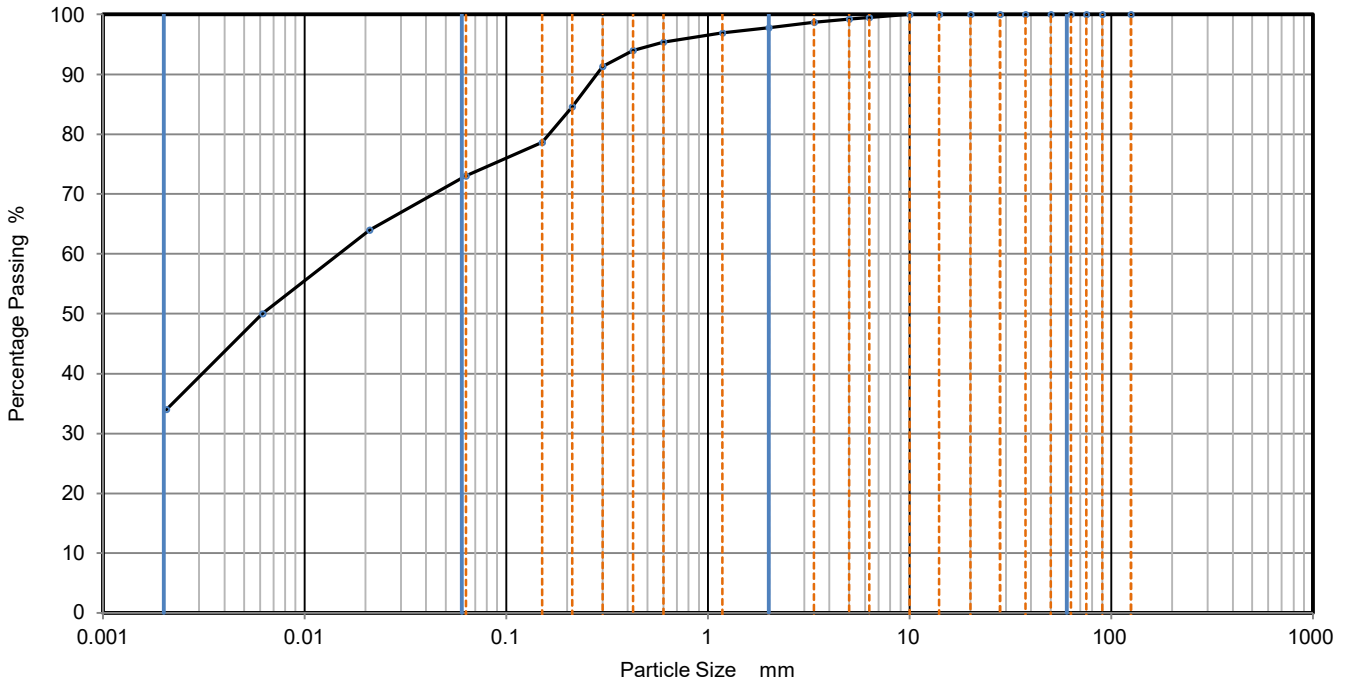
Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
28/07/2022 09:50	N O'Brien		

PARTICLE SIZE DISTRIBUTION

Job Ref	D10557Y
Borehole/Pit No.	Fill
Sample No.	MS2303/3
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022072614

Site Name	Giga One, Envision, Washington		
Soil Description	Brown, Slightly Gravelly, Sandy CLAY		
Specimen Reference	Specimen Depth		m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0210	64
90	100	0.0062	50
75	100	0.0021	34
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	99		
3.35	99		
2	98		
1.18	97		
0.6	95	Particle density (measured) 2.55 Mg/m ³	
0.425	94		
0.3	91		
0.212	85		
0.15	79		
0.063	73		

Method of pre-treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	25
Fines <0.063mm	73

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

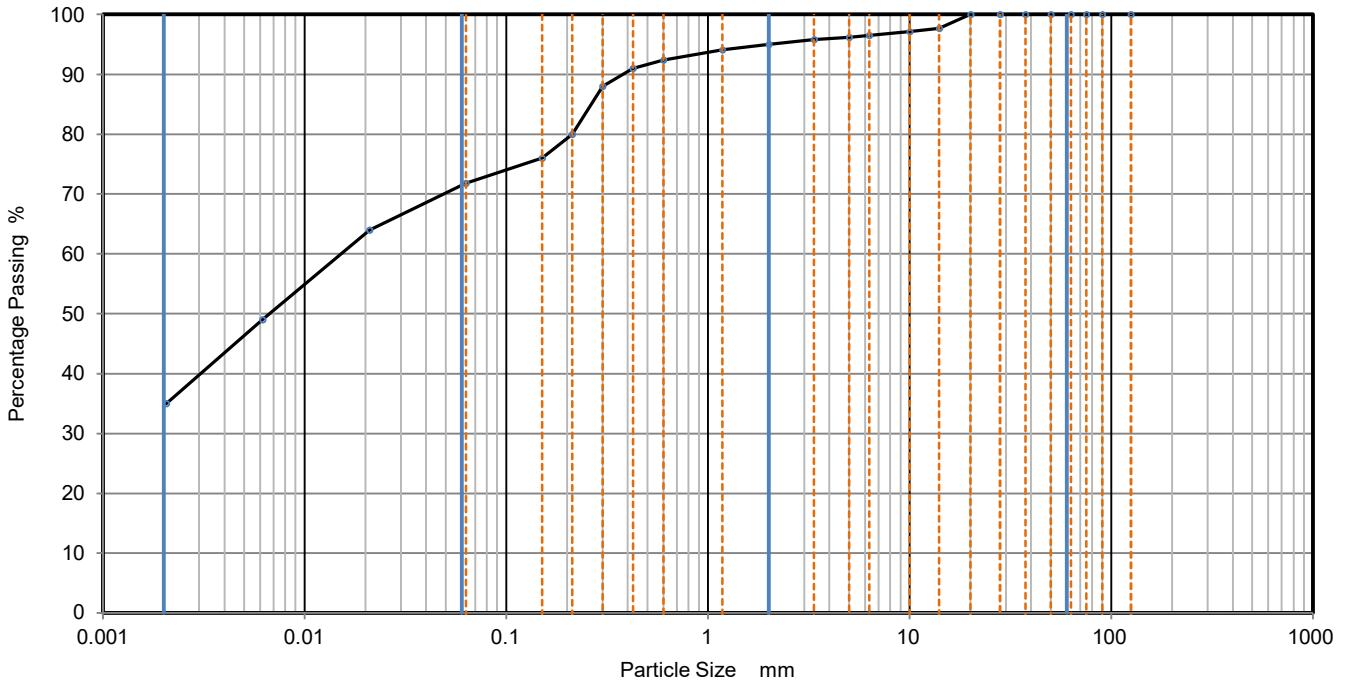
Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
28/07/2022 09:50	N O'Brien		

PARTICLE SIZE DISTRIBUTION

Job Ref	D10557Y
Borehole/Pit No.	Fill
Sample No.	MS2303/4
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022072615

Site Name	Giga One, Envision, Washington	
Soil Description	Brown, Slightly Gravelly, Sandy CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0210	64
90	100	0.0062	49
75	100	0.0021	35
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	98		
10	97		
6.3	97		
5	96		
3.35	96		
2	95		
1.18	94		
0.6	92	Particle density (measured) 2.55 Mg/m ³	
0.425	91		
0.3	88		
0.212	80		
0.15	76		
0.063	72		

Method of pre-treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	5
Sand	23
Fines <0.063mm	72

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

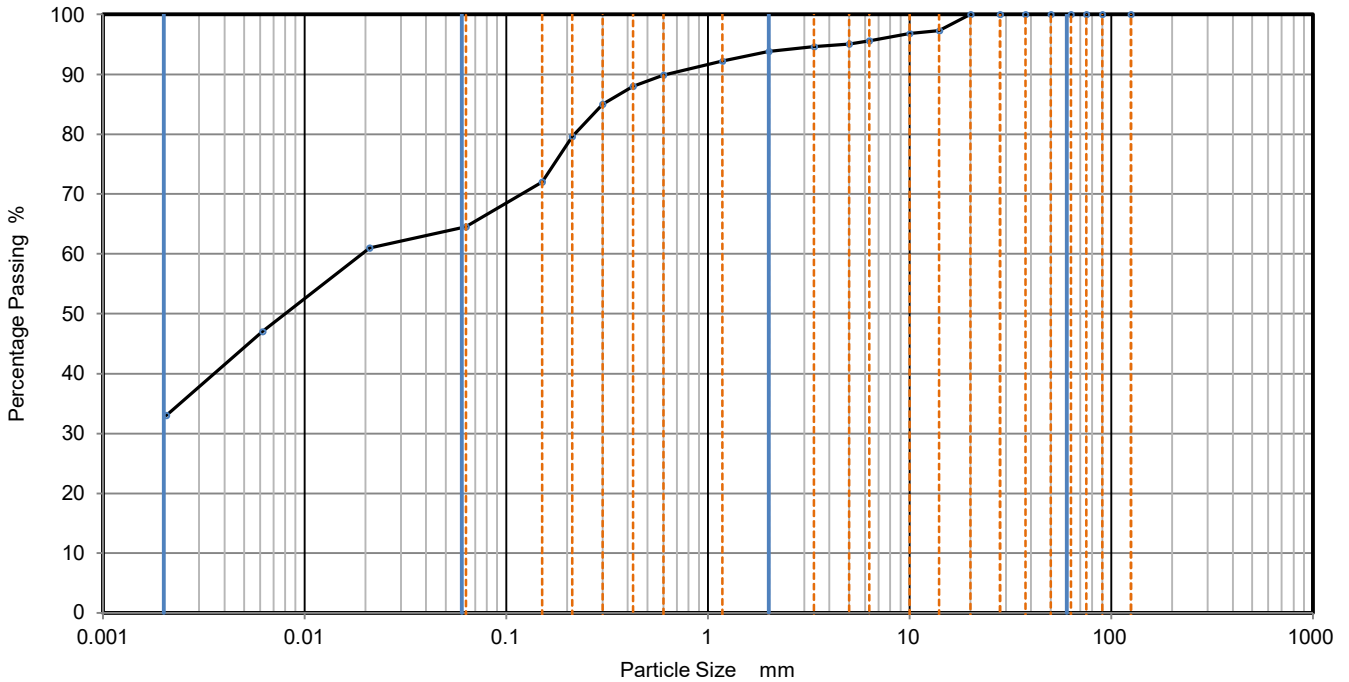
Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
28/07/2022 09:51	N O'Brien		

PARTICLE SIZE DISTRIBUTION

Job Ref	D10557Y
Borehole/Pit No.	Fill
Sample No.	MS2303/5
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022072616

Site Name	Giga One, Envision, Washington	
Soil Description	Brown, Slightly Gravelly, Sandy CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0210	61
90	100	0.0062	47
75	100	0.0021	33
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	97		
10	97		
6.3	96		
5	95		
3.35	95		
2	94		
1.18	92		
0.6	90	Particle density (measured) 2.55 Mg/m ³	
0.425	88		
0.3	85		
0.212	80		
0.15	72		
0.063	65		

Method of pre-treatment	Sodium Hexametaphosphate
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Sample Proportions	% dry mass
Very coarse	0
Gravel	6
Sand	29
Fines <0.063mm	64

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

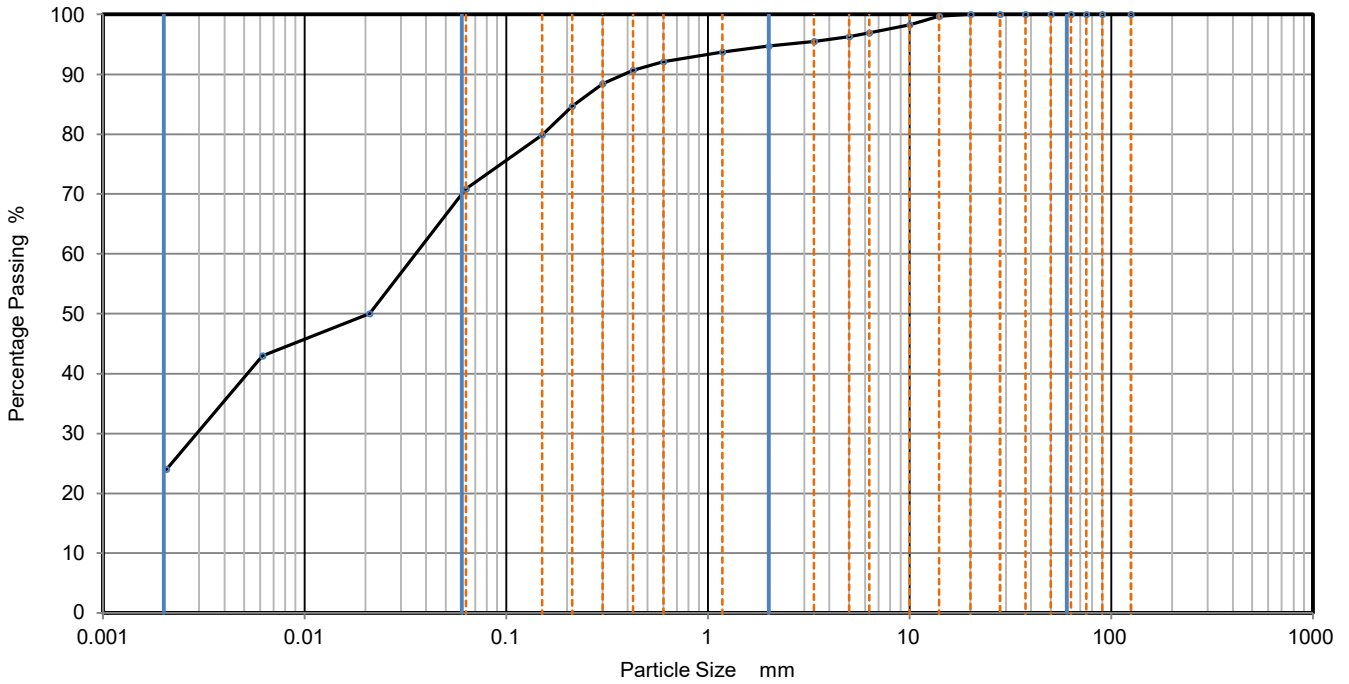
Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
28/07/2022 09:52	N O'Brien		

PARTICLE SIZE DISTRIBUTION

Job Ref	D10557Y
Borehole/Pit No.	Fill
Sample No.	MS2303/6
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022072617

Site Name	Giga One, Envision, Washington	
Soil Description	Brown, Slightly Gravelly, Sandy CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0210	50
90	100	0.0062	43
75	100	0.0021	24
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	98		
6.3	97		
5	96		
3.35	96		
2	95		
1.18	94		
0.6	92	Particle density (measured) 2.55 Mg/m ³	
0.425	91		
0.3	88		
0.212	85		
0.15	80		
0.063	71		

Method of pre-treatment	Sodium Hexametaphosphate
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Sample Proportions	% dry mass
Very coarse	0
Gravel	5
Sand	24
Fines <0.063mm	71

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm 0.0359
D ₃₀	mm 0.00286
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
28/07/2022 09:53	N O'Brien		

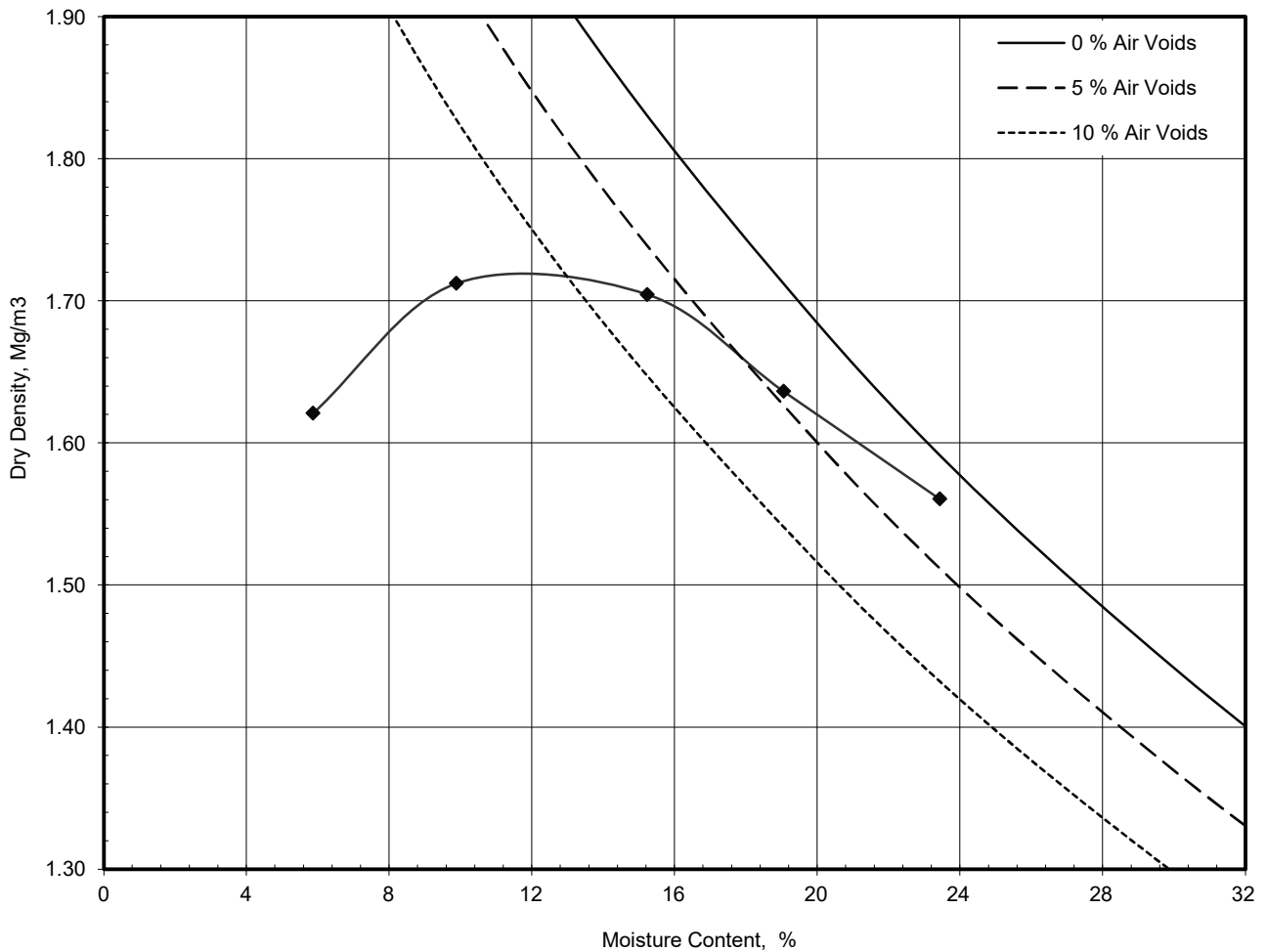


Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557Y
Borehole / Pit No	Fill
Sample No	MS2303/1
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022072612

Site Name	Giga One, Washington	
Soil Description	Brown, Slightly Silty, Sandy CLAY	
Specimen Ref.	Specimen Depth	m
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	

Compaction Test Reference/No.



Preparation	Material used was air dried	
Mould Type	One Litre	
Samples Used	Single sample tested	
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using gas jar	Mg/m ³	2.54
Maximum Dry Density	Mg/m ³	1.71
Optimum Moisture Content	%	15

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	28/07/2022 09:44	N. Hodson	N. O'Brien 	

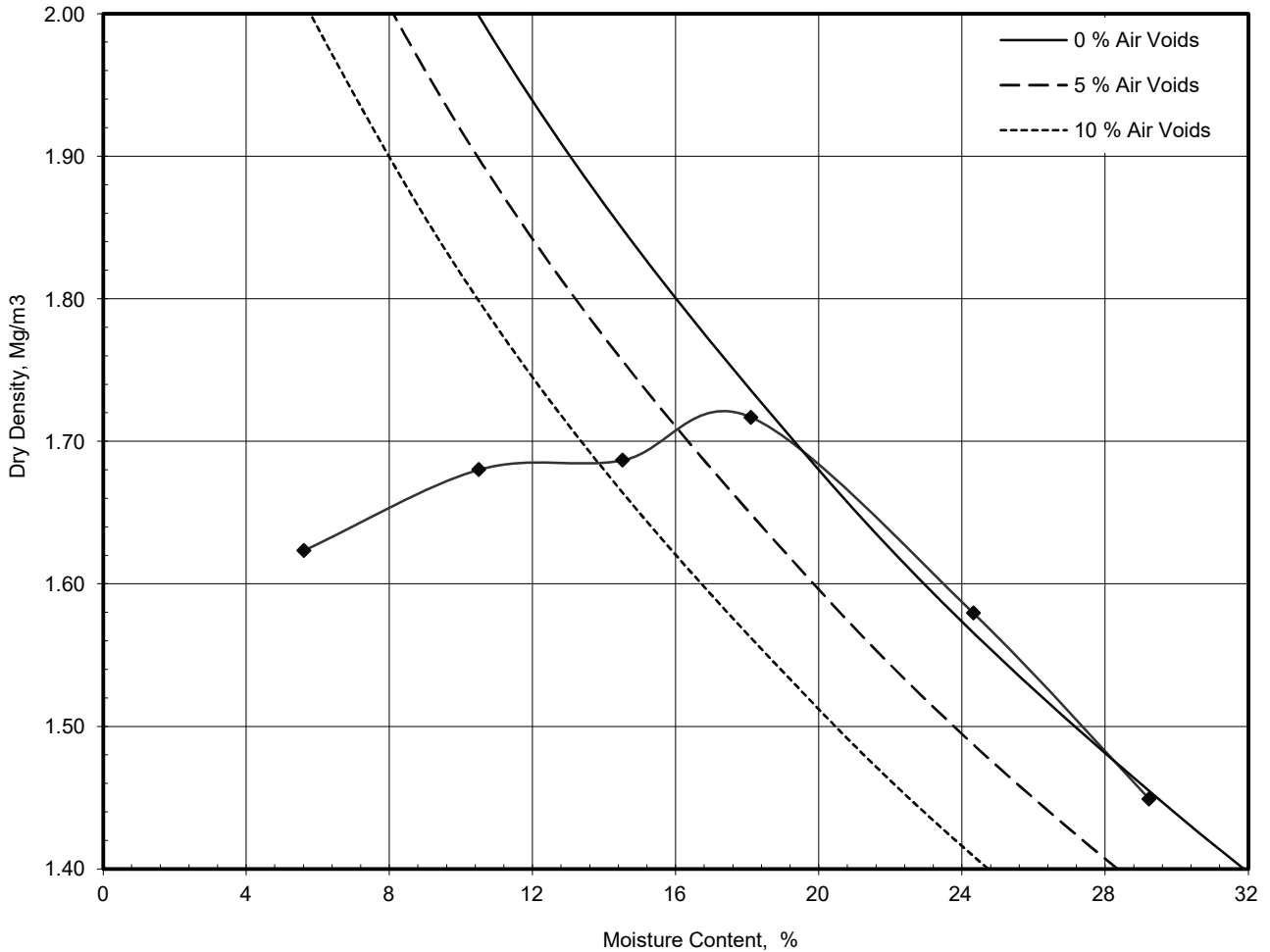


Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557Y
Borehole / Pit No	Fill
Sample No	MS2303/2
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022072613

Site Name	Giga One, Washington
Soil Description	Brown, Slightly Gravelly, Sandy CLAY
Specimen Ref.	Specimen Depth m
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer

Compaction Test Reference/No.



Preparation	Material used was air dried
Mould Type	One Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	0
Material Retained on 20.0 mm Sieve	0
Particle Density - Assumed	2.53

Maximum Dry Density	1.72
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Optimum Moisture Content	16
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Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	28/07/2022 09:47	N. Hodson	N. Hodson 	

Laboratory Test Report

Client	Groundwork Services (Durham) Limited
Address	Littleburn Industrial Estate Langley Moor Durham DH7 8HJ
F.A.O	Paul Barton
Project:	Giga One Factory, Washington
Project Number:	D10557Z
Report Number:	L22-619
Date Received:	14th July 2022

Testing Required:	Moisture Content - BS:1377-2:1990 Determination of Liquid and Plastic Limits and Plasticity Index - BS:1377-2:1990 (Cone Penetrometer) Particle Size Distribution - BS:1377-2:1990 Sedimentation by Pipette - BS:1377-2:1990 Determination of Maximum Dry Density / Optimum Moisture Content by 2.5kg Rammer - BS:1377-4:1990 Particle Density by Gas Jar - BS:1377-2:1990 Clause 8.2
Date Started:	18th July 2022
Date Finished:	28th July 2022

Report Issue Date:	28th July 2022
Reviewed By:	 Natalie Hodson - Materials Director
Authorised By:	 Nik O'Brien - Laboratory Manager
Remarks:	(*) denotes testing is outside of UKAS Scope of Accreditation. (+) denotes subcontracted testing.

Samples will be stored for one month after the report has been issue before being disposed of.

The published results appertain only to the specimens tested.

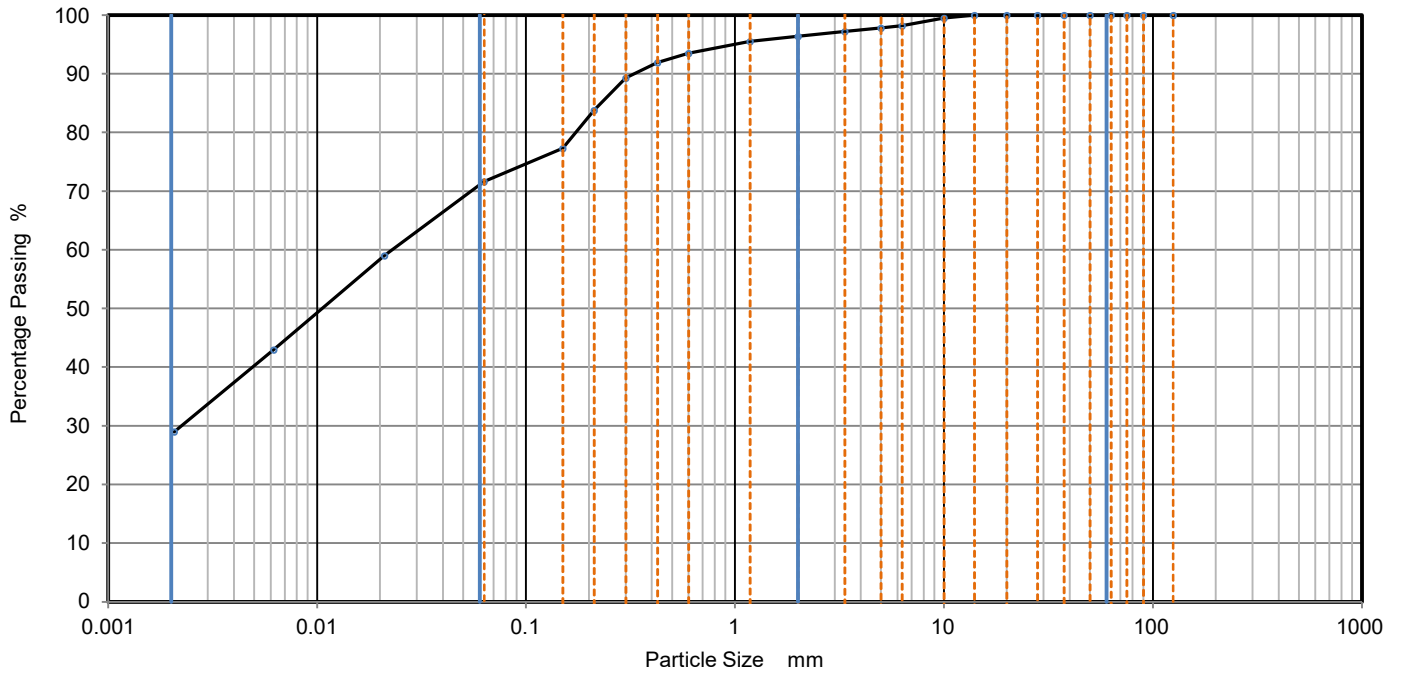
Exploration and Testing Associates Limited, registered in England and Wales #11803869 at 8B, Bowburn South Industrial Estate, Bowburn, Durham, DH6 5AD



PARTICLE SIZE DISTRIBUTION

Job Ref	D10557Z
Borehole/Pit No.	Clay
Sample No.	MS2304/1
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022072618

Site Name	Giga One, Washington	
Soil Description	Brown Slightly Gravelly, Sandy CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0210	59
90	100	0.0062	43
75	100	0.0021	29
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	98		
5	98		
3.35	97		
2	96		
1.18	96		
0.6	94	Particle density (measured) 2.54 Mg/m ³	
0.425	92		
0.3	89		
0.212	84		
0.15	77		
0.063	72		

Method of Pre-Treatment	Sodium Hexametaphosphate
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Sample Proportions	% dry mass
Very coarse	0
Gravel	4
Sand	25
Fines <0.063mm	72

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

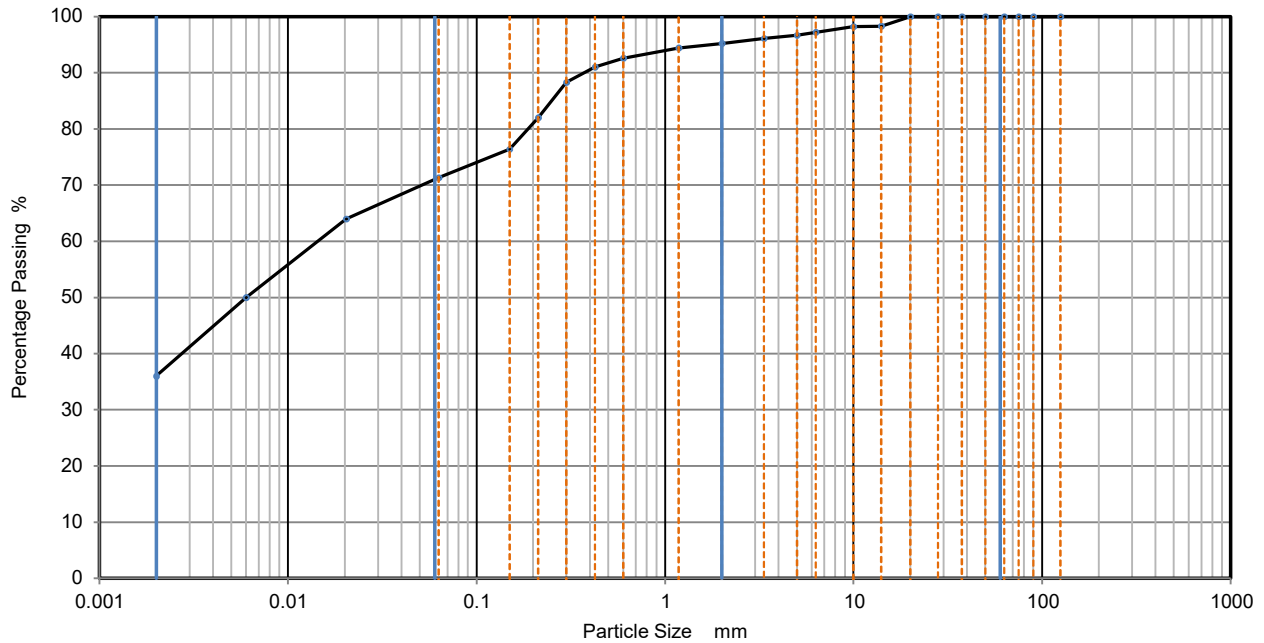
Date	Approved By		UKAS Accredited Laboratory No. 20632
28/07/2022 14:50	N O'Brien		

PARTICLE SIZE DISTRIBUTION

Job Ref **D10557Z**

Borehole/Pit No. **Clay**

Site Name	Giga One, Washington	Sample No.	MS2304/2
Soil Description	Brown Slightly Gravelly, Sandy CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	m	Sample Type
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4		KeyLAB ID
			EAT_2022072619



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	64
90	100	0.0060	50
75	100	0.0020	36
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	98		
10	98		
6.3	97		
5	97		
3.35	96		
2	95		
1.18	94		
0.6	93	Particle density (assumed) 2.65 Mg/m ³	
0.425	91		
0.3	88		
0.212	82		
0.15	76		
0.063	71		

Method of Pre-Treatment	Sodium Hexametaphosphate
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Sample Proportions	% dry mass
Very coarse	0
Gravel	5
Sand	24
Silt	35
Clay	36

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

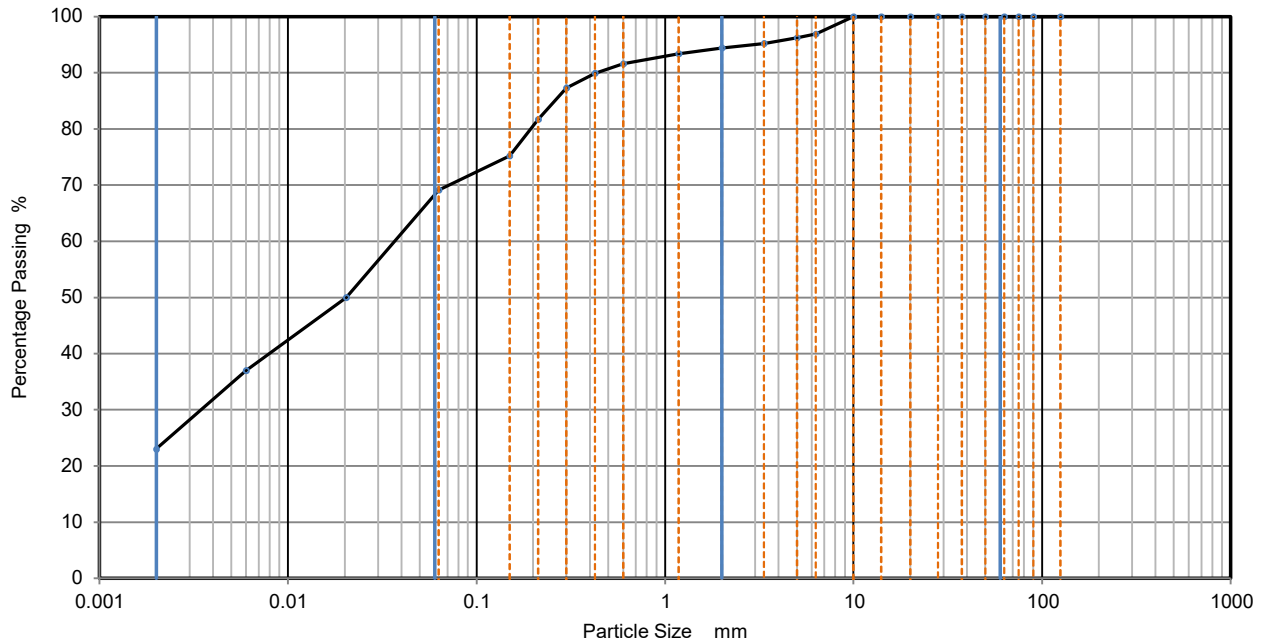
Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
28/07/2022 13:47	N O'Brien		

PARTICLE SIZE DISTRIBUTION

Job Ref	D10557Z
Borehole/Pit No.	Clay
Sample No.	MS2304/3
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022072620

Site Name	Giga One, Washington	
Soil Description	Brown Slightly Gravelly, Sandy CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	50
90	100	0.0060	37
75	100	0.0020	23
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	97		
5	96		
3.35	95		
2	94		
1.18	93		
0.6	92	Particle density (assumed) 2.65 Mg/m ³	
0.425	90		
0.3	87		
0.212	82		
0.15	75		
0.063	69		

Method of Pre-Treatment	Sodium Hexametaphosphate
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Sample Proportions	% dry mass
Very coarse	0
Gravel	6
Sand	25
Silt	46
Clay	23

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm 0.0368
D ₃₀	mm 0.00348
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

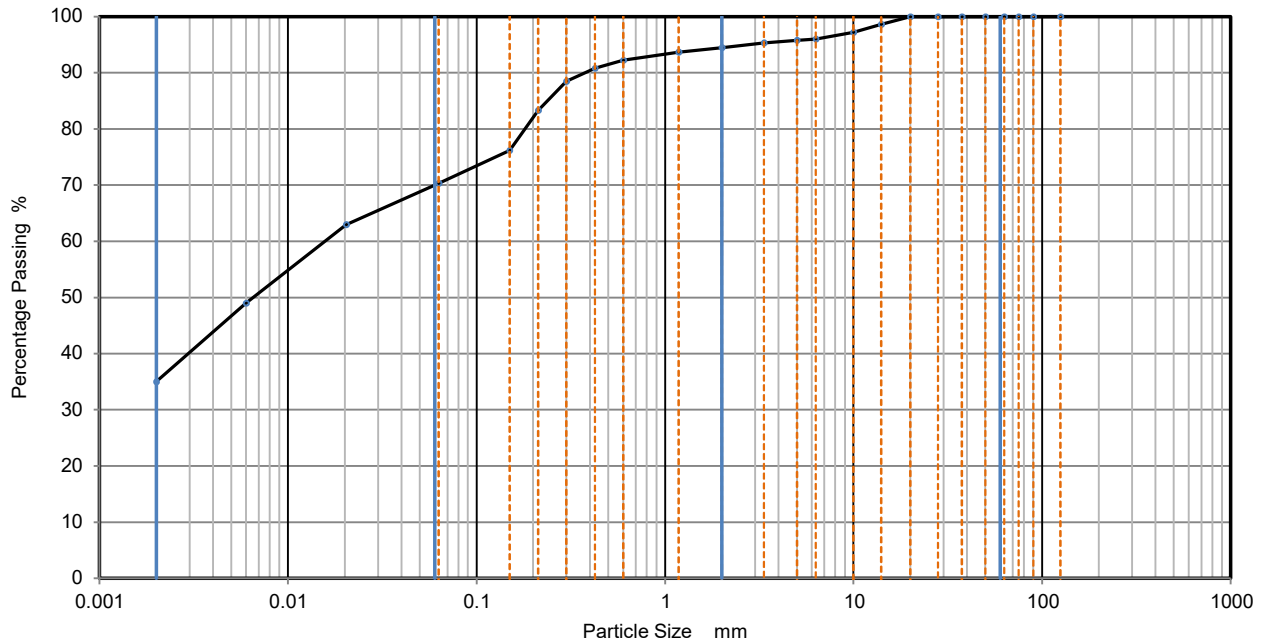
Date	Approved By		UKAS Accredited Laboratory No. 20632
28/07/2022 13:47	N O'Brien		



PARTICLE SIZE DISTRIBUTION

Job Ref	D10557Z
Borehole/Pit No.	Clay
Sample No.	MS2304/4
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022072621

Site Name	Giga One, Washington	
Soil Description	Brown Slightly Gravelly, Sandy CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	63
90	100	0.0060	49
75	100	0.0020	35
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	97		
6.3	96		
5	96		
3.35	95		
2	95		
1.18	94		
0.6	92	Particle density (assumed) 2.65 Mg/m ³	
0.425	91		
0.3	89		
0.212	83		
0.15	76		
0.063	70		

Method of Pre-Treatment	Sodium Hexametaphosphate
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Sample Proportions	% dry mass
Very coarse	0
Gravel	6
Sand	24
Silt	35
Clay	35

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

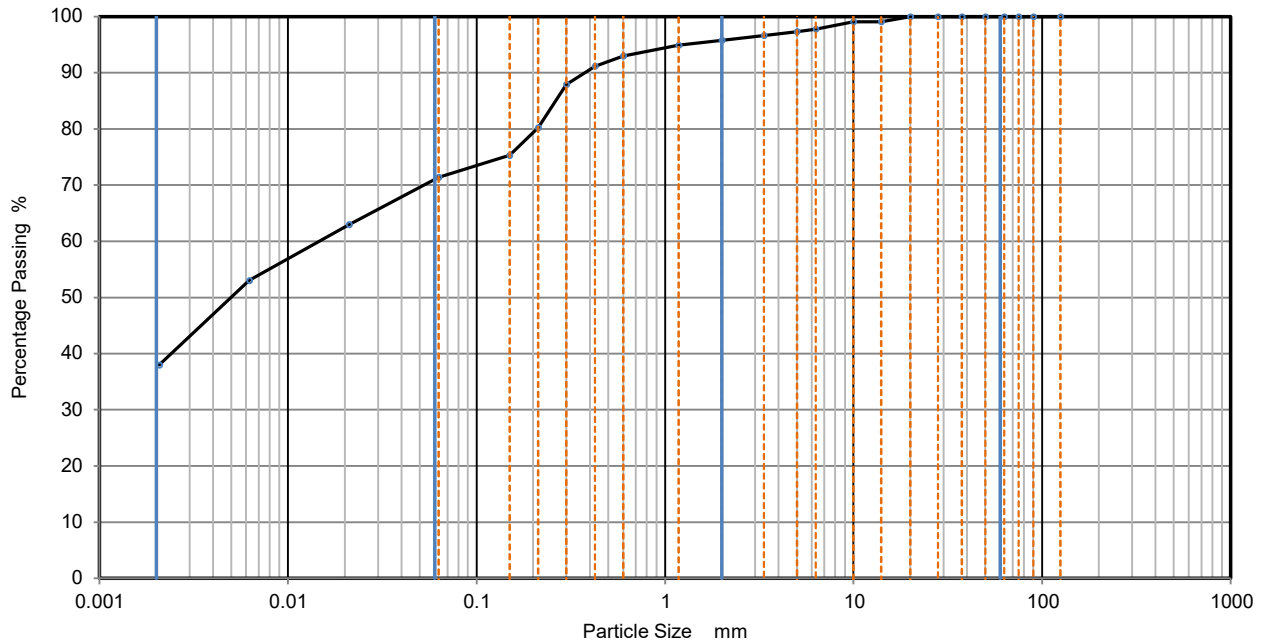
Date	Approved By		UKAS Accredited Laboratory No. 20632
28/07/2022 13:48	N O'Brien		



PARTICLE SIZE DISTRIBUTION

Job Ref	D10557Z
Borehole/Pit No.	Clay
Sample No.	MS2304/5
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022072622

Site Name	Giga One, Washington	
Soil Description	Brown Slightly Gravelly, Sandy CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0211	63
90	100	0.0062	53
75	100	0.0021	38
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	99		
6.3	98		
5	97		
3.35	97		
2	96		
1.18	95		
0.6	93		
0.425	91	Particle density (measured) 2.53 Mg/m ³	
0.3	88		
0.212	80		
0.15	75		
0.063	71		

Method of Pre-Treatment	Sodium Hexametaphosphate
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Sample Proportions	% dry mass
Very coarse	0
Gravel	4
Sand	24
Fines <0.063mm	71

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

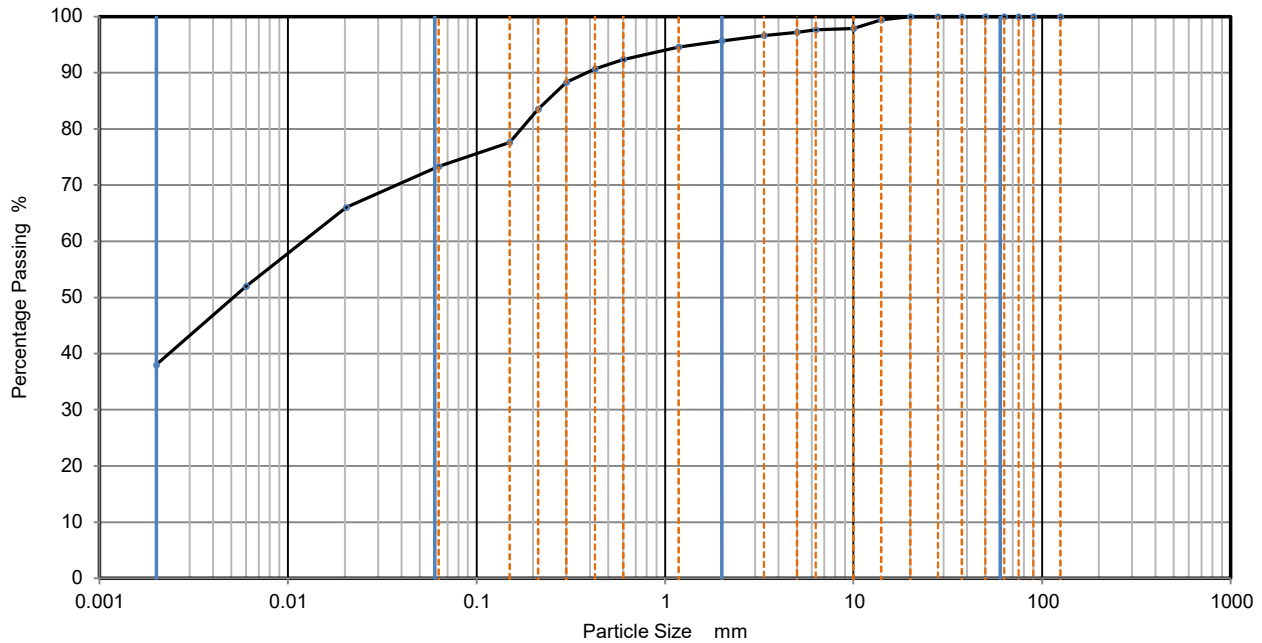
Date	Approved By		UKAS Accredited Laboratory No. 20632
28/07/2022 13:48	N O'Brien		



PARTICLE SIZE DISTRIBUTION

Job Ref	D10557Z
Borehole/Pit No.	Clay
Sample No.	MS2304/6
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022072623

Site Name	Giga One, Washington	
Soil Description	Brown Slightly Gravelly, Sandy CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	66
90	100	0.0060	52
75	100	0.0020	38
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	98		
6.3	98		
5	97		
3.35	97		
2	96		
1.18	95		
0.6	92	Particle density (assumed) 2.65 Mg/m ³	
0.425	91		
0.3	88		
0.212	84		
0.15	78		
0.063	73		

Method of Pre-Treatment	Sodium Hexametaphosphate
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Sample Proportions	% dry mass
Very coarse	0
Gravel	4
Sand	23
Silt	36
Clay	38

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
28/07/2022 13:49	N O'Brien		

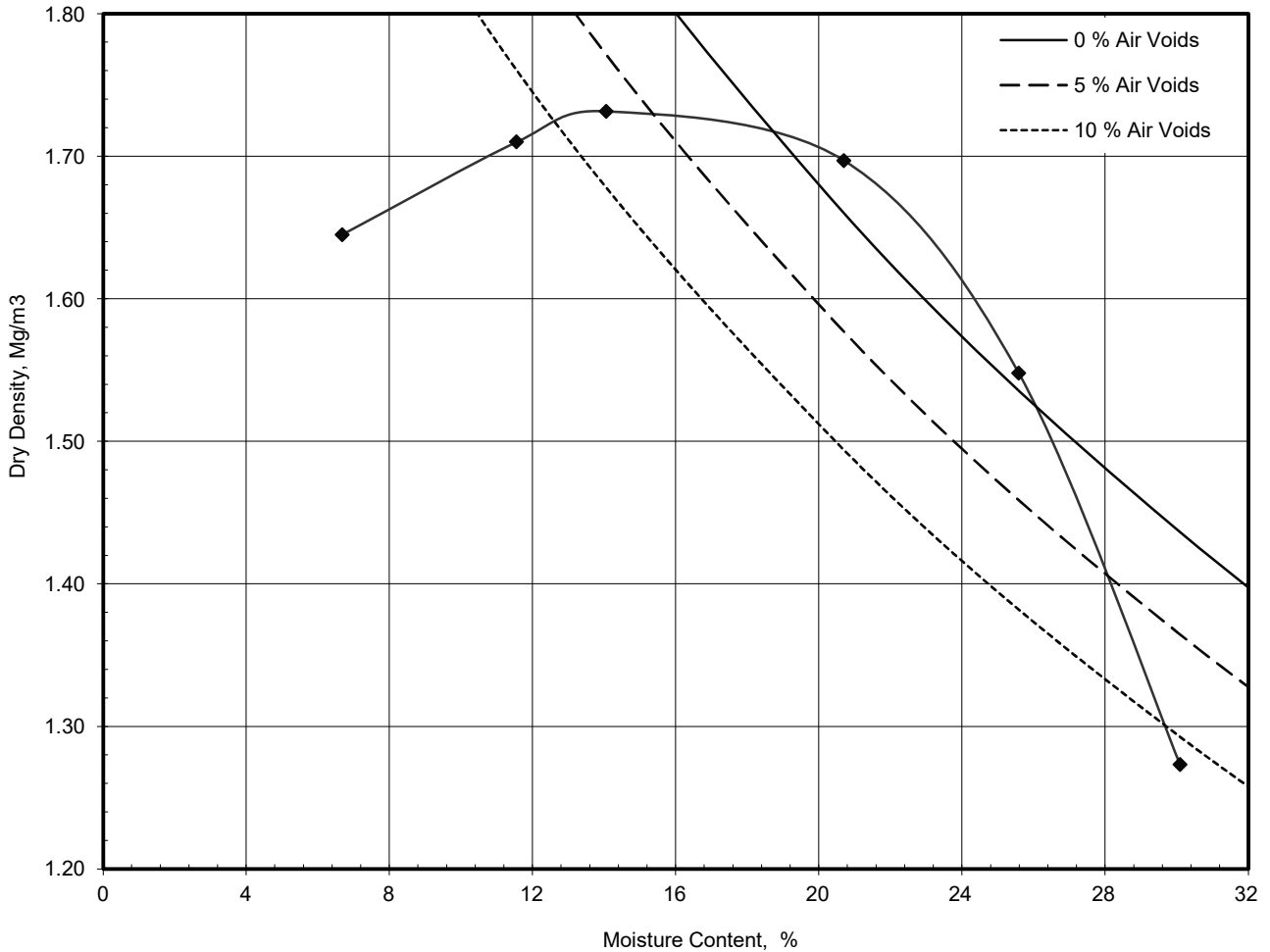


Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557Z
Borehole / Pit No	Clay
Sample No	MS2304/1
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022072618

Site Name	Giga One, Washington	
Soil Description	Brown, Slightly Sandy, Slightly Silty CLAY	
Specimen Ref.	Specimen Depth	m
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	

Compaction Test Reference/No.



