



INVESTIGATE



REMEDiate



REGENERATE



GROUND INVESTIGATION REPORT

**FOR
LAND OFF FLETCHER FOLD ROAD,
BURY,
GREATER MANCHESTER,
BL9 9RX**

**PREPARED FOR
R. P. TYSON CONSTRUCTION LIMITED**

**FACTUAL REPORT NO. 8123
MARCH 2025**

SUB SURFACE NORTH WEST LIMITED

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**GROUND INVESTIGATION AT LAND OFF FLETCHER FOLD ROAD, BURY,
GREATER MANCHESTER, BL9 9RX**

CLIENT: R. P. TYSON CONSTRUCTION LIMITED

ENGINEER: CARLEY DAINES AND PARTNERS LIMITED

1. INTRODUCTION

This report has been prepared in accordance with an email, dated 11th February 2025, from the Client.

The brief was set out in our estimate, ref. E7559 and dated 24th January 2025, with amendments as the investigation proceeded and includes:

- 5 No. cable percussive boreholes
- In-situ testing
- Geotechnical laboratory testing
- Provision of a factual report on the above.

1.1 Site Location and Description

The site is located within a plot of land at the southern end of Fletcher Fold Road, Bury, Greater Manchester, BL9 9RX, as indicated on Figure 1. The approximate National Grid Reference of the centre of the site is 380649, 408678.

As shown on Figure 2, the about 0.9 hectare irregular shaped site is bound to the north by Goshen Lane and No.'s 9 and 10 Fletcher Fold Lane, to the north east by Manor House Gardens, to the east by No.'s 15 and 17 Meadway, to the south by private garages on Millwood Court and No.'s 19 and 26 Millwood Court, and to the west by odd No's 417 to 421 Manchester Road. There is a lake around 40 metres to the south of the site beyond a wooded area between Millwood Court and Meadway. The site is currently undeveloped overgrown marshy ground in the east and apparently gravel surfaced overgrown ground in the west with a footpath bisecting the two areas.

1.2 Proposed Development and Purpose of the Ground Investigation

We understand that it is proposed to construct four semi-detached bungalows and a block of thirty-nine residential apartments with associated access, parking and garden areas, as shown on Figure 3.

The purpose of the ground investigation is to determine the ground conditions at the exploratory hole positions and to provide results for assessment by the Engineer/ others.

2. INVESTIGATION

2.1 Investigation Details

Five 150mm diameter boreholes were put down by cable percussive boring techniques at the positions determined by the Clients Engineer and set out by Sub Surface North West Limited, as shown on Figure 4. The boreholes were put down to depths of between 14.23 and 16.35 metres, samples taken were logged in accordance with BS.5930:2015+A1:2020 and the resulting Borehole Records are appended. On completion the boreholes were backfilled with arisings as no installations were required.

3. SAMPLING AND TESTING

3.1 Sampling

Small disturbed and bulk disturbed samples were obtained for the strata encountered and were subjected to careful examination.

In addition fifteen 100mm diameter undisturbed samples were attempted in cohesive strata, and eleven were recovered and submitted for testing in the laboratory.

The samples will be retained for a period of one month after the issue of this report, for reference purposes, and then disposed of unless otherwise instructed.

3.2 Field Testing

Thirty-eight Standard Penetration Tests (SPTs) and eleven Standard Cone Penetration Tests (CPTs) were performed in the boreholes, the results of which are recorded on the appended Standard Penetration Test Results Sheet with 'N' values and indicative relative density and shear strength, where appropriate, given on the Borehole Records.

3.3 Laboratory Testing

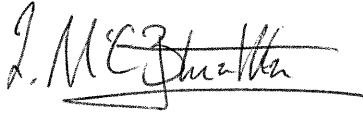
The following laboratory tests were carried out in accordance with BS.1377: 1990, where applicable, and the results are appended.

- Moisture content, plastic limit and liquid limit tests
- Quick undrained triaxial tests
- Particle size distribution by wet sieve analysis
- Soluble sulphate content and pH value tests (including pyritic ground testing).

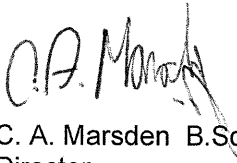
4. GENERAL

We trust that this report fulfils your present requirements but if you have any queries or we can be of further assistance please contact the undersigned or Mr Ben Osborne at our Preston office.

SUB SURFACE CONSULTANTS LIMITED
FACTUAL REPORT No. 8123
MARCH 2025



L. A. W. McCall - Bhakta B.Sc.(Hons.)
Geotechnical Engineer
For and