Preparation	Material used was air dried	
Mould Type	One Litre	
Samples Used	Single sample tested	
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using gas jar	Mg/m ³	2.53
Maximum Dry Density	Mg/m ³	1.73
Optimum Moisture Content	%	17

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	28/07/2022 09:57	N. Hodson	N. O'Brien 	

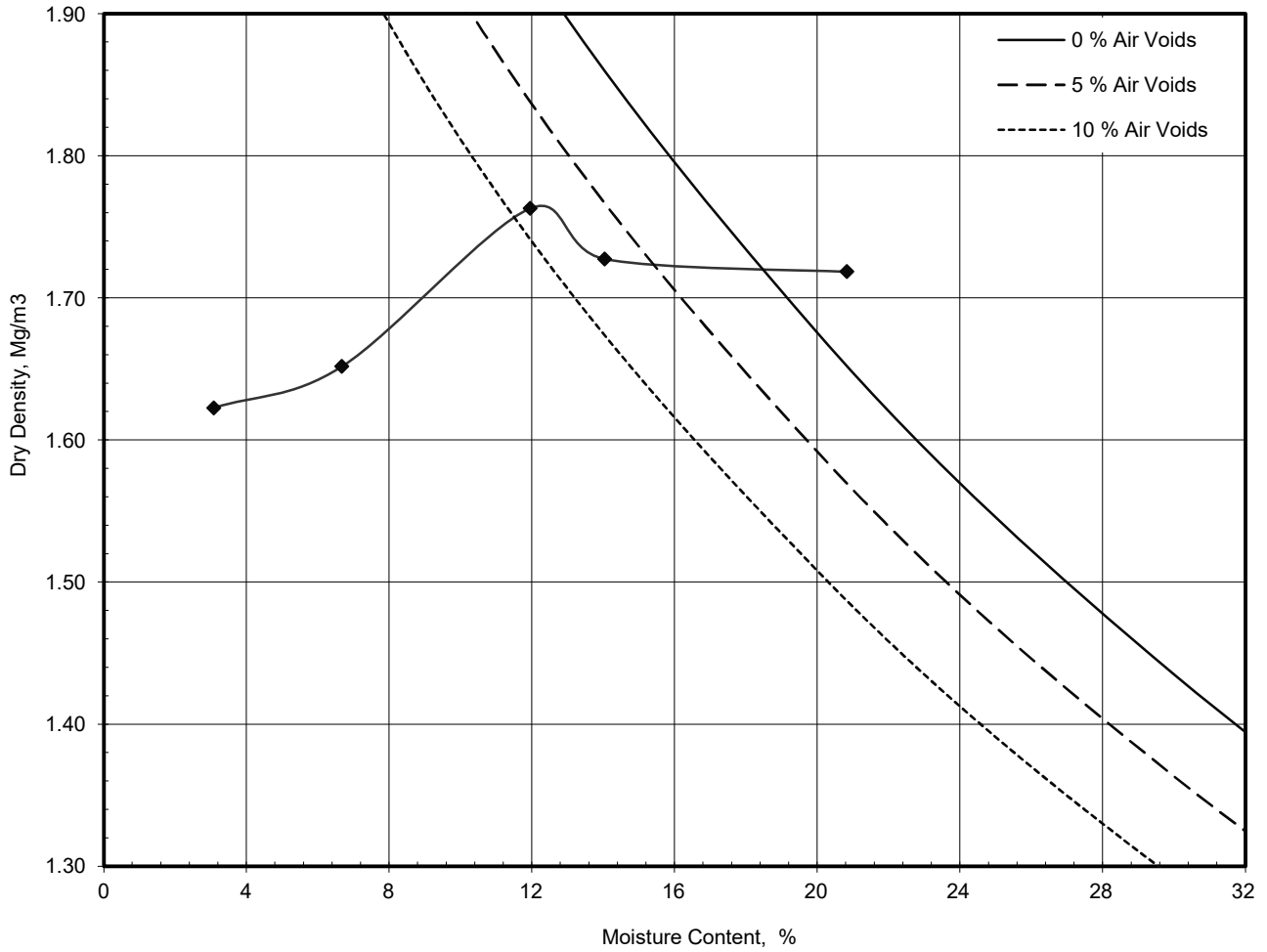


Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557Z
Borehole / Pit No	Clay
Sample No	MS2304/2
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022072619

Site Name	Giga One, Washington	
Soil Description	Brown, Slightly Sandy, Slightly Silty CLAY	
Specimen Ref.	Specimen Depth	m
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	

Compaction Test Reference/No.



Preparation	Material used was air dried
Mould Type	One Litre
Samples Used	Single Sample Used
Material Retained on 37.5 mm Sieve	0
Material Retained on 20.0 mm Sieve	0
Particle Density - Measured using gas jar	2.52

Maximum Dry Density	1.76
Optimum Moisture Content	12

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	28/07/2022 09:59	N. Hodson	N. O'Brien 	

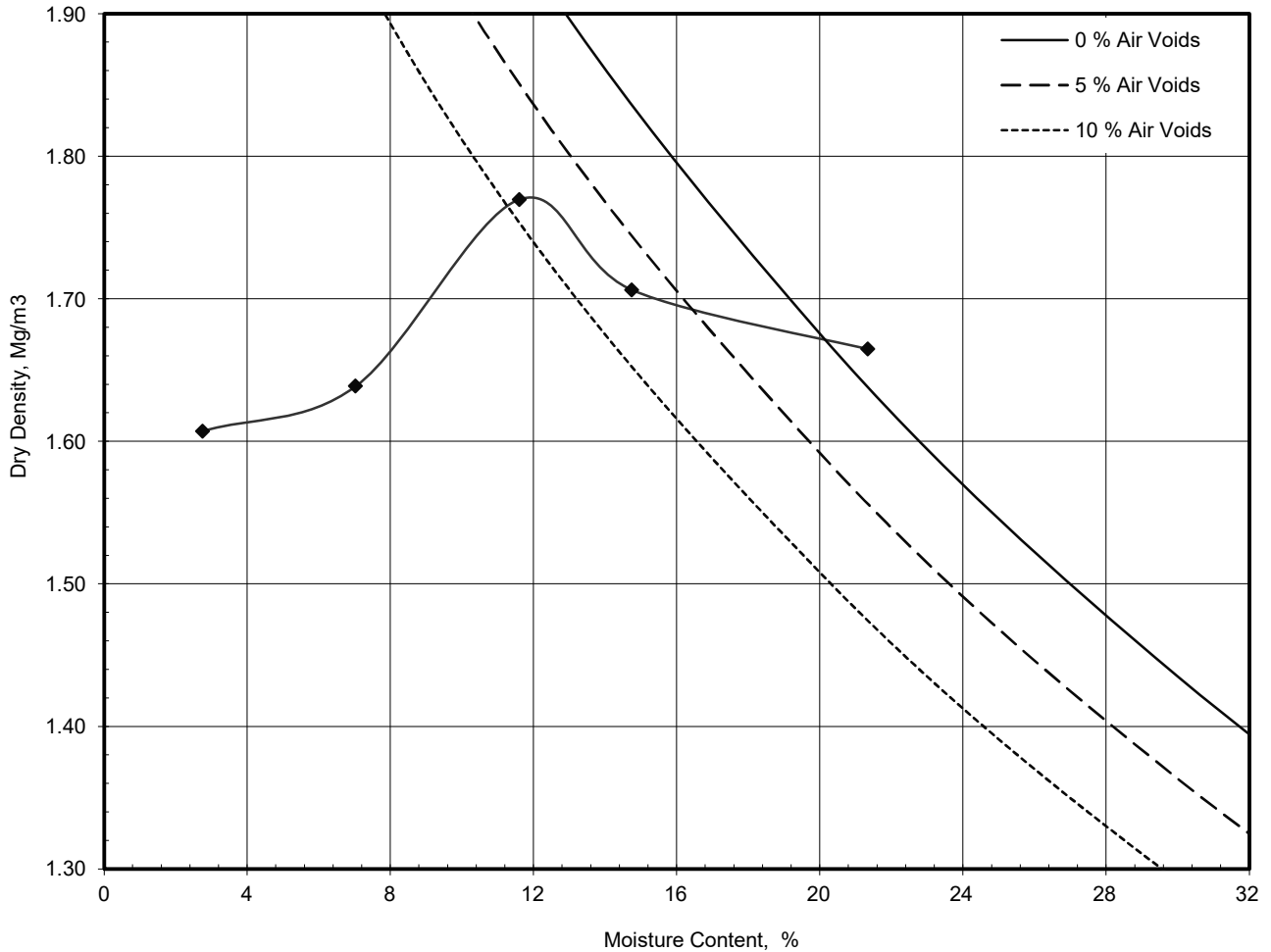


Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557Z
Borehole / Pit No	Clay
Sample No	MS2304/3
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022072620

Site Name	Giga One, Washington		
Soil Description	Brown, Slightly Sandy, Slightly Silty CLAY		
Specimen Ref.	Specimen Depth	m	
Test Method	BS1377:Part 4:1990, clause 3.4, 2.5kg rammer		

Compaction Test Reference/No.



Preparation	Material used was air dried	
Mould Type	OneLitre	
Samples Used	Single sample tested	
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using gas jar	Mg/m ³	2.52

Maximum Dry Density	Mg/m ³	1.77
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Optimum Moisture Content	%	12
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Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	28/07/2022 10:00	N. Hodson	N. O'Brien 	

Laboratory Test Report

Client	Groundwork Services (Durham) Limited
Address	Littleburn Industrial Estate Langley Moor Durham DH7 8HJ
F.A.O	Paul Barton
Project:	Giga One Factory, Washington
Project Number:	D10557AC
Report Number:	L22-712
Date Received:	18th July 2022

Testing Required:	Moisture Content - BS:1377-2:1990 Determination of Liquid and Plastic Limits and Plasticity Index - BS:1377-2:1990 (Cone Penetrometer) Particle Size Distribution - BS:1377-2:1990 Sedimentation by Pipette - BS:1377-2:1990 Determination of Maximum Dry Density / Optimum Moisture Content by 2.5kg Rammer - BS:1377-4:1990 Particle Density by Gas Jar - BS:1377-2:1990 Clause 8.2
Date Started:	19th July 2022
Date Finished:	16th August 2022

Report Issue Date:	18th August 2022
Reviewed By:	 Natalie Hodson - Materials Director
Authorised By:	 Nik O'Brien - Laboratory Manager
Remarks:	(*) denotes testing is outside of UKAS Scope of Accreditation. (+) denotes subcontracted testing.

Samples will be stored for one month after the report has been issue before being disposed of.

The published results appertain only to the specimens tested.

Determination of Moisture Content, Liquid Limit, Plastic Limit and Derivation of Plasticity Index

Project No.	Project Name
D10557AC	Giga One, Washington

Hole No.	Sample			Soil Description	Moisture Content %	Passing 425µm %	Liquid Limit %	Plastic Limit %	Plasticity Index %	Remarks
	Type	Ref	Depth							
Clay	B	MS2317/1	0.00	Brown, Sandy CLAY	17	98	47	19	28	Sample tested in natural state - material passing 425um estimated by hand picking
Clay	B	MS2317/2	0.00	Brown, Sandy CLAY	17	96	47	20	27	Sample tested in natural state - material passing 425um estimated by hand picking
Clay	B	MS2317/3	0.00	Brown, Sandy CLAY	17	99	48	20	28	Sample tested in natural state - material passing 425um estimated by hand picking
Clay	B	MS2317/4	0.00	Brown, Sandy CLAY	17	95	48	19	29	Sample tested in natural state - material passing 425um estimated by hand picking
Clay	B	MS2317/5	0.00	Brown, Sandy CLAY	18	97	48	18	30	Sample tested in natural state - material passing 425um estimated by hand picking
Clay	B	MS2317/6	0.00	Brown, Sandy CLAY	17	97	47	22	25	Sample tested in natural state - material passing 425um estimated by hand picking

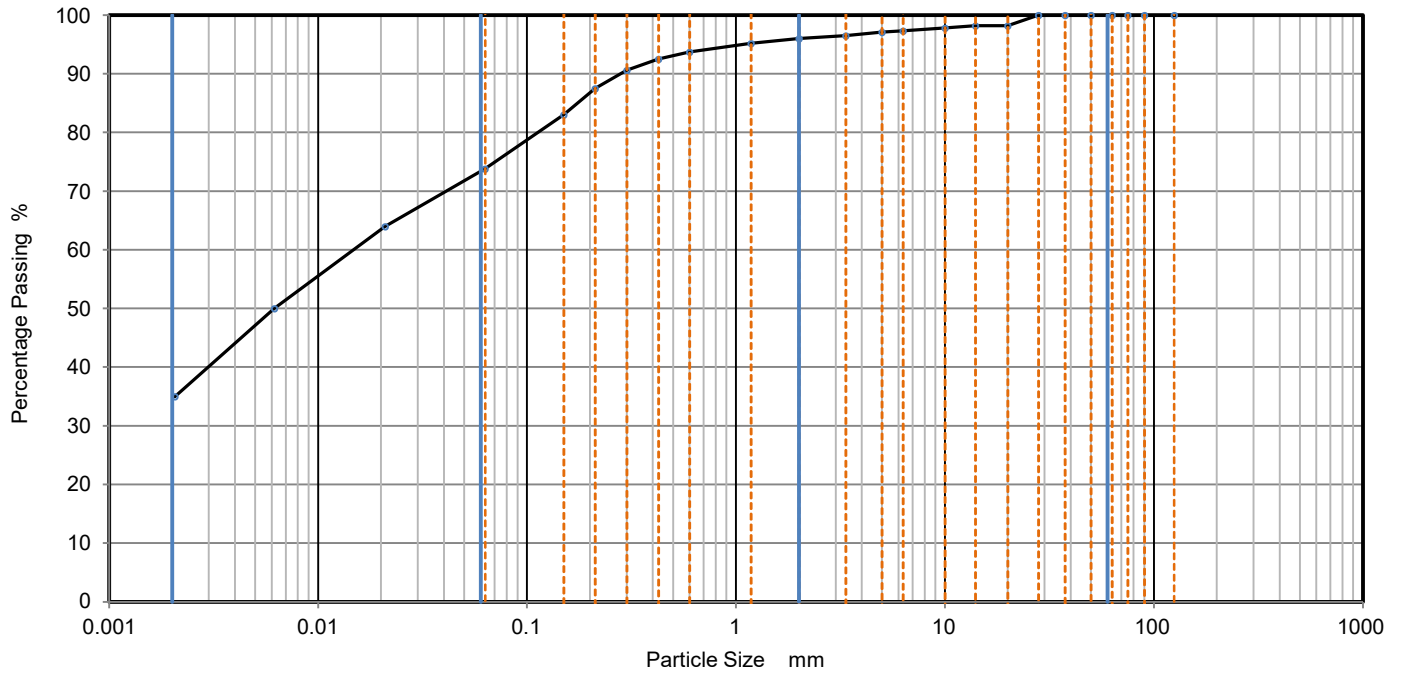
Moisture Content carried out in accordance with BS 1377: Part 2: 1990: Clause 3.2 Liquid Limit, Plastic Limit & Plasticity Index all performed in accordance with BS 1377: Part 2: 1990 - Cone Penetrometer method - Cone 80g/30° Page 2 of 11	Date	Approved By	UKAS Accredited Laboratory No. 20632
	17/08/2022 18:54	N O'Brien 	

PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AC**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2317/1
Soil Description	Brown, Sandy CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4		KeyLAB ID
			EAT_2022072644



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0209	64
90	100	0.0062	50
75	100	0.0021	35
63	100		
50	100		
37.5	100		
28	100		
20	98		
14	98		
10	98		
6.3	97		
5	97		
3.35	97		
2	96		
1.18	95		
0.6	94	Particle density (measured) 2.55 Mg/m ³	
0.425	93		
0.3	91		
0.212	88		
0.15	83		
0.063	74		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	4
Sand	22
Fines <0.063mm	74

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
17/08/2022 18:54	N O'Brien		

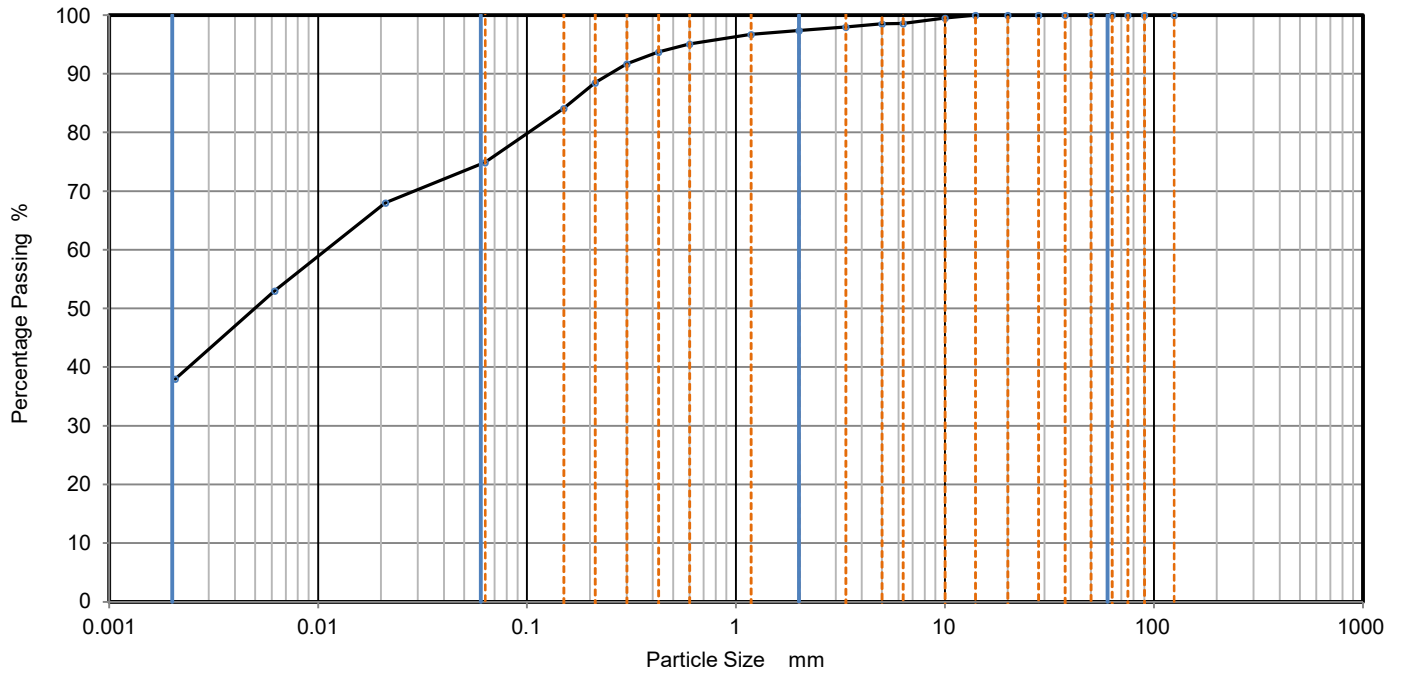


PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AC**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2317/2
Soil Description	Brown, Sandy CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4		KeyLAB ID
			EAT_2022072645



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0210	68
90	100	0.0062	53
75	100	0.0021	38
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
3.35	98		
2	97		
1.18	97		
0.6	95	Particle density (measured) 2.54 Mg/m ³	
0.425	94		
0.3	92		
0.212	89		
0.15	84		
0.063	75		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	23
Fines <0.063mm	75

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

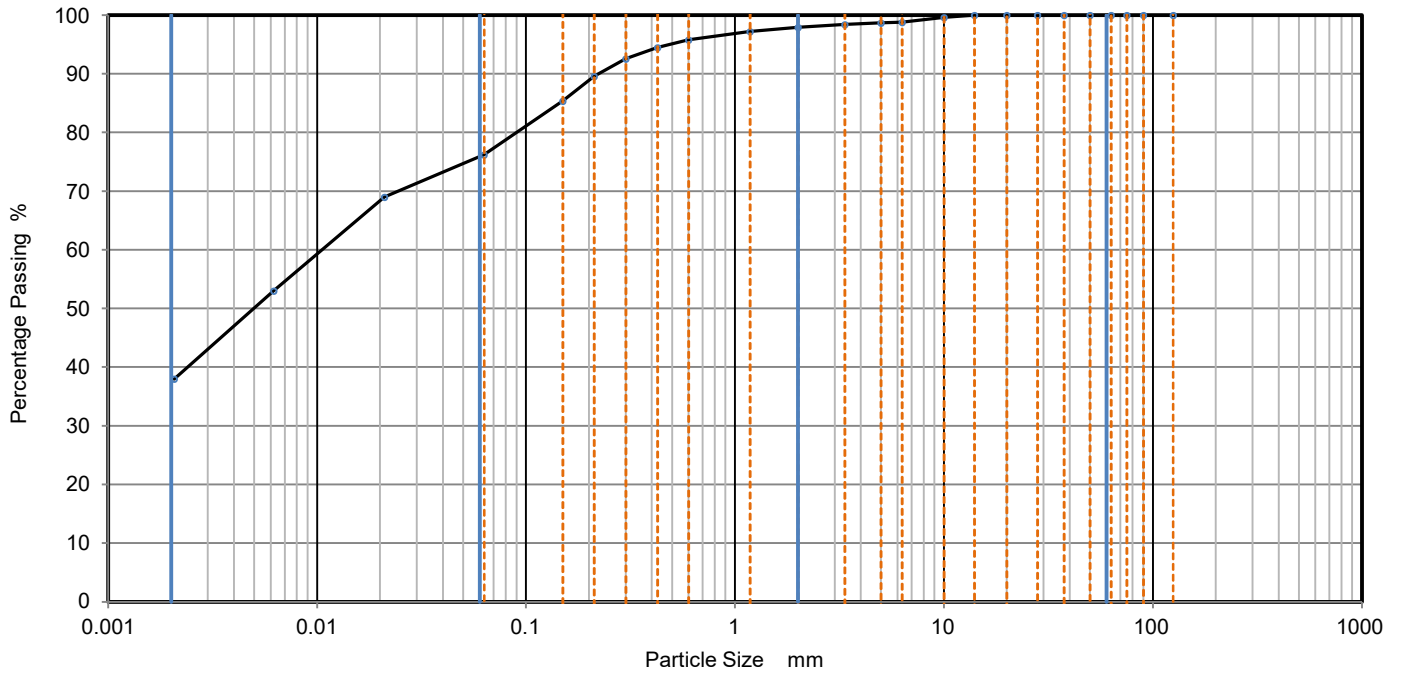
Date	Approved By		UKAS Accredited Laboratory No. 20632
17/08/2022 18:55	N O'Brien		



PARTICLE SIZE DISTRIBUTION

Job Ref	D10557AC
Borehole/Pit No.	Clay
Sample No.	MS2317/3
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022072646

Site Name	Giga One, Washington	
Soil Description	Brown, Sandy CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0210	69
90	100	0.0062	53
75	100	0.0021	38
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
3.35	98		
2	98		
1.18	97		
0.6	96		
0.425	95		
0.3	93		
0.212	90		
0.15	85		
0.063	76		

Particle density (measured)	
2.54	Mg/m ³

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	22
Fines <0.063mm	76

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

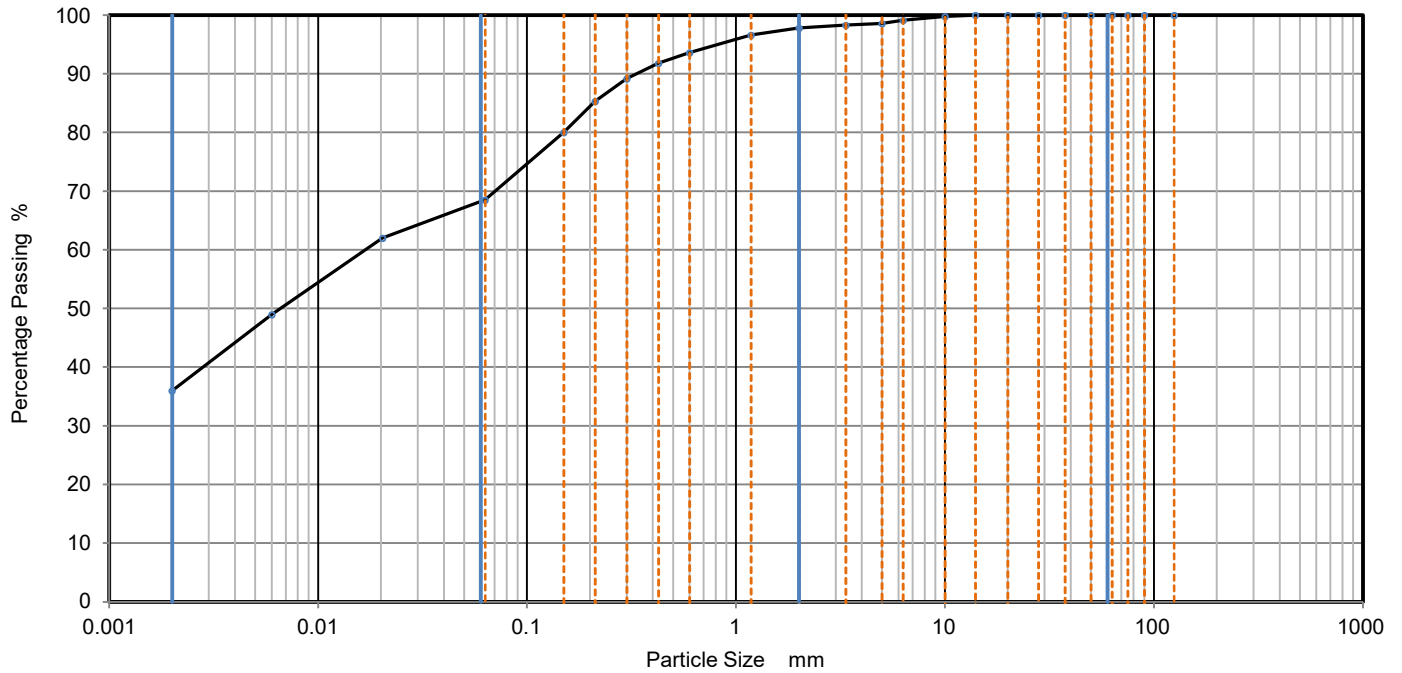
Date	Approved By		UKAS Accredited Laboratory No. 20632
17/08/2022 18:55	N O'Brien		

PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AC**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2317/4
Soil Description	Brown, Sandy CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4		KeyLAB ID
			EAT_2022072647



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	62
90	100	0.0060	49
75	100	0.0020	36
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
3.35	98		
2	98		
1.18	97		
0.6	94		
0.425	92	Particle density (assumed) 2.65 Mg/m ³	
0.3	89		
0.212	85		
0.15	80		
0.063	69		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	29
Silt	33
Clay	36

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
17/08/2022 18:55	N O'Brien		



PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AC**

Borehole/Pit No. Clay

Sample No. MS2317/5

Depth, m 0.00

Sample Type B

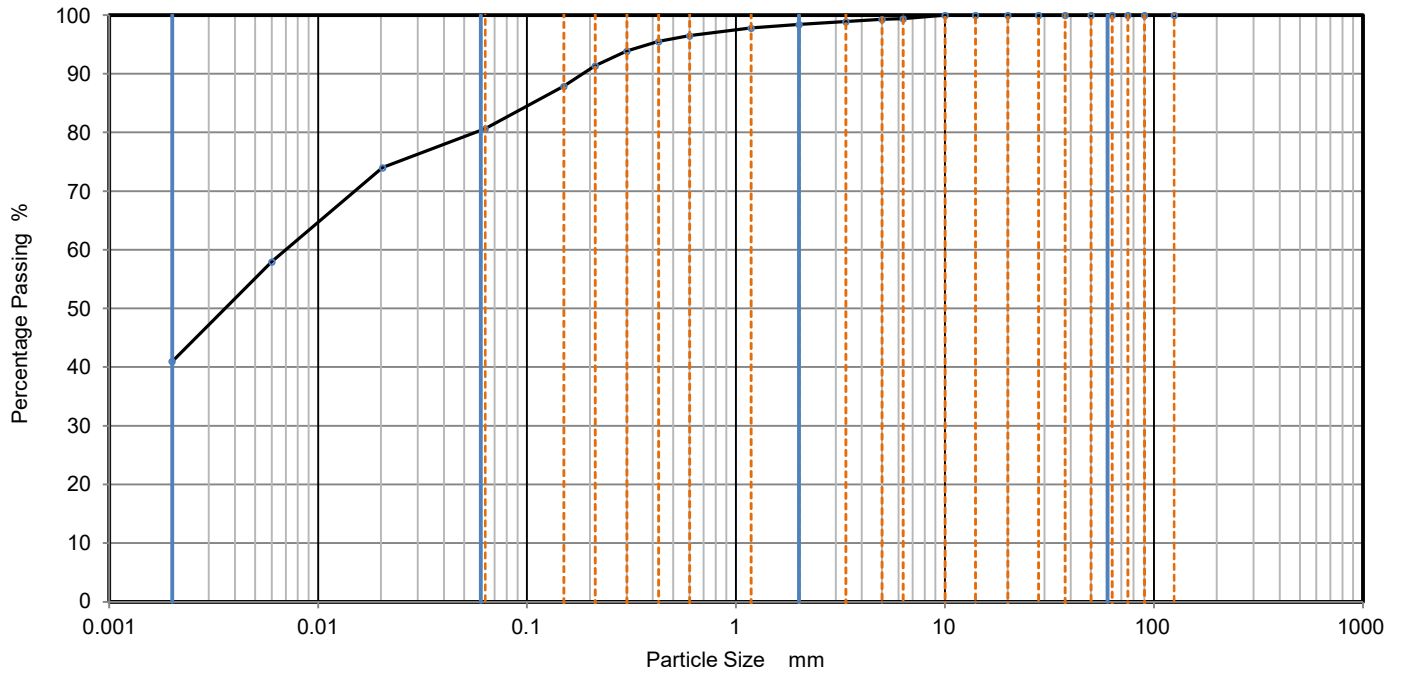
KeyLAB ID EAT_2022072648

Site Name Giga One, Washington

Soil Description Brown, Sandy CLAY

Specimen Reference Specimen Depth m

Test Method BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	74
90	100	0.0060	58
75	100	0.0020	41
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
3.35	99		
2	98		
1.18	98		
0.6	97	Particle density (assumed)	
0.425	96	2.65	Mg/m ³
0.3	94		
0.212	91		
0.15	88		
0.063	81		

Method of Pre-Treatment	Sodium Hexametaphosphate
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Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	18
Silt	39
Clay	41

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm 0.00721
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
17/08/2022 18:56	N O'Brien		

PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AC**

Borehole/Pit No. Clay

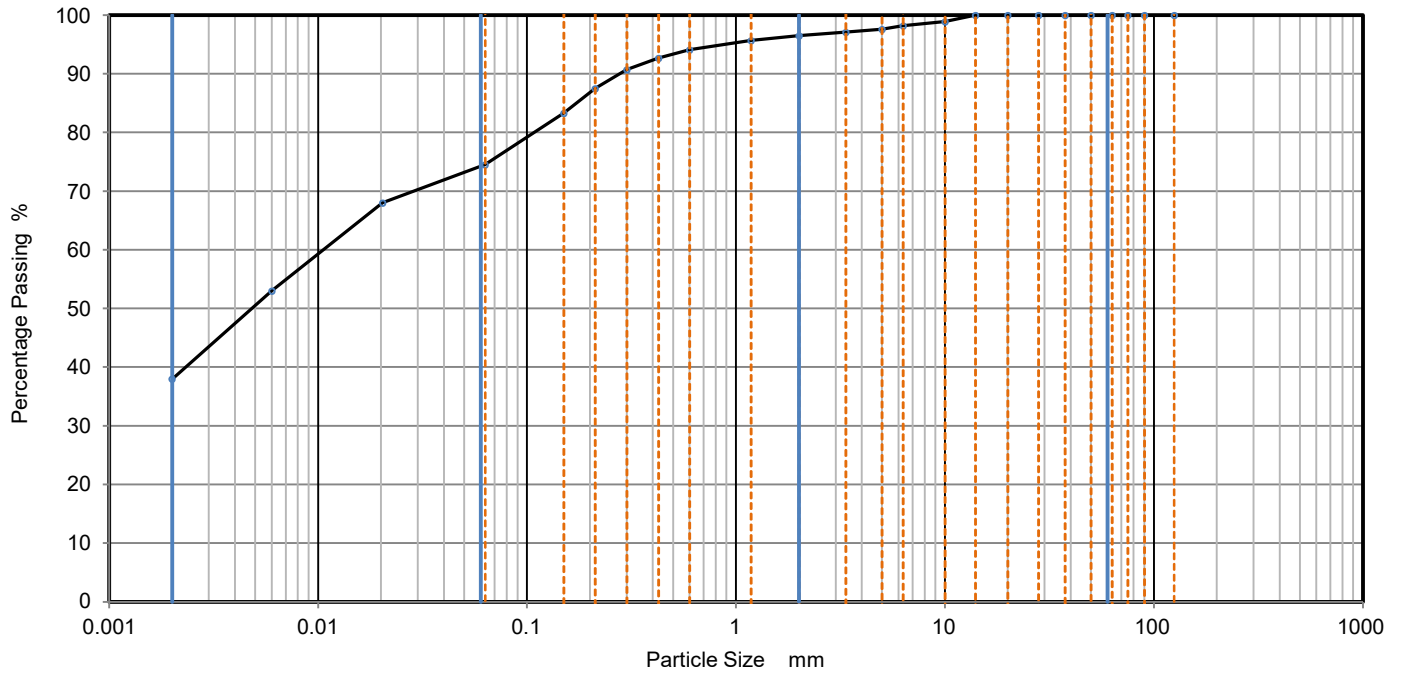
Sample No. MS2317/6

Depth, m 0.00

Sample Type B

KeyLAB ID EAT_2022072649

Site Name	Giga One, Washington		
Soil Description	Brown, Sandy CLAY		
Specimen Reference	Specimen Depth	m	
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	68
90	100	0.0060	53
75	100	0.0020	38
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	98		
5	98		
3.35	97		
2	97		
1.18	96		
0.6	94	Particle density (assumed)	
0.425	93	2.65	Mg/m ³
0.3	91		
0.212	88		
0.15	83		
0.063	75		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	4
Sand	22
Silt	37
Clay	38

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

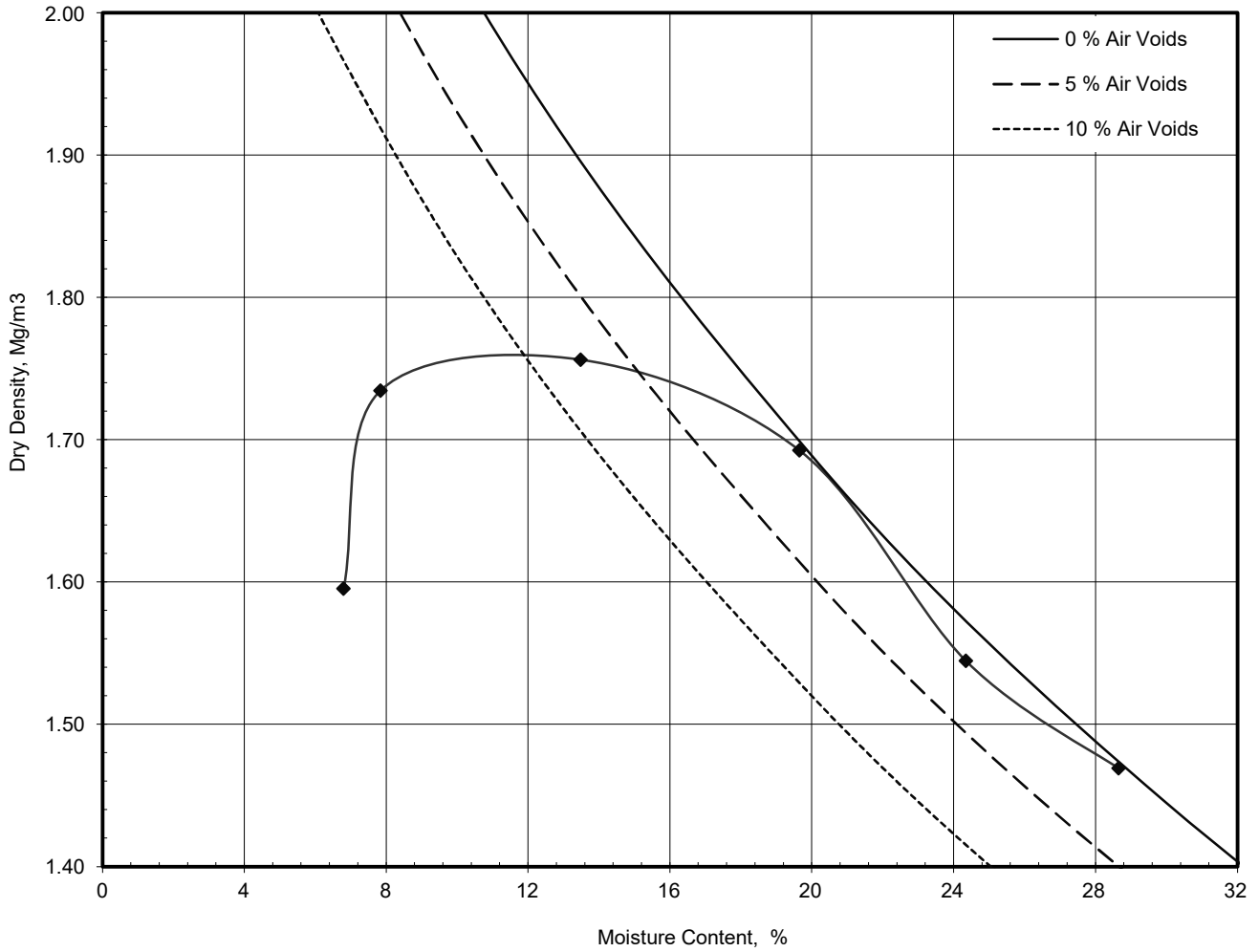
Date	Approved By		UKAS Accredited Laboratory No. 20632
17/08/2022 18:56	N O'Brien		



Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557AC
Borehole / Pit No	Clay
Sample No	MS2317/1
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022072644
Compaction Test Reference/No.	

Site Name	Giga One, Washington	
Soil Description	Brown, Sandy CLAY	
Specimen Ref.	Specimen Depth	m
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	



Preparation	Material used was air dried
Mould Type	
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve %	0
Material Retained on 20.0 mm Sieve %	0
Particle Density - Measured using gas jar Mg/m³	2.55

Maximum Dry Density Mg/m³	1.76
Optimum Moisture Content %	17

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	17/08/2022 18:52	N. Hodson	N. O'Brien 	



Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557AC
Borehole / Pit No	Clay
Sample No	MS2317/2
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022072645

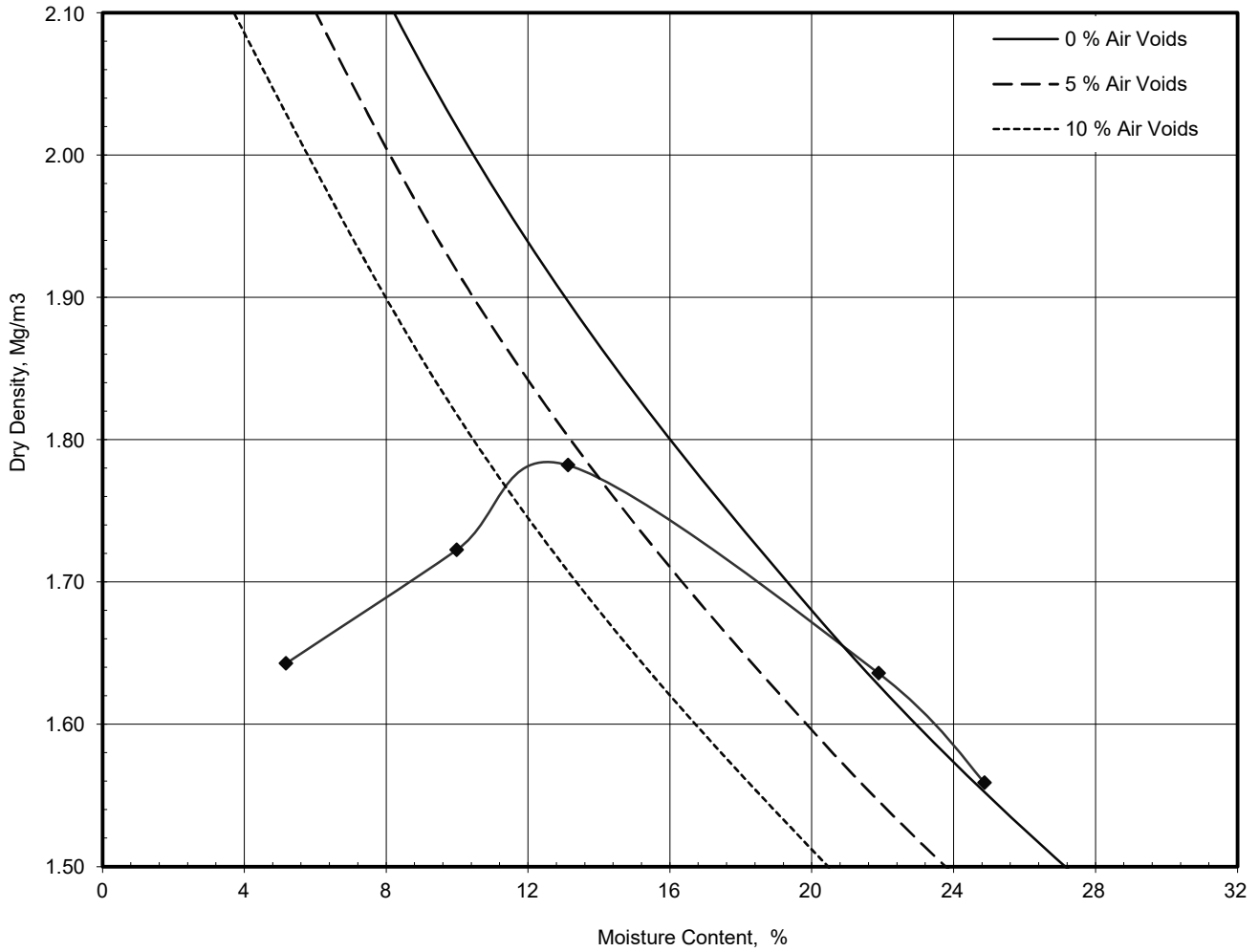
Site Name: **Giga One, Washington**

Soil Description: **Brown, Sandy CLAY**

Specimen Ref. / Specimen Depth: _____ m

Test Method: **BS1377:Part 4:1990, clause 3.3, 2.5kg rammer**

Compaction Test Reference/No. _____



Preparation	Material used was air dried
Mould Type	One Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve %	0
Material Retained on 20.0 mm Sieve %	0
Particle Density - Measured using gas jar Mg/m ³	2.53



Maximum Dry Density Mg/m ³	1.78
Optimum Moisture Content %	13

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	17/08/2022 18:53	N. Hodson	N. O'Brien 	

Laboratory Test Report

Client	Groundwork Services (Durham) Limited
Address	Littleburn Industrial Estate Langley Moor Durham DH7 8HJ
F.A.O	Paul Barton
Project:	Giga One Factory, Washington
Project Number:	D10557AD
Report Number:	L22-660
Date Received:	20th July 2022

Testing Required:	<p>Moisture Content - BS:1377-2:1990</p> <p>Determination of Liquid and Plastic Limits and Plasticity Index - BS:1377-2:1990 (Cone Penetrometer)</p> <p>Particle Size Distribution - BS:1377-2:1990</p> <p>Sedimentation by Pipette - BS:1377-2:1990</p> <p>Determination of Maximum Dry Density / Optimum Moisture Content by 2.5kg Rammer - BS:1377-4:1990</p> <p>Particle Density by Gas Jar - BS:1377-2:1990 Clause 8.2</p>
Date Started:	22nd July 2022
Date Finished:	8th August 2022

Report Issue Date:	8th August 2022
Reviewed By:	 Natalie Hodson - Materials Director
Authorised By:	 Nik O'Brien - Laboratory Manager
Remarks:	(*) denotes testing is outside of UKAS Scope of Accreditation. (+) denotes subcontracted testing.

Samples will be stored for one month after the report has been issue before being disposed of.

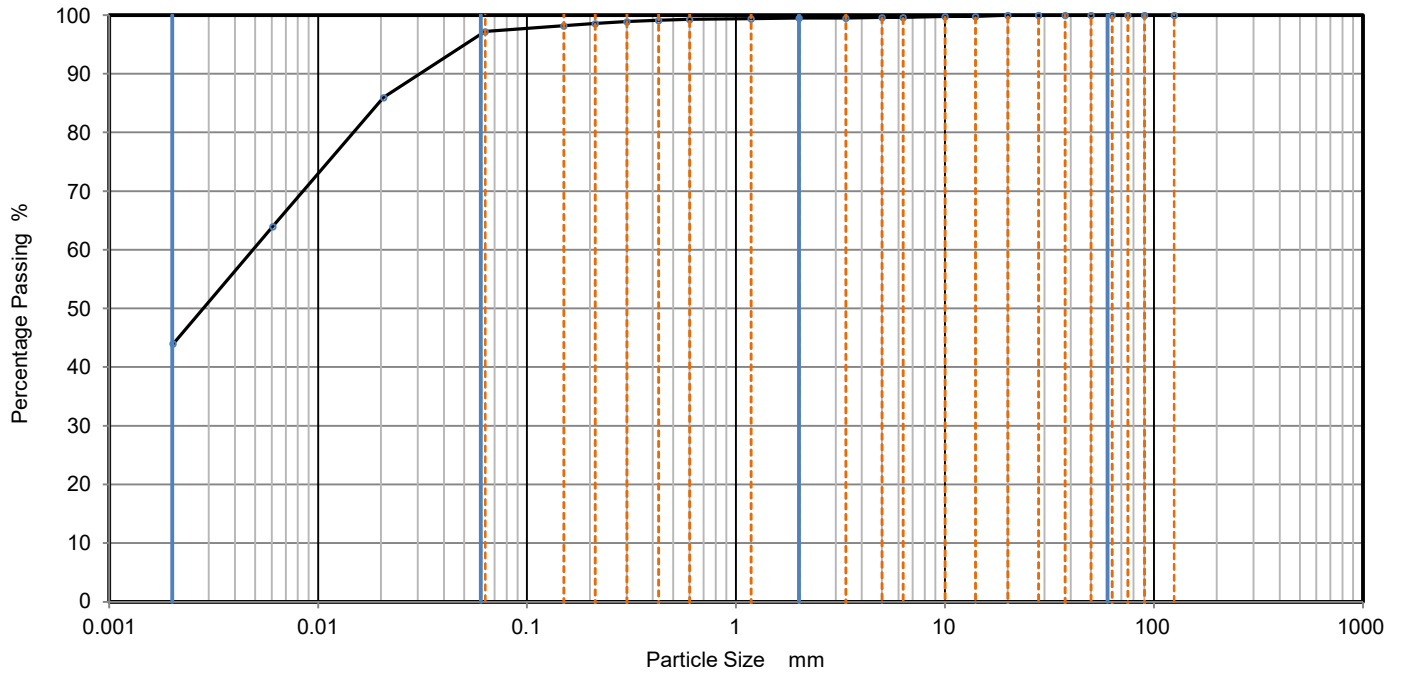
The published results appertain only to the specimens tested.

PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AD**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2343/1
Soil Description	Brown, Slightly Sandy, Slightly Silty CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	KeyLAB ID	EAT_2022072728



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0206	86
90	100	0.0061	64
75	100	0.0020	44
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	99		
0.6	99		
0.425	99	Particle density (measured) 2.61 Mg/m ³	
0.3	99		
0.212	99		
0.15	98		
0.063	97		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	2
Fines <0.063mm	97

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
08/08/2022 12:17	N O'Brien		

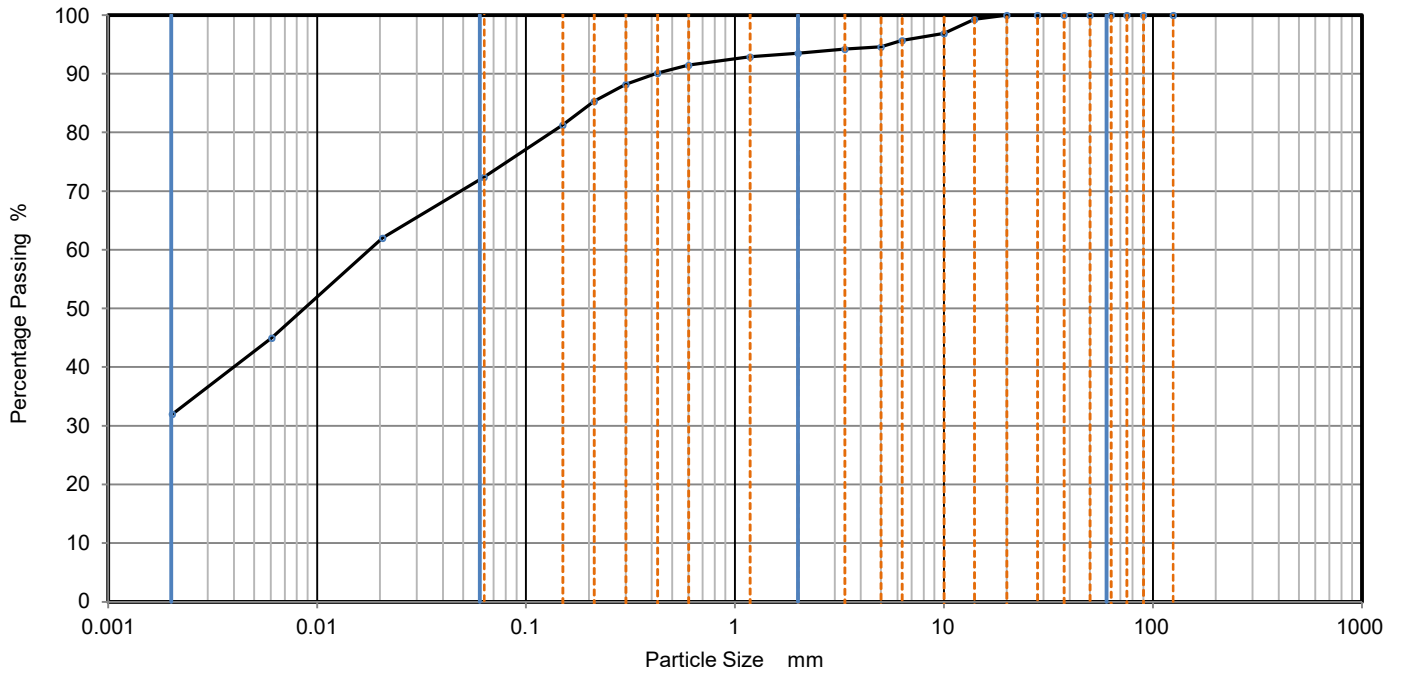


PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AD**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2343/2
Soil Description	Brown, Slightly Sandy, Slightly Silty CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	KeyLAB ID	EAT_2022072729



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0206	62
90	100	0.0061	45
75	100	0.0020	32
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	97		
6.3	96		
5	95		
3.35	94		
2	94		
1.18	93		
0.6	92	Particle density (measured) 2.61 Mg/m ³	
0.425	90		
0.3	88		
0.212	85		
0.15	81		
0.063	72		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	7
Sand	21
Fines <0.063mm	72

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

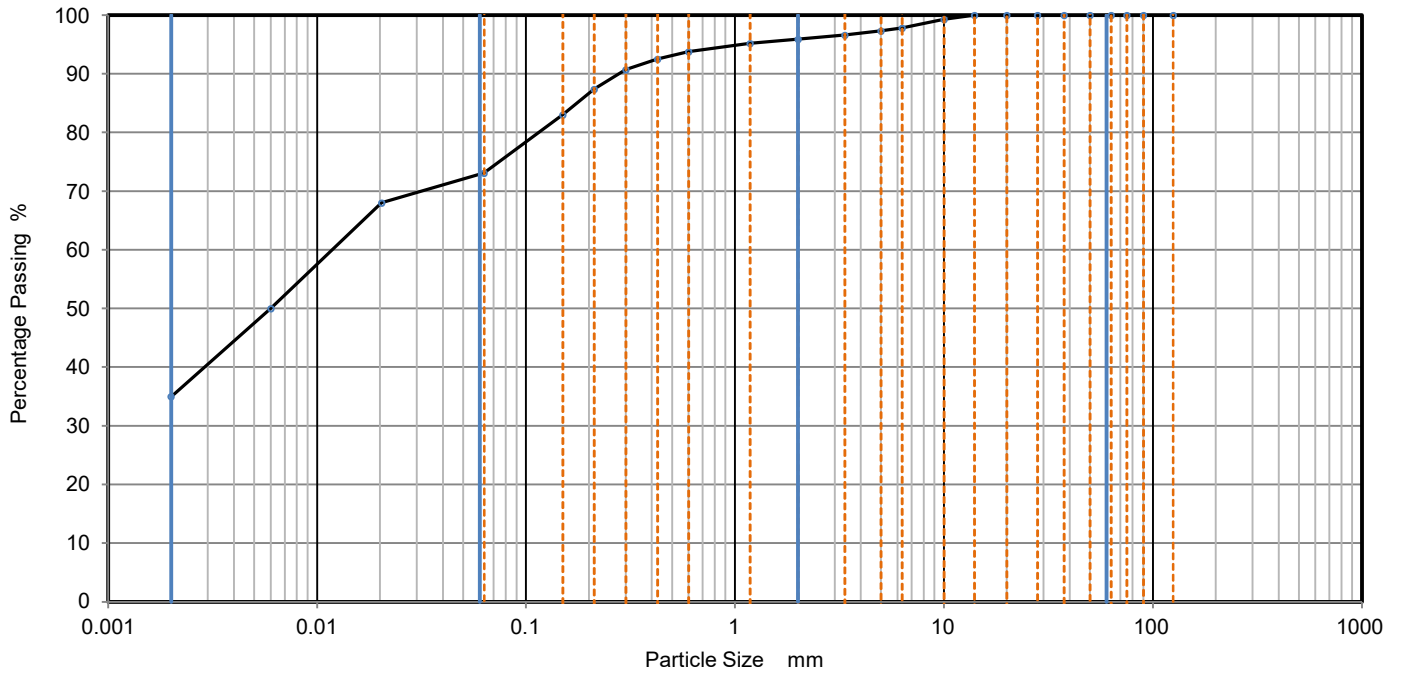
Date	Approved By		UKAS Accredited Laboratory No. 20632
08/08/2022 12:17	N O'Brien		

PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AD**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2343/3
Soil Description	Brown, Slightly Sandy, Slightly Silty CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	KeyLAB ID	EAT_2022072730



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	68
90	100	0.0060	50
75	100	0.0020	35
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	98		
5	97		
3.35	97		
2	96		
1.18	95		
0.6	94	Particle density (assumed) 2.65 Mg/m ³	
0.425	93		
0.3	91		
0.212	87		
0.15	83		
0.063	73		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	4
Sand	23
Silt	38
Clay	35

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
08/08/2022 12:18	N O'Brien		



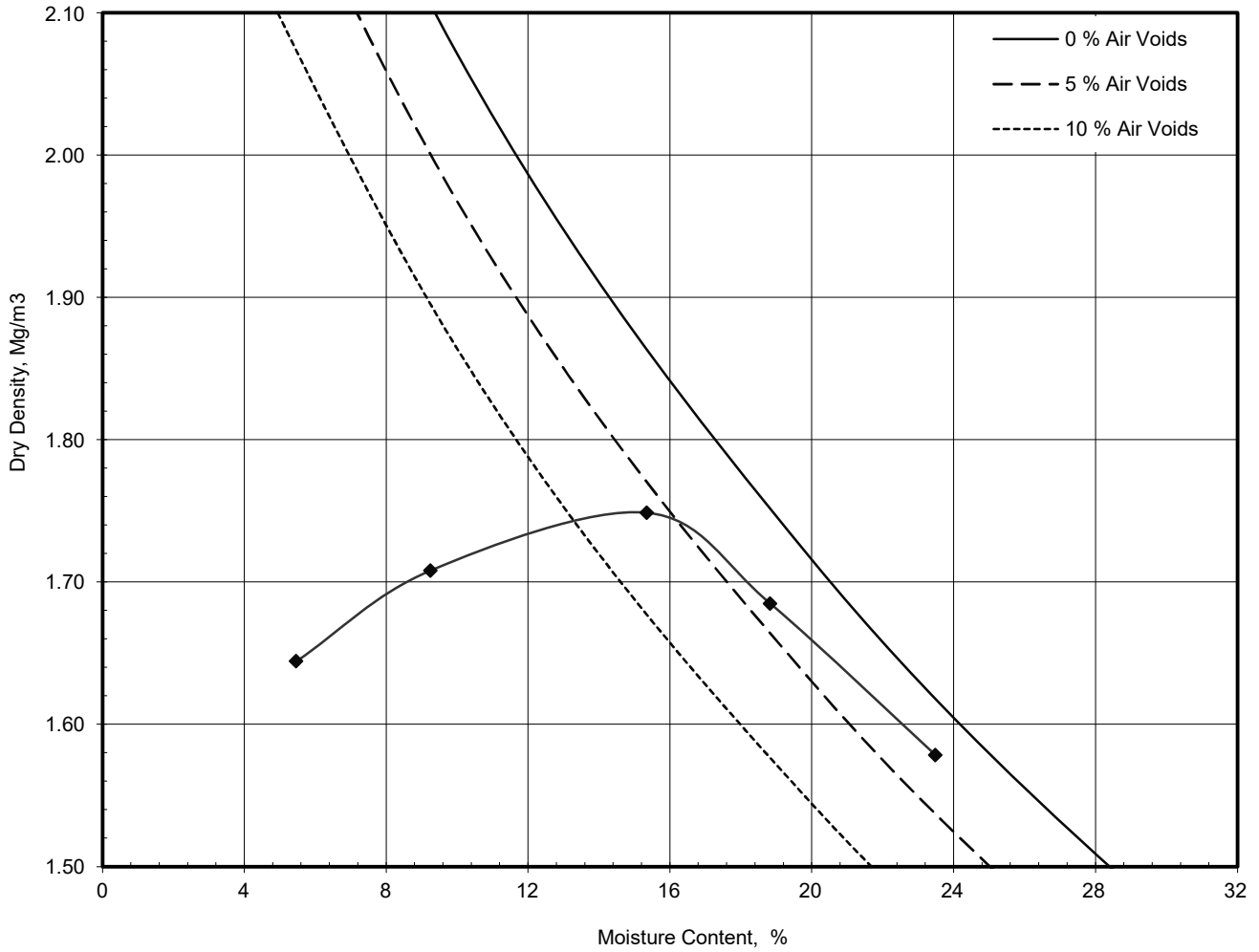
Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557AD
Borehole / Pit No	Clay
Sample No	MS2343/1
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022072728

Site Name: **Giga One, Washington**
 Soil Description: **Brown, Slightly Sandy, Slightly Silty CLAY**

Specimen Ref.: _____ Specimen Depth: _____ m
 Test Method: **BS1377:Part 4:1990, clause 3.3, 2.5kg rammer**

Compaction Test Reference/No. _____



Preparation	Material used was air dried
Mould Type	One Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve %	0
Material Retained on 20.0 mm Sieve %	0
Particle Density - Assumed Mg/m³	2.61

Maximum Dry Density Mg/m³	1.75
Optimum Moisture Content %	15

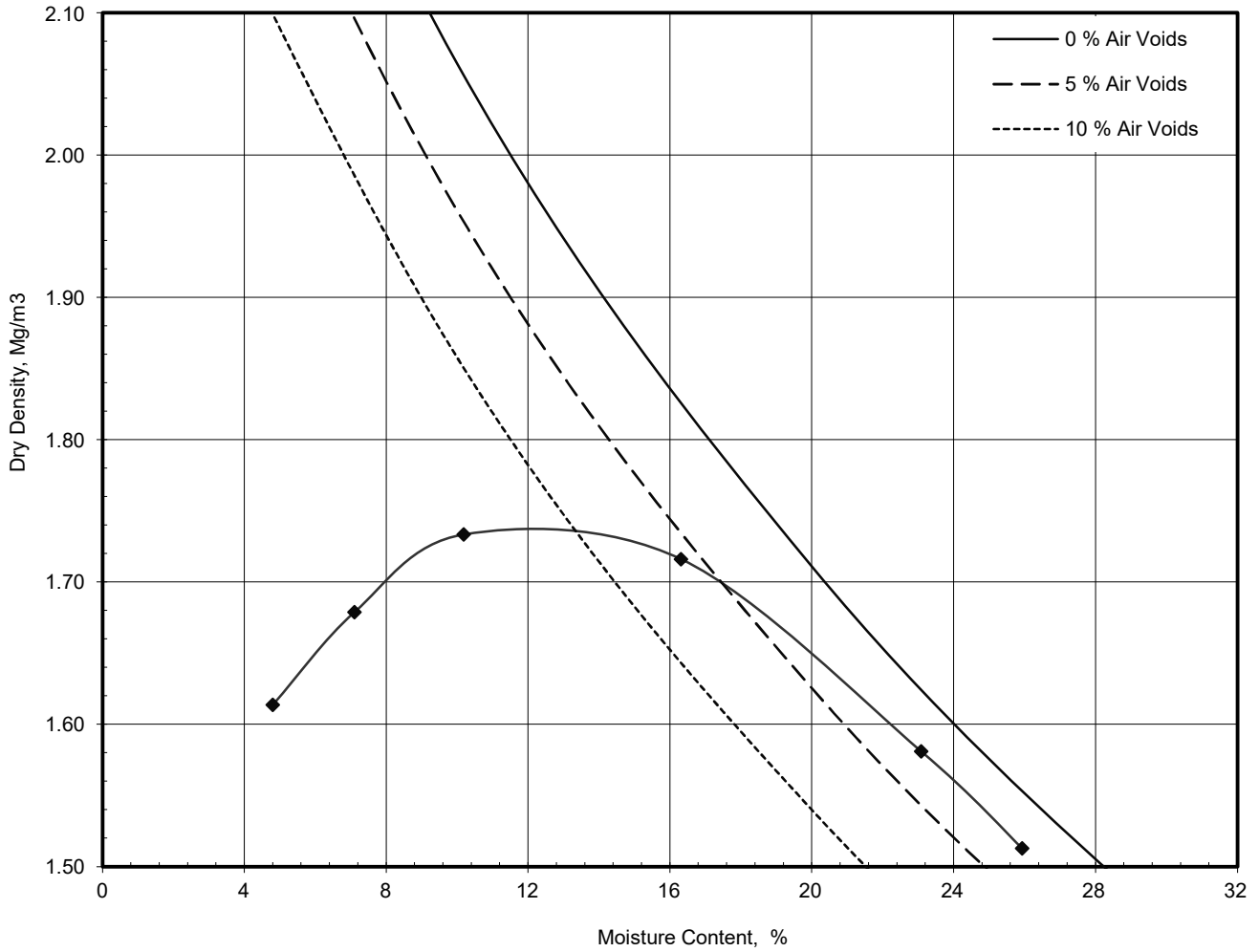
Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	08/08/2022 12:18	N. Hodson	N. O'Brien 	



Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557AD
Borehole / Pit No	Clay
Sample No	MS2343/2
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022072729
Compaction Test Reference/No.	

Site Name	Giga One, Washington	
Soil Description	Brown, Slightly Sandy, Slightly Silty CLAY	
Specimen Ref.	Specimen Depth	m
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	



Preparation	Material used was air dried	
Mould Type	One Litre	
Samples Used	Single sample tested	
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Assumed	Mg/m ³	2.60
Maximum Dry Density		
	Mg/m ³	1.73
Optimum Moisture Content		
	%	13

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	08/08/2022 12:19	N. Hodson	N. O'Brien 	



Particle Density by Gas Jar - Summary of Results

Project No.	Project Name
D10557AD	Giga One, Washington



Hole No.	Sample				Soil Description at test horizon	Particle Density Mg/m ³	Remarks
	Ref	Top	Base	Type			
Clay	MS2343/1	0.00		B	Brown, Slightly Sandy, Slightly Silty CLAY	2.61	
Clay	MS2343/2	0.00		B	Brown, Slightly Sandy, Slightly Silty CLAY	2.60	

Notes Tests performed in accordance with BS 1377 unless annotated otherwise. Gas Jar tests to BS1377: Part 2 : 1990, clause 8.2	Comments	Date	Approved N O'Brien	UKAS Accredited Laboratory No. 20632
		08/08/2022 12:20		

Laboratory Test Report

Client	Groundwork Services (Durham) Limited
Address	Littleburn Industrial Estate Langley Moor Durham DH7 8HJ
F.A.O	Paul Barton
Project:	Giga One Factory, Washington
Project Number:	D10557AE
Report Number:	L22-640
Date Received:	21st July 2022

Testing Required:	Moisture Content - BS:1377-2:1990 Determination of Liquid and Plastic Limits and Plasticity Index - BS:1377-2:1990 (Cone Penetrometer) Particle Size Distribution - BS:1377-2:1990 Sedimentation by Pipette - BS:1377-2:1990 Determination of Maximum Dry Density / Optimum Moisture Content by 2.5kg Rammer - BS:1377-4:1990 Particle Density by Gas Jar - BS:1377-2:1990 Clause 8.2
Date Started:	22nd July 2022
Date Finished:	3rd August 2022

Report Issue Date:	3rd August 2022
Reviewed By:	 Natalie Hodson - Materials Director
Authorised By:	 Nik O'Brien - Laboratory Manager
Remarks:	(*) denotes testing is outside of UKAS Scope of Accreditation. (+) denotes subcontracted testing.

Samples will be stored for one month after the report has been issue before being disposed of.


The published results appertain only to the specimens tested.

Exploration and Testing Associates Limited, registered in England and Wales #11803869 at 8B, Bowburn South Industrial Estate, Bowburn, Durham, DH6 5AD

Determination of Moisture Content, Liquid Limit, Plastic Limit and Derivation of Plasticity Index

Project No.	Project Name
D10557AE	Giga One Envision, Washington

Hole No.	Sample			Soil Description	Moisture Content %	Passing 425µm %	Liquid Limit %	Plastic Limit %	Plasticity Index %	Remarks
	Type	Ref	Depth							
Clay	B	MS2344/1	0.00	Brown, Slightly Sandy, Silty CLAY	19	99	47	20	27	Sample tested in natural state - material passing 425um estimated by hand picking
Clay	B	MS2344/2	0.00	Brown, Slightly Sandy, Silty CLAY	19	98	47	21	26	Sample tested in natural state - material passing 425um estimated by hand picking
Clay	B	MS2344/3	0.00	Brown, Slightly Sandy, Silty CLAY	19	97	45	18	27	Sample tested in natural state - material passing 425um estimated by hand picking

Moisture Content carried out in accordance with BS 1377: Part 2: 1990: Clause 3.2 Liquid Limit, Plastic Limit & Plasticity Index all performed in accordance with BS 1377: Part 2: 1990 - Cone Penetrometer method - Cone 80g/30°	Date	Approved By N O'Brien	UKAS Accredited Laboratory No. 20632
	02/08/2022 13:42		

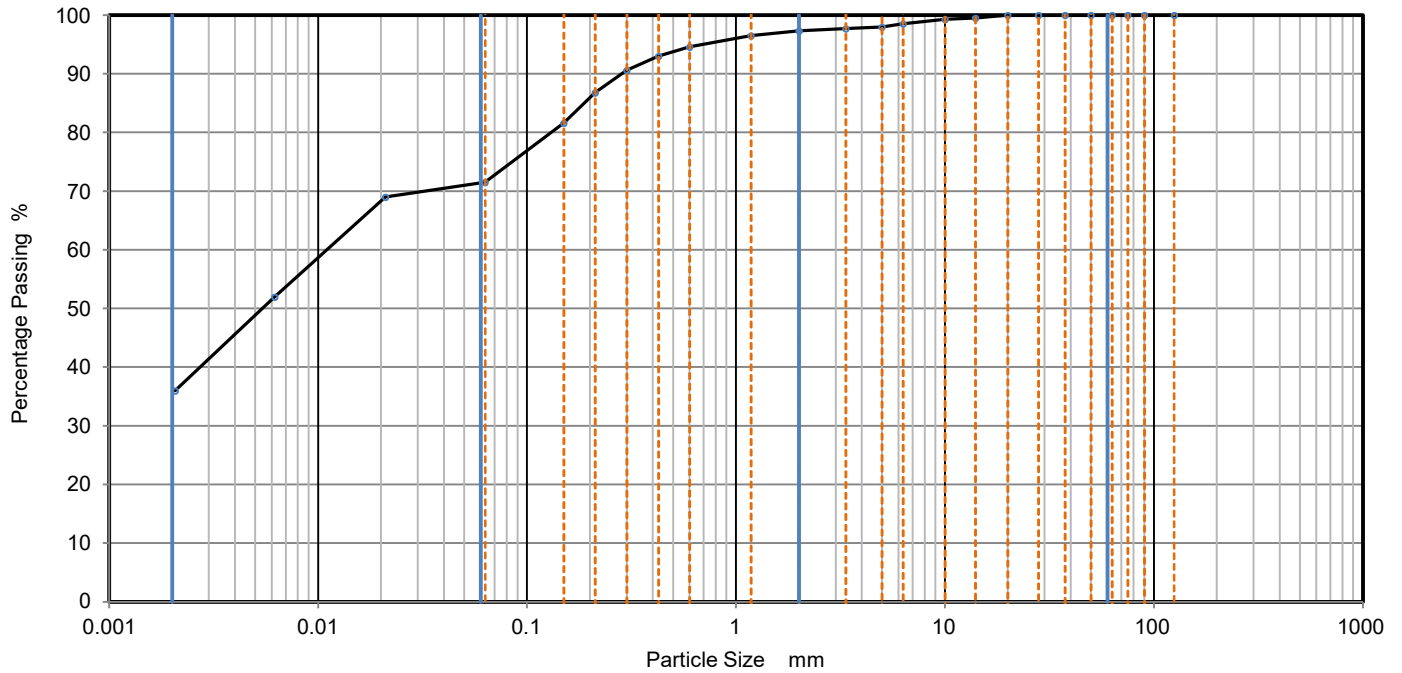


PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AE**

Borehole/Pit No. Clay

Site Name	Giga One Envision, Washington	Sample No.	MS2344/1
Soil Description	Brown, Slightly Sandy, Silty CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	KeyLAB ID	EAT_2022072731



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0210	69
90	100	0.0062	52
75	100	0.0021	36
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	98		
3.35	98		
2	97		
1.18	97		
0.6	95	Particle density (measured) 2.54 Mg/m ³	
0.425	93		
0.3	91		
0.212	87		
0.15	82		
0.063	72		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	26
Fines <0.063mm	71

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
03/08/2022 18:16	N O'Brien		

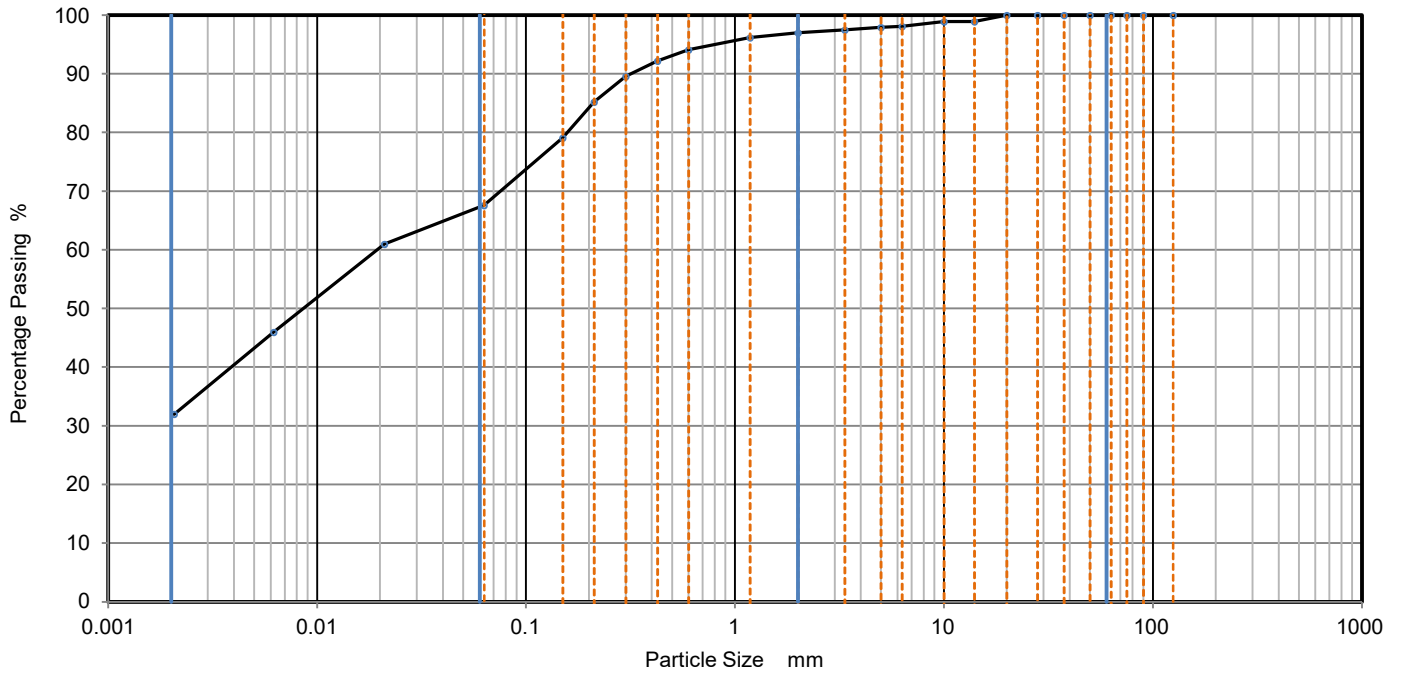


PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AE**

Borehole/Pit No. Clay

Site Name	Giga One Envision, Washington	Sample No.	MS2344/2
Soil Description	Brown, Slightly Sandy, Silty CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	KeyLAB ID	EAT_2022072732



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0210	61
90	100	0.0062	46
75	100	0.0021	32
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	99		
6.3	98		
5	98		
3.35	98		
2	97		
1.18	96		
0.6	94	Particle density (measured) 2.54 Mg/m ³	
0.425	92		
0.3	90		
0.212	85		
0.15	79		
0.063	68		

Method of Pre-Treatment	Sodium Hexametaphosphate
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Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	29
Fines <0.063mm	68

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

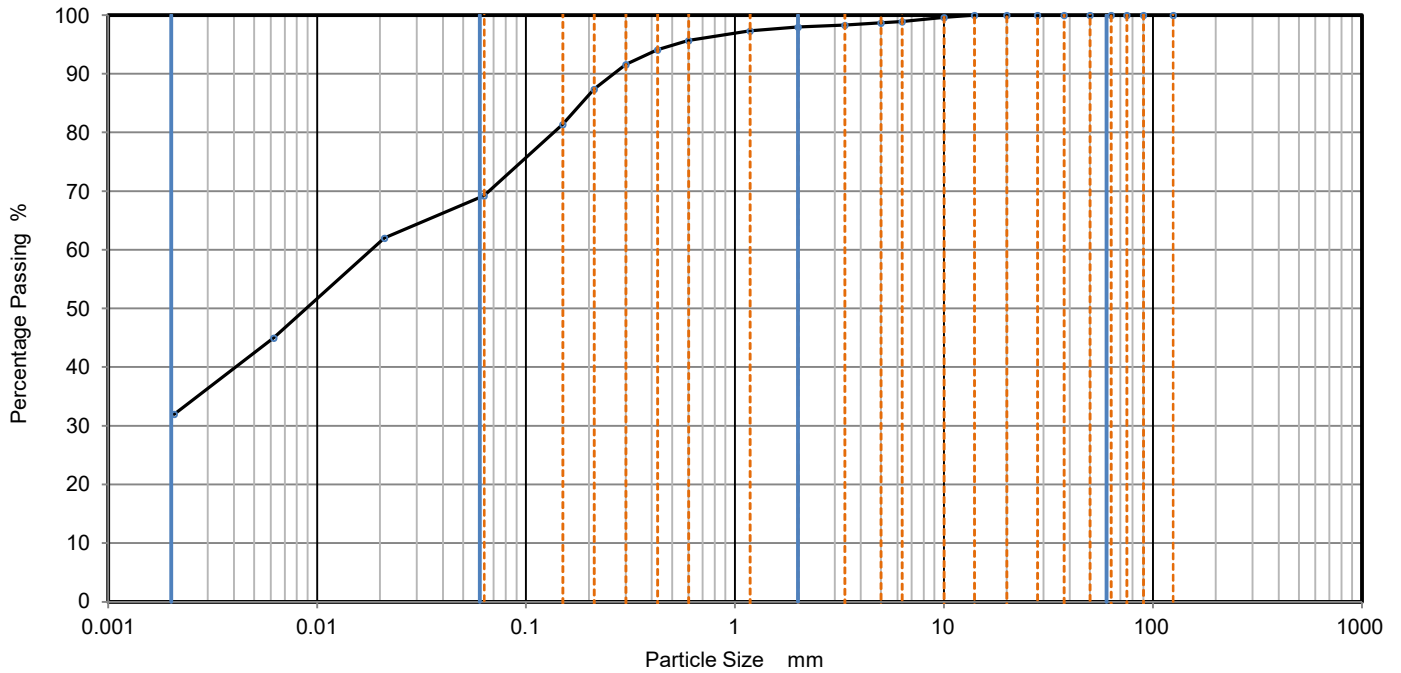
Date	Approved By		UKAS Accredited Laboratory No. 20632
03/08/2022 18:17	N O'Brien		



PARTICLE SIZE DISTRIBUTION

Job Ref	D10557AE
Borehole/Pit No.	Clay
Sample No.	MS2344/3
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022072733

Site Name	Giga One Envision, Washington	
Soil Description	Brown, Slightly Sandy, Silty CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0210	62
90	100	0.0062	45
75	100	0.0021	32
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	99		
3.35	98		
2	98		
1.18	97		
0.6	96		
0.425	94	Particle density (measured) 2.54 Mg/m ³	
0.3	92		
0.212	87		
0.15	81		
0.063	69		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	29
Fines <0.063mm	69

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
03/08/2022 18:17	N O'Brien		



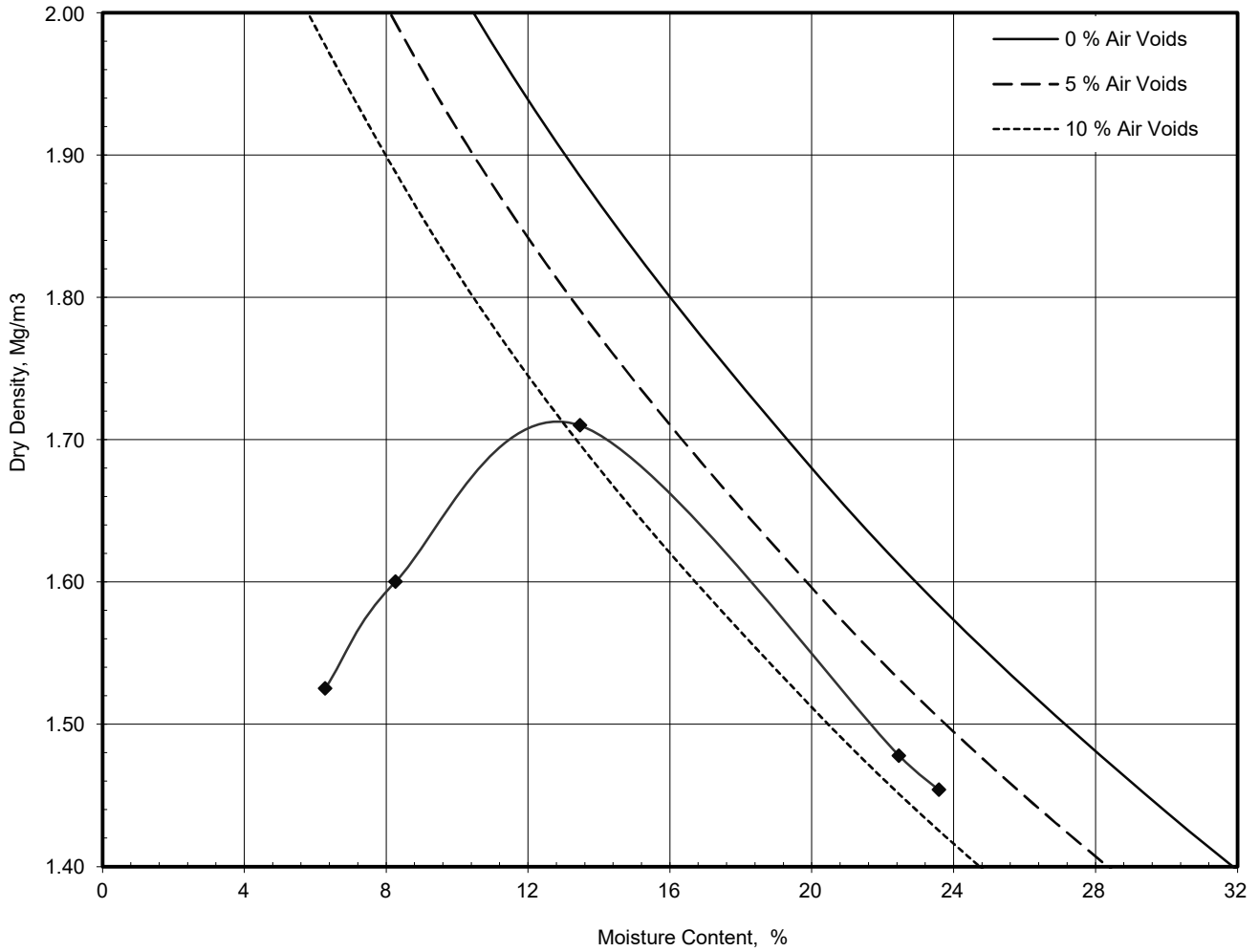
Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557AE
Borehole / Pit No	Clay
Sample No	MS2344/1
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022072731

Site Name: **Giga One, Washington**
 Soil Description: **Brown, Slightly Sandy, Silty CLAY**

Specimen Ref.: _____ Specimen Depth: _____ m
 Test Method: **BS1377:Part 4:1990, clause 3.3, 2.5kg rammer**

Compaction Test Reference/No. _____



Preparation	Material used was air dried
Mould Type	One Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	0
Material Retained on 20.0 mm Sieve	0
Particle Density - Measured using gas jar	2.53

Maximum Dry Density	1.71
Optimum Moisture Content	13

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	03/08/2022 18:20	N. Hodson	N. O'Brien 	

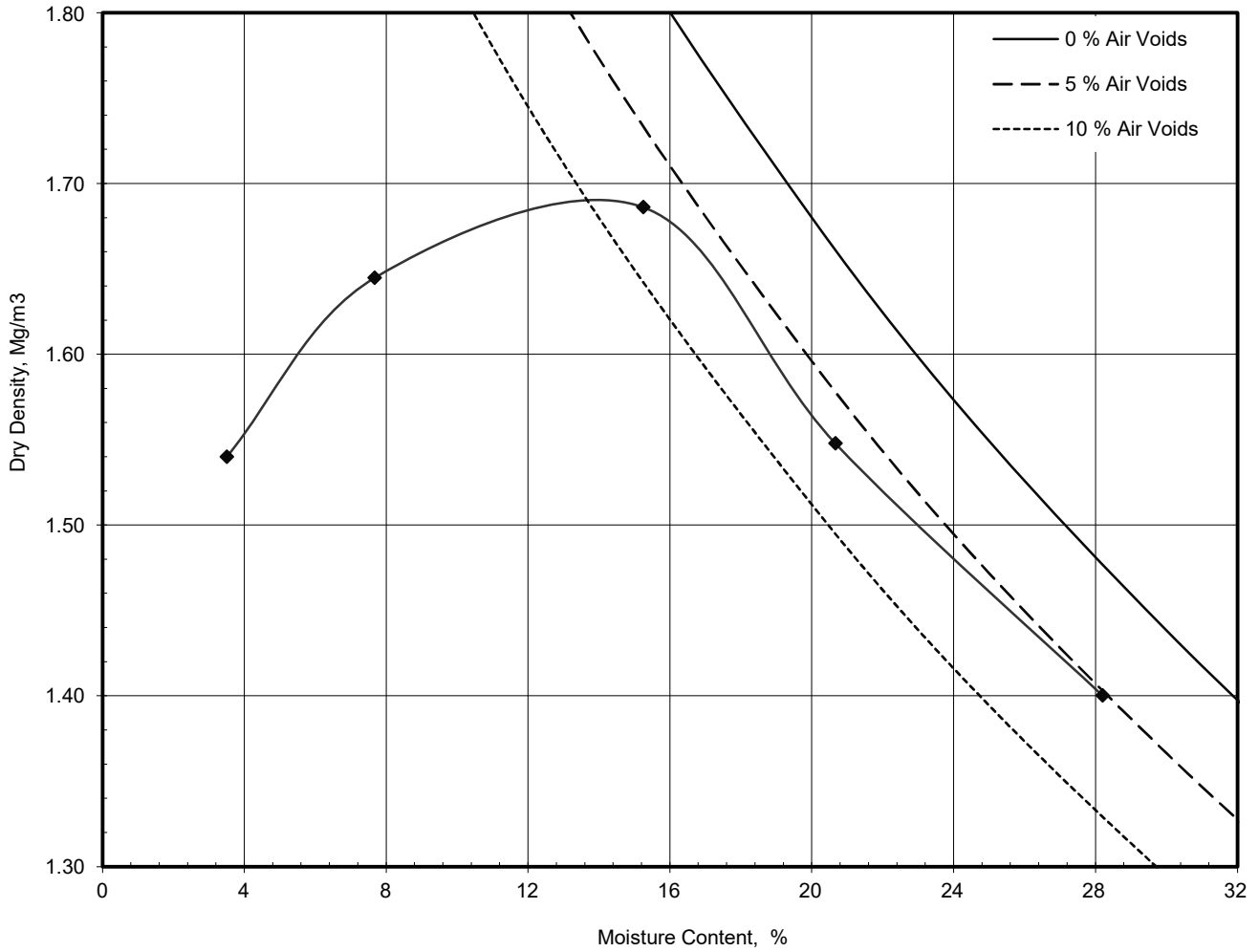


Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557AE
Borehole / Pit No	Clay
Sample No	MS2344/2
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022072732

Site Name	Giga One, Washington	
Soil Description	Brown, Slightly Sandy, Silty CLAY	
Specimen Ref.	Specimen Depth	m
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	

Compaction Test Reference/No.



Preparation	Material used was air dried	
Mould Type	One Litre	
Samples Used	Single sample tested	
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using gas jar	Mg/m ³	2.53



Maximum Dry Density	Mg/m ³	1.69
Optimum Moisture Content	%	15

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	03/08/2022 18:20	N. Hodson	N. O'Brien 	

Laboratory Test Report

Client	Groundwork Services (Durham) Limited
Address	Littleburn Industrial Estate Langley Moor Durham DH7 8HJ
F.A.O	Paul Barton
Project:	Giga One Factory, Washington
Project Number:	D10557AG
Report Number:	L22-705
Date Received:	22nd July 2022

Testing Required:	Moisture Content - BS:1377-2:1990 Determination of Liquid and Plastic Limits and Plasticity Index - BS:1377-2:1990 (Cone Penetrometer) Particle Size Distribution - BS:1377-2:1990 Sedimentation by Pipette - BS:1377-2:1990 Determination of Maximum Dry Density / Optimum Moisture Content by 2.5kg Rammer - BS:1377-4:1990 Particle Density by Gas Jar - BS:1377-2:1990 Clause 8.2
Date Started:	25th July 2022
Date Finished:	15th August 2022

Report Issue Date:	16th August 2022
Reviewed By:	 Natalie Hodson - Materials Director
Authorised By:	 Nik O'Brien - Laboratory Manager
Remarks:	(*) denotes testing is outside of UKAS Scope of Accreditation. (+) denotes subcontracted testing.

Samples will be stored for one month after the report has been issue before being disposed of.

The published results appertain only to the specimens tested.

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PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AG**

Borehole/Pit No. Clay

Site Name Giga One, Washington

Sample No. MS2353/1

Soil Description Brown slightly sandy CLAY

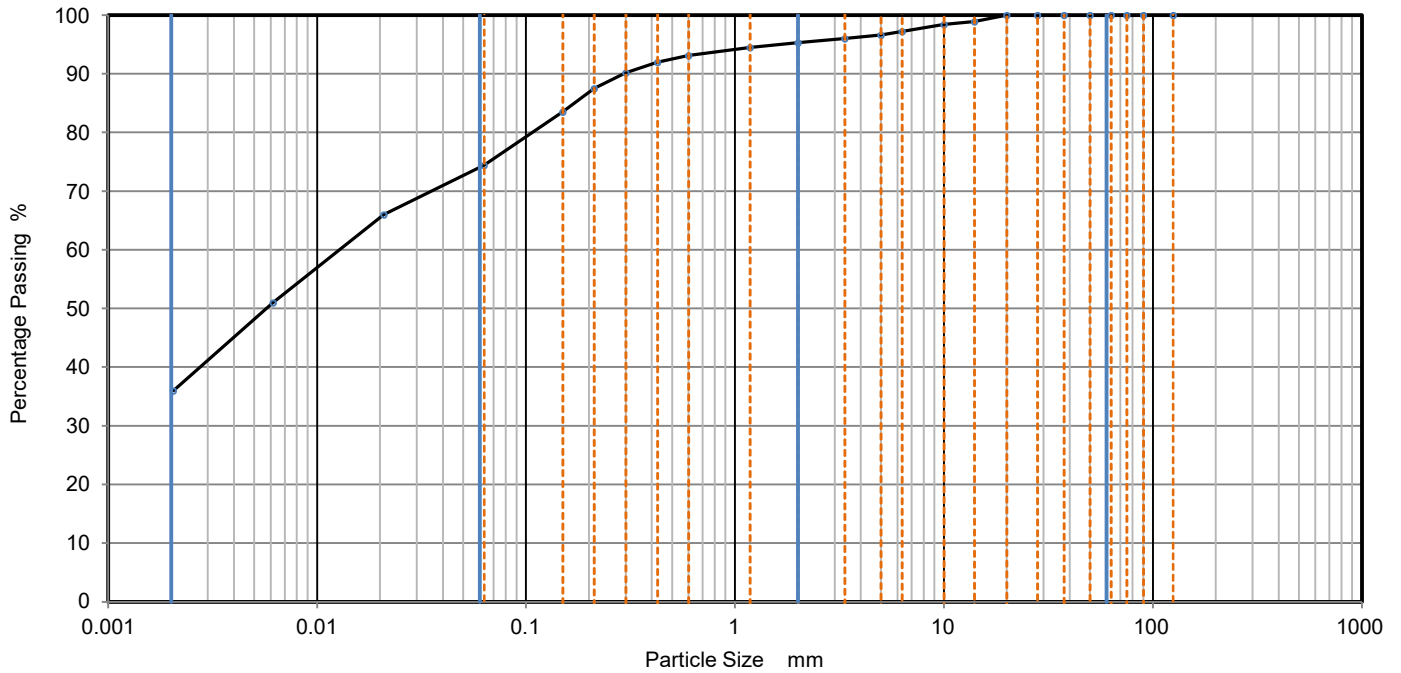
Depth, m 0.00

Specimen Reference Specimen Depth 0 m

Sample Type B

Test Method BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4

KeyLAB ID EAT_2022072740



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0208	66
90	100	0.0061	51
75	100	0.0020	36
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	98		
6.3	97		
5	97		
3.35	96		
2	95		
1.18	95		
0.6	93	Particle density (measured) 2.57 Mg/m ³	
0.425	92		
0.3	90		
0.212	88		
0.15	84		
0.063	74		

Method of pre-treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	5
Sand	21
Fines <0.063mm	74

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm 0.0129
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
16/08/2022 14:53	N O'Brien		



PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AG**

Borehole/Pit No. Clay

Site Name Giga One, Washington

Sample No. MS2353/2

Soil Description Brown slightly sandy CLAY

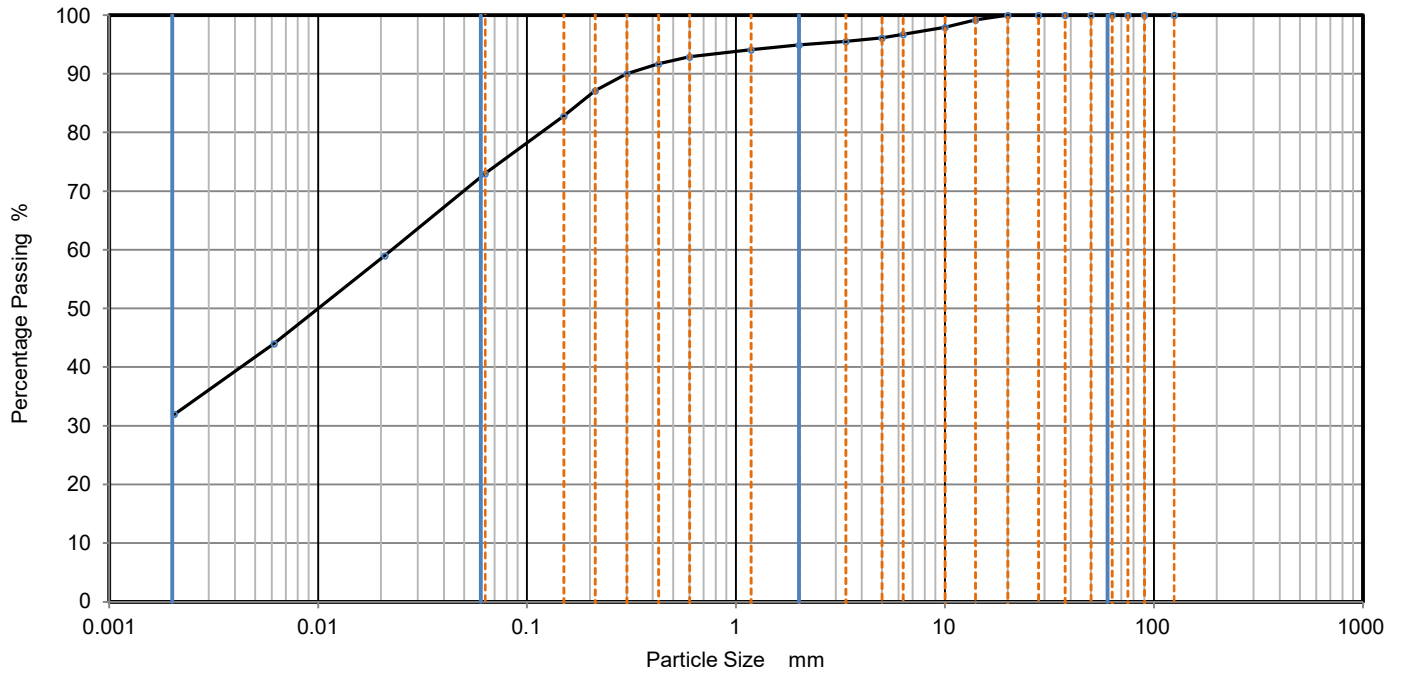
Depth, m 0.00

Specimen Reference Specimen Depth 0 m

Sample Type B

Test Method BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4

KeyLAB ID EAT_2022072741



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0208	59
90	100	0.0061	44
75	100	0.0020	32
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	98		
6.3	97		
5	96		
3.35	96		
2	95		
1.18	94		
0.6	93	Particle density (measured) 2.57 Mg/m ³	
0.425	92		
0.3	90		
0.212	87		
0.15	83		
0.063	73		

Method of pre-treatment	Sodium Hexametaphosphate
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Sample Proportions	% dry mass
Very coarse	0
Gravel	5
Sand	22
Fines <0.063mm	73

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm 0.0233
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
16/08/2022 14:54	N O'Brien		



PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AG**

Borehole/Pit No. Clay

Site Name Giga One, Washington

Sample No. MS2353/3

Soil Description Brown slightly sandy silty CLAY

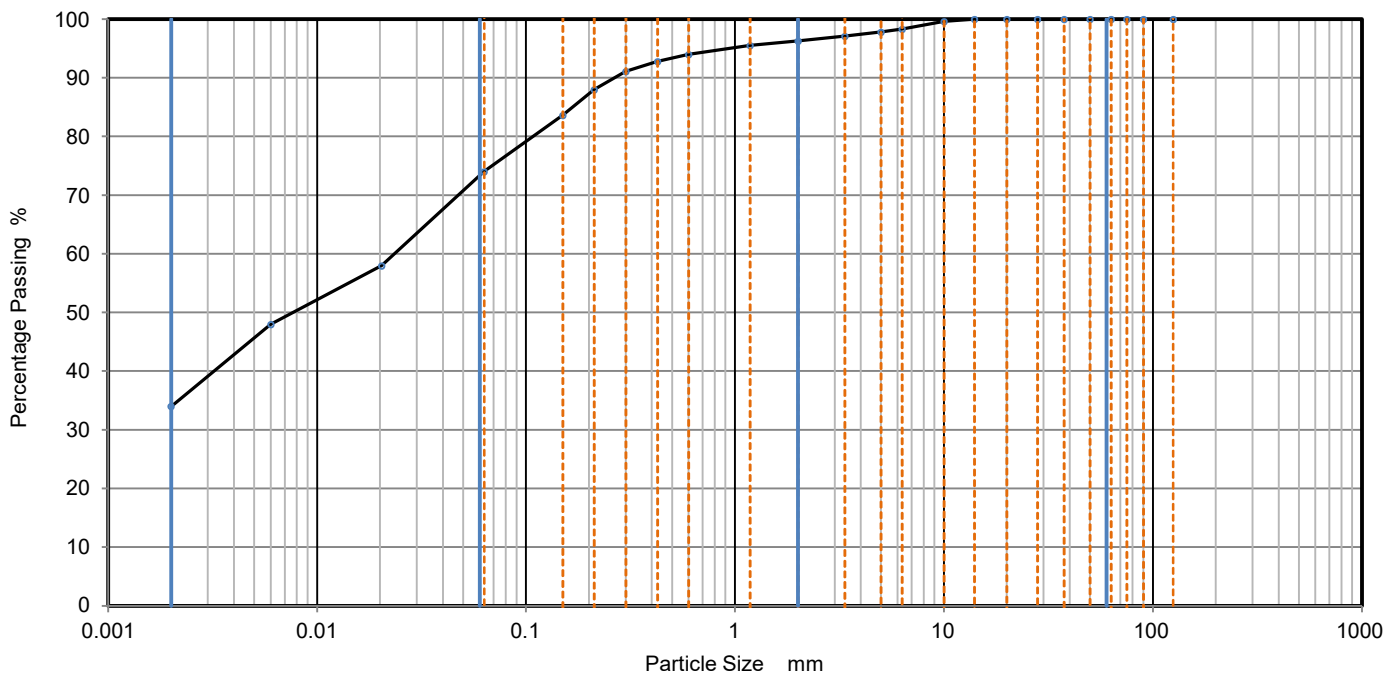
Depth, m 0.00

Specimen Reference Specimen Depth 0 m

Sample Type B

Test Method BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4

KeyLAB ID EAT_2022072742



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	58
90	100	0.0060	48
75	100	0.0020	34
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	98		
5	98		
3.35	97		
2	96		
1.18	96		
0.6	94		
0.425	93		
0.3	91		
0.212	88		
0.15	84		
0.063	74		

Particle density (assumed)	
2.65	Mg/m ³

Method of pre-treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	4
Sand	22
Silt	41
Clay	34

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
16/08/2022 14:55	N O'Brien		

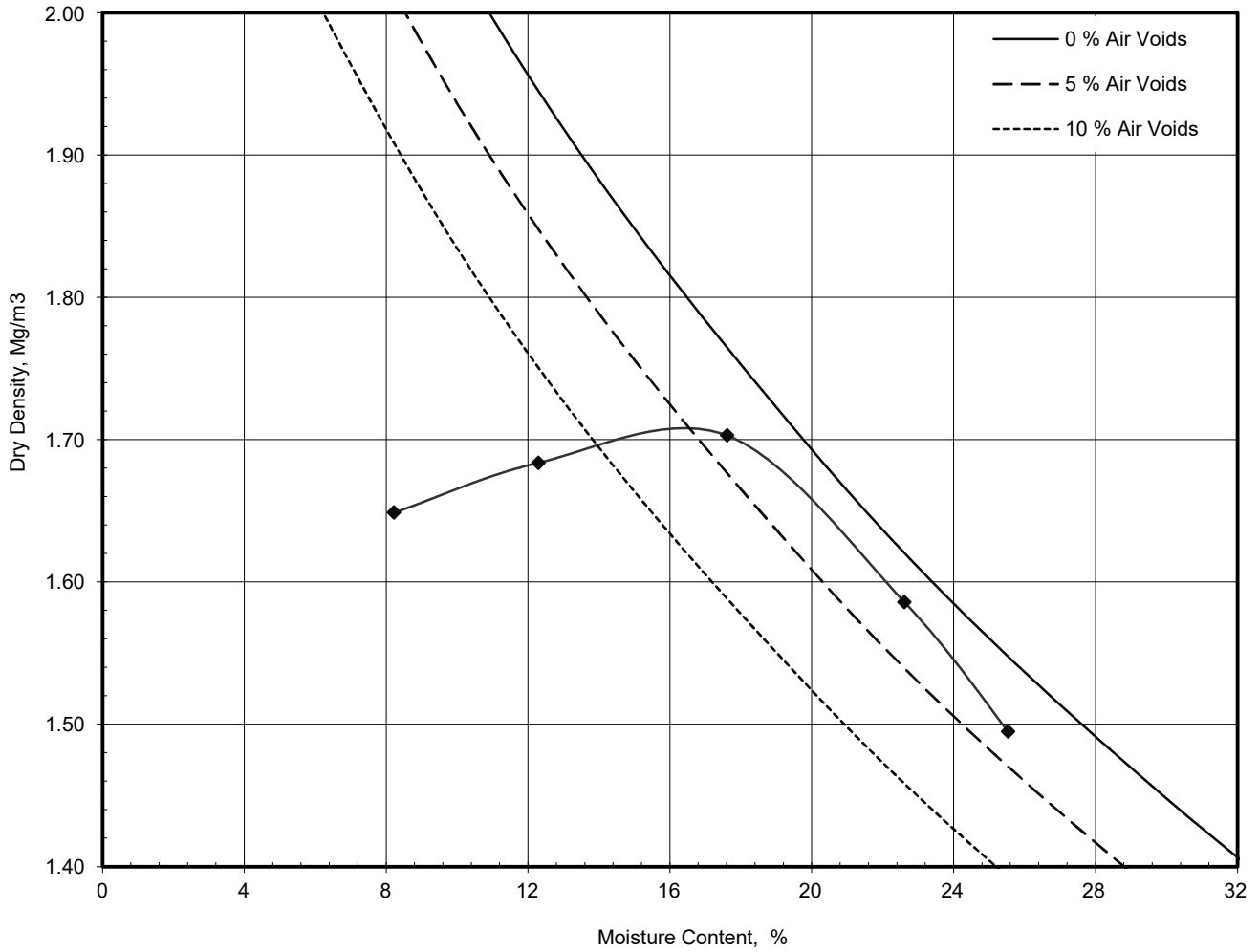


Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557AG
Borehole / Pit No	Clay
Sample No	MS2353/1
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022072740

Site Name	Giga One, Envision		
Soil Description	Brown slightly sandy CLAY		
Specimen Ref.	Specimen Depth	0	m
Test Method	BS1377:Part 4:1990, clause 3.4, 2.5kg rammer		

Compaction Test Reference/No. _____



Preparation	Material used was air dried
Mould Type	CBR
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve %	0
Material Retained on 20.0 mm Sieve %	0
Particle Density - Assumed Mg/m³	2.56

Maximum Dry Density Mg/m³	1.70
Optimum Moisture Content %	18

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	16/08/2022 14:59	N. Hodson	N. O'Brien 	

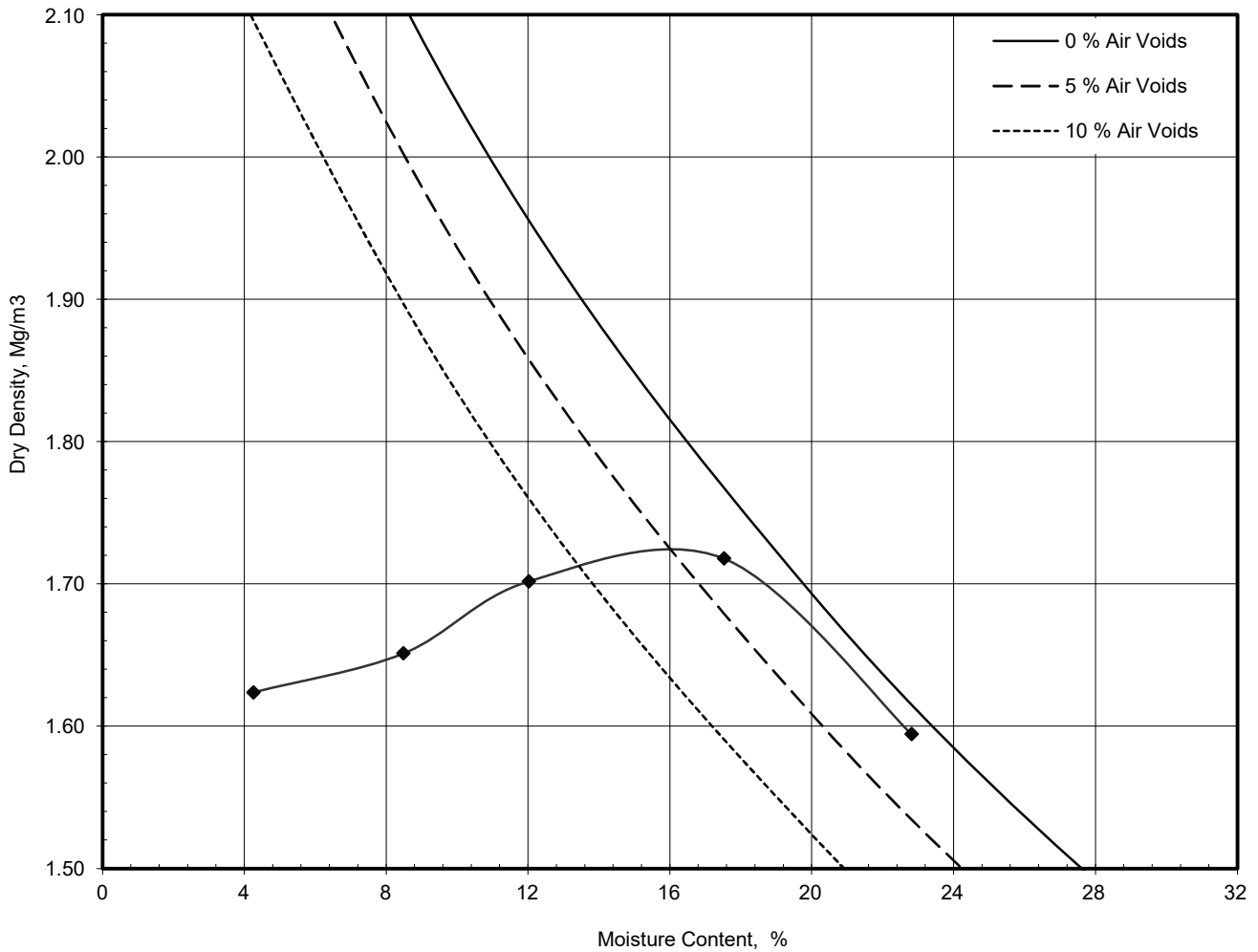


Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557AG
Borehole / Pit No	Clay
Sample No	MS2353/2
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022072741

Site Name	Giga One, Envision		
Soil Description	Brown slightly sandy CLAY		
Specimen Ref.	Specimen Depth	0	m
Test Method	BS1377:Part 4:1990, clause 3.4, 2.5kg rammer		

Compaction Test Reference/No.





Preparation	Material used was air dried	
Mould Type	CBR	
Samples Used	Single sample tested	
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured	Mg/m ³	2.56
Maximum Dry Density	Mg/m ³	1.72
Optimum Moisture Content	%	17

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	16/08/2022 15:01	N. Hodson	N. O'Brien 	

Laboratory Test Report

Client	Groundwork Services (Durham) Limited
Address	Littleburn Industrial Estate Langley Moor Durham DH7 8HJ
F.A.O	Paul Barton
Project:	Giga One Factory, Washington
Project Number:	D10557AG-1
Report Number:	L22-706
Date Received:	27th July 2022

Testing Required:	Moisture Content - BS:1377-2:1990 Determination of Liquid and Plastic Limits and Plasticity Index - BS:1377-2:1990 (Cone Penetrometer) Particle Size Distribution - BS:1377-2:1990 Sedimentation by Pipette - BS:1377-2:1990 Determination of Maximum Dry Density / Optimum Moisture Content by 2.5kg Rammer - BS:1377-4:1990 Particle Density by Gas Jar - BS:1377-2:1990 Clause 8.2
Date Started:	27th July 2022
Date Finished:	15th August 2022

Report Issue Date:	16th August 2022
Reviewed By:	 Natalie Hodson - Materials Director
Authorised By:	 Nik O'Brien - Laboratory Manager
Remarks:	(*) denotes testing is outside of UKAS Scope of Accreditation. (+) denotes subcontracted testing.

Samples will be stored for one month after the report has been issue before being disposed of.

The published results appertain only to the specimens tested.

Exploration and Testing Associates Limited, registered in England and Wales #11803869 at 8B, Bowburn South Industrial Estate, Bowburn, Durham, DH6 5AD

Determination of Moisture Content, Liquid Limit, Plastic Limit and Derivation of Plasticity Index

Project No. D10557AG-2	Project Name Giga One Envision, Washington
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Hole No.	Sample			Soil Description	Moisture Content %	Passing 425µm %	Liquid Limit %	Plastic Limit %	Plasticity Index %	Remarks
	Type	Ref	Depth							
Clay	B	MS2393/1	0.00	Brown slightly sandy CLAY	20	97	46	21	25	Sample tested in natural state - material passing 425um estimated by hand picking
Clay	B	MS2393/2	0.00	Brown slightly sandy CLAY	18					
Clay	B	MS2393/3	0.00	Brown slightly sandy CLAY	20					

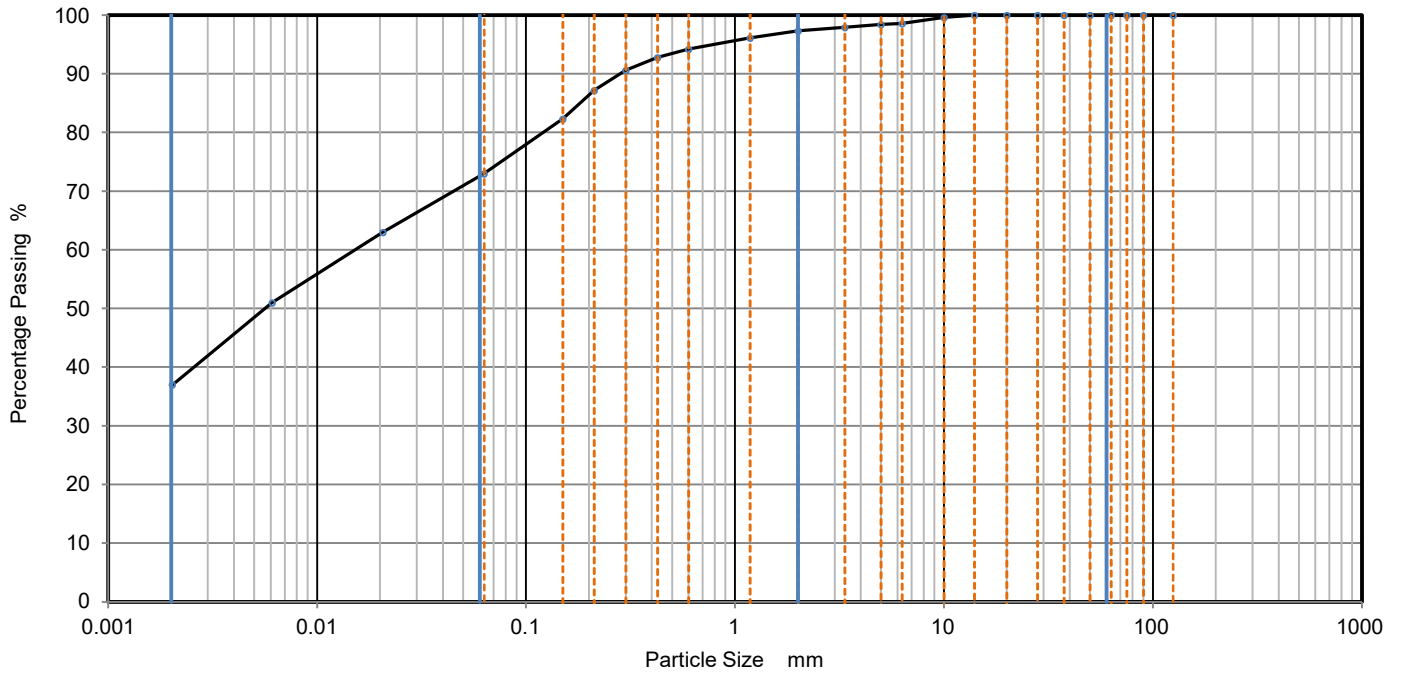
Moisture Content carried out in accordance with BS 1377: Part 2: 1990: Clause 3.2	Date	Approved By N O'Brien	UKAS Accredited Laboratory No. 20632
Liquid Limit, Plastic Limit & Plasticity Index all performed in accordance with BS 1377: Part 2: 1990 - Cone Penetrometer method - Cone 80g/30°		16/08/2022 14:07	



PARTICLE SIZE DISTRIBUTION

Job Ref	D10557AG-2
Borehole/Pit No.	Clay
Sample No.	MS2393/1
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_20220815170

Site Name	Giga One Envision, Washington	
Soil Description	Brown slightly sandy CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0206	63
90	100	0.0061	51
75	100	0.0020	37
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	98		
3.35	98		
2	97		
1.18	96		
0.6	94	Particle density (measured) 2.60 Mg/m ³	
0.425	93		
0.3	91		
0.212	87		
0.15	82		
0.063	73		

Method of pre-treatment	Sodium Hexametaphosphate
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Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	24
Fines <0.063mm	73

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

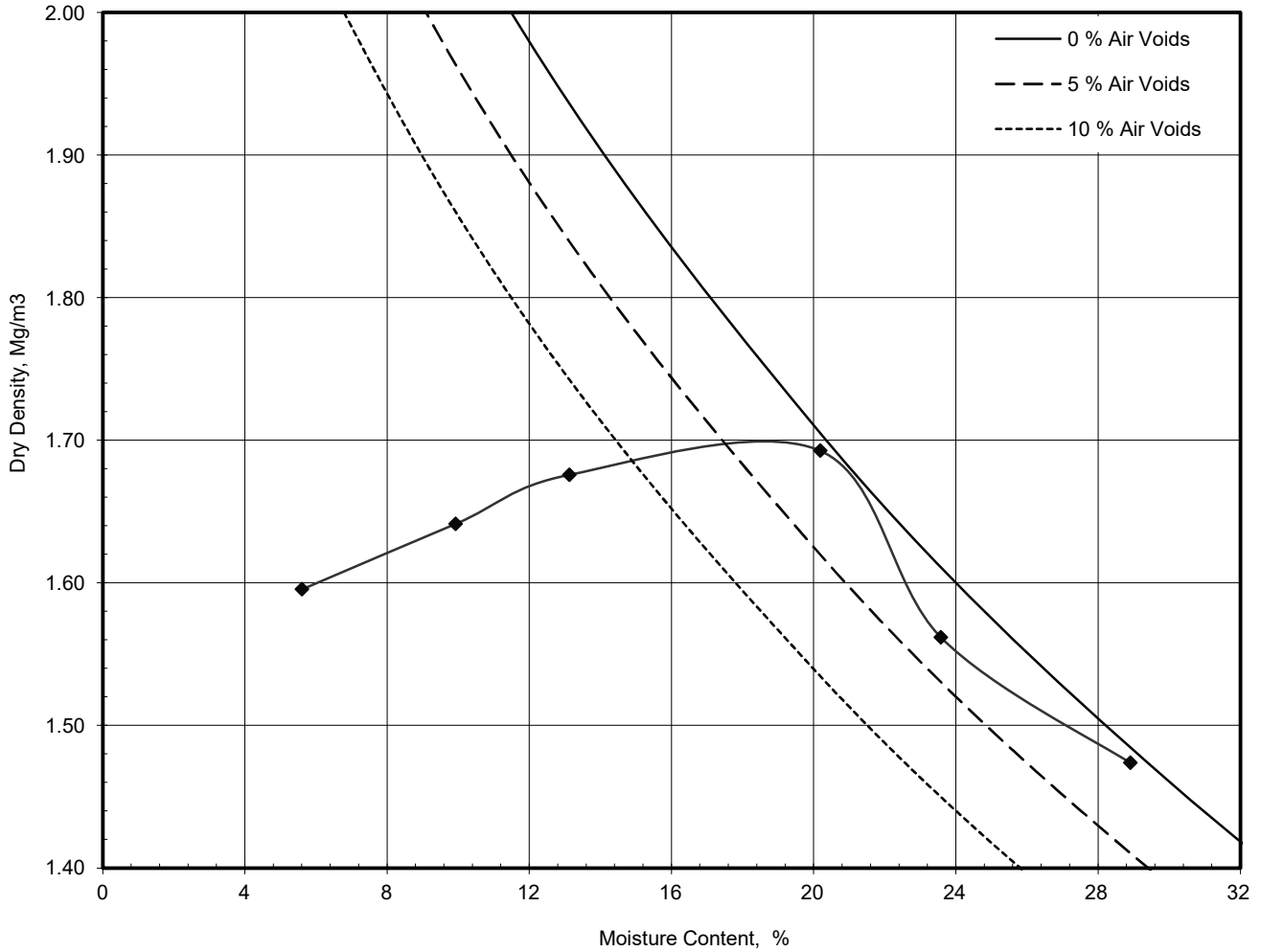
Date	Approved By		UKAS Accredited Laboratory No. 20632
16/08/2022 14:02	N O'Brien		



Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557AG-2
Borehole / Pit No	Clay
Sample No	MS2393/1
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_20220815170
Compaction Test Reference/No.	

Site Name	Giga One, Envision		
Soil Description	Brown slightly sandy CLAY		
Specimen Ref.	Specimen Depth	0	m
Test Method	BS1377:Part 4:1990, clause 3.4, 2.5kg rammer		





Preparation	Material used was air dried	
Mould Type	CBR	
Samples Used	Single sample tested	
Material Retained on 37.5 mm Sieve	%	0
Material Retained on 20.0 mm Sieve	%	0
Particle Density - Measured using gas jar	Mg/m ³	2.60
<hr/>		
Maximum Dry Density	Mg/m ³	1.69
<hr/>		
Optimum Moisture Content	%	20

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	16/08/2022 14:19	N. Hodson	N. O'Brien 	

Laboratory Test Report

Client	Groundwork Services (Durham) Limited
Address	Littleburn Industrial Estate Langley Moor Durham DH7 8HJ
F.A.O	Paul Barton
Project:	Giga One Factory, Washington
Project Number:	D10557AH
Report Number:	L22-698
Date Received:	25th July 2022

Testing Required:	Moisture Content - BS:1377-2:1990 Determination of Liquid and Plastic Limits and Plasticity Index - BS:1377-2:1990 (Cone Penetrometer) Particle Size Distribution - BS:1377-2:1990 Sedimentation by Pipette - BS:1377-2:1990
Date Started:	29th July 2022
Date Finished:	12th August 2022

Report Issue Date:	12th August 2022
Reviewed By:	 Natalie Hodson - Materials Director
Authorised By:	 Nik O'Brien - Laboratory Manager
Remarks:	(*) denotes testing is outside of UKAS Scope of Accreditation. (+) denotes subcontracted testing.

Samples will be stored for one month after the report has been issue before being disposed of.


The published results appertain only to the specimens tested.

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Determination of Moisture Content, Liquid Limit, Plastic Limit and Derivation of Plasticity Index

Project No. D10557AH	Project Name Giga One, Washington
-----------------------------	--

Hole No.	Sample			Soil Description	Moisture Content %	Passing 425µm %	Liquid Limit %	Plastic Limit %	Plasticity Index %	Remarks
	Type	Ref	Depth							
Clay	B	MS2400/1	0.00	Brown, Slightly Sandy, Silty CLAY	19	99	51	21	30	Sample tested in natural state - material passing 425um estimated by hand picking
Clay	B	MS2400/2	0.00	Brown, Slightly Sandy, Silty CLAY	20					
Clay	B	MS2400/3	0.00	Brown, Slightly Sandy, Silty CLAY	19					

Moisture Content carried out in accordance with BS 1377: Part 2: 1990: Clause 3.2 Liquid Limit, Plastic Limit & Plasticity Index all performed in accordance with BS 1377: Part 2: 1990 - Cone Penetrometer method - Cone 80g/30°	Date	Approved By	UKAS Accredited Laboratory No. 20632
	12/08/2022 16:04	N O'Brien 	

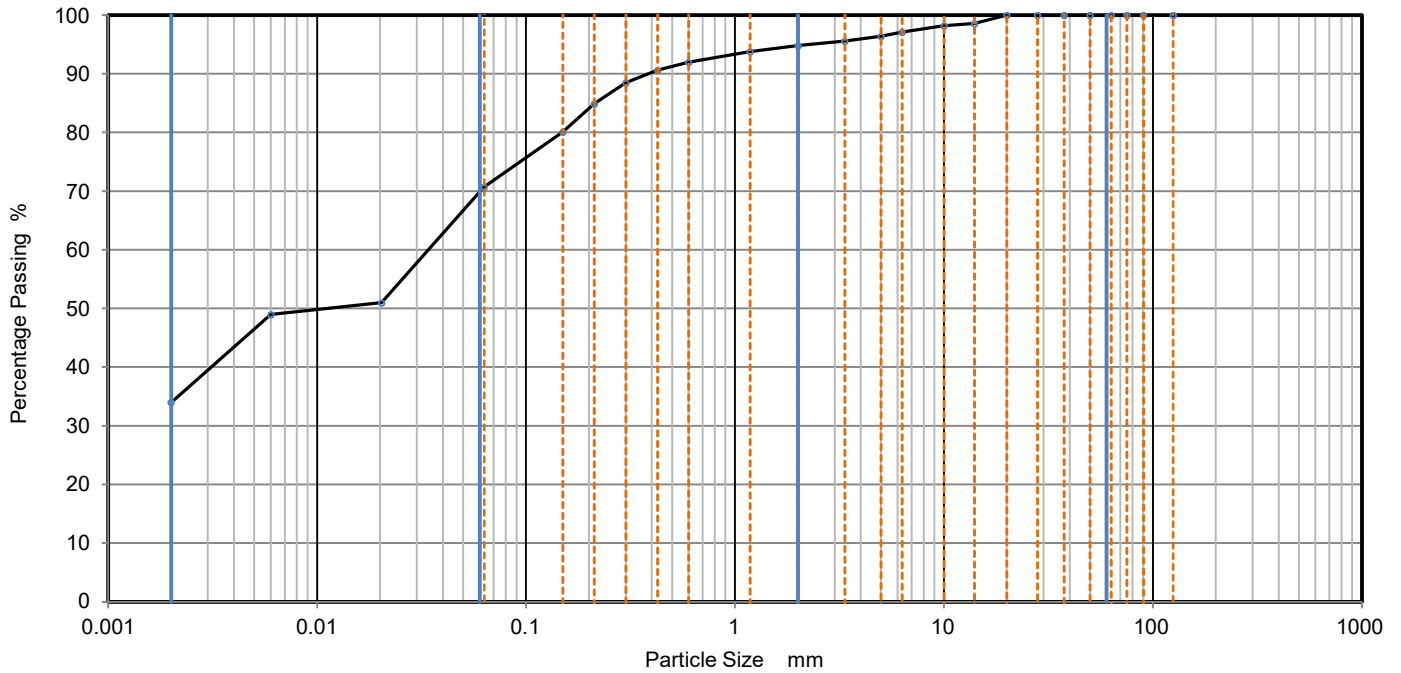


PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AH**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2400/1
Soil Description	Brown, Slightly Sandy, Silty CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990 - Wet & Dry Sieving	KeyLAB ID	EAT_202208128



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	51
90	100	0.0060	49
75	100	0.0020	34
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	98		
6.3	97		
5	96		
3.35	96		
2	95		
1.18	94		
0.6	92	Particle density (assumed) 2.65 Mg/m ³	
0.425	91		
0.3	89		
0.212	85		
0.15	80		
0.063	71		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	5
Sand	24
Silt	37
Clay	34

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	



Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
12/08/2022 16:02	N O'Brien		

Laboratory Test Report

Client	Groundwork Services (Durham) Limited
Address	Littleburn Industrial Estate Langley Moor Durham DH7 8HJ
F.A.O	Paul Barton
Project:	Giga One Factory, Washington
Project Number:	D10557AJ
Report Number:	L22-697
Date Received:	28th July 2022

Testing Required:	Moisture Content - BS:1377-2:1990 Determination of Liquid and Plastic Limits and Plasticity Index - BS:1377-2:1990 (Cone Penetrometer) Particle Size Distribution - BS:1377-2:1990 Sedimentation by Pipette - BS:1377-2:1990 Determination of Maximum Dry Density / Optimum Moisture Content by 2.5kg Rammer - BS:1377-4:1990 Particle Density by Gas Jar - BS:1377-2:1990 Clause 8.2
Date Started:	29th July 2022
Date Finished:	12th August 2022

Report Issue Date:	12th August 2022
Reviewed By:	 Natalie Hodson - Materials Director
Authorised By:	 Nik O'Brien - Laboratory Manager
Remarks:	(*) denotes testing is outside of UKAS Scope of Accreditation. (+) denotes subcontracted testing.

Samples will be stored for one month after the report has been issue before being disposed of.

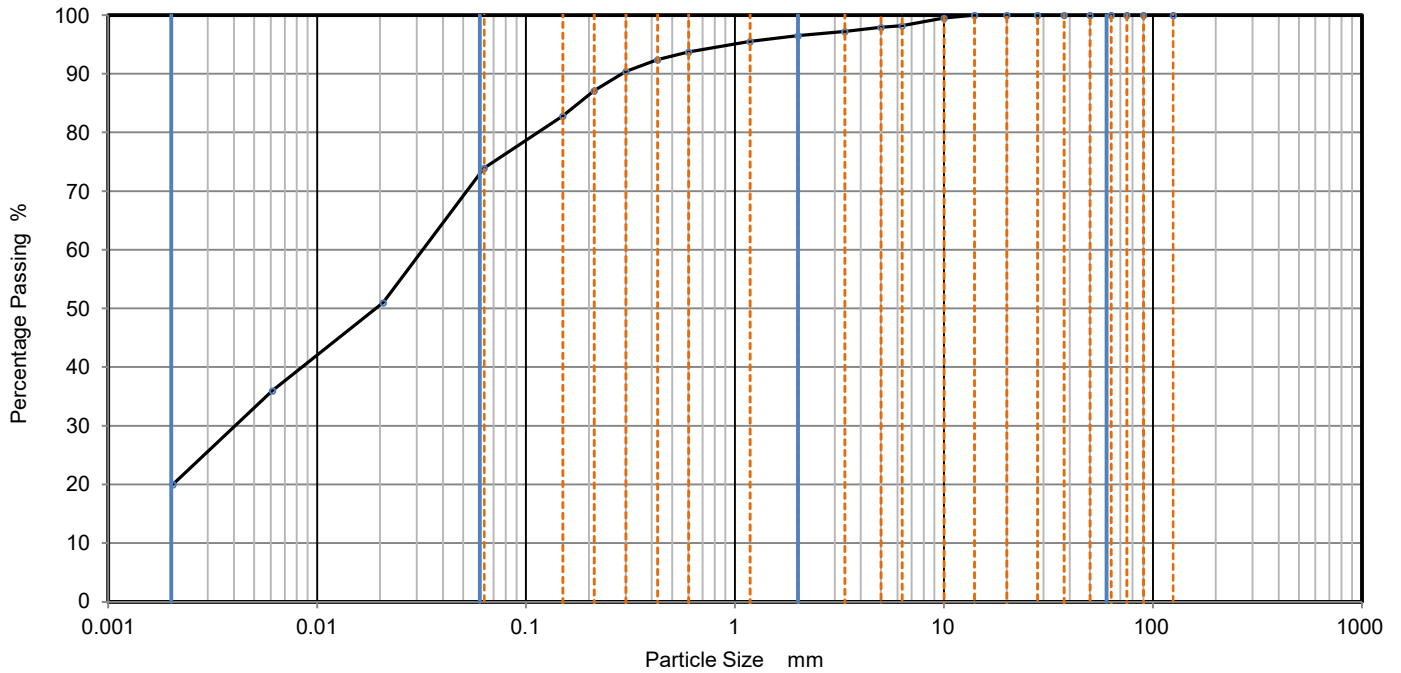
The published results appertain only to the specimens tested.

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PARTICLE SIZE DISTRIBUTION

Job Ref	D10557AJ
Borehole/Pit No.	Clay
Sample No.	MS2401/1
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022081211

Site Name	Giga One, Washington	
Soil Description	Brown, Slightly Sandy, Slightly Silty CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0207	51
90	100	0.0061	36
75	100	0.0020	20
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	98		
5	98		
3.35	97		
2	97		
1.18	96		
0.6	94	Particle density (measured) 2.59 Mg/m ³	
0.425	92		
0.3	90		
0.212	87		
0.15	83		
0.063	74		

Method of Pre-Treatment	Sodium Hexametaphosphate
Sample Proportions	% dry mass
Very coarse	0
Gravel	4
Sand	23
Fines <0.063mm	74

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

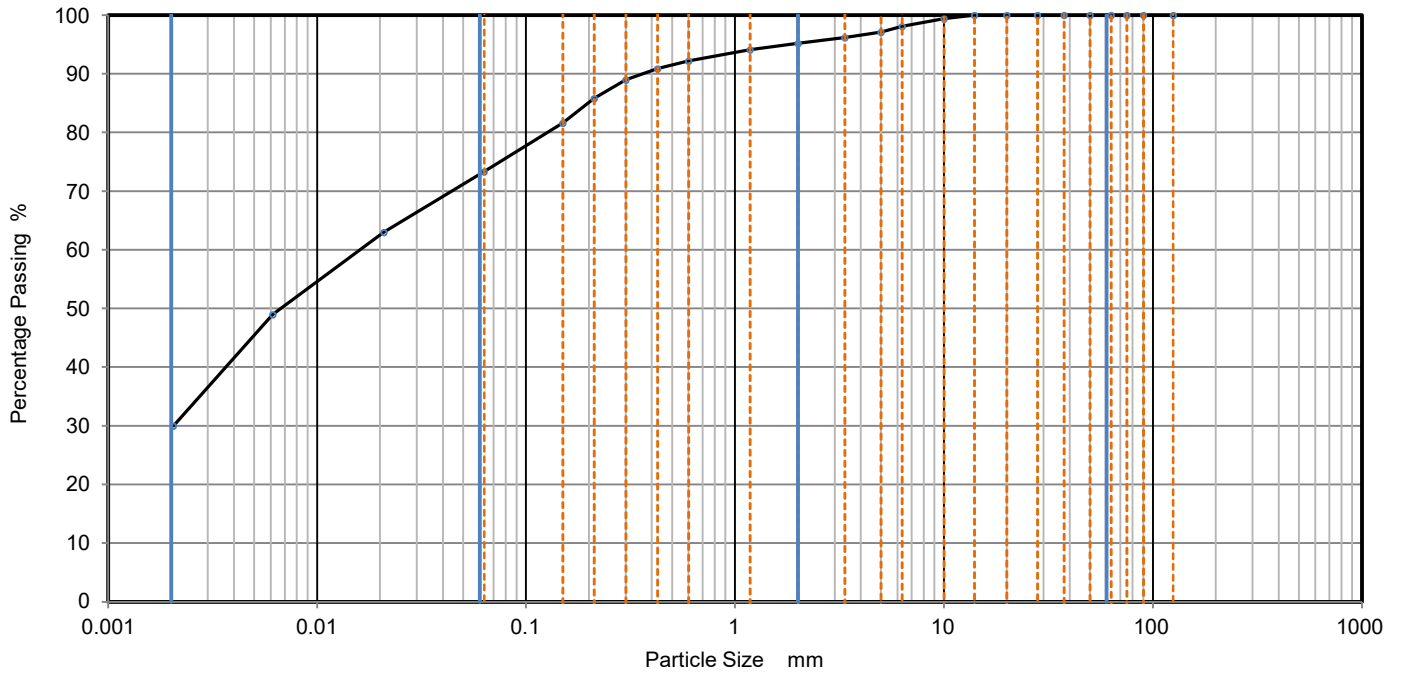
Date	Approved By		UKAS Accredited Laboratory No. 20632
12/08/2022 16:20	N O'Brien		



PARTICLE SIZE DISTRIBUTION

Job Ref	D10557AJ
Borehole/Pit No.	Clay
Sample No.	MS2401/2
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_2022081212

Site Name	Giga One, Washington	
Soil Description	Brown, Slightly Sandy, Slightly Silty CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS1377:Part 2:1990, Washing and Drying, Clauses 9.2 and 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0208	63
90	100	0.0061	49
75	100	0.0020	30
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	98		
5	97		
3.35	96		
2	95		
1.18	94		
0.6	92	Particle density (measured) 2.57 Mg/m ³	
0.425	91		
0.3	89		
0.212	86		
0.15	82		
0.063	73		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	5
Sand	22
Fines <0.063mm	73

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

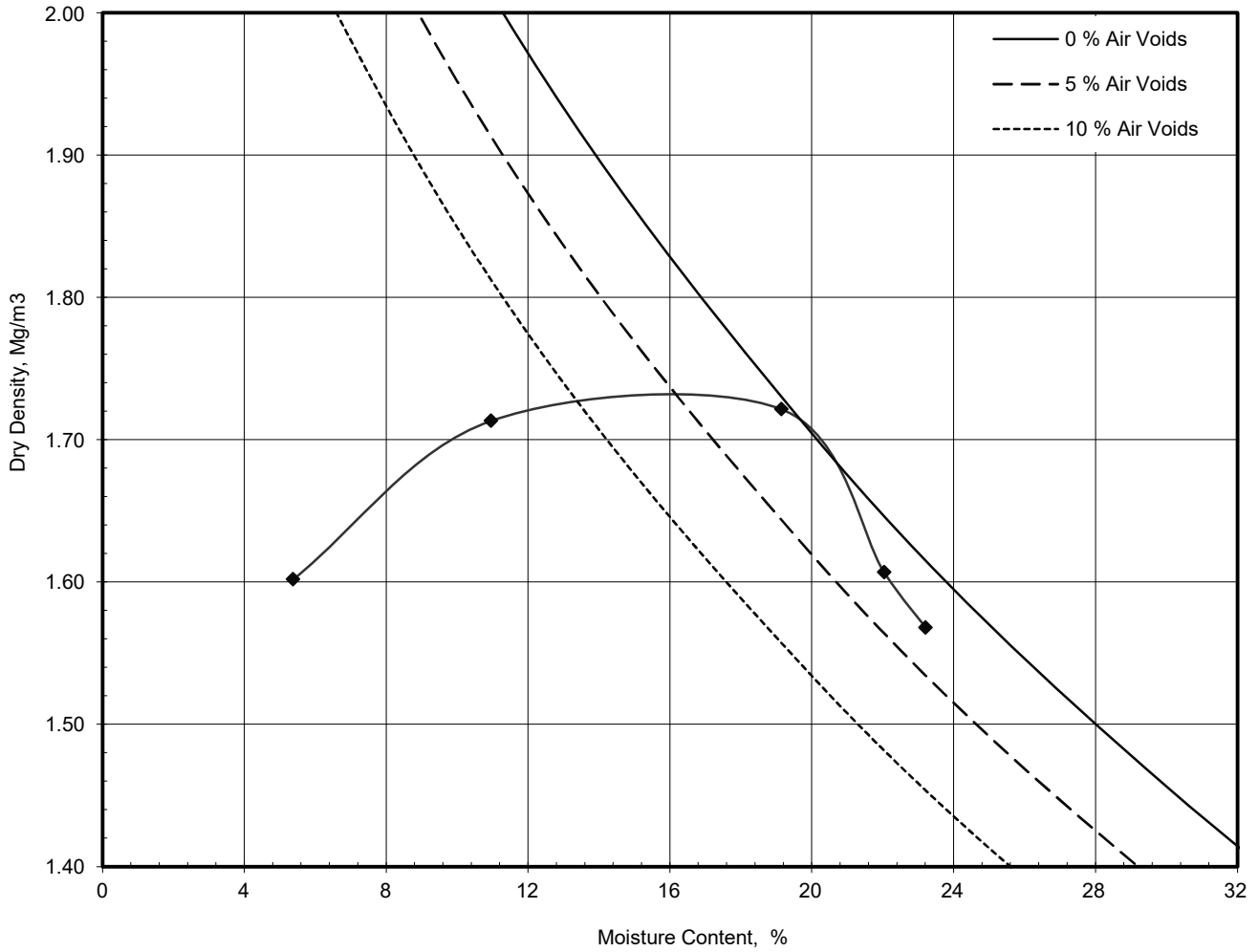
Date	Approved By		UKAS Accredited Laboratory No. 20632
12/08/2022 16:21	N O'Brien		



Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557AJ
Borehole / Pit No	Clay
Sample No	MS2401/1
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022081211
Compaction Test Reference/No.	

Site Name: **Giga One, Washington**
 Soil Description: **Brown, Slightly Sandy, Slightly Silty CLAY**
 Specimen Ref.: _____ Specimen Depth: _____ m
 Test Method: **BS1377:Part 4:1990, clause 3.3, 2.5kg rammer**



Preparation	Material used was air dried
Mould Type	One Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve %	0
Material Retained on 20.0 mm Sieve %	0
Particle Density - Measured using gas jar Mg/m ³	2.59
Maximum Dry Density Mg/m ³	1.72
Optimum Moisture Content %	19

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	12/08/2022 16:12	N. Hodson	N. O'Brien 	

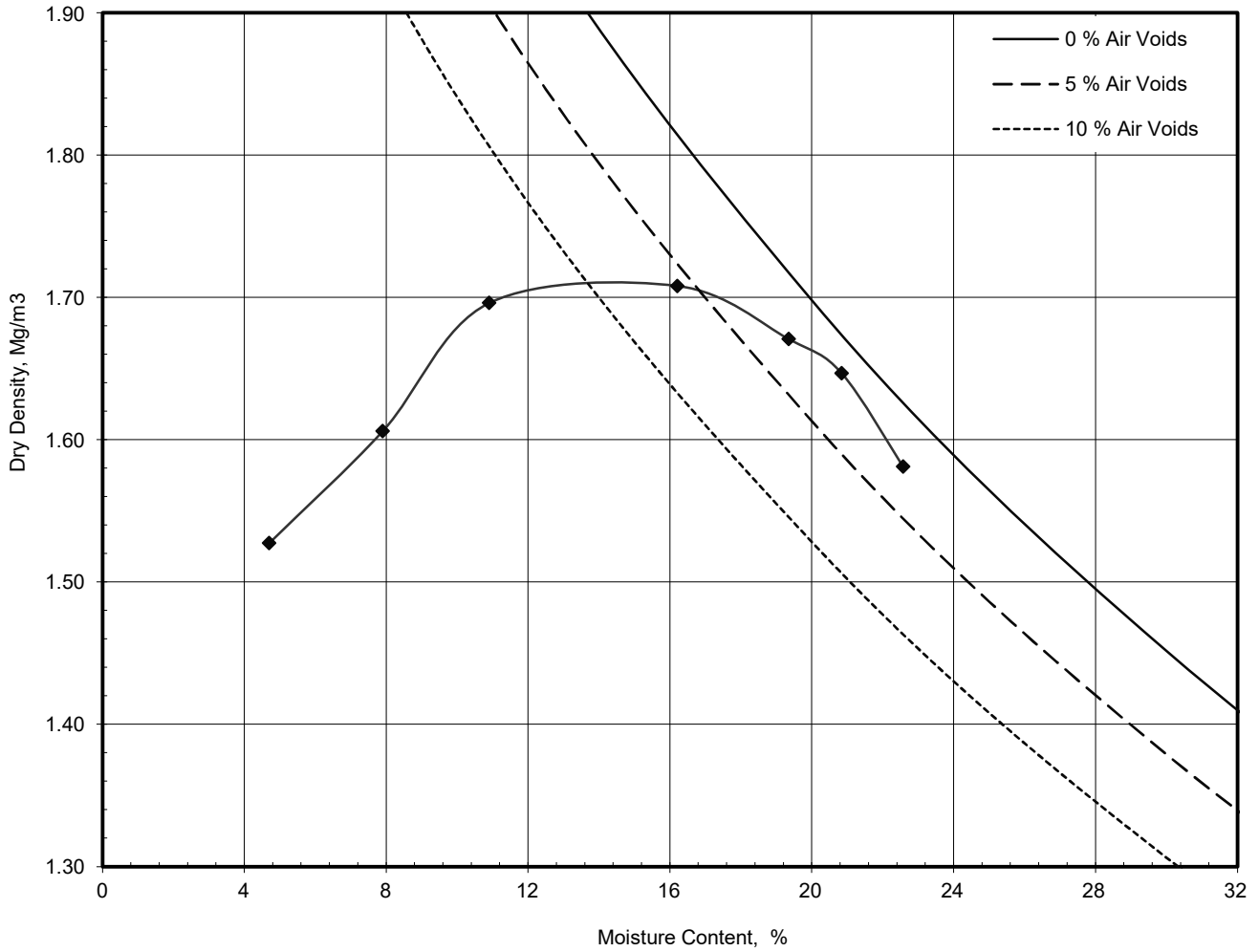


Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557AJ
Borehole / Pit No	Clay
Sample No	MS2401/2
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022081212

Site Name	Giga One, Washington	
Soil Description	Brown, Slightly Sandy, Slightly Silty CLAY	
Specimen Ref.	Specimen Depth	m
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	

Compaction Test Reference/No. _____



Preparation	Material used was air dried
Mould Type	One Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	0
Material Retained on 20.0 mm Sieve	0
Particle Density - Measured using gas jar	2.57



Maximum Dry Density	Mg/m ³	1.71
Optimum Moisture Content	%	16

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	12/08/2022 16:13	N. Hodson	N. O'Brien 	

Laboratory Test Report

Client	Groundwork Services (Durham) Limited
Address	Littleburn Industrial Estate Langley Moor Durham DH7 8HJ
F.A.O	Paul Barton
Project:	Giga One Factory, Washington
Project Number:	D10557AL
Report Number:	L22-724
Date Received:	1st August 2022

Testing Required:	Moisture Content - BS:1377-2:1990 Determination of Liquid and Plastic Limits and Plasticity Index - BS:1377-2:1990 (Cone Penetrometer) Particle Size Distribution - BS:1377-2:1990 Sedimentation by Pipette - BS:1377-2:1990 Determination of Maximum Dry Density / Optimum Moisture Content by 2.5kg Rammer - BS:1377-4:1990 Particle Density by Gas Jar - BS:1377-2:1990 Clause 8.2
Date Started:	4th August 2022
Date Finished:	19th August 2022

Report Issue Date:	22nd August 2022
Reviewed By:	 Natalie Hodson - Materials Director
Authorised By:	 Nik O'Brien - Laboratory Manager
Remarks:	(*) denotes testing is outside of UKAS Scope of Accreditation. (+) denotes subcontracted testing.

Samples will be stored for one month after the report has been issue before being disposed of.

The published results appertain only to the specimens tested.

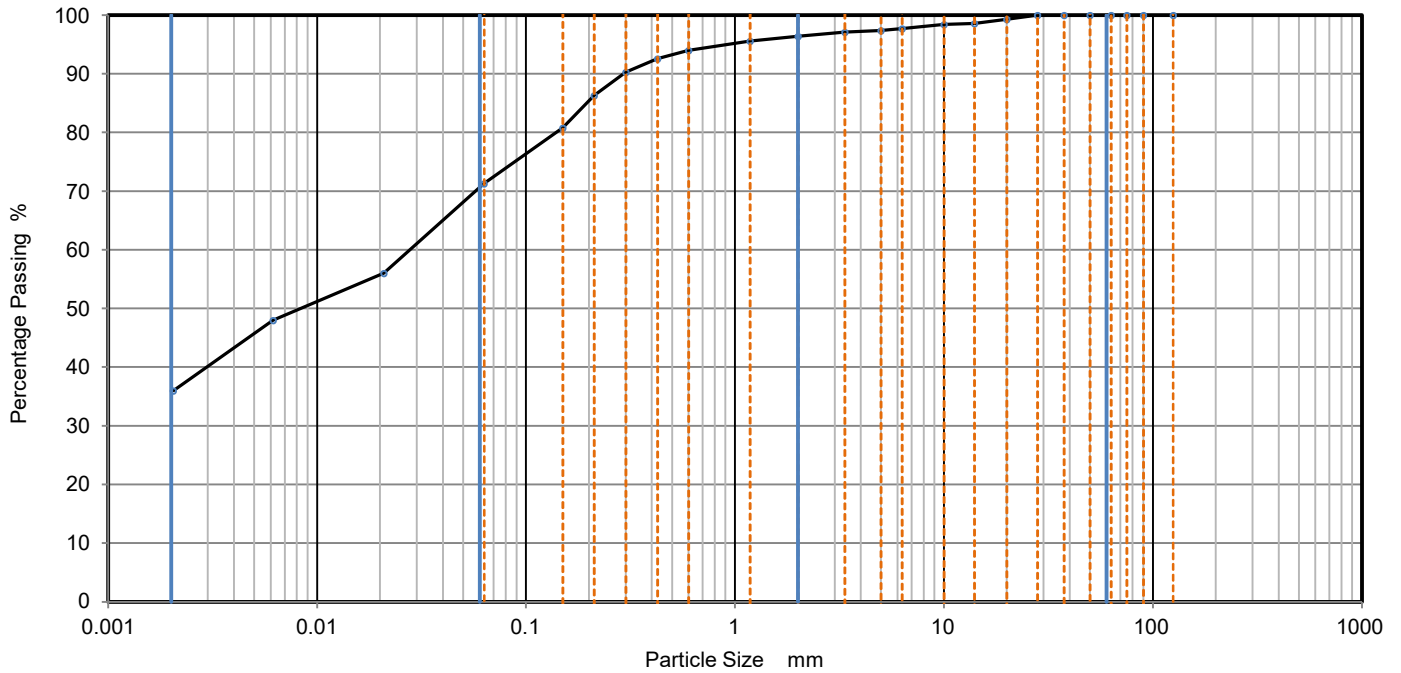
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PARTICLE SIZE DISTRIBUTION

Job Ref	D10557AL
Borehole/Pit No.	Clay
Sample No.	MS2421/1
Depth, m	0.00
Sample Type	B
KeyLAB ID	EAT_20220815145

Site Name	Giga One, Washington	
Soil Description	Brown, Slightly Sandy, Slightly Silty CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0208	56
90	100	0.0061	48
75	100	0.0020	36
63	100		
50	100		
37.5	100		
28	100		
20	99		
14	99		
10	98		
6.3	98		
5	97		
3.35	97		
2	96		
1.18	96		
0.6	94	Particle density (measured) 2.57 Mg/m ³	
0.425	93		
0.3	90		
0.212	86		
0.15	81		
0.063	71		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	4
Sand	25
Fines <0.063mm	71

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
19/08/2022 08:57	N O'Brien		

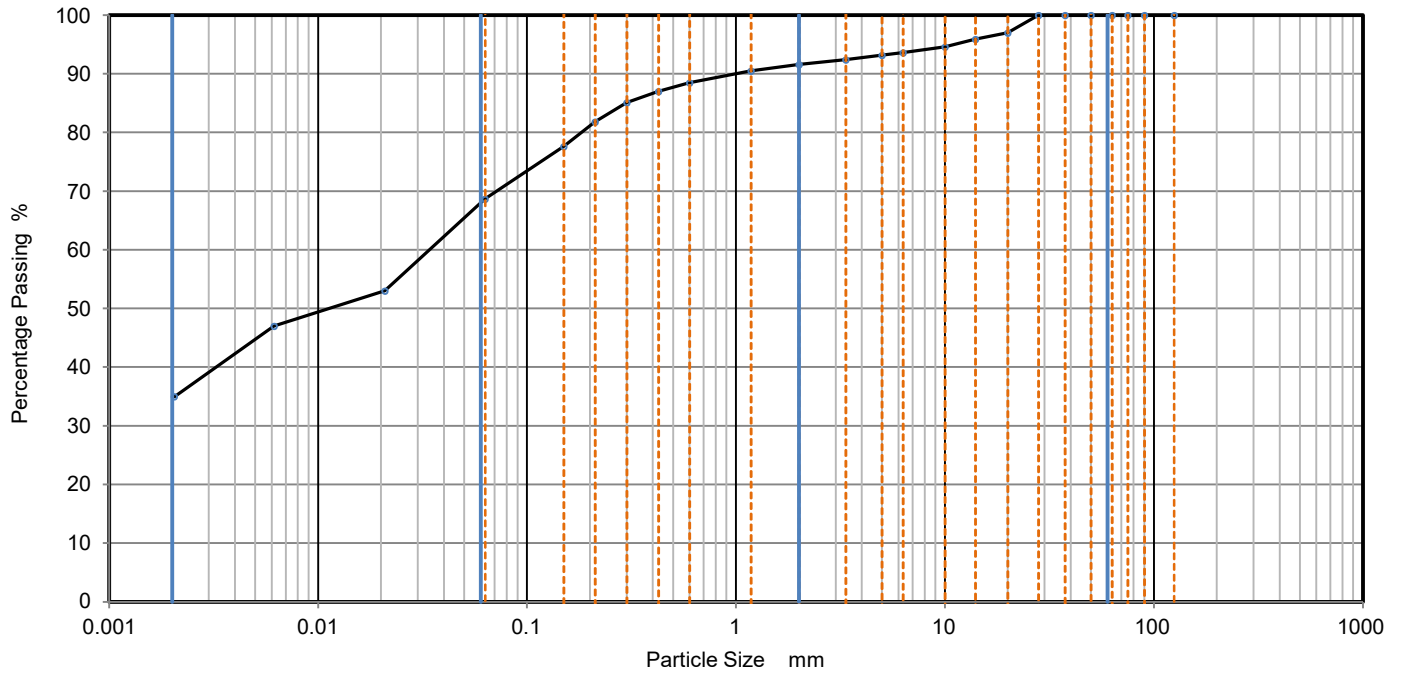


PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AL**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2421/2
Soil Description	Brown, Slightly Sandy, Slightly Silty CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	KeyLAB ID	EAT_20220815146



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0208	53
90	100	0.0061	47
75	100	0.0020	35
63	100		
50	100		
37.5	100		
28	100		
20	97		
14	96		
10	95		
6.3	94		
5	93		
3.35	92		
2	92		
1.18	91		
0.6	89	Particle density (measured) 2.57 Mg/m ³	
0.425	87		
0.3	85		
0.212	82		
0.15	78		
0.063	69		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	8
Sand	23
Fines <0.063mm	69

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
19/08/2022 08:58	N O'Brien		



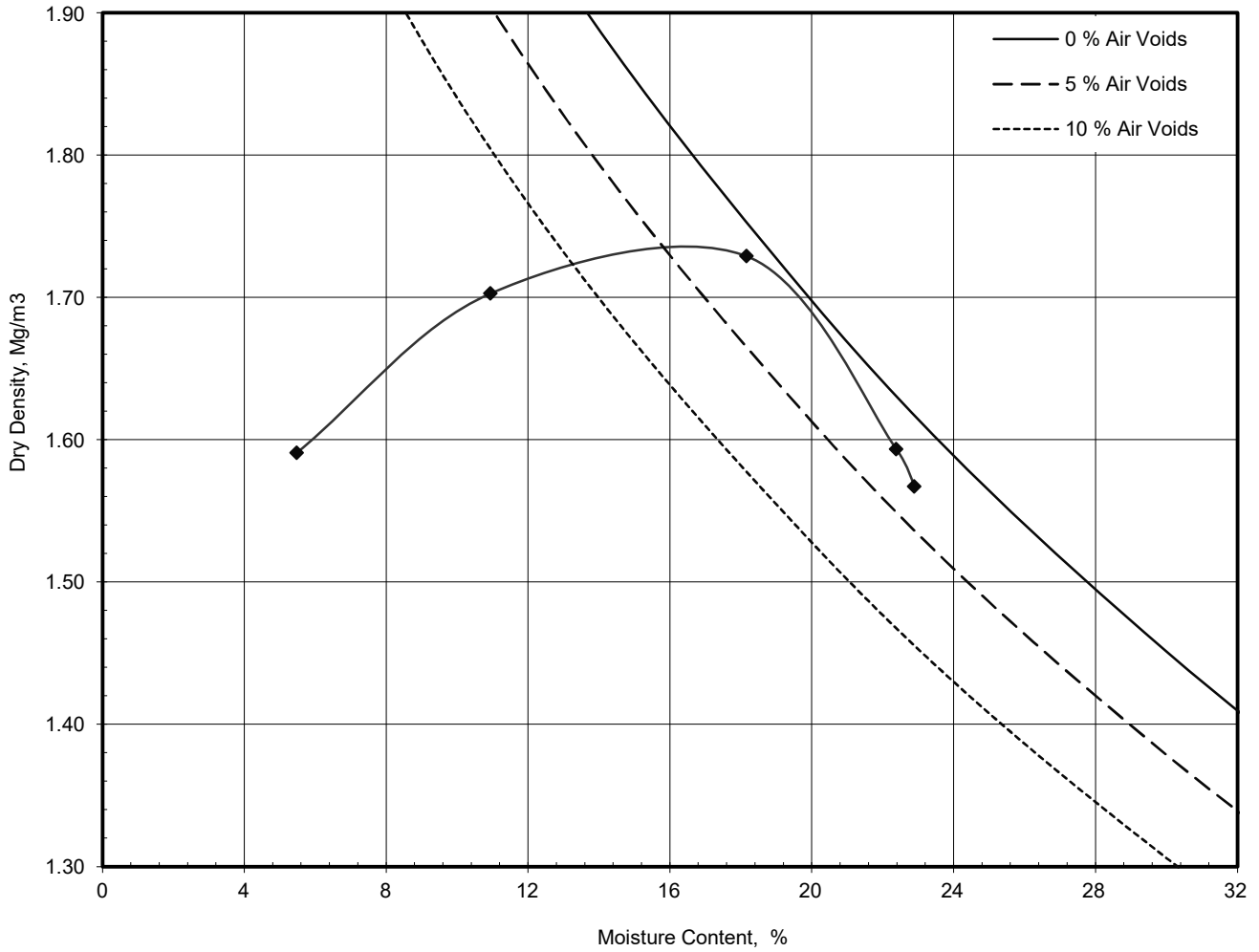
Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557AL
Borehole / Pit No	Clay
Sample No	MS2421/2
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_20220815146

Site Name: **Giga One, Washington**
 Soil Description: **Brown, Slightly Sandy, Slightly Silty CLAY**

Specimen Ref.: _____ Specimen Depth: _____ m
 Test Method: **BS1377:Part 4:1990, clause 3.4, 2.5kg rammer**

Compaction Test Reference/No. _____



Preparation	Material used was air dried
Mould Type	CBR
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve %	0
Material Retained on 20.0 mm Sieve %	0
Particle Density - Measured using gas jar Mg/m³	2.57

Maximum Dry Density Mg/m³	1.73
Optimum Moisture Content %	18

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	19/08/2022 08:24	N. Hodson	N. O'Brien 	



Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557AL
Borehole / Pit No	Clay
Sample No	MS2421/1
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_20220815145

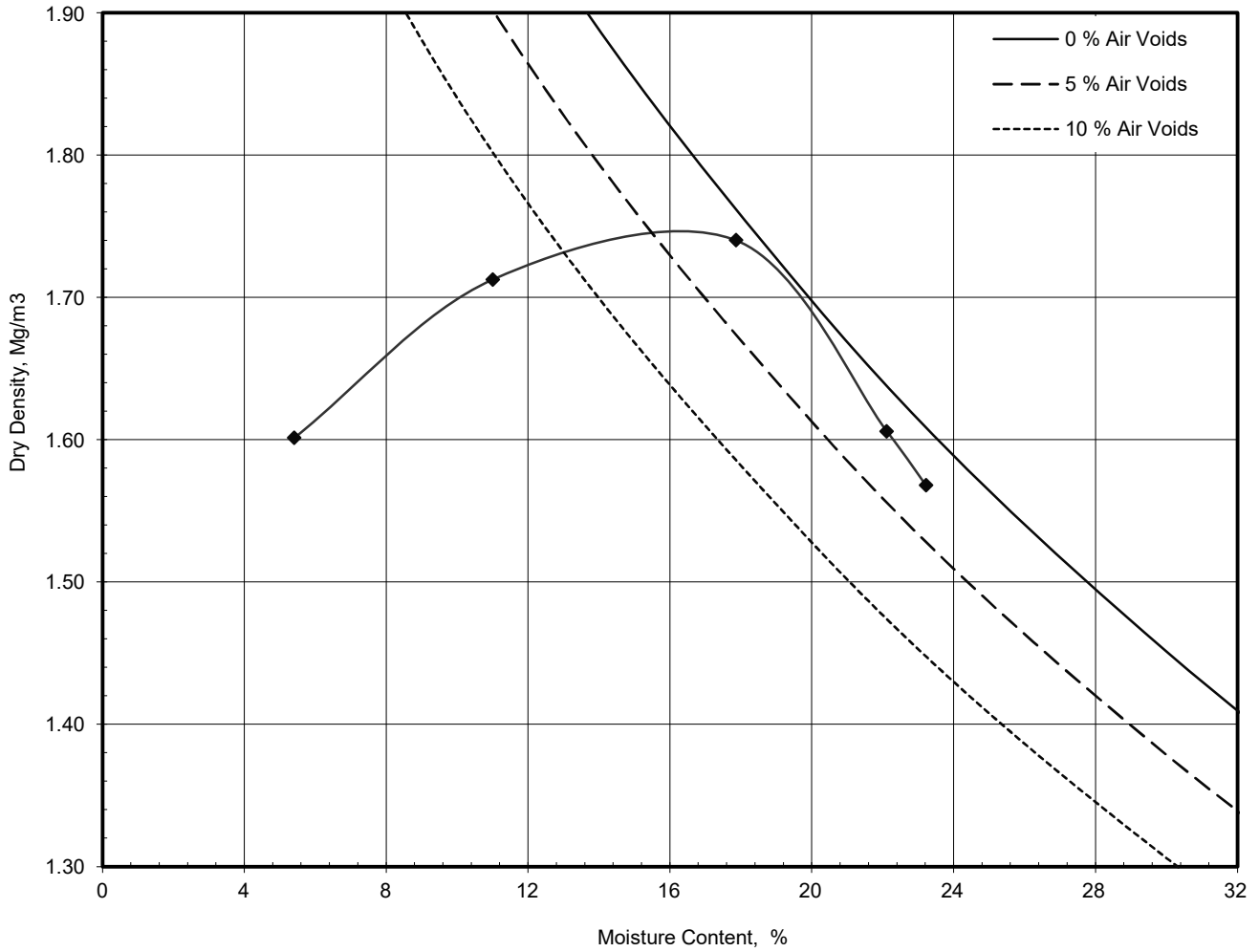
Site Name: **Giga One, Washington**

Soil Description: **Brown, Slightly Sandy, Slightly Silty CLAY**

Specimen Ref. / Specimen Depth: _____ m

Test Method: **BS1377:Part 4:1990, clause 3.4, 2.5kg rammer**

Compaction Test Reference/No. _____



Preparation	Material used was air dried
Mould Type	CBR
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	0
Material Retained on 20.0 mm Sieve	0
Particle Density - Measured using gas jar	2.57



Maximum Dry Density	1.74
Optimum Moisture Content	18

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	19/08/2022 08:23	N. Hodson	N. O'Brien 	

Laboratory Test Report

Client	Groundwork Services (Durham) Limited
Address	Littleburn Industrial Estate Langley Moor Durham DH7 8HJ
F.A.O	Paul Barton
Project:	Giga One Factory, Washington
Project Number:	D10557AM
Report Number:	L22-725
Date Received:	2nd August 2022

Testing Required:	Moisture Content - BS:1377-2:1990 Determination of Liquid and Plastic Limits and Plasticity Index - BS:1377-2:1990 (Cone Penetrometer) Particle Size Distribution - BS:1377-2:1990 Sedimentation by Pipette - BS:1377-2:1990
Date Started:	3rd August 2022
Date Finished:	18th August 2022

Report Issue Date:	22nd August 2022
Reviewed By:	 Natalie Hodson - Materials Director
Authorised By:	 Nik O'Brien - Laboratory Manager
Remarks:	(*) denotes testing is outside of UKAS Scope of Accreditation. (+) denotes subcontracted testing.

Samples will be stored for one month after the report has been issue before being disposed of.

The published results appertain only to the specimens tested.

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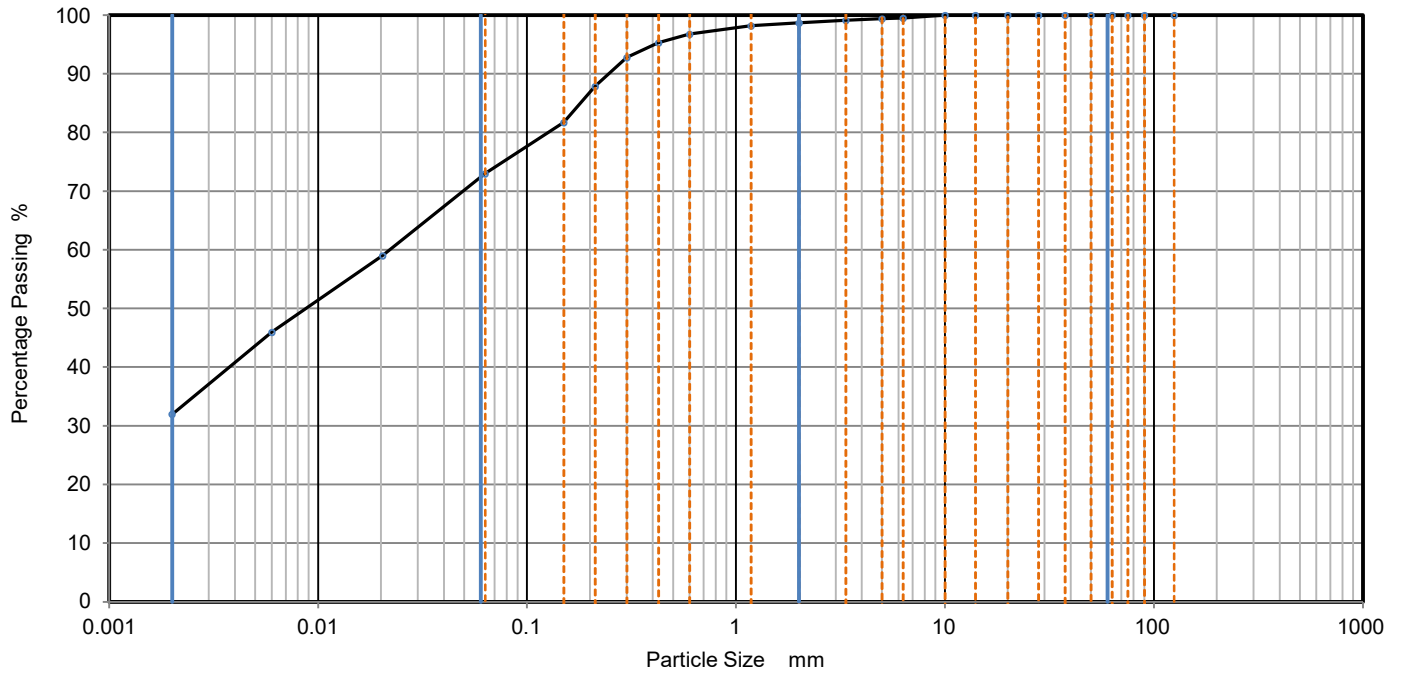


PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AM**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2422/1
Soil Description	Brown, Sandy CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4		KeyLAB ID
			EAT_20220815168



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	59
90	100	0.0060	46
75	100	0.0020	32
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	99		
3.35	99		
2	99		
1.18	98		
0.6	97	Particle density (assumed) 2.65 Mg/m ³	
0.425	95		
0.3	93		
0.212	88		
0.15	82		
0.063	73		

Method of Pre-Treatment	Sodium Hexametaphosphate
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Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	26
Silt	41
Clay	32

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

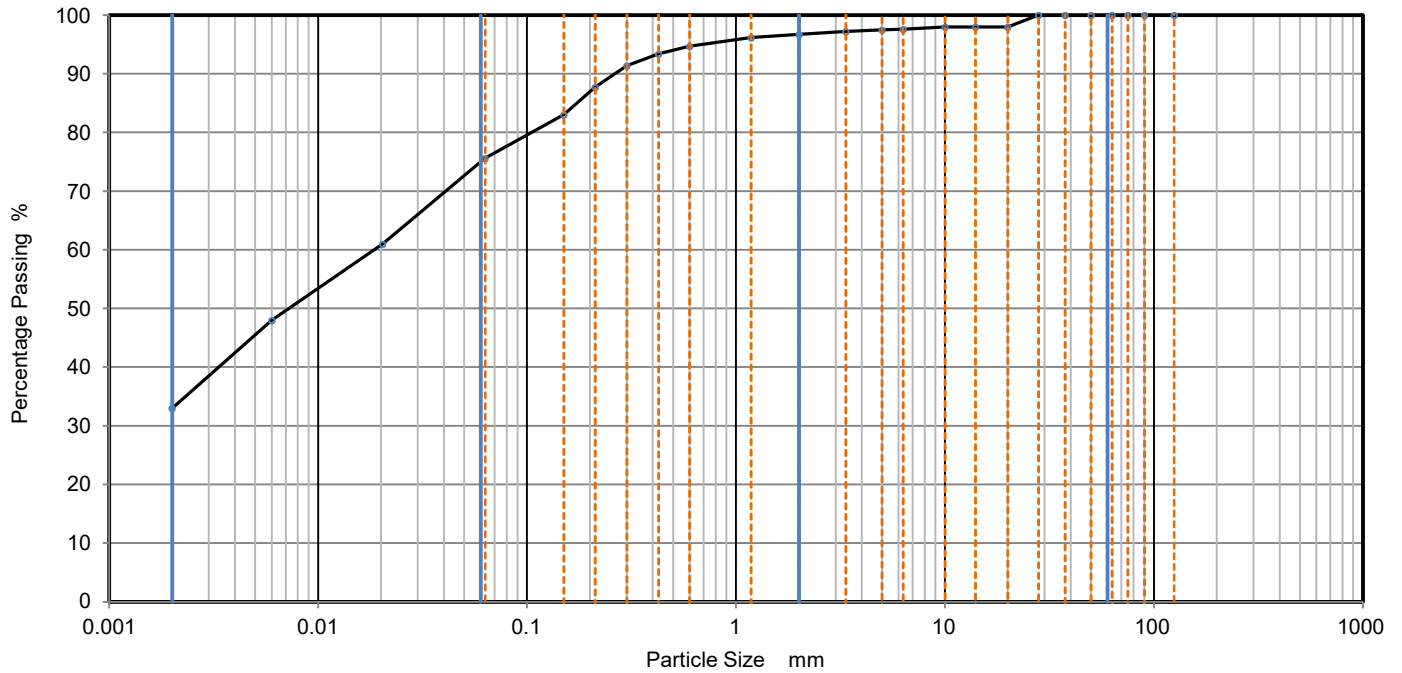
Date	Approved By		UKAS Accredited Laboratory No. 20632
19/08/2022 09:14	N O'Brien		

PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AM**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2422/2
Soil Description	Brown, Sandy CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	KeyLAB ID	EAT_20220815169



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	61
90	100	0.0060	48
75	100	0.0020	33
63	100		
50	100		
37.5	100		
28	100		
20	98		
14	98		
10	98		
6.3	98		
5	98		
3.35	97		
2	97		
1.18	96		
0.6	95	Particle density (assumed) 2.65 Mg/m ³	
0.425	93		
0.3	91		
0.212	88		
0.15	83		
0.063	76		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	21
Silt	43
Clay	33

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	



Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
19/08/2022 09:15	N O'Brien		

Laboratory Test Report

Client	Groundwork Services (Durham) Limited
Address	Littleburn Industrial Estate Langley Moor Durham DH7 8HJ
F.A.O	Paul Barton
Project:	Giga One Factory, Washington
Project Number:	D10557AM
Report Number:	L22-725
Date Received:	2nd August 2022

Testing Required:	Moisture Content - BS:1377-2:1990 Determination of Liquid and Plastic Limits and Plasticity Index - BS:1377-2:1990 (Cone Penetrometer) Particle Size Distribution - BS:1377-2:1990 Sedimentation by Pipette - BS:1377-2:1990
Date Started:	3rd August 2022
Date Finished:	18th August 2022

Report Issue Date:	22nd August 2022
Reviewed By:	 Natalie Hodson - Materials Director
Authorised By:	 Nik O'Brien - Laboratory Manager
Remarks:	(*) denotes testing is outside of UKAS Scope of Accreditation. (+) denotes subcontracted testing.

Samples will be stored for one month after the report has been issue before being disposed of.

The published results appertain only to the specimens tested.

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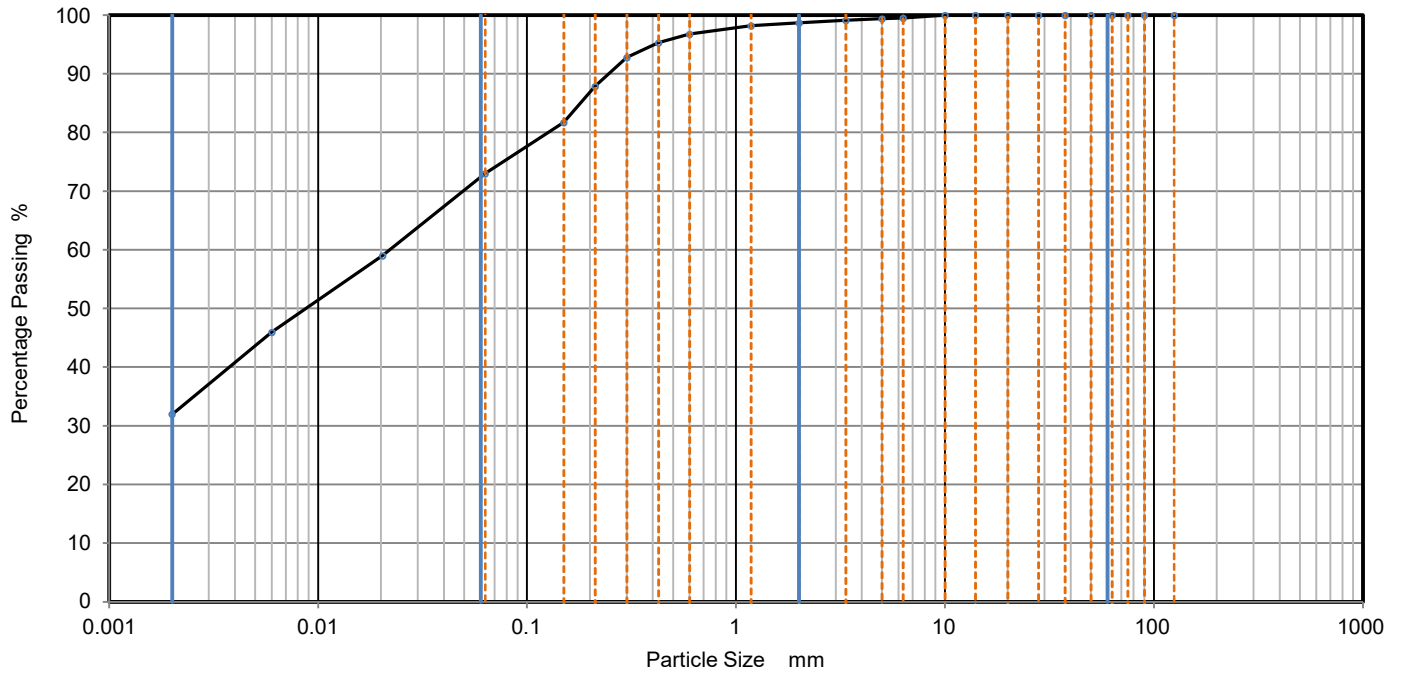


PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AM**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2422/1
Soil Description	Brown, Sandy CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4		KeyLAB ID
			EAT_20220815168



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	59
90	100	0.0060	46
75	100	0.0020	32
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	99		
3.35	99		
2	99		
1.18	98		
0.6	97		
0.425	95	Particle density (assumed) 2.65 Mg/m ³	
0.3	93		
0.212	88		
0.15	82		
0.063	73		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	1
Sand	26
Silt	41
Clay	32

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

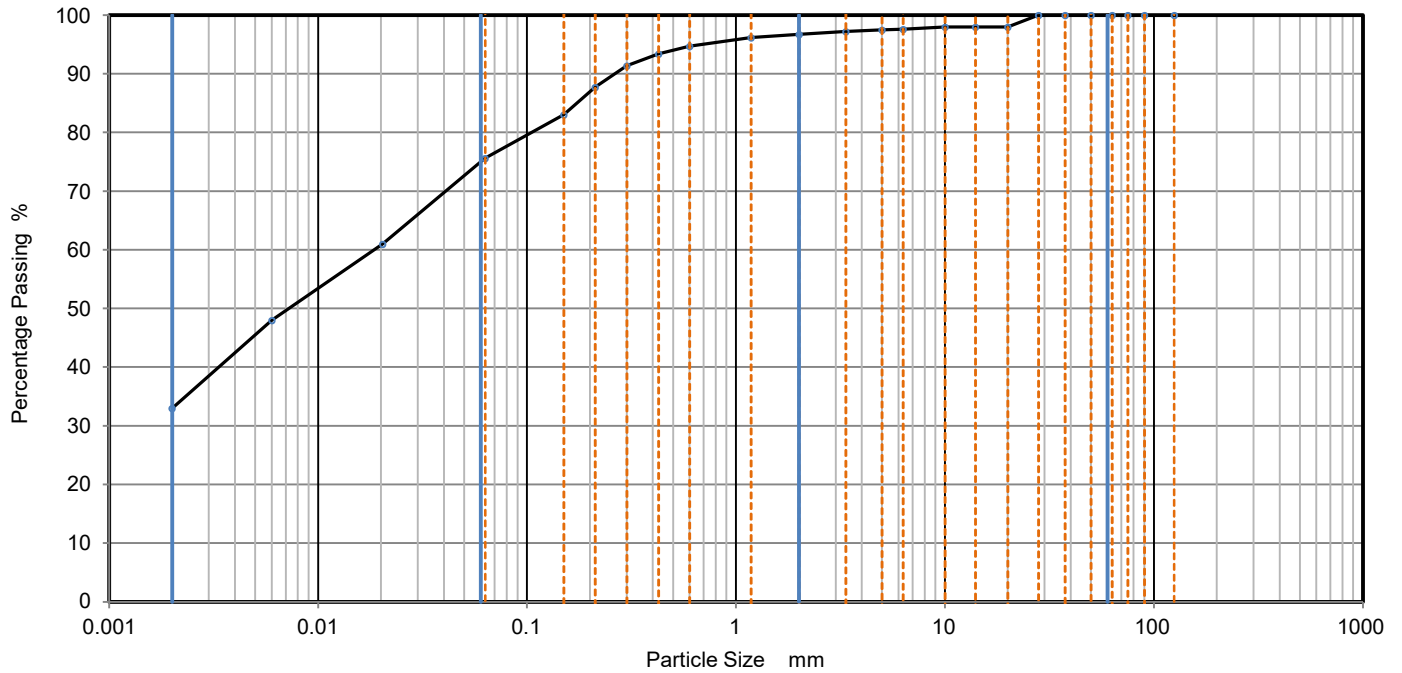
Date	Approved By		UKAS Accredited Laboratory No. 20632
19/08/2022 09:14	N O'Brien		

PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AM**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2422/2
Soil Description	Brown, Sandy CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4		KeyLAB ID
			EAT_20220815169



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	61
90	100	0.0060	48
75	100	0.0020	33
63	100		
50	100		
37.5	100		
28	100		
20	98		
14	98		
10	98		
6.3	98		
5	98		
3.35	97		
2	97		
1.18	96		
0.6	95	Particle density (assumed) 2.65 Mg/m ³	
0.425	93		
0.3	91		
0.212	88		
0.15	83		
0.063	76		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	21
Silt	43
Clay	33

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	



Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
19/08/2022 09:15	N O'Brien		

Laboratory Test Report

Client	Groundwork Services (Durham) Limited
Address	Littleburn Industrial Estate Langley Moor Durham DH7 8HJ
F.A.O	Paul Barton
Project:	Giga One Factory, Washington
Project Number:	D10557AO
Report Number:	L22-749
Date Received:	4th August 2022

Testing Required:	Moisture Content - BS:1377-2:1990 Determination of Liquid and Plastic Limits and Plasticity Index - BS:1377-2:1990 (Cone Penetrometer) Particle Size Distribution - BS:1377-2:1990 Sedimentation by Pipette - BS:1377-2:1990 Determination of Maximum Dry Density / Optimum Moisture Content by 2.5kg Rammer - BS:1377-4:1990 Particle Density by Gas Jar - BS:1377-2:1990 Clause 8.2
Date Started:	11th August 2022
Date Finished:	31st August 2022

Report Issue Date:	31st August 2022
Reviewed By:	 Natalie Hodson - Materials Director
Authorised By:	 Nik O'Brien - Laboratory Manager
Remarks:	(*) denotes testing is outside of UKAS Scope of Accreditation. (+) denotes subcontracted testing.

Samples will be stored for one month after the report has been issue before being disposed of.

The published results appertain only to the specimens tested.

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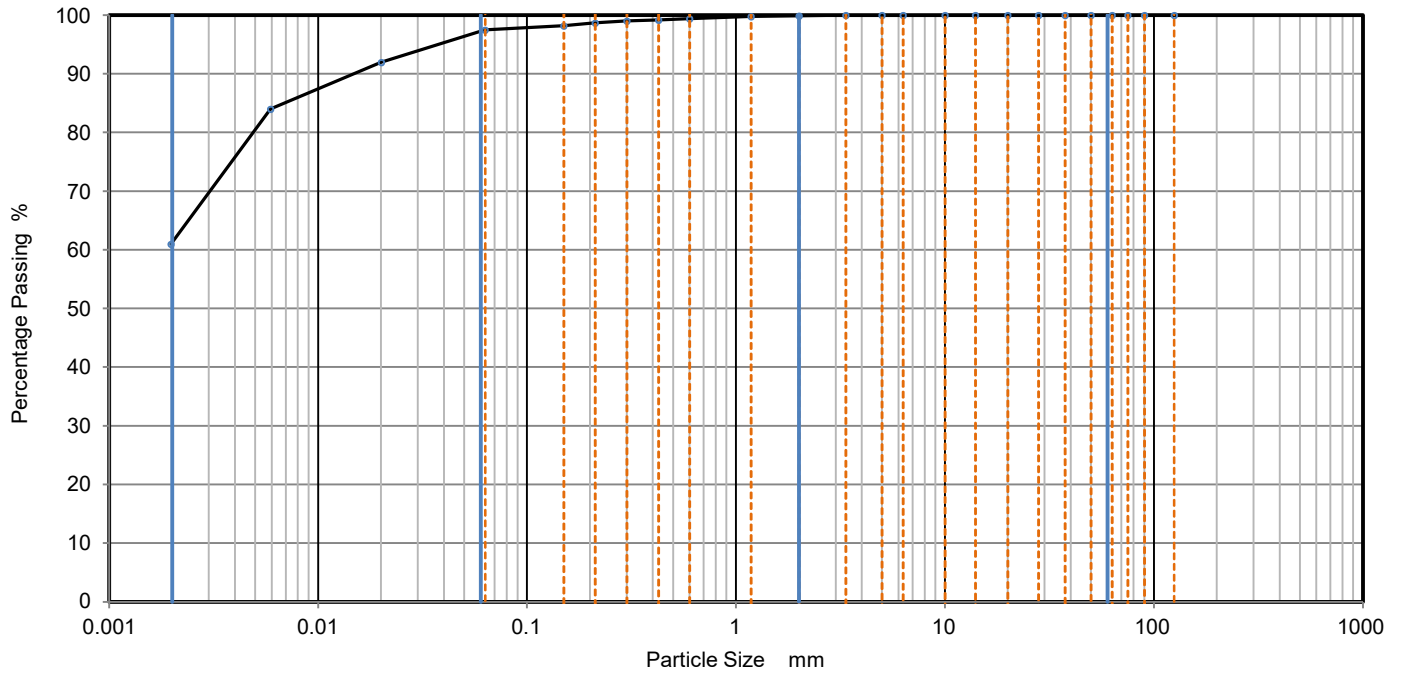


PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AO**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2457/1
Soil Description	Brown, Slightly Sandy CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4		KeyLAB ID
			EAT_2022083139



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	92
90	100	0.0059	84
75	100	0.0020	61
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	100		
0.6	99	Particle density (measured) 2.69 Mg/m ³	
0.425	99		
0.3	99		
0.212	99		
0.15	98		
0.063	98		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	0
Sand	3
Silt	36
Clay	61

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
31/08/2022 12:22	N O'Brien		

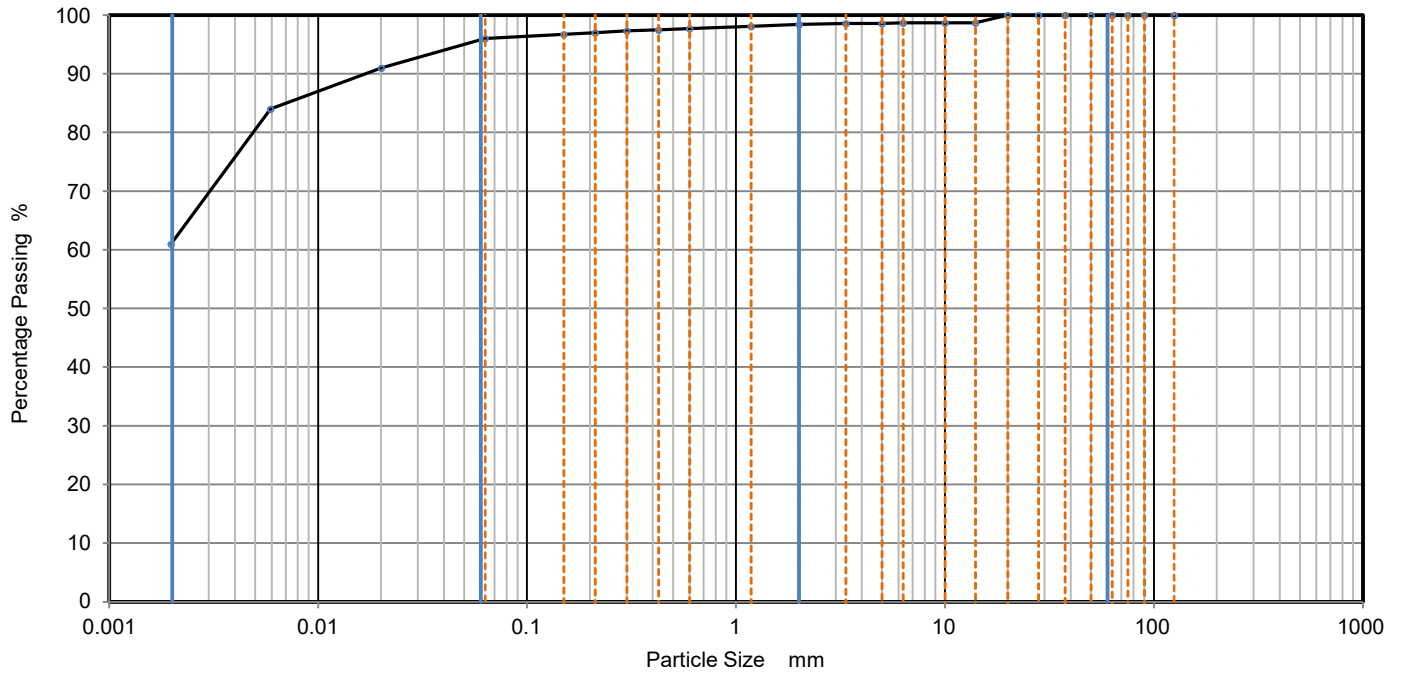


PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AO**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2457/2
Soil Description	Brown, Slightly Sandy CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	KeyLAB ID	EAT_2022083140



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0201	91
90	100	0.0059	84
75	100	0.0020	61
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	99		
6.3	99		
5	99		
3.35	99		
2	98		
1.18	98		
0.6	98	Particle density (assumed) 2.69 Mg/m ³	
0.425	98		
0.3	97		
0.212	97		
0.15	97		
0.063	96		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	2
Silt	35
Clay	61

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
31/08/2022 12:22	N O'Brien		

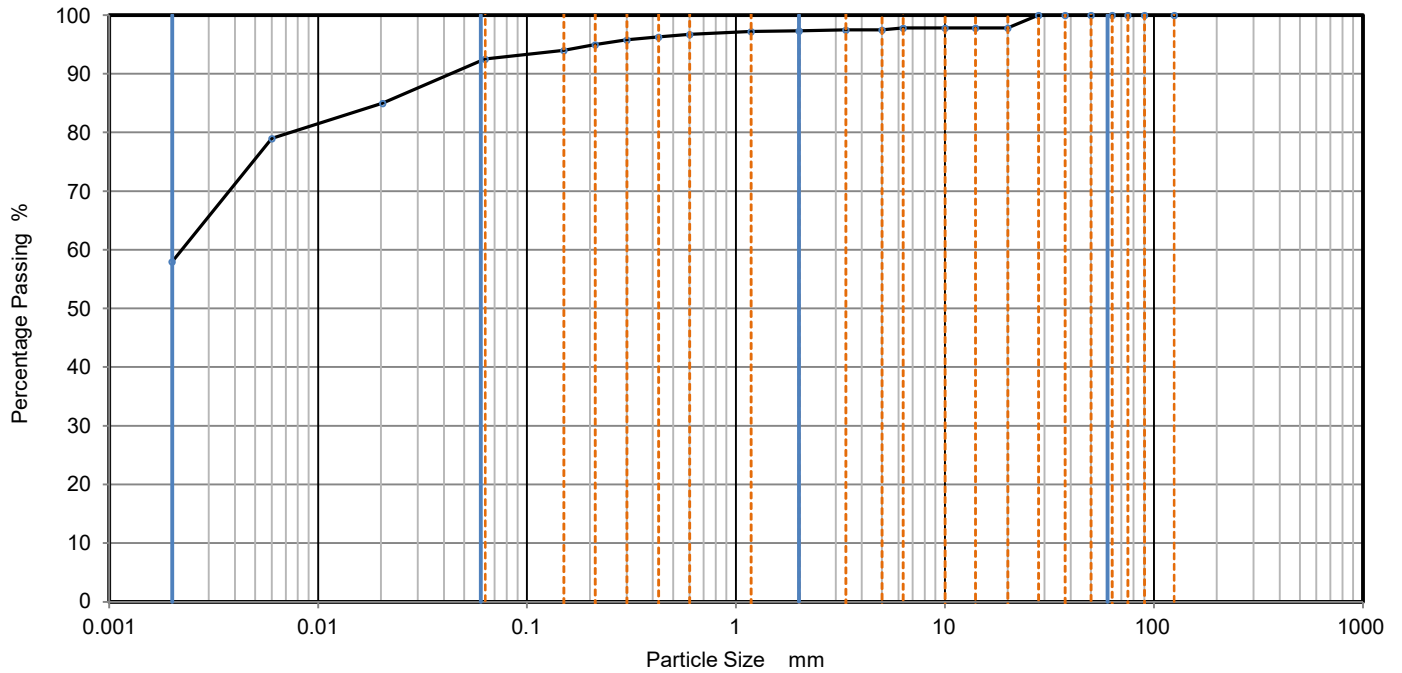


PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AO**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2457/3
Soil Description	Brown, Slightly Sandy CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	KeyLAB ID	EAT_2022083141



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	85
90	100	0.0060	79
75	100	0.0020	58
63	100		
50	100		
37.5	100		
28	100		
20	98		
14	98		
10	98		
6.3	98		
5	98		
3.35	98		
2	97		
1.18	97		
0.6	97		
0.425	96	Particle density (assumed) 2.65 Mg/m ³	
0.3	96		
0.212	95		
0.15	94		
0.063	93		

Method of Pre-Treatment	Sodium Hexametaphosphate
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Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	5
Silt	34
Clay	58

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
31/08/2022 12:23	N O'Brien		

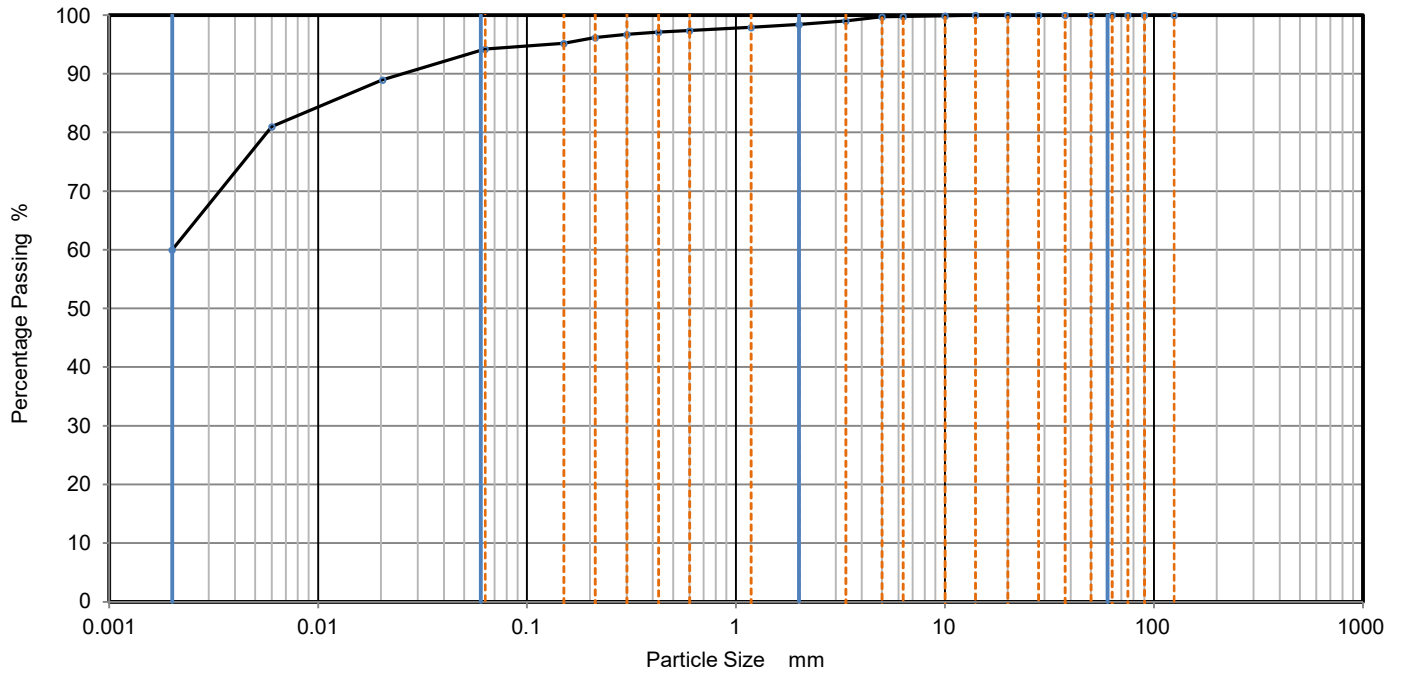


PARTICLE SIZE DISTRIBUTION

Job Ref **D10557AO**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2457/4
Soil Description	Brown, Slightly Sandy CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	KeyLAB ID	EAT_2022083142



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	89
90	100	0.0060	81
75	100	0.0020	60
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	100		
5	100		
3.35	99		
2	98		
1.18	98		
0.6	97	Particle density (assumed) 2.65 Mg/m ³	
0.425	97		
0.3	97		
0.212	96		
0.15	95		
0.063	94		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	2
Sand	4
Silt	34
Clay	60

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

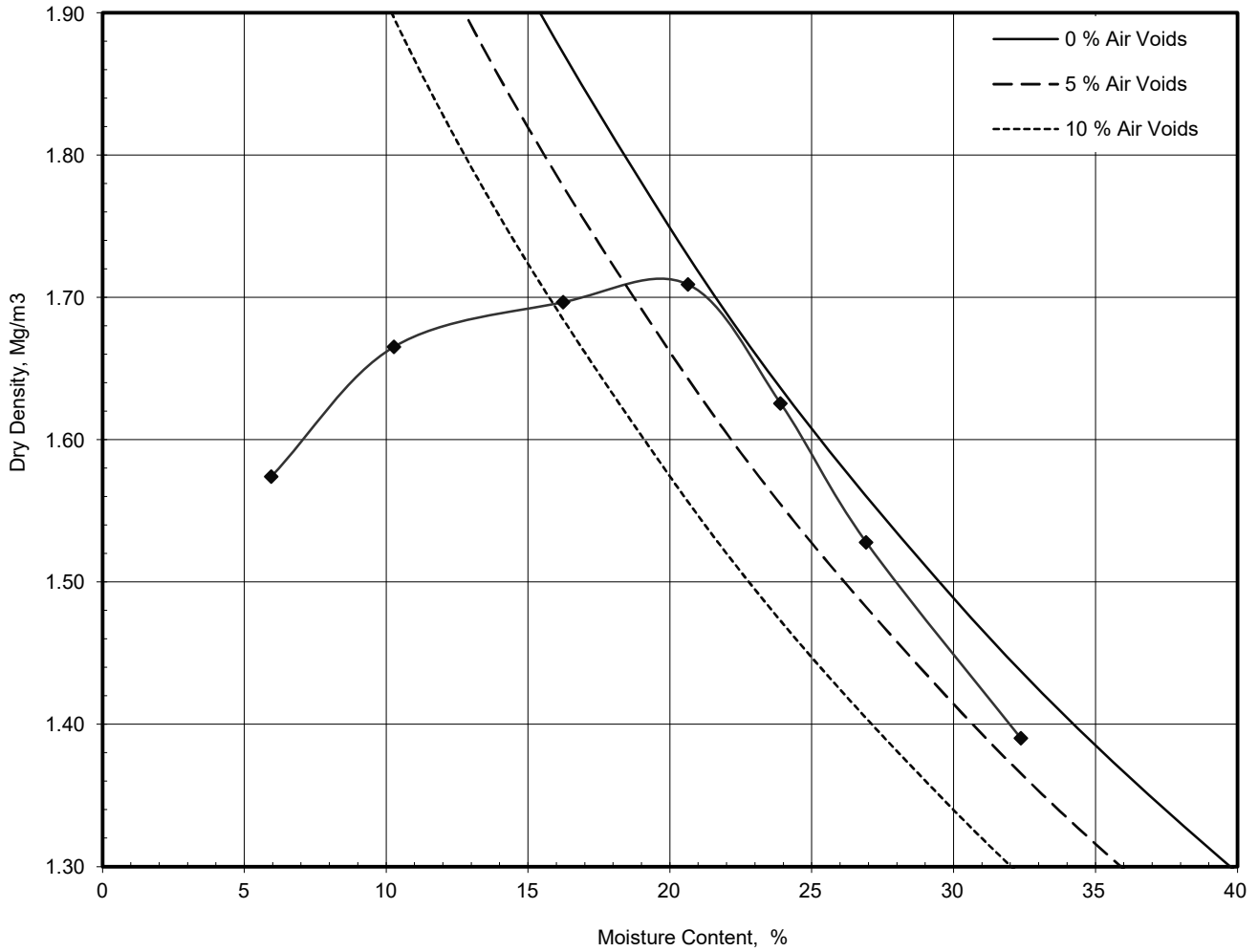
Date	Approved By		UKAS Accredited Laboratory No. 20632
31/08/2022 12:23	N O'Brien		



Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557AO
Borehole / Pit No	Clay
Sample No	MS2457/1
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022083139
Compaction Test Reference/No.	

Site Name	Giga One, Washington	
Soil Description	Brown, Slightly Sandy CLAY	
Specimen Ref.	Specimen Depth	m
Test Method	BS1377:Part 4:1990, clause 3.3, 2.5kg rammer	



Preparation	Material used was air dried
Mould Type	One Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	0
Material Retained on 20.0 mm Sieve	0
Particle Density - Measured using gas jar	2.69

Maximum Dry Density	1.71
Optimum Moisture Content	21

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	31/08/2022 12:16	N. Hodson	N. O'Brien 	



Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557AO
Borehole / Pit No	Clay
Sample No	MS2457/2
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022083140

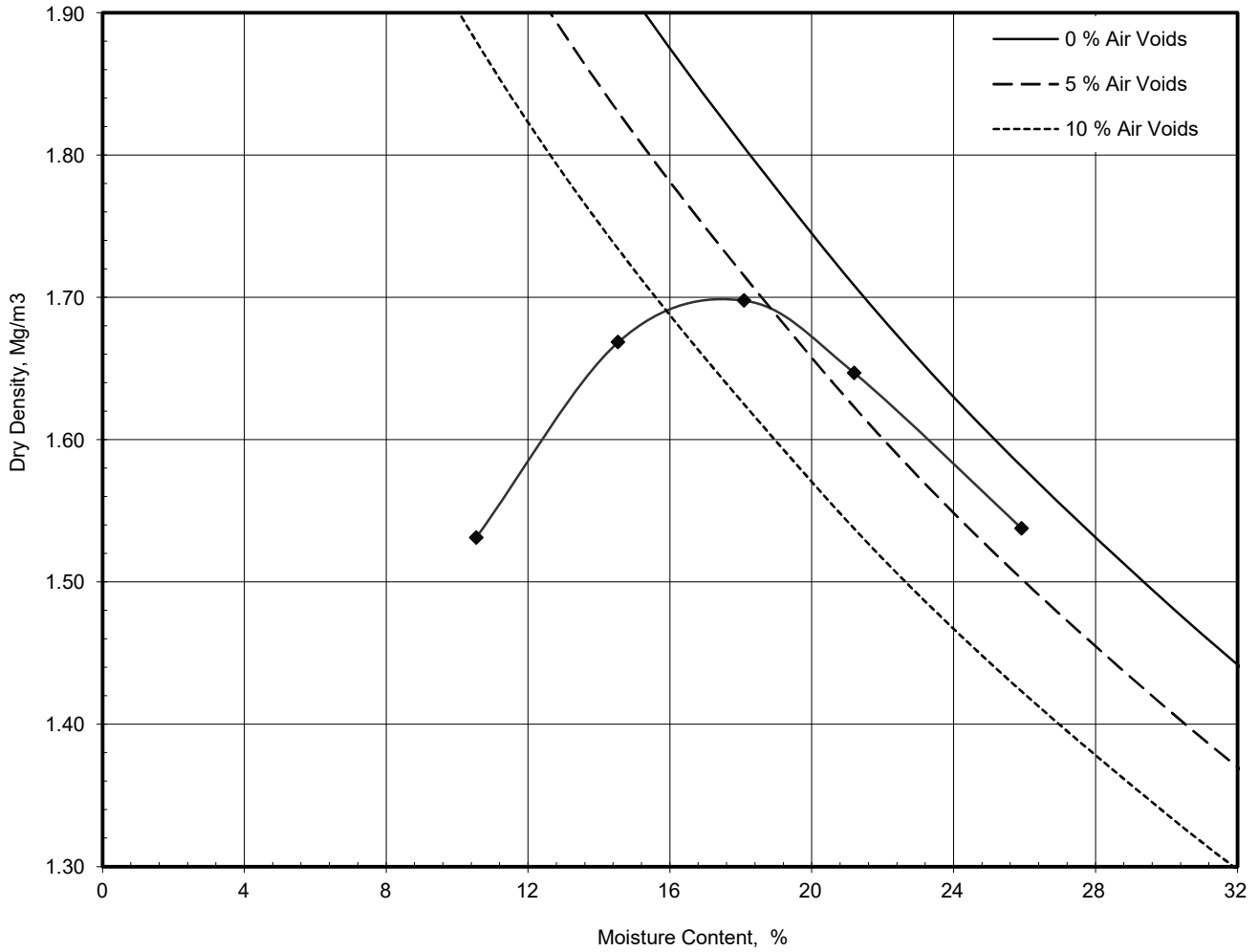
Site Name: **Giga One, Washington**

Soil Description: **Brown, Slightly Sandy CLAY**

Specimen Ref. / Specimen Depth: _____ m

Test Method: **BS1377:Part 4:1990, clause 3.3, 2.5kg rammer**

Compaction Test Reference/No. _____



Preparation	Material used was air dried
Mould Type	One Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve %	0
Material Retained on 20.0 mm Sieve %	0
Particle Density - Measured using gas jar Mg/m ³	2.68

Maximum Dry Density Mg/m ³	1.70
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Optimum Moisture Content %	18
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Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	31/08/2022 12:17	N. Hodson	N. O'Brien 	

Laboratory Test Report

Client	Groundwork Services (Durham) Limited
Address	Littleburn Industrial Estate Langley Moor Durham DH7 8HJ
F.A.O	Paul Barton
Project:	Giga One Factory, Washington
Project Number:	D10557BB
Report Number:	L22-841
Date Received:	23rd August 2022

Testing Required:	Moisture Content - BS:1377-2:1990 Determination of Liquid and Plastic Limits and Plasticity Index - BS:1377-2:1990 (Cone Penetrometer) Particle Size Distribution - BS:1377-2:1990 Sedimentation by Pipette - BS:1377-2:1990 Determination of Maximum Dry Density / Optimum Moisture Content by 2.5kg Rammer - BS:1377-4:1990 Particle Density by Gas Jar - BS:1377-2:1990 Clause 8.2
Date Started:	31st August 2022
Date Finished:	15th September 2022

Report Issue Date:	16th September 2022
Reviewed By:	 Natalie Hodson - Materials Director
Authorised By:	 Nik O'Brien - Laboratory Manager
Remarks:	(*) denotes testing is outside of UKAS Scope of Accreditation. (+) denotes subcontracted testing.

Samples will be stored for one month after the report has been issue before being disposed of.


The published results appertain only to the specimens tested.

Exploration and Testing Associates Limited, registered in England and Wales #11803869 at 8B, Bowburn South Industrial Estate, Bowburn, Durham, DH6 5AD

Determination of Moisture Content, Liquid Limit, Plastic Limit and Derivation of Plasticity Index

Project No.	Project Name
D10557BB	Giga One, Washington

Hole No.	Sample			Soil Description	Moisture Content %	Passing 425µm %	Liquid Limit %	Plastic Limit %	Plasticity Index %	Remarks
	Type	Ref	Depth							
Clay	B	MS2501/1	0.00	Brown, Very Slightly Sandy CLAY	18	100	44	20	24	Sample tested in natural state - material passing 425um estimated by hand picking
Clay	B	MS2501/2	0.00	Brown, Very Slightly Sandy CLAY	19	99	46	21	25	Sample tested in natural state - material passing 425um estimated by hand picking
Clay	B	MS2501/3	0.00	Brown, Very Slightly Sandy CLAY	18	100	45	21	24	Sample tested in natural state - material passing 425um estimated by hand picking

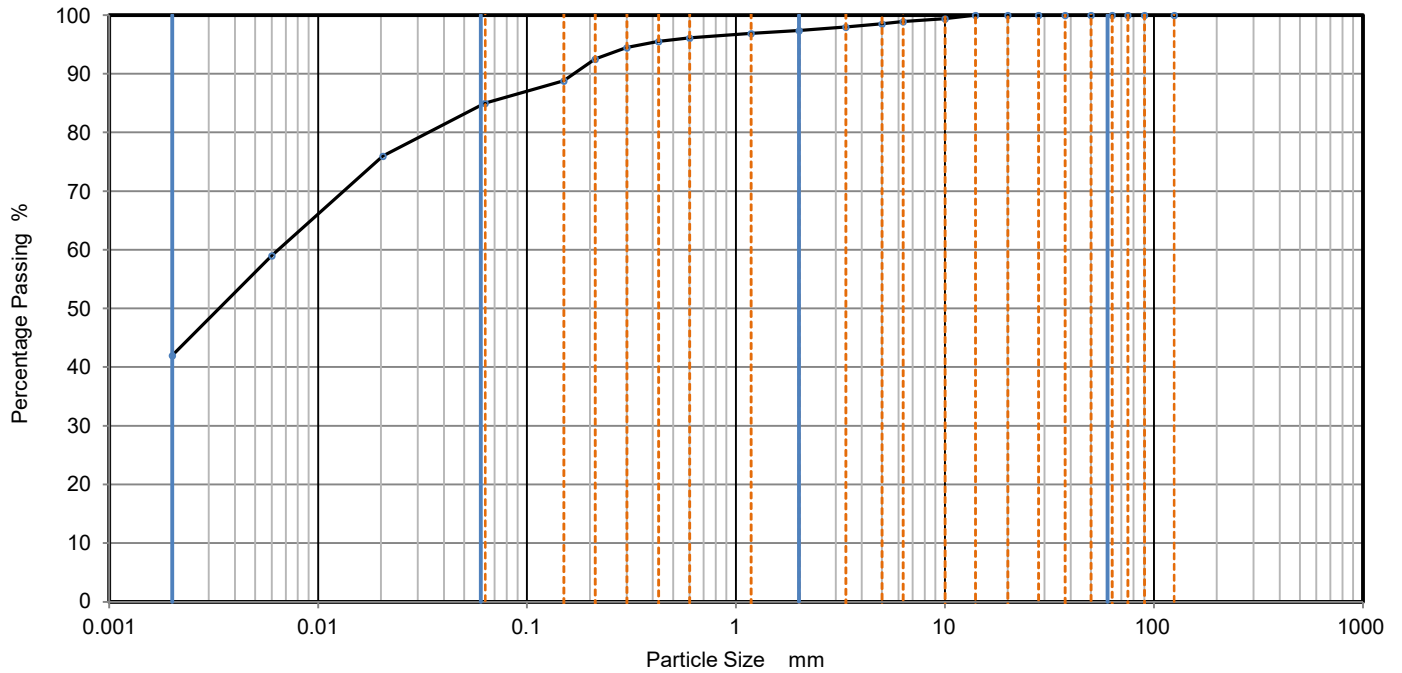
Moisture Content carried out in accordance with BS 1377: Part 2: 1990: Clause 3.2 Liquid Limit, Plastic Limit & Plasticity Index all performed in accordance with BS 1377: Part 2: 1990 - Cone Penetrometer method - Cone 80g/30°	Date	Approved By	UKAS Accredited Laboratory No. 20632
	15/09/2022 09:36	N O'Brien 	

PARTICLE SIZE DISTRIBUTION

Job Ref **D10557BB**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2501/1
Soil Description	Brown, Very Slightly Sandy CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	KeyLAB ID	EAT_2022091426



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0204	76
90	100	0.0060	59
75	100	0.0020	42
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	99		
3.35	98		
2	97		
1.18	97		
0.6	96	Particle density (measured) 2.64 Mg/m ³	
0.425	96		
0.3	95		
0.212	93		
0.15	89		
0.063	85		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	13
Fines <0.063mm	85

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

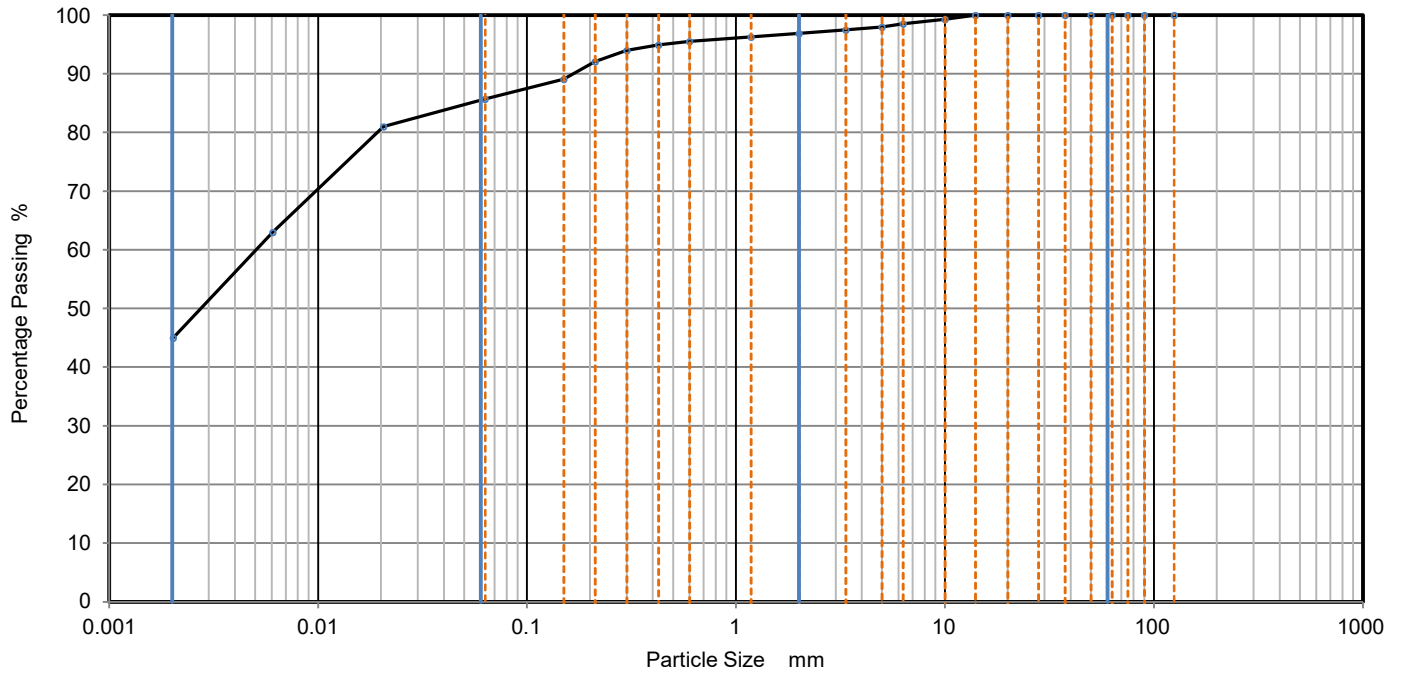
Date	Approved By		UKAS Accredited Laboratory No. 20632
15/09/2022 09:38	N O'Brien		

PARTICLE SIZE DISTRIBUTION

Job Ref **D10557BB**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2501/2
Soil Description	Brown, Very Slightly Sandy CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	KeyLAB ID	EAT_2022091427



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0206	81
90	100	0.0061	63
75	100	0.0020	45
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	98		
3.35	98		
2	97		
1.18	96		
0.6	96	Particle density (measured) 2.61 Mg/m ³	
0.425	95		
0.3	94		
0.212	92		
0.15	89		
0.063	86		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	11
Fines <0.063mm	86

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
15/09/2022 09:39	N O'Brien		

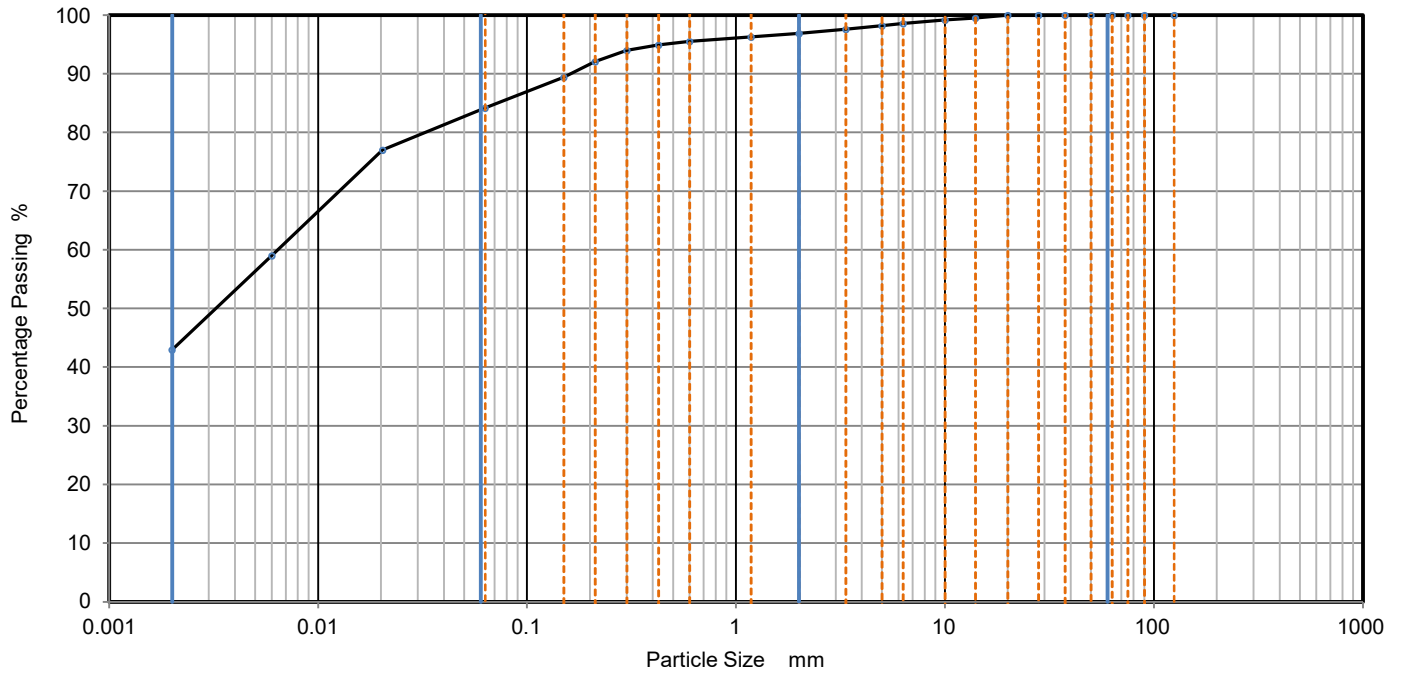


PARTICLE SIZE DISTRIBUTION

Job Ref **D10557BB**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2501/3
Soil Description	Brown, Very Slightly Sandy CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	KeyLAB ID	EAT_2022091428



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0203	77
90	100	0.0060	59
75	100	0.0020	43
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	99		
6.3	99		
5	98		
3.35	98		
2	97		
1.18	96		
0.6	96	Particle density (assumed) 2.65 Mg/m ³	
0.425	95		
0.3	94		
0.212	92		
0.15	89		
0.063	84		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	13
Silt	42
Clay	43

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
15/09/2022 09:39	N O'Brien		



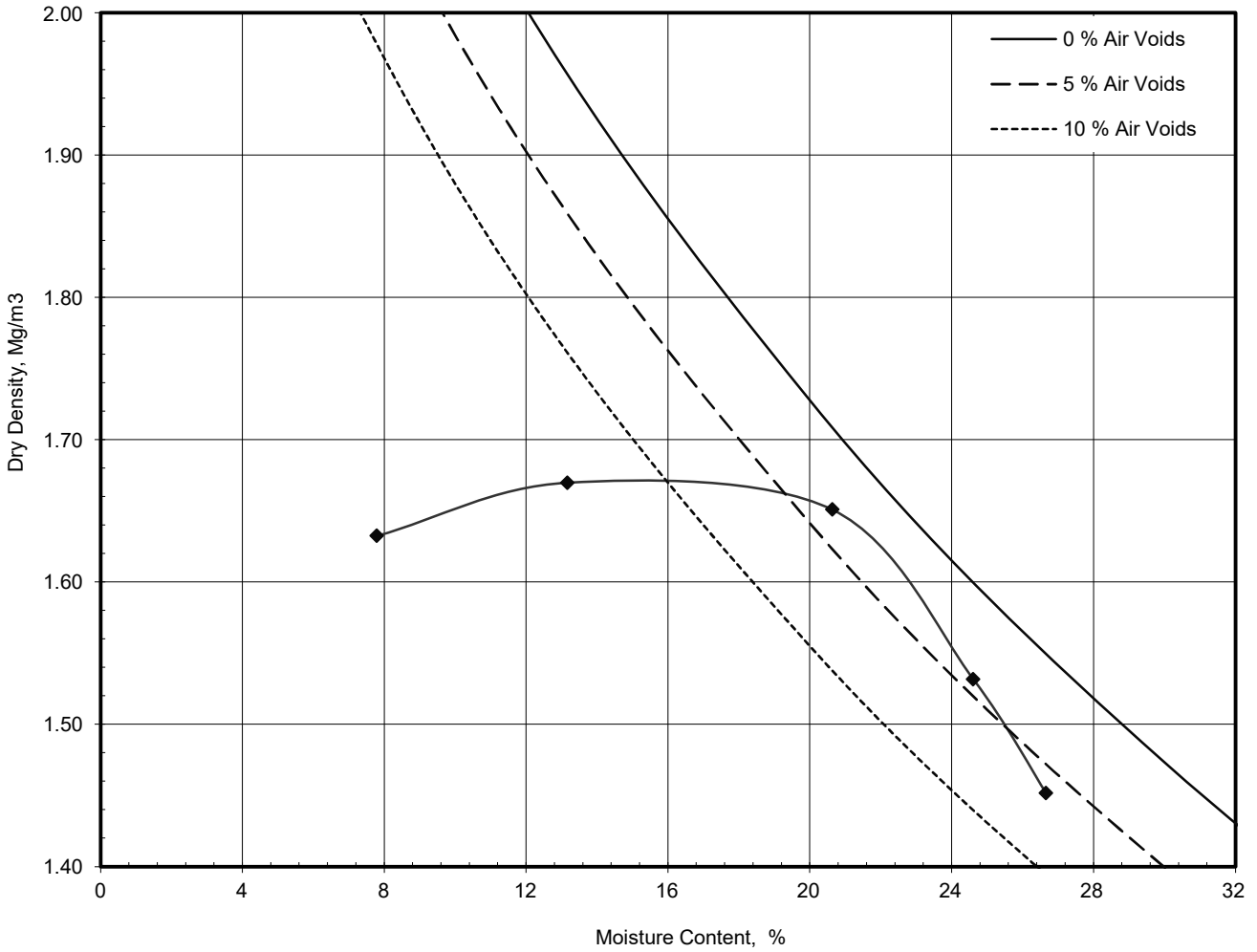
Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557BB
Borehole / Pit No	Clay
Sample No	MS2501/1
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022091426

Site Name: **Giga One, Washington**
 Soil Description: **Brown, Very Slightly Sandy CLAY**

Specimen Ref.: _____ Specimen Depth: _____ m
 Test Method: **BS1377:Part 4:1990, clause 3.3, 2.5kg rammer**

Compaction Test Reference/No. _____



Preparation	Material used was air dried
Mould Type	One Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve %	0
Material Retained on 20.0 mm Sieve %	0
Particle Density - Measured Mg/m ³	2.64
Maximum Dry Density Mg/m ³	1.67
Optimum Moisture Content %	21

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	15/09/2022 09:41	N. Hodson	N. O'Brien 	



Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557BB
Borehole / Pit No	Clay
Sample No	MS2501/2
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022091427

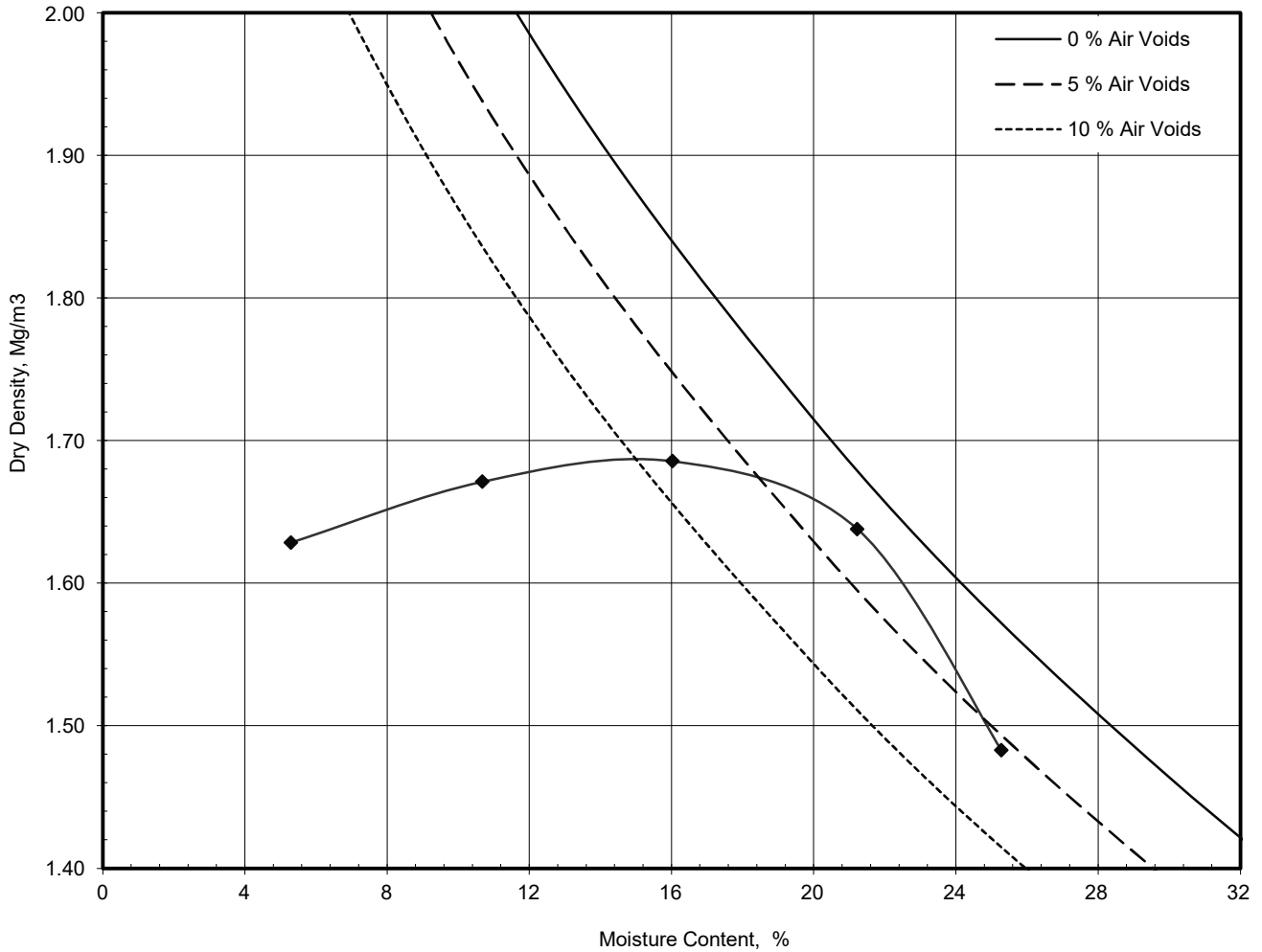
Site Name: **Giga One, Washington**

Soil Description: **Brown, Very Slightly Sandy CLAY**

Specimen Ref. / Specimen Depth: _____ m

Test Method: **BS1377:Part 4:1990, clause 3.3, 2.5kg rammer**

Compaction Test Reference/No. _____



Preparation	Material used was air dried
Mould Type	One Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	0
Material Retained on 20.0 mm Sieve	0
Particle Density - Measured using gas jar	2.61

Maximum Dry Density	1.69
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Optimum Moisture Content	16
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Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	15/09/2022 09:41	N. Hodson	N. O'Brien 	

Laboratory Test Report

Client	Groundwork Services (Durham) Limited
Address	Littleburn Industrial Estate Langley Moor Durham DH7 8HJ
F.A.O	Paul Barton
Project:	Giga One Factory, Washington
Project Number:	D10557BG
Report Number:	L22-865
Date Received:	31st August 2022

Testing Required:	Moisture Content - BS:1377-2:1990 Determination of Liquid and Plastic Limits and Plasticity Index - BS:1377-2:1990 (Cone Penetrometer) Particle Size Distribution - BS:1377-2:1990 Sedimentation by Pipette - BS:1377-2:1990 Determination of Maximum Dry Density / Optimum Moisture Content by 2.5kg Rammer - BS:1377-4:1990 Particle Density by Gas Jar - BS:1377-2:1990 Clause 8.2
Date Started:	5th September 2022
Date Finished:	20th September 2022

Report Issue Date:	22nd September 2022
Reviewed By:	 Natalie Hodson - Materials Director
Authorised By:	 Nik O'Brien - Laboratory Manager
Remarks:	(*) denotes testing is outside of UKAS Scope of Accreditation. (+) denotes subcontracted testing.

Samples will be stored for one month after the report has been issue before being disposed of.

The published results appertain only to the specimens tested.

Exploration and Testing Associates Limited, registered in England and Wales #11803869 at 8B, Bowburn South Industrial Estate, Bowburn, Durham, DH6 5AD

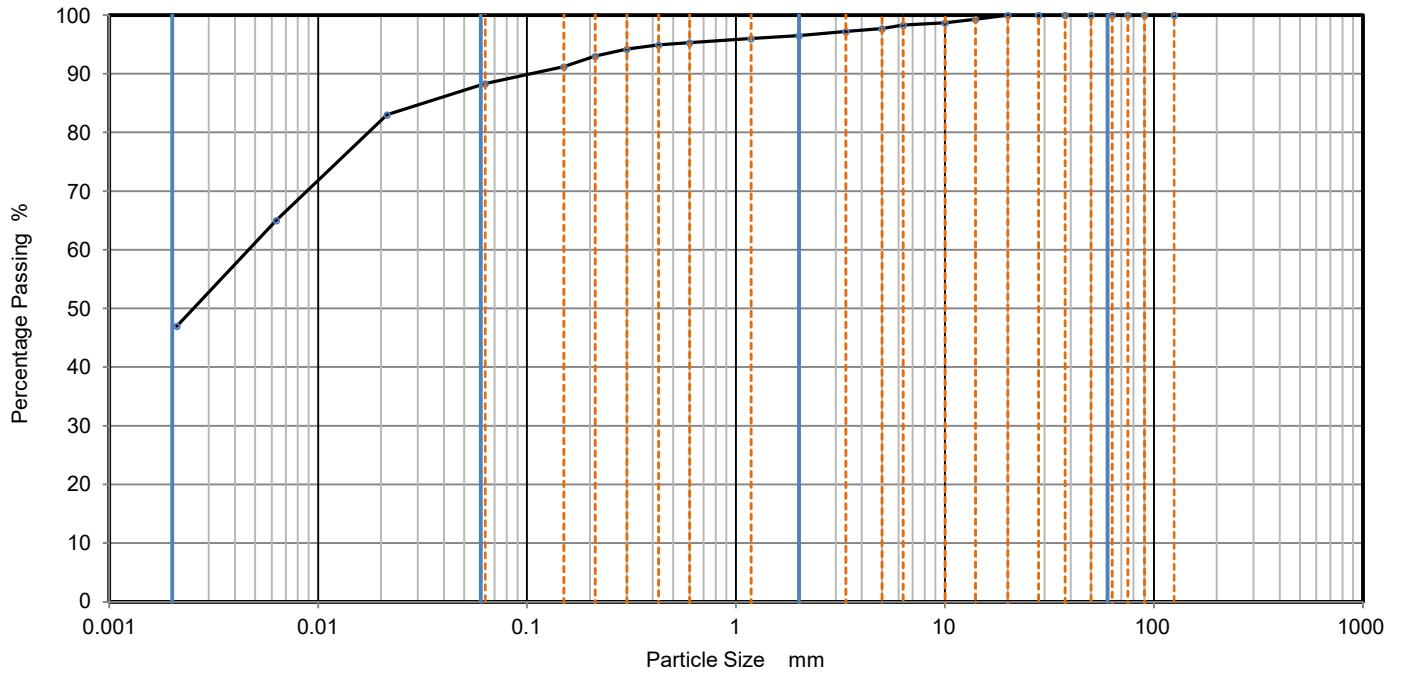


PARTICLE SIZE DISTRIBUTION

Job Ref **D10557BG**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2532/1
Soil Description	Brown, Slightly Sandy CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	KeyLAB ID	EAT_2022092043



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0214	83
90	100	0.0063	65
75	100	0.0021	47
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	99		
6.3	98		
5	98		
3.35	97		
2	97		
1.18	96		
0.6	95	Particle density (measured) 2.49 Mg/m ³	
0.425	95		
0.3	94		
0.212	93		
0.15	91		
0.063	88		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	4
Sand	8
Fines <0.063mm	88

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
20/09/2022 16:13	N O'Brien		

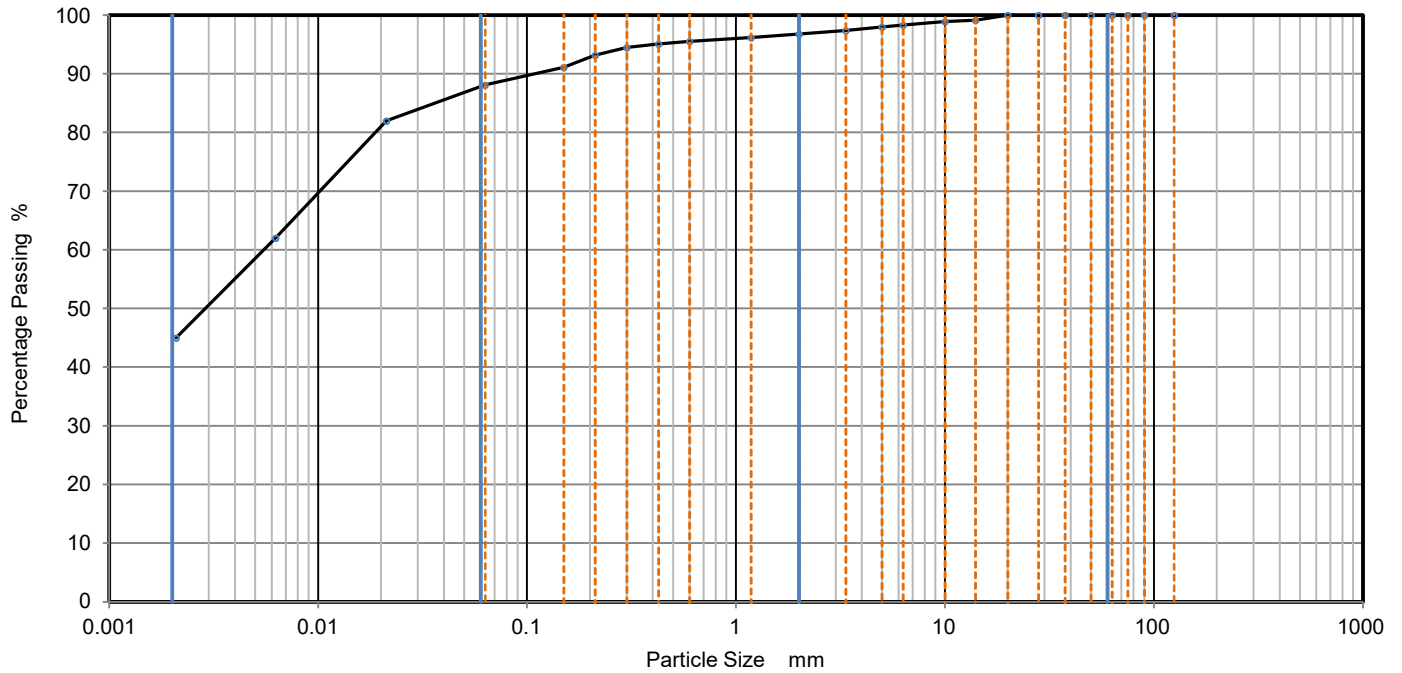


PARTICLE SIZE DISTRIBUTION

Job Ref **D10557BG**

Borehole/Pit No. Clay

Site Name	Giga One, Washington	Sample No.	MS2532/2
Soil Description	Brown, Slightly Sandy CLAY	Depth, m	0.00
Specimen Reference	Specimen Depth	Sample Type	B
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4		KeyLAB ID
			EAT_2022092044



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0212	82
90	100	0.0063	62
75	100	0.0021	45
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	99		
10	99		
6.3	98		
5	98		
3.35	97		
2	97		
1.18	96		
0.6	96		
0.425	95	Particle density (assumed)	
0.3	95	2.51	Mg/m3
0.212	93		
0.15	91		
0.063	88		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	9
Fines <0.063mm	88

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
20/09/2022 16:15	N O'Brien		

PARTICLE SIZE DISTRIBUTION

Job Ref **D10557BG**

Borehole/Pit No. Clay

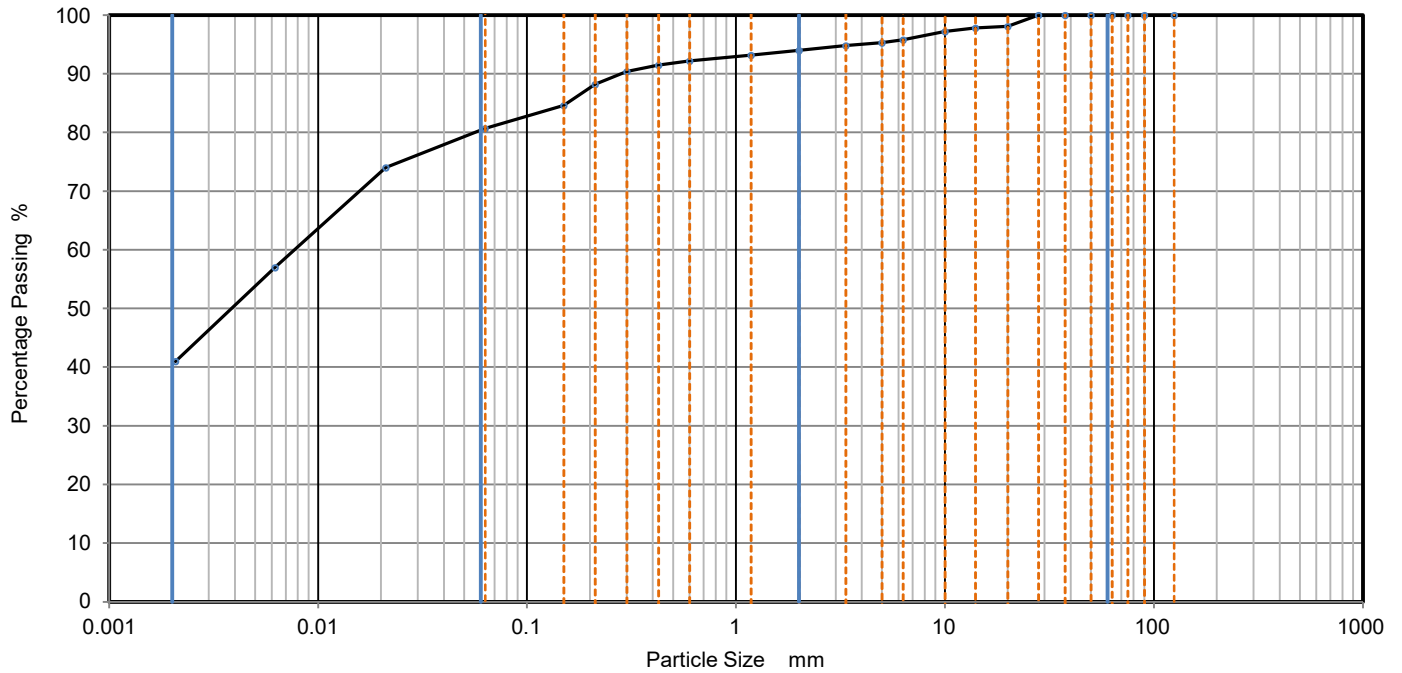
Sample No. MS2532/3

Depth, m 0.00

Sample Type B

KeyLAB ID EAT_2022092045

Site Name	Giga One, Washington		
Soil Description	Brown, Slightly Sandy CLAY		
Specimen Reference	Specimen	Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4		



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0211	74
90	100	0.0062	57
75	100	0.0021	41
63	100		
50	100		
37.5	100		
28	100		
20	98		
14	98		
10	97		
6.3	96		
5	95		
3.35	95		
2	94		
1.18	93		
0.6	92	Particle density (measured) 2.53 Mg/m ³	
0.425	92		
0.3	90		
0.212	88		
0.15	85		
0.063	81		

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	6
Sand	13
Fines <0.063mm	81

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm 0.00766
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
20/09/2022 16:16	N O'Brien		



PARTICLE SIZE DISTRIBUTION

Job Ref **D10557BG**

Borehole/Pit No. Clay

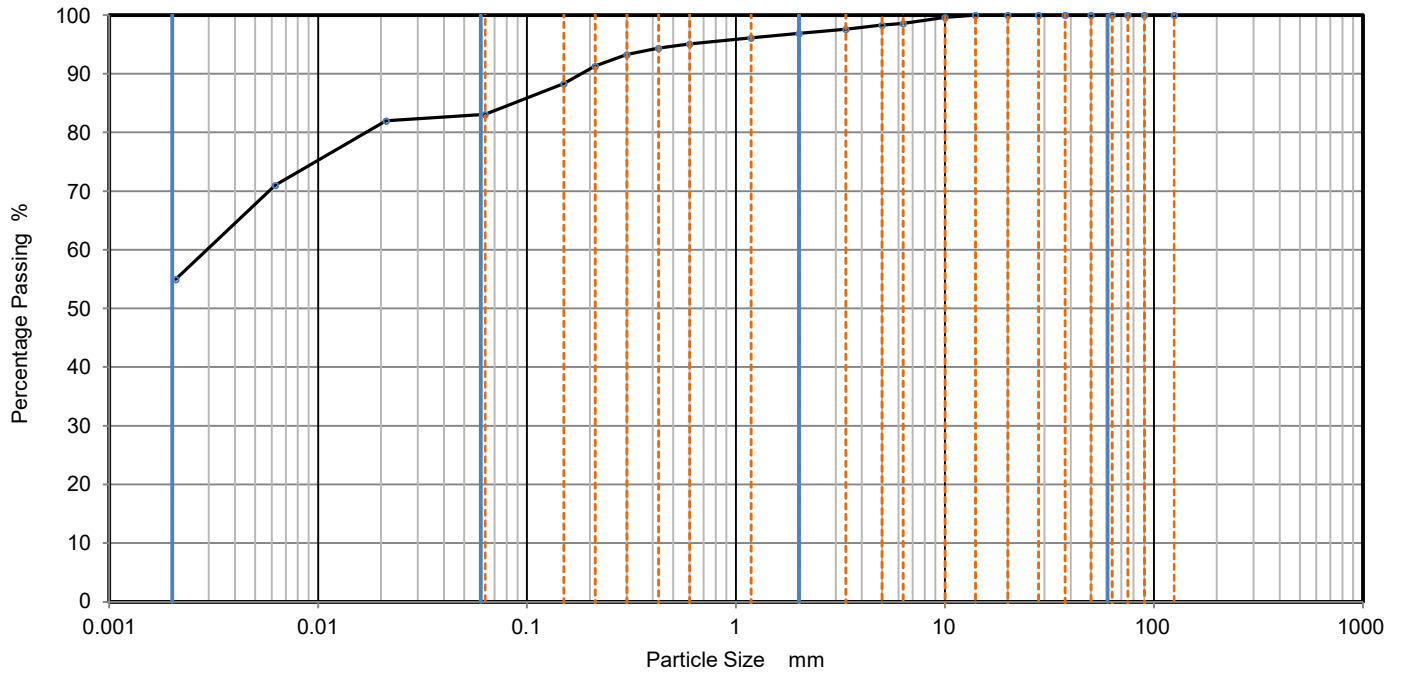
Sample No. MS2532/4

Depth, m 0.00

Sample Type B

KeyLAB ID EAT_2022092046

Site Name	Giga One, Washington	
Soil Description	Brown, Slightly Sandy CLAY	
Specimen Reference	Specimen Depth	m
Test Method	BS 1377-2:1990, Washing and Drying, Clauses 9.2 & 9.4	



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0212	82
90	100	0.0062	71
75	100	0.0021	55
63	100		
50	100		
37.5	100		
28	100		
20	100		
14	100		
10	100		
6.3	99		
5	98		
3.35	98		
2	97		
1.18	96		
0.6	95		
0.425	94		
0.3	93		
0.212	91		
0.15	88		
0.063	83		
		Particle density (assumed) 2.52 Mg/m ³	

Method of Pre-Treatment	Sodium Hexametaphosphate
-------------------------	--------------------------

Sample Proportions	% dry mass
Very coarse	0
Gravel	3
Sand	14
Fines <0.063mm	83

Grading Analysis	
D ₁₀₀	mm
D ₆₀	mm
D ₃₀	mm
D ₁₀	mm
Uniformity Coefficient	
Curvature Coefficient	

Remarks
Preparation and testing in accordance with BS 1377-2:1990 unless noted below

Date	Approved By		UKAS Accredited Laboratory No. 20632
20/09/2022 16:23	N O'Brien		



Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557BG
Borehole / Pit No	Clay
Sample No	MS2532/1
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022092043

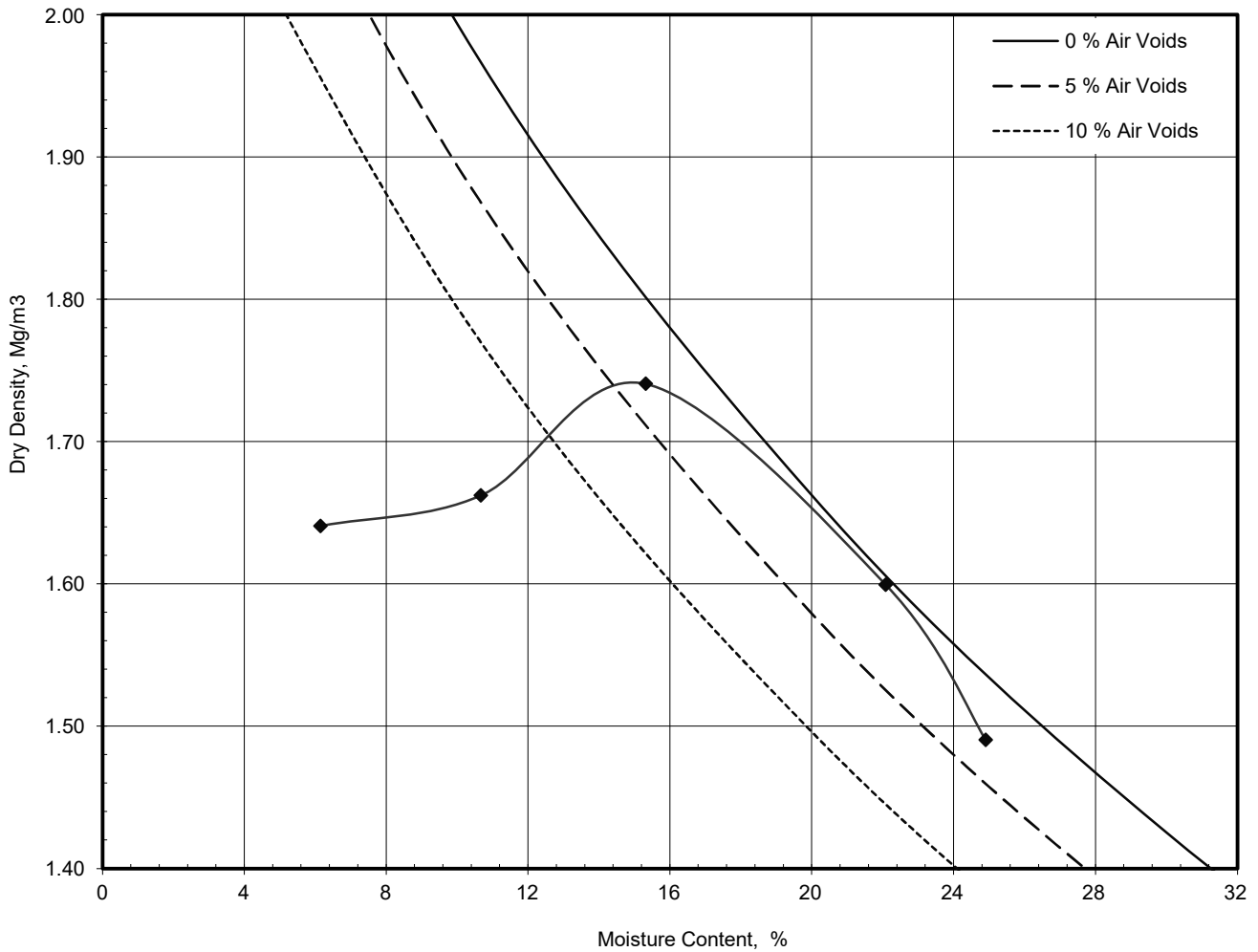
Site Name: **Giga One, Washington**

Soil Description: **Brown, Slightly Sandy CLAY**

Specimen Ref. / Specimen Depth: _____ m

Test Method: **BS1377:Part 4:1990, clause 3.3, 2.5kg rammer**

Compaction Test Reference/No. _____



Preparation	Material used was air dried
Mould Type	One Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve	0
Material Retained on 20.0 mm Sieve	0
Particle Density - Measured using gas jar	2.49

Maximum Dry Density	1.74
Optimum Moisture Content	15

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	20/09/2022 16:10	N. Hodson	N. O'Brien 	



Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557BG
Borehole / Pit No	Clay
Sample No	MS2532/2
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022092044

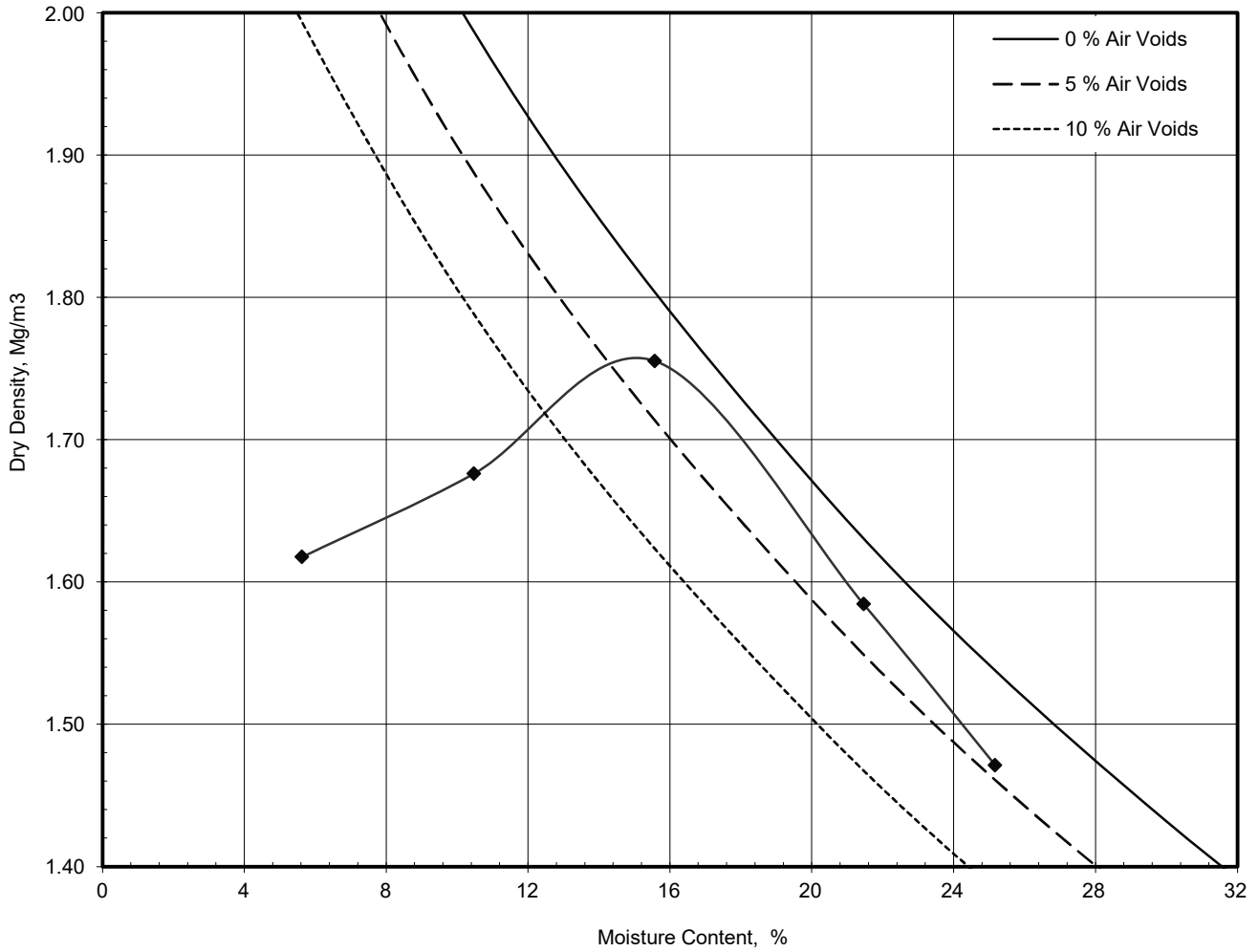
Site Name: **Giga One, Washington**

Soil Description: **Brown, Slightly Sandy CLAY**

Specimen Ref. / Specimen Depth: _____ m

Test Method: **BS1377:Part 4:1990, clause 3.3, 2.5kg rammer**

Compaction Test Reference/No. _____



Preparation	Material used was air dried
Mould Type	One Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve %	0
Material Retained on 20.0 mm Sieve %	0
Particle Density - Measured using gas jar Mg/m³	2.51

Maximum Dry Density Mg/m³	1.76
----------------------------------	-------------

Optimum Moisture Content %	16
-----------------------------------	-----------

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	20/09/2022 16:11	N. Hodson	N. O'Brien 	



Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557BG
Borehole / Pit No	Clay
Sample No	MS2532/3
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022092045

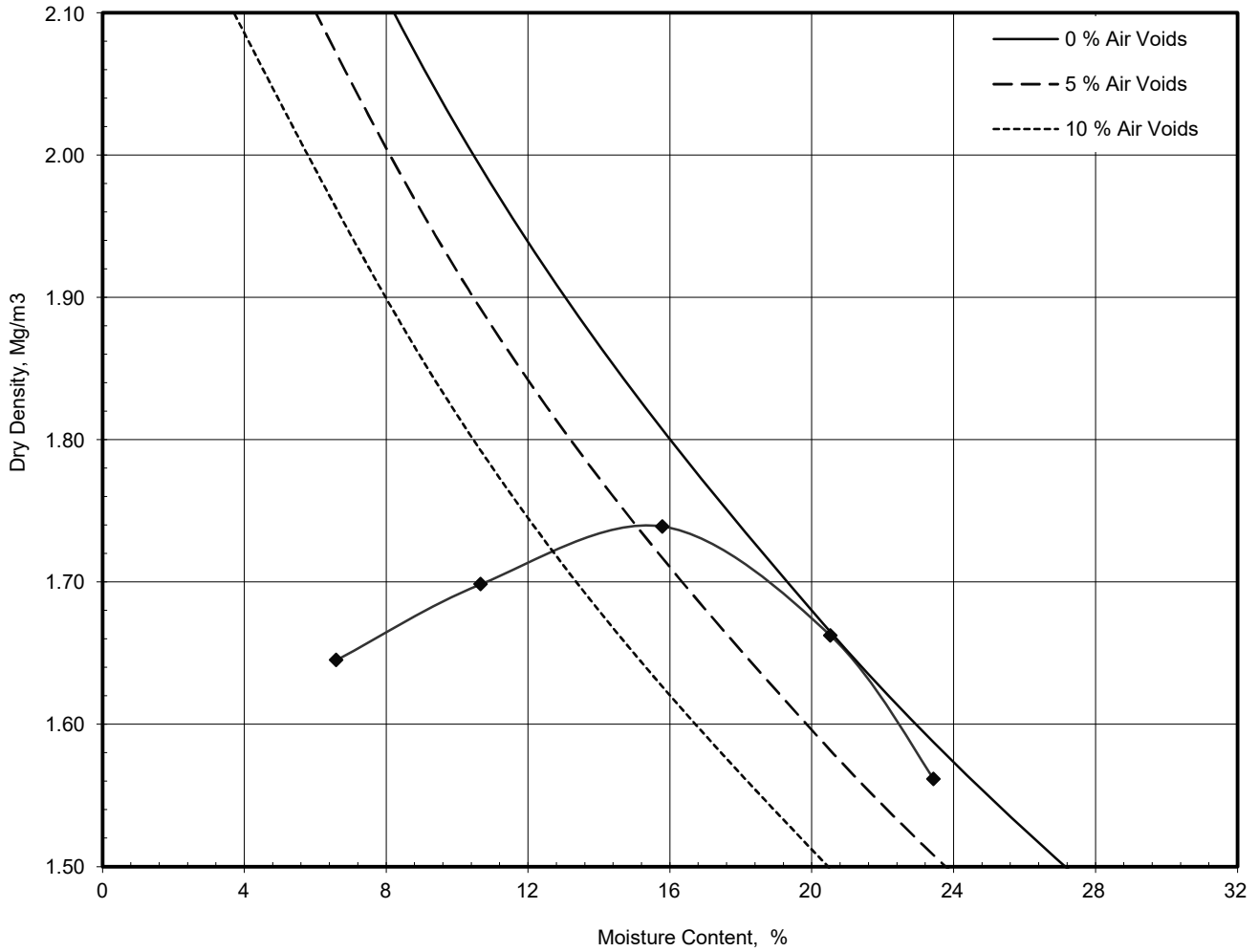
Site Name: **Giga One, Washington**

Soil Description: **Brown, Slightly Sandy CLAY**

Specimen Ref. / Specimen Depth: _____ m

Test Method: **BS1377:Part 4:1990, clause 3.3, 2.5kg rammer**

Compaction Test Reference/No. _____



Preparation	Material used was air dried
Mould Type	One Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve %	0
Material Retained on 20.0 mm Sieve %	0
Particle Density - Measured using gas jar Mg/m³	2.53

Maximum Dry Density Mg/m³	1.74
----------------------------------	-------------

Optimum Moisture Content %	16
-----------------------------------	-----------

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	20/09/2022 16:12	N. Hodson	N. O'Brien 	



Dry Density / Moisture Content Relationship Light Compaction

Job Ref	D10557BG
Borehole / Pit No	Clay
Sample No	MS2532/4
Depth	0.00 m
Sample Type	B
Keylab ID	EAT_2022092046

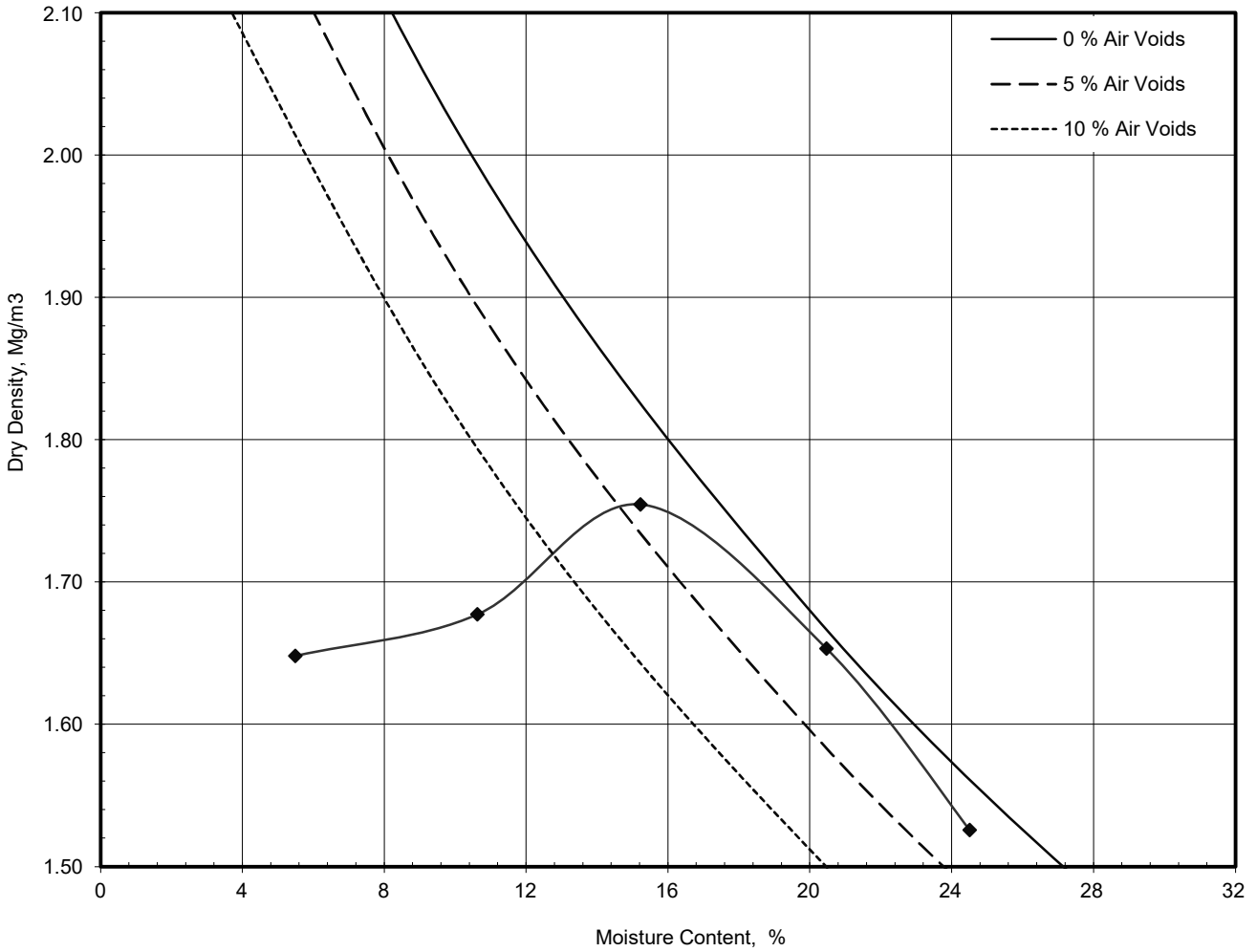
Site Name: **Giga One, Washington**

Soil Description: **Brown, Slightly Sandy CLAY**

Specimen Ref. / Specimen Depth: _____ m

Test Method: **BS1377:Part 4:1990, clause 3.3, 2.5kg rammer**

Compaction Test Reference/No. _____



Preparation	Material used was air dried
Mould Type	One Litre
Samples Used	Single sample tested
Material Retained on 37.5 mm Sieve %	0
Material Retained on 20.0 mm Sieve %	0
Particle Density - Measured using gas jar Mg/m³	2.53

Maximum Dry Density Mg/m³	1.75
Optimum Moisture Content %	15

Comments	Date	Checked By	Approved	UKAS Accredited Laboratory No. 20632
	20/09/2022 16:12	N. Hodson	N. O'Brien 	



Appendix C MMP VERIFICATION REPORT



ERGO

REMEDICATION AND ENABLING WORKS
VALIDATION REPORT

*Envision Giga One,
International Drive,
Sunderland,*

Prepared for:

Wates 

Report Ref: 22-1296-VAL
Date Issued: May 2023

ERGO LIMITED

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Registered in England
No.: 11162116

QUALITY ASSURANCE




REMARKS	<i>Draft for comment</i>
DATE	May 2023
PREPARED BY	J Malley
QUALIFICATIONS	BSc, MSc, MCIWEM C.WEM
SIGNATURE	
CHECKED BY	J Nairn
QUALIFICATIONS	BSc, MSc, MIENvSc, CEnv, FGS
SIGNATURE	
AUTHORISED BY	J Nairn
QUALIFICATIONS	BSc, MSc, MIENvSc, CEnv, FGS
SIGNATURE	
PROJECT NUMBER	22-1296
IMS Template Reference QR005-1	

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APPENDICES

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Appendix III	Drawings	
	<i>ERGO Drawing No 22-1296-001</i>	Site Location Plan
	<i>RPS Drawing No NK020439P-101-P02</i>	Proposed Development Plan
Appendix IV	Photographs	
Appendix V	ERGO Materials Management Plan	

1. INTRODUCTION

1.1 Background

ERGO has been commissioned by North East Earthworks Ltd on behalf of Wates Group to validate the Materials Management Plan, ref: 22-1296-MMP, previously set up for the Envision Giga One, International Drive, Sunderland scheme as part of the earthworks programme at the site.

The development area is c.25ha in size and is situated to the adjacent to the Nissan Factory within the Sunderland IAMP development area off International Drive located to the north-east of Sunderland (see site location plan in Figure 1.1).

For the avoidance of doubt, ERGO can confirm that the parcel of land refers to the red-line boundary as indicated in Figure 1.1 below.



Figure 1.1 Site Location Plan – Land at Envision Giga One

1.2 Site Location / Setting

SITE ADDRESS	Envision Giga One, International Drive, Sunderland.
NATIONAL GRID REFERENCE	E433244, N558799.
SITE AREA	~25ha.

Prior to the commencement of works, the site comprised a predominantly undeveloped parcel of agricultural land with a farm – West House Farm, located in the south-western site area. Prior to works being undertaken this farmhouse was demolished.

The site is relatively level with no significant topographical variances noted.

1.3 Proposed Development

ERGO understands that the Client is currently developing to site for a commercial battery manufacturing gigafactory with associated hardstanding service road and depot facilities, car parking and office areas and utility infrastructure.

RPS Drawing NK020439P-101-P02 (Appendix III) identifies the proposed development layout. A snapshot of the site plan is shown within Figure 1.1 below.

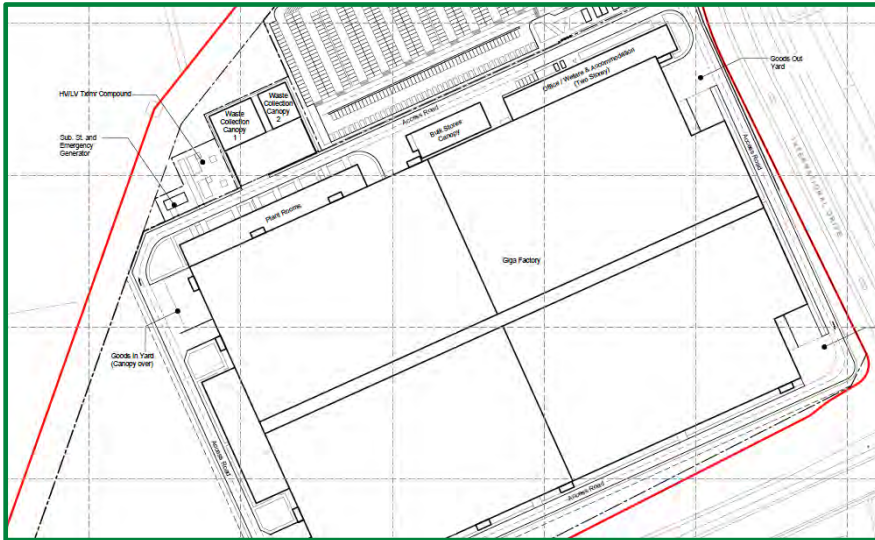


Figure 1.1 Snapshot of Site Plan

1.5 Limitations

The limitations of this report are presented in Appendix I.

A glossary of standard abbreviations is included within Appendix II.

It is understood that the validation of the geotechnical earthworks element of the works in line with the approved specification has been completed by others and is not validated within this document.

1.6 Confidentiality

ERGO has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from ERGO; a charge may be levied against such approval.

2. MATERIALS MANAGEMENT PLAN VALIDATION

2.1 Background

Prior to the commencement of works Groundworks Services (Durham) completed a Cut/Fill assessment which ERGO understand determined that the development requires reuse of 'cut' materials onsite in areas of 'fill' based on the volumetrics undertaken by the groundworker for the site. With the requirement to import c.45,000m³ of Type 1/6F2 materials. It was understood that the earthworks will comprise the following:

- Cut – 72,876m³ of clays;
- Reuse/Fill – 49,876m³ of site won materials to achieve proposed site levels;
- Import – c.45,000m³ Type 1/6F2 materials to achieve formation level.
- Export - c. 27,000m³ Topsoil to Thrislington Quarry

The working copy of the outlined MMP is presented within Appendix V.

2.2 Certainty of Use

ERGO can confirm that materials excavated during the earthworks programme were reused within the development to achieve agreed site levels as proposed within the specification for the site turnover.

Materials were excavated across the site to agreed depths, segregated based on material type, deleterious materials (where encountered) segregated and removed, and replaced across the site as per the fill specification.

Where a net excess of material was identified these materials were disposed of offsite to the Thrislington Quarry reclamation scheme which is understood to accept materials under a permit.

No materials remain onsite with no proposed end use, all materials proposed for disposal have been removed from the site and appropriately disposed of.

For the avoidance of doubt all materials impacted by asbestos associated with the demolition works were managed prior to the earthworks programme and were suitably disposed of off-site. A certificate of removal is understood to be available from Wates Group.

Copies of the completed levels within each section are enclosed for reference.

2.3 Suitability of Use

All soils excavated were deemed suitable for reuse onsite during the enabling works.

Cohesive and granular Made Ground and natural soils were excavated and subsequently placed during the enabling operations.

It is understood that throughout the project, materials were tested and validated for chemical and geotechnical suitability by others to be retained onsite as per the approved specification.

Materials which were deemed unsuitable to remain onsite were removed throughout the works (see Waste Tickets in Appendix IX).

It is understood that materials exported from the site for reuse were deemed suitable for use within the receiving site and have been validated by others.

2.4 Quantity of Use

Following completion of the earthwork enabling package of works, North East Earthwork reviewed their cut/fill assessment and determined the following volumes were generated and placed to achieve site levels:

General Cut/Fill:

- 53,246m³ of cut

- 72,615m³ of fill
- A shortfall of 19,368m³ of material was determined

Attenuation Works Cut/Fill:

- 20,326m³ of cut
- 10,432m³ of fill
- An excess of 9,894m³ of material was determined

Overall Cut/Fill:

- A shortfall of 9,474m³ of material was determined

It is understood that the following quantities of stone (Type 1/6F2) materials were imported to the site for use to achieve proposed site levels and make up the identified net shortfall associated with the earthworks programme:

- 1,305m³ was transferred from the Biffa, Washington site;
- 15m³ was transferred from the Bowburn School site;
- 1,328m³ was transferred from the Breedon Coxhoe site;
- 200m³ was transferred from the Burnigill Bank site;
- 2,085m³ was transferred from the Ebchester Quarry site;
- 14m³ was transferred from the Hexham Bunker site;
- 28,159m³ was transferred from the Quarrington site;
- 107,595m³ was transferred from the Thrislington Quarry sites; and,
- 120m³ was transferred from the Wallsend site.

It is understood that the suitability of these materials was adequately assessed by others prior to importation and all materials imported were deemed geotechnically suitable. ERGO can confirm that the testing provided confirms compliance.

2.5 Record Keeping

North East Earthworks Ltd have copies of the waste transfer/consignment notes for all materials exported from the site for disposal; these are also available on request.

3. CONCLUSION

It is considered that the Earthworks package has been completed in accordance with the outlined specification and volumetric assessment detailed within the previously completed Materials Management Plan. All materials excavated were suitably managed to ensure compliance with the approved remediation strategy and material management plan.

No further material movements are required to be undertaken as part of the development works.

END OF REPORT

**APPENDIX I
LIMITATIONS**



1. This report and its findings should be considered in relation to the terms of reference and objectives agreed between ERGO and the Client as indicated in Section 1.2.
2. For the work, reliance has been placed on publicly available data obtained from the sources identified. The information is not necessarily exhaustive and further information relevant to the site may be available from other sources. When using the information it has been assumed it is correct. No attempt has been made to verify the information.
3. This report has been produced in accordance with current UK policy and legislative requirements for land and groundwater contamination which are enforced by the local authority and the Environment Agency. Liabilities associated with land contamination are complex and requires advice from legal professionals.
4. During the site walkover reasonable effort has been made to obtain an overview of the site conditions. However, during the site walkover no attempt has been made to enter areas of the site that are unsafe or present a risk to health and safety, are locked, barricaded, overgrown, or the location of the area has not been made known or accessible.
5. Access considerations, the presence of services and the activities being carried out on the site limited the locations where sampling locations could be installed and the techniques that could be used.
6. Site sensitivity assessments have been made based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.
7. Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials this is for indicative purposes only and do not constitute or replace full and proper surveys.
8. The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.
9. ERGO cannot be held responsible for any use of the report or its contents for any purpose other than that for which it was prepared. The copyright in this report and other plans and documents prepared by ERGO is owned by them and no such plans or documents may be reproduced, published or adapted without written consent. Complete copies of this may, however, be made and distributed by the client as is expected in dealing with matters related to its commission. Should the client pass copies of the report to other parties for information, the whole report should be copied, but no professional liability or warranties shall be extended to other parties by ERGO in this connection without their explicit written agreement there to by ERGO.
10. New information, revised practices or changes in legislation may necessitate the re-interpretation of the report, in whole or in part.

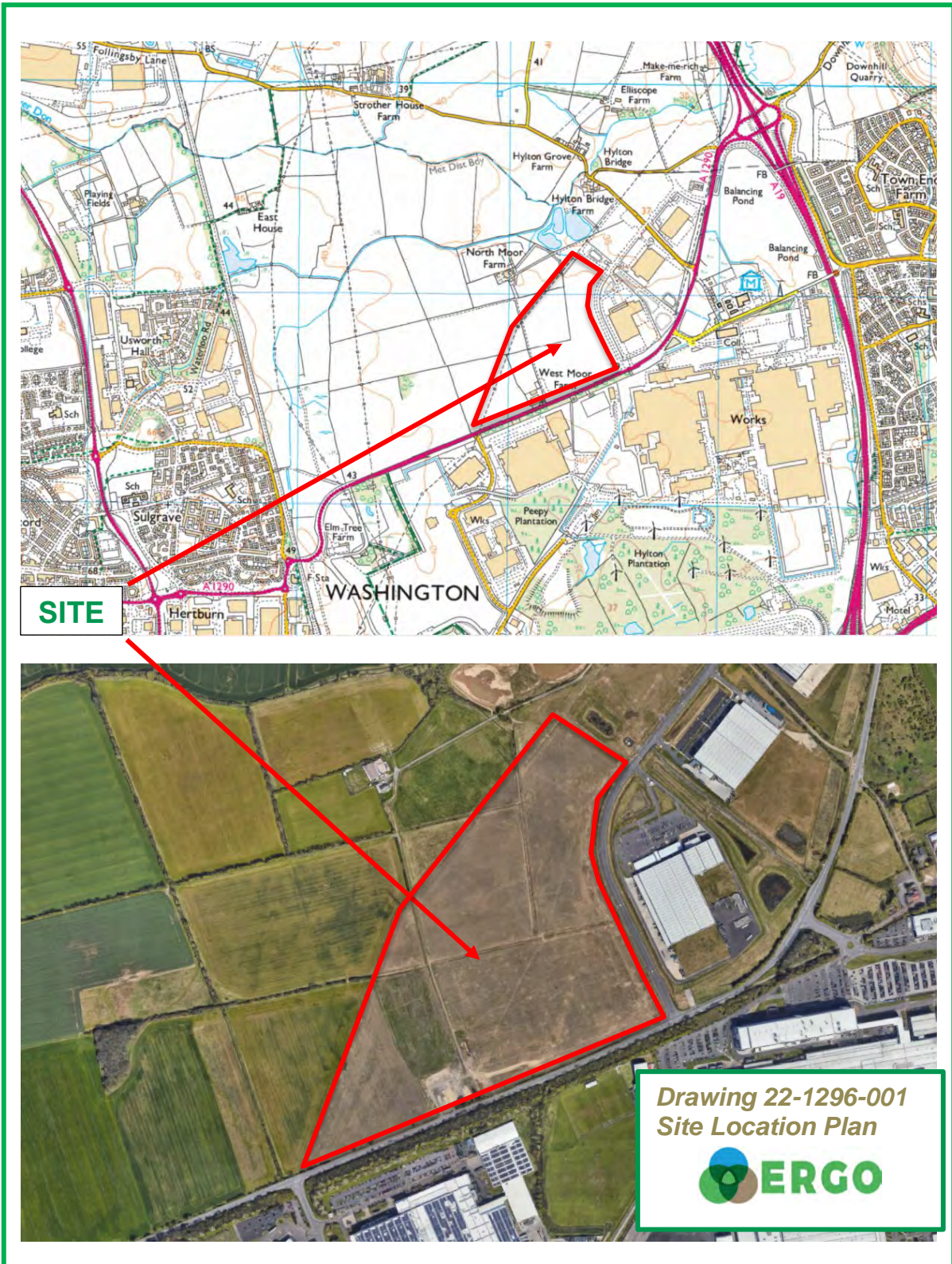
**APPENDIX II
GLOSSARY**

TERMS

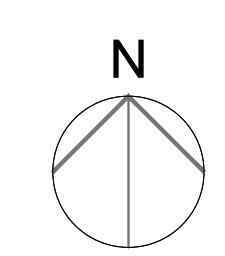
AST	Above Ground Storage Tank	SGV	Soil Guideline Value
BGS	British Geological Survey	SPH	Separate Phase Hydrocarbon
BSI	British Standards Institute	TPH CWG	Total Petroleum Hydrocarbon (Criteria Working Group)
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes	SPT	Standard Penetration Test
CIEH	Chartered Institute of Environmental Health	SVOC	Semi Volatile Organic Compound
CIRIA	Construction Industry Research Association	UST	Underground Storage Tank
CLEA	Contaminated Land Exposure Assessment	VCCs	Vibro Concrete Columns
CSM	Conceptual Site Model	VOC	Volatile Organic Compound
DNAPL	Dense Non-Aqueous Phase Liquid (chlorinated solvents, PCB)	WTE	Water Table Elevation
DWS	Drinking Water Standard	m	Metres
EA	Environment Agency	km	Kilometres
EQS	Environmental Quality Standard	%	Percent
GAC	General Assessment Criteria	%v/v	Percent volume in air
GL	Ground Level	mb	Milli Bars (atmospheric pressure)
GSV	Gas Screening Value	l/hr	Litres per hour
HCV	Health Criteria Value	µg/l	Micrograms per Litre (parts per billion)
ICSM	Initial Conceptual Site Model	ppb	Parts Per Billion
LNAPL	Light Non-Aqueous Phase Liquid (petrol, diesel, kerosene)	mg/kg	Milligrams per kilogram (parts per million)
ND	Not Detected	ppm	Parts Per Million
LMRL	Lower Method Reporting Limit	mg/m³	Milligram per metre cubed
NR	Not Recorded	m bgl	Metres Below Ground Level
PAH	Polycyclic Aromatic Hydrocarbon	m bcl	Metre Below Cover Level
PCB	Poly-Chlorinated Biphenyl	mAOD	Metres Above Ordnance Datum (sea level)
PID	Photo Ionisation Detector	kN/m²	Kilo Newtons per metre squared
QA	Quality Assurance	µm	Micro metre
SGV	Soil Guideline Value		

**APPENDIX III
DRAWINGS**





- © 2021 RPS Group
- Notes
- This drawing has been prepared in accordance with the scope of RPS's appointment with its client and is subject to the terms and conditions of that appointment. RPS accepts no liability for any use of this document other than by its client and only for the purpose for which it was prepared and provided.
 - If received electronically it is the recipient's responsibility to print to correct scale. Only written dimensions should be used.
 - This drawing should be read in conjunction with all other relevant drawings and specifications.
 - The scheme is subject to statutory approvals, surveys and design development.
 - © Crown copyright and database rights 2021 Ordnance Survey 0100031673



Schedule of Areas

Site Area (Application Boundary)	63.31 Acres (256,210 m ²)
GEA (Gross External Area):	
Main Building	1F 84,050 m ²
	2F 15,070 m ²
	3F 1,570 m ²
Office (two storey)	3,795 m ²
Spine core (first floor)	2,865 m ²
Bulk Stores Canopy	945 m ²
HV/LV Substation	100 m ²
Waste Collection Canopy 1	750 m ²
Waste Collection Canopy 2	500 m ²
Plant Rooms	2,060 m ²
Gatehouse	105 m ²
Cycle Shelter	35 m ²
Total	111,455m²
Car Parking:	
(inc. 5% accessible & upto 10% EV charging)	685
Staff	40
Visitors	725
Total	725
Bicycle and Motorcycle Shelter:	
up to 80 spaces	
HGVs:	
upto 25 spaces (inc docks)	



P02	Schedule of areas updated.	TSR	TH	14/07/21
P01	First issue.	TSR	TH	14/07/21

Rev	Description	By	Chk	Date
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Sherwood House, Sherwood Avenue,
Newark, Nottinghamshire, NG24 1QQ
T: 01656 655 700 E: rpsnewark@rpsgroup.com

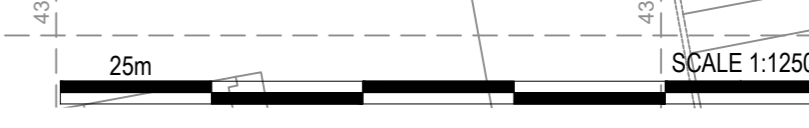


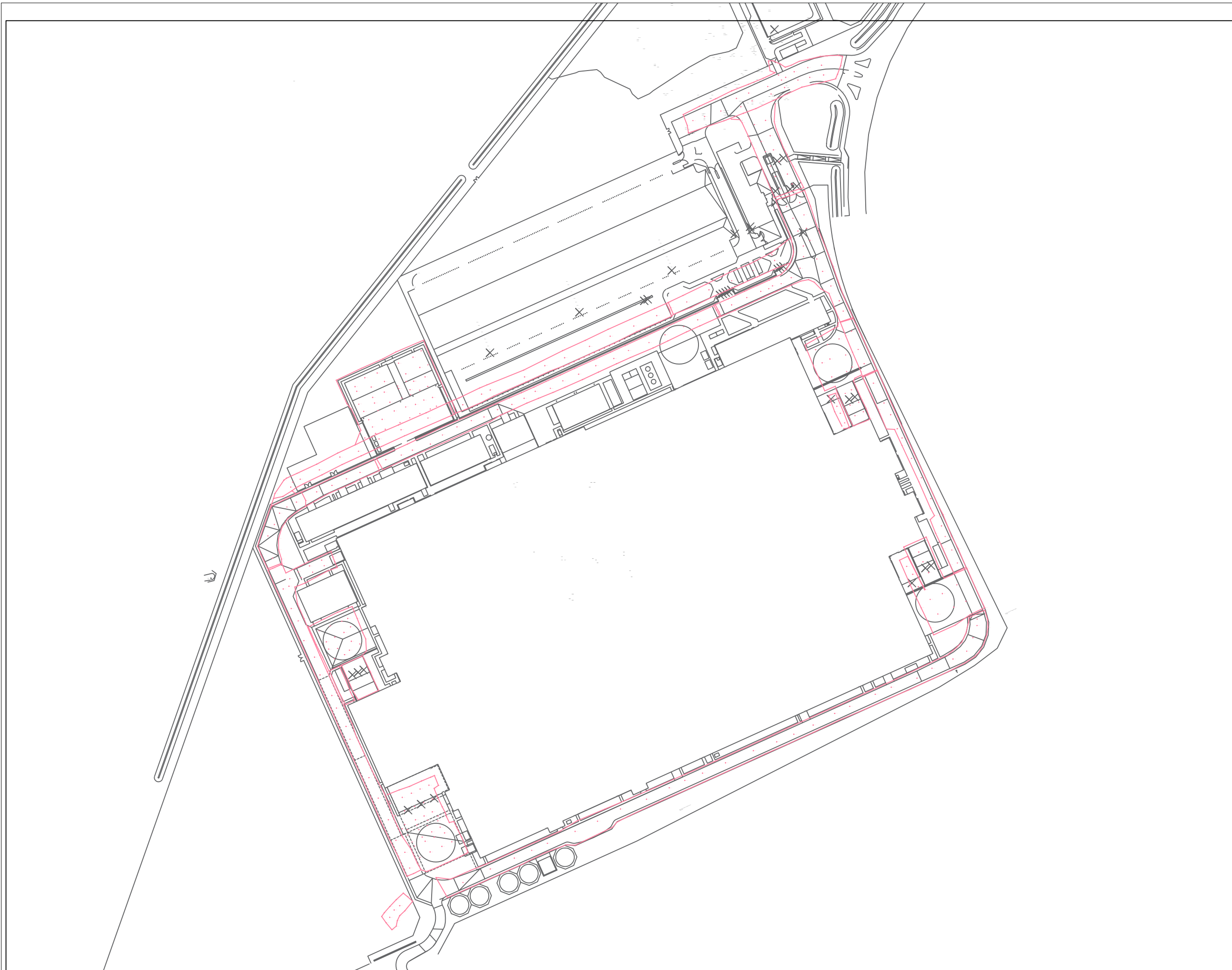
Client: Envision AESC Giga Factory

Title: Proposed Site Layout

RPS Project Number	Scale @ A0	Date Created
NK020439P	1:1250	14/07/21
Task Team Manager	Information Author	Task Information Manager
TH	TSR	TSR

Sheet	Revision
S4 (Suitable For Approval)	P02
Document Number	
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General Notes

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ABBREVIATIONS

RWP	RAINWATER PIPE	WP	WASTE PIPE
IC	MANHOLE	STN	STATION CONTROL
IC	INSPECTION CHAMBER	GIL	GALLEY
SV	STOP VALVE	GV	GAS VALVE
BT	BT CHAMBER	EP	ELECTRIC POLE
TP	TELEGRAPHY POLE	LP	LAMP POST

LEGEND

	TOP OF BATTER
	BOTTOM OF BATTER
	ROAD EDGE
	CHANNEL LINE
	TOP OF KERB
	FOOTPATH
	VERGE
	CENTRE LINE
	FENCE METAL
	FENCE WOOD
	FENCE POST AND RAIL
	TREE CANOPY
	HEDGE LINE
	WALL
	BUILDING



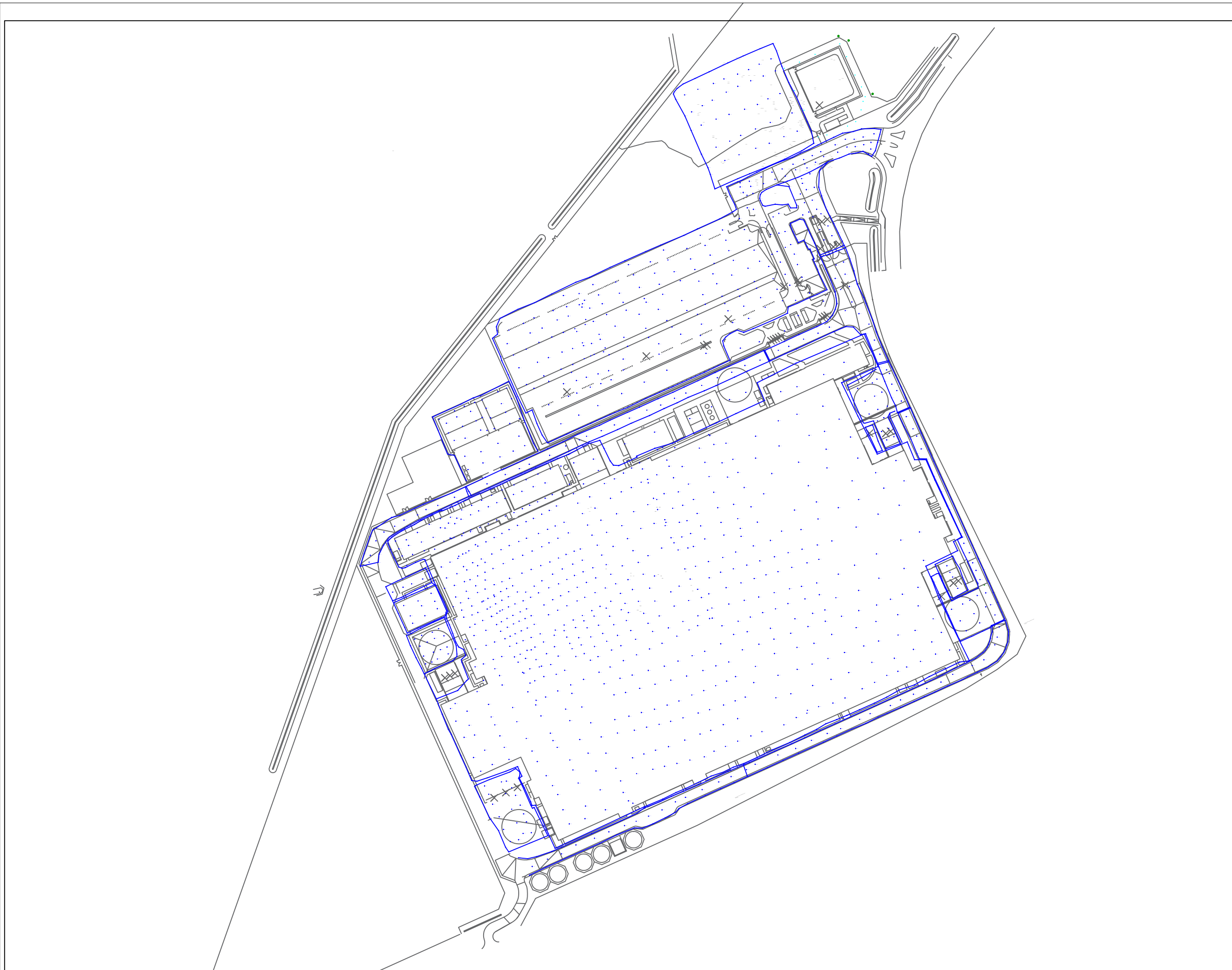
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6F5 Drawing	
Drawing No 5004	Sheet 10F1
Date 30/03/23	
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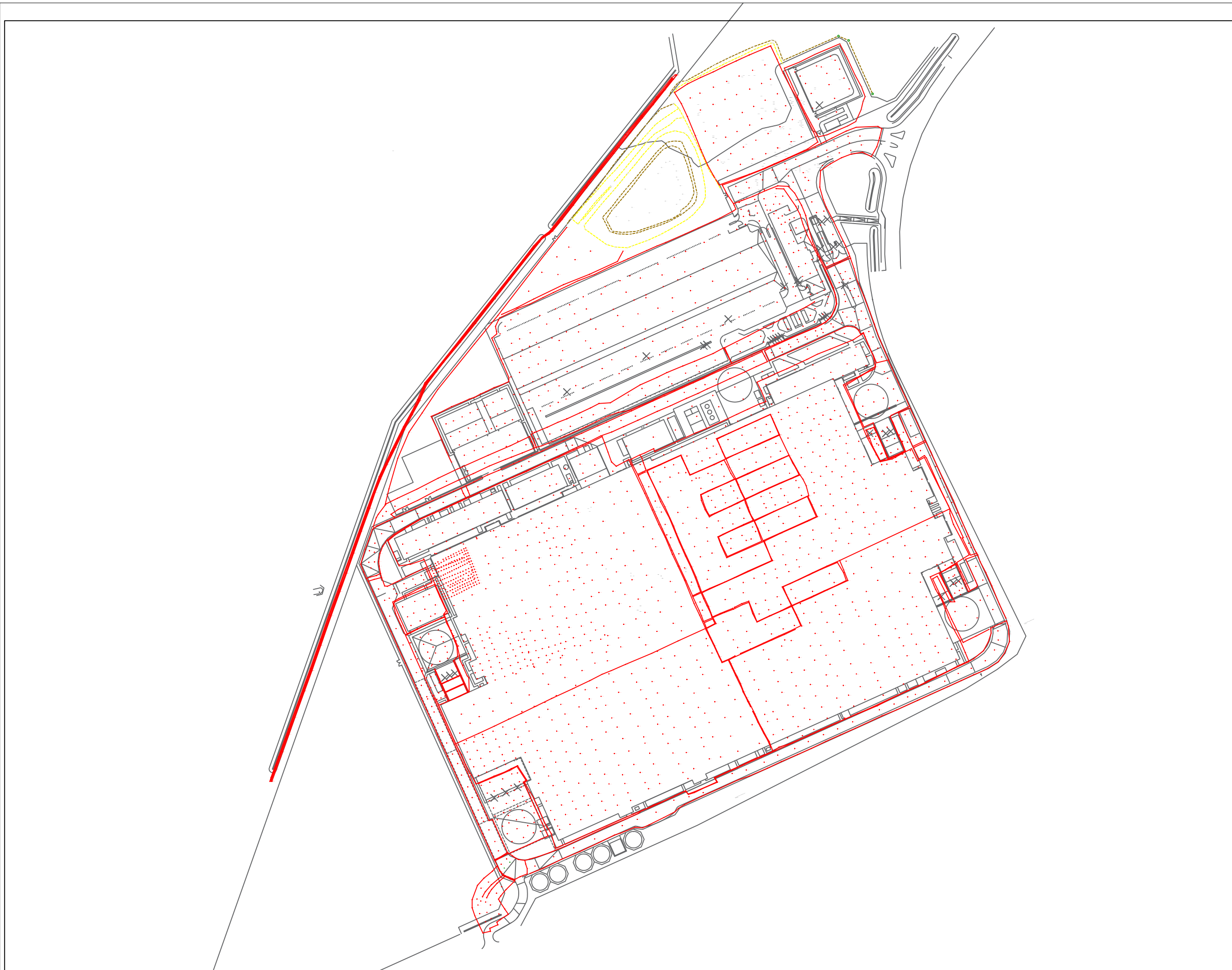


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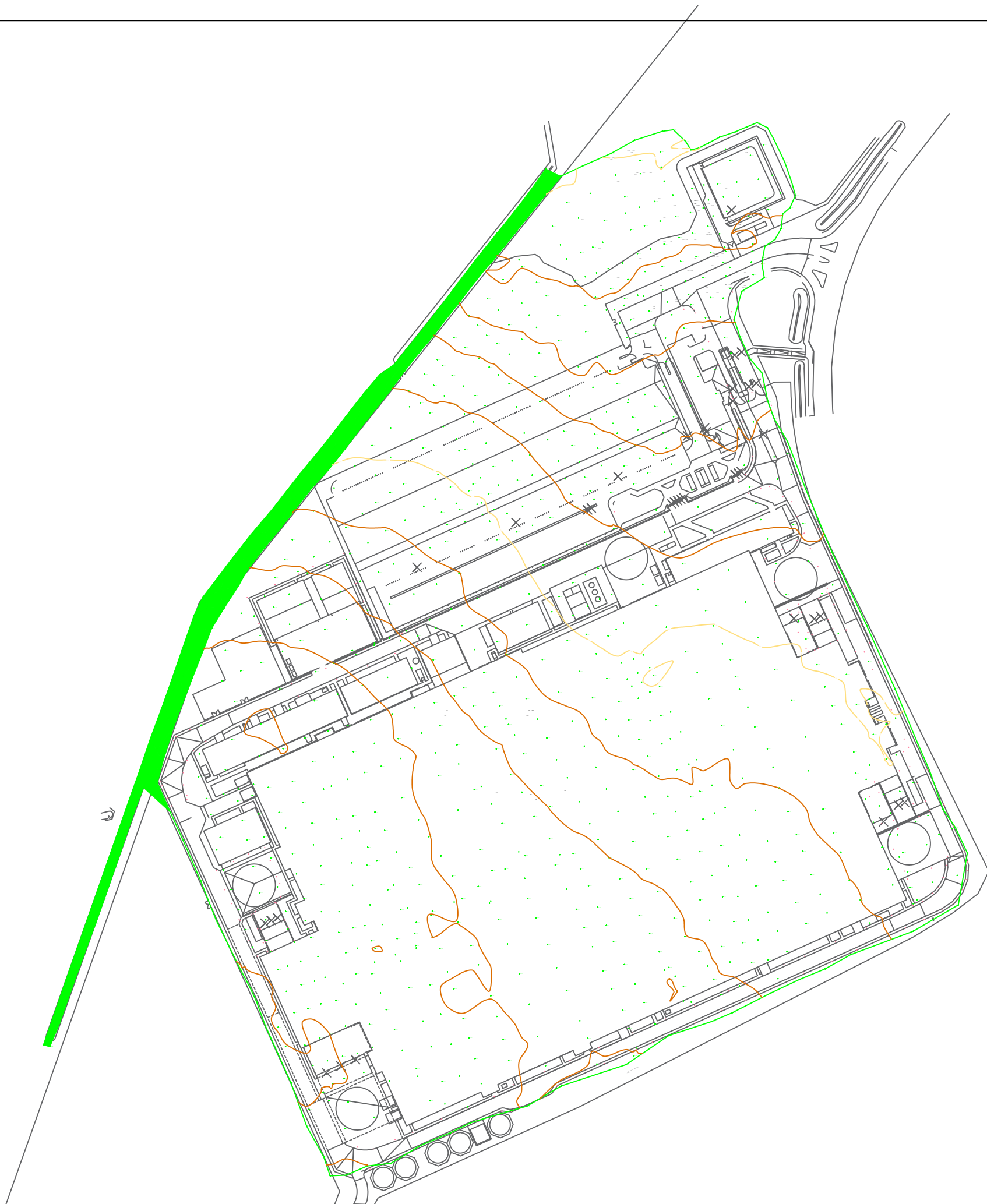


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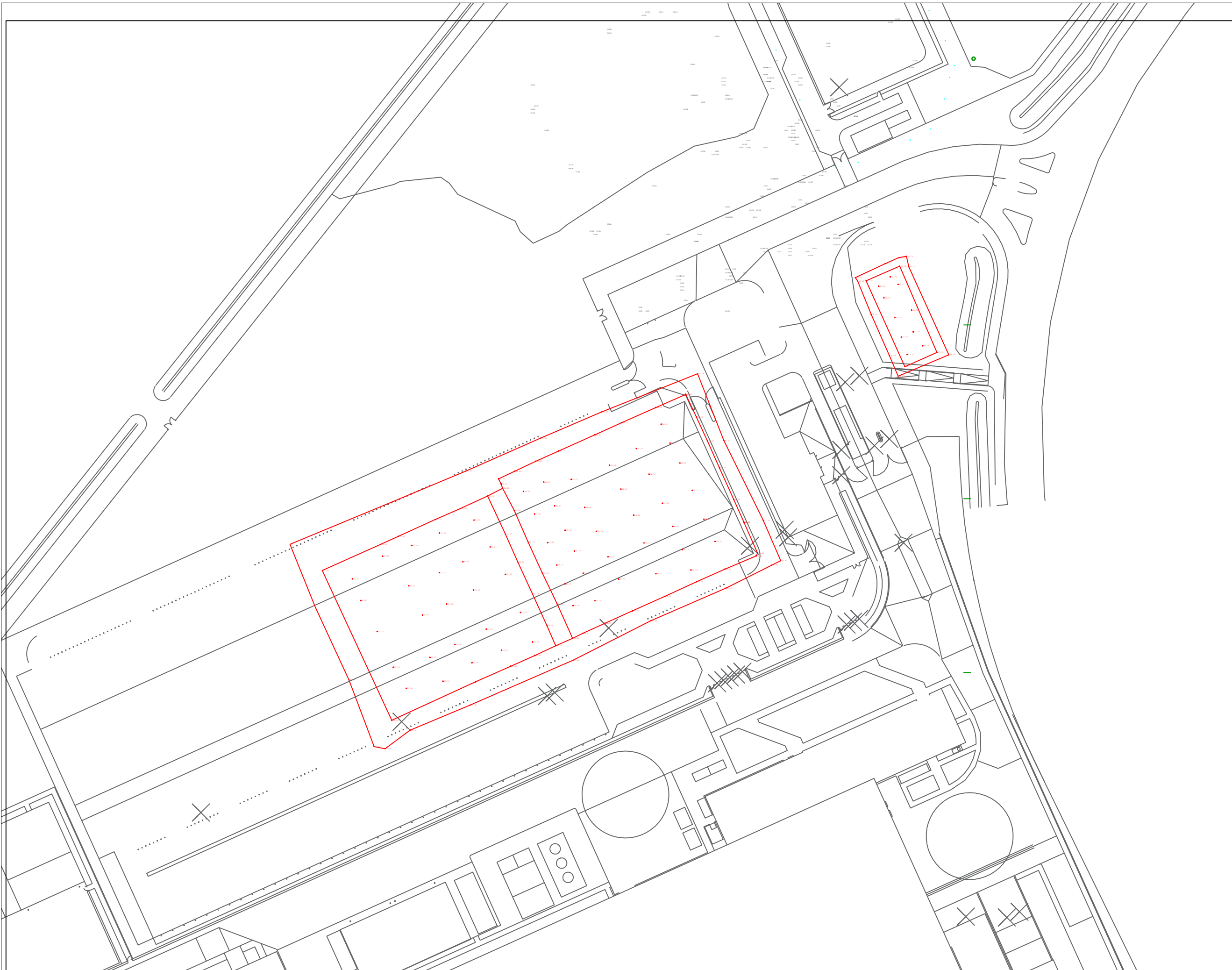
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Attenuation Tank

Drawing No	5005	Sheet	10F1
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**APPENDIX IV
PHOTOGRAPHS**





PLATE 1 – INSTALLATION OF THE CRATE STORAGE



PLATE 2 – PILING WORKS AND CUT SURFACE



PLATE 3 – CUT SURFACE AND STOCKPILED MATERIALS IN THE SOUTH-WESTERN SITE AREA FOR OFFSITE DISPOSAL



PLATE 4 – LOCALISED SOFT CLAYS ENCOUNTERED WITHIN FOOTPRINT OF FORMER FARM HOUSE



PLATE 5 – STONED-UP LEVELS FOR CONSTRUCTION



PLATE 6 – COMPLETED LEVELS AND STOCKPILED MATERIALS FOR REPLACEMENT WITHIN CRATE STORAGE SYSTEM IN CENTRAL SITE AREA

APPENDIX V
ERGO MATERIALS MANAGEMENT PLAN



ERGO

REMEDICATION AND ENABLING WORKS
VALIDATION REPORT

*Envision Giga One,
International Drive,
Sunderland,*

Prepared for:

Wates 

Report Ref: 22-1296-VAL
Date Issued: May 2023



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QUALITY ASSURANCE




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	<i>RPS Drawing No NK020439P-101-P02</i>	Proposed Development Plan
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1. INTRODUCTION

1.1 Background

ERGO has been commissioned by North East Earthworks Ltd on behalf of Wates Group to validate the Materials Management Plan, ref: 22-1296-MMP, previously set up for the Envision Giga One, International Drive, Sunderland scheme as part of the earthworks programme at the site.

The development area is c.25ha in size and is situated to the adjacent to the Nissan Factory within the Sunderland IAMP development area off International Drive located to the north-east of Sunderland (see site location plan in Figure 1.1).

For the avoidance of doubt, ERGO can confirm that the parcel of land refers to the red-line boundary as indicated in Figure 1.1 below.



Figure 1.1 Site Location Plan – Land at Envision Giga One

1.2 Site Location / Setting

SITE ADDRESS	Envision Giga One, International Drive, Sunderland.
NATIONAL GRID REFERENCE	E433244, N558799.
SITE AREA	~25ha.

Prior to the commencement of works, the site comprised a predominantly undeveloped parcel of agricultural land with a farm – West House Farm, located in the south-western site area. Prior to works being undertaken this farmhouse was demolished.

The site is relatively level with no significant topographical variances noted.

1.3 Proposed Development

ERGO understands that the Client is currently developing to site for a commercial battery manufacturing gigafactory with associated hardstanding service road and depot facilities, car parking and office areas and utility infrastructure.

RPS Drawing NK020439P-101-P02 (Appendix III) identifies the proposed development layout. A snapshot of the site plan is shown within Figure 1.1 below.

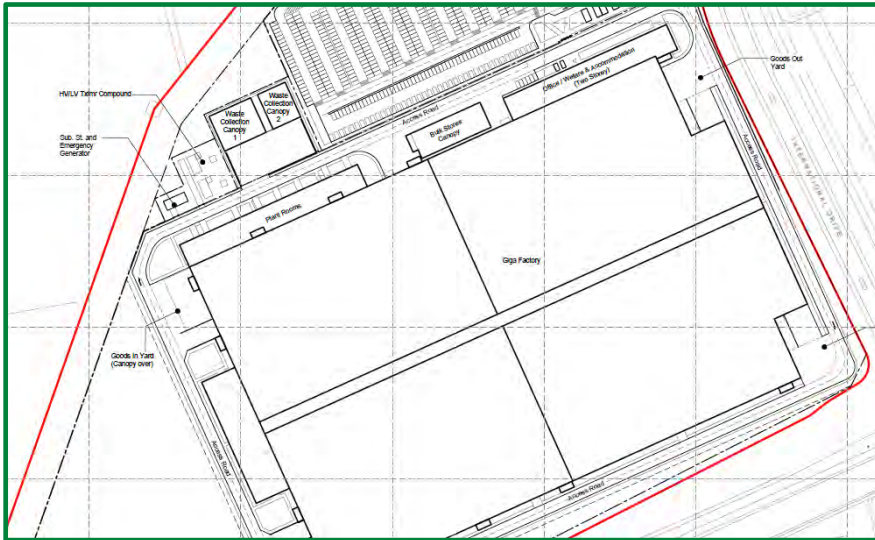


Figure 1.1 Snapshot of Site Plan

1.5 Limitations

The limitations of this report are presented in Appendix I.

A glossary of standard abbreviations is included within Appendix II.

It is understood that the validation of the geotechnical earthworks element of the works in line with the approved specification has been completed by others and is not validated within this document.

1.6 Confidentiality

ERGO has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed. Should any third party wish to use or rely upon the contents of the report, written approval must be sought from ERGO; a charge may be levied against such approval.

2. MATERIALS MANAGEMENT PLAN VALIDATION

2.1 Background

Prior to the commencement of works Groundworks Services (Durham) completed a Cut/Fill assessment which ERGO understand determined that the development requires reuse of 'cut' materials onsite in areas of 'fill' based on the volumetrics undertaken by the groundworker for the site. With the requirement to import c.45,000m³ of Type 1/6F2 materials. It was understood that the earthworks will comprise the following:

- Cut – 72,876m³ of clays;
- Reuse/Fill – 49,876m³ of site won materials to achieve proposed site levels;
- Import – c.45,000m³ Type 1/6F2 materials to achieve formation level.
- Export - c. 27,000m³ Topsoil to Thrislington Quarry

The working copy of the outlined MMP is presented within Appendix V.

2.2 Certainty of Use

ERGO can confirm that materials excavated during the earthworks programme were reused within the development to achieve agreed site levels as proposed within the specification for the site turnover.

Materials were excavated across the site to agreed depths, segregated based on material type, deleterious materials (where encountered) segregated and removed, and replaced across the site as per the fill specification.

Where a net excess of material was identified these materials were disposed of offsite to the Thrislington Quarry reclamation scheme which is understood to accept materials under a permit.

No materials remain onsite with no proposed end use, all materials proposed for disposal have been removed from the site and appropriately disposed of.

For the avoidance of doubt all materials impacted by asbestos associated with the demolition works were managed prior to the earthworks programme and were suitably disposed of off-site. A certificate of removal is understood to be available from Wates Group.

Copies of the completed levels within each section are enclosed for reference.

2.3 Suitability of Use

All soils excavated were deemed suitable for reuse onsite during the enabling works.

Cohesive and granular Made Ground and natural soils were excavated and subsequently placed during the enabling operations.

It is understood that throughout the project, materials were tested and validated for chemical and geotechnical suitability by others to be retained onsite as per the approved specification.

Materials which were deemed unsuitable to remain onsite were removed throughout the works (see Waste Tickets in Appendix IX).

It is understood that materials exported from the site for reuse were deemed suitable for use within the receiving site and have been validated by others.

2.4 Quantity of Use

Following completion of the earthwork enabling package of works, North East Earthwork reviewed their cut/fill assessment and determined the following volumes were generated and placed to achieve site levels:

General Cut/Fill:

- 53,246m³ of cut

- 72,615m³ of fill
- A shortfall of 19,368m³ of material was determined

Attenuation Works Cut/Fill:

- 20,326m³ of cut
- 10,432m³ of fill
- An excess of 9,894m³ of material was determined

Overall Cut/Fill:

- A shortfall of 9,474m³ of material was determined

It is understood that the following quantities of stone (Type 1/6F2) materials were imported to the site for use to achieve proposed site levels and make up the identified net shortfall associated with the earthworks programme:

- 1,305m³ was transferred from the Biffa, Washington site;
- 15m³ was transferred from the Bowburn School site;
- 1,328m³ was transferred from the Breedon Coxhoe site;
- 200m³ was transferred from the Burnigill Bank site;
- 2,085m³ was transferred from the Ebchester Quarry site;
- 14m³ was transferred from the Hexham Bunker site;
- 28,159m³ was transferred from the Quarrington site;
- 107,595m³ was transferred from the Thrislington Quarry sites; and,
- 120m³ was transferred from the Wallsend site.

It is understood that the suitability of these materials was adequately assessed by others prior to importation and all materials imported were deemed geotechnically suitable. ERGO can confirm that the testing provided confirms compliance.

2.5 Record Keeping

North East Earthworks Ltd have copies of the waste transfer/consignment notes for all materials exported from the site for disposal; these are also enclosed within Appendix IX.

3. CONCLUSION

It is considered that the Earthworks package has been completed in accordance with the outlined specification and volumetric assessment detailed within the previously completed Materials Management Plan. All materials excavated were suitably managed to ensure compliance with the approved remediation strategy and material management plan.

No further material movements are required to be undertaken as part of the development works.

END OF REPORT

**APPENDIX I
LIMITATIONS**



1. This report and its findings should be considered in relation to the terms of reference and objectives agreed between ERGO and the Client as indicated in Section 1.2.
2. For the work, reliance has been placed on publicly available data obtained from the sources identified. The information is not necessarily exhaustive and further information relevant to the site may be available from other sources. When using the information it has been assumed it is correct. No attempt has been made to verify the information.
3. This report has been produced in accordance with current UK policy and legislative requirements for land and groundwater contamination which are enforced by the local authority and the Environment Agency. Liabilities associated with land contamination are complex and requires advice from legal professionals.
4. During the site walkover reasonable effort has been made to obtain an overview of the site conditions. However, during the site walkover no attempt has been made to enter areas of the site that are unsafe or present a risk to health and safety, are locked, barricaded, overgrown, or the location of the area has not been made known or accessible.
5. Access considerations, the presence of services and the activities being carried out on the site limited the locations where sampling locations could be installed and the techniques that could be used.
6. Site sensitivity assessments have been made based on available information at the time of writing and are ultimately for the decision of the regulatory authorities.
7. Where mention has been made to the identification of Japanese Knotweed and other invasive plant species and asbestos or asbestos-containing materials this is for indicative purposes only and do not constitute or replace full and proper surveys.
8. The executive summary, conclusions and recommendations sections of the report provide an overview and guidance only and should not be specifically relied upon without considering the context of the report in full.
9. ERGO cannot be held responsible for any use of the report or its contents for any purpose other than that for which it was prepared. The copyright in this report and other plans and documents prepared by ERGO is owned by them and no such plans or documents may be reproduced, published or adapted without written consent. Complete copies of this may, however, be made and distributed by the client as is expected in dealing with matters related to its commission. Should the client pass copies of the report to other parties for information, the whole report should be copied, but no professional liability or warranties shall be extended to other parties by ERGO in this connection without their explicit written agreement there to by ERGO.
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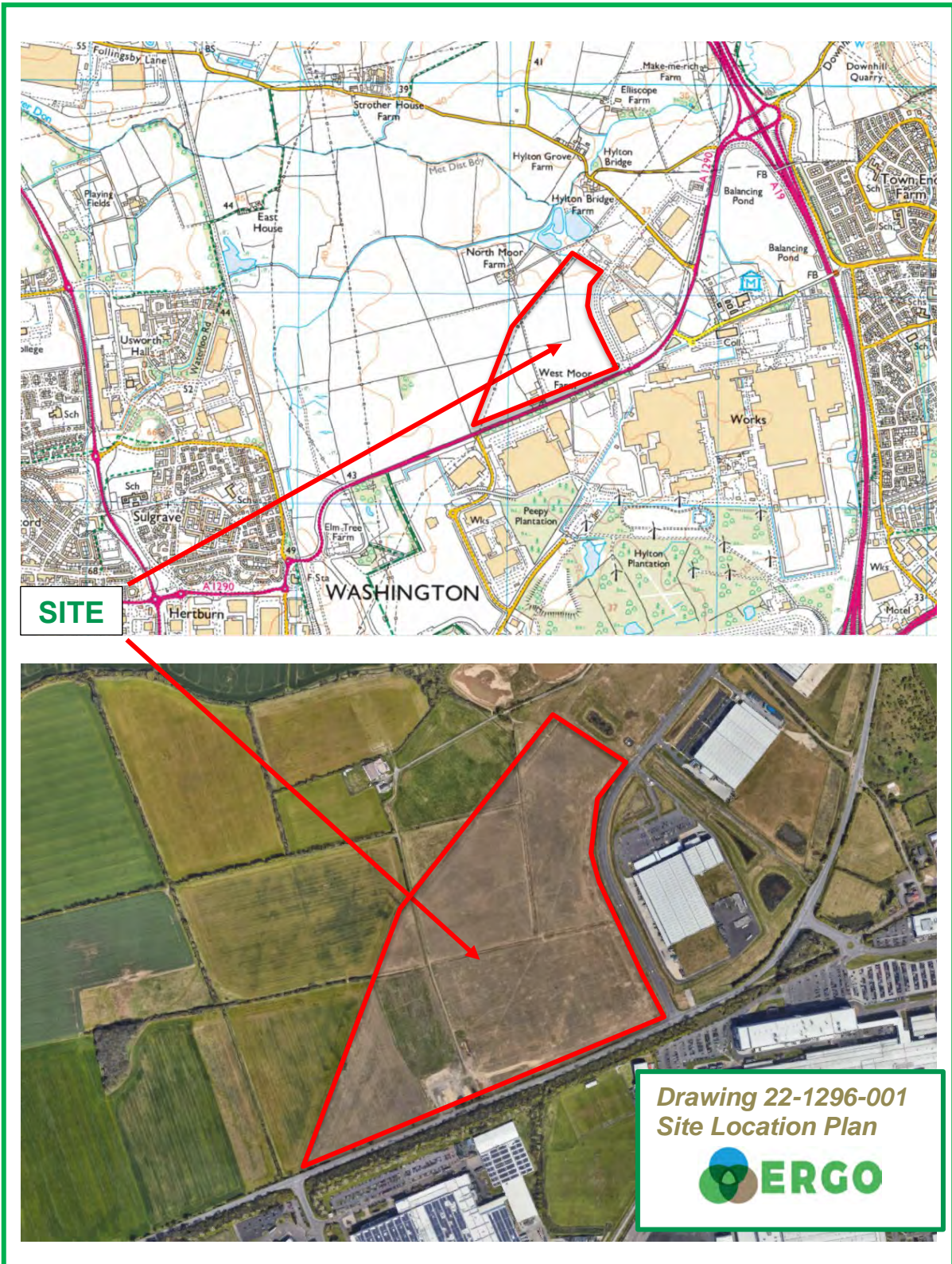
**APPENDIX II
GLOSSARY**

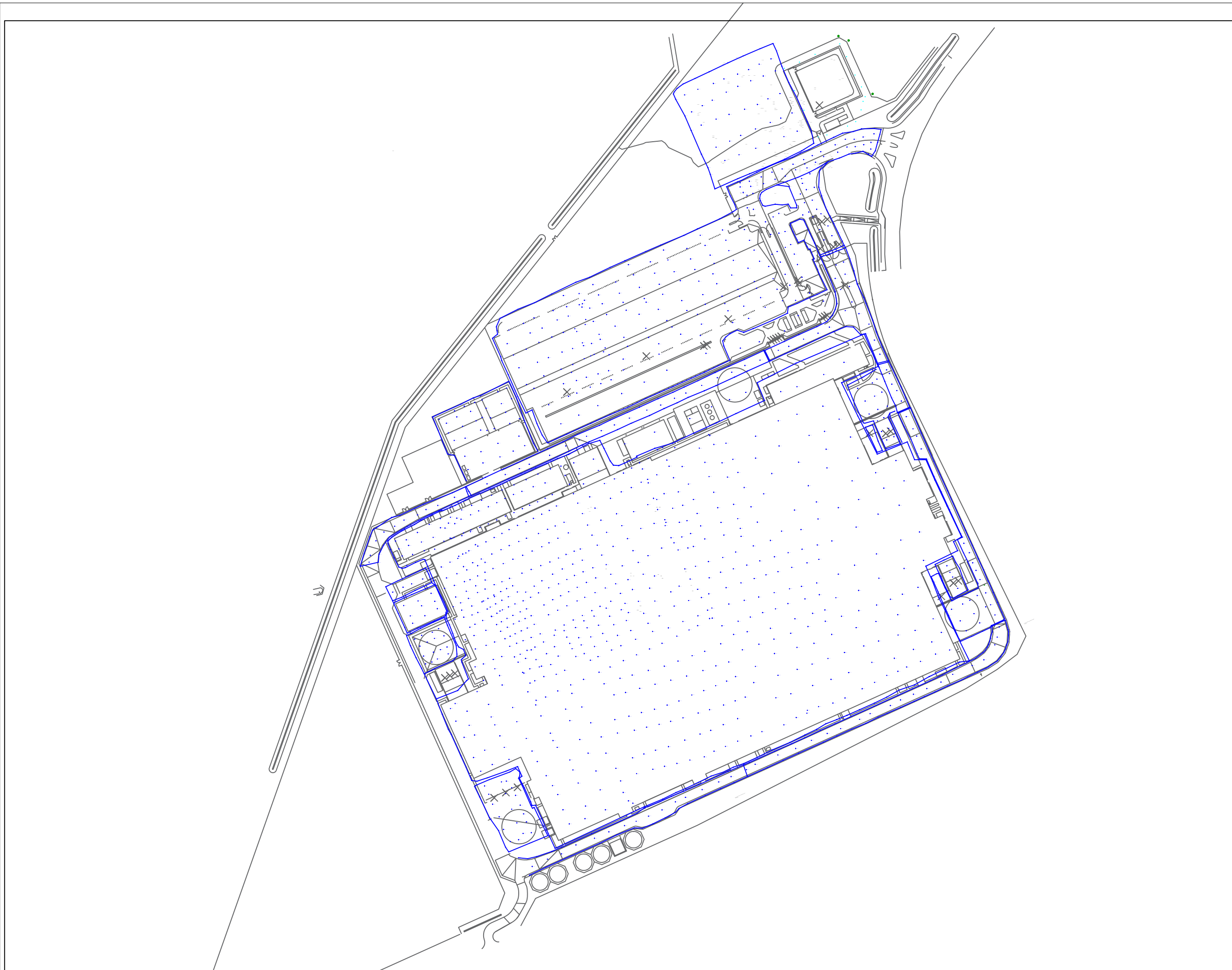
TERMS

AST	Above Ground Storage Tank	SGV	Soil Guideline Value
BGS	British Geological Survey	SPH	Separate Phase Hydrocarbon
BSI	British Standards Institute	TPH CWG	Total Petroleum Hydrocarbon (Criteria Working Group)
BTEX	Benzene, Toluene, Ethylbenzene, Xylenes	SPT	Standard Penetration Test
CIEH	Chartered Institute of Environmental Health	SVOC	Semi Volatile Organic Compound
CIRIA	Construction Industry Research Association	UST	Underground Storage Tank
CLEA	Contaminated Land Exposure Assessment	VCCs	Vibro Concrete Columns
CSM	Conceptual Site Model	VOC	Volatile Organic Compound
DNAPL	Dense Non-Aqueous Phase Liquid (chlorinated solvents, PCB)	WTE	Water Table Elevation
DWS	Drinking Water Standard	m	Metres
EA	Environment Agency	km	Kilometres
EQS	Environmental Quality Standard	%	Percent
GAC	General Assessment Criteria	%v/v	Percent volume in air
GL	Ground Level	mb	Milli Bars (atmospheric pressure)
GSV	Gas Screening Value	l/hr	Litres per hour
HCV	Health Criteria Value	µg/l	Micrograms per Litre (parts per billion)
ICSM	Initial Conceptual Site Model	ppb	Parts Per Billion
LNAPL	Light Non-Aqueous Phase Liquid (petrol, diesel, kerosene)	mg/kg	Milligrams per kilogram (parts per million)
ND	Not Detected	ppm	Parts Per Million
LMRL	Lower Method Reporting Limit	mg/m³	Milligram per metre cubed
NR	Not Recorded	m bgl	Metres Below Ground Level
PAH	Polycyclic Aromatic Hydrocarbon	m bcl	Metre Below Cover Level
PCB	Poly-Chlorinated Biphenyl	mAOD	Metres Above Ordnance Datum (sea level)
PID	Photo Ionisation Detector	kN/m²	Kilo Newtons per metre squared
QA	Quality Assurance	µm	Micro metre
SGV	Soil Guideline Value		

**APPENDIX III
DRAWINGS**







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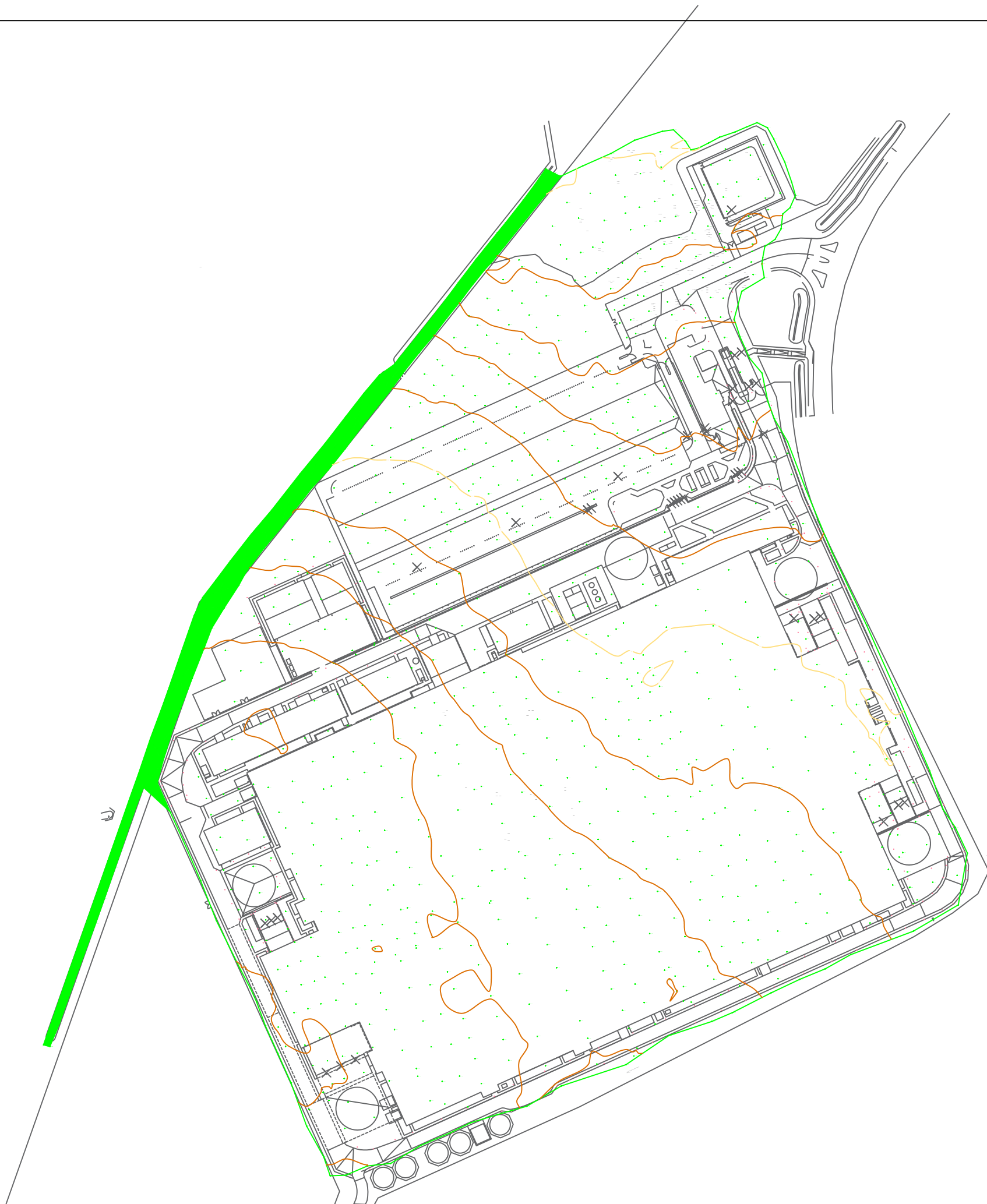
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Topsoil Strip	
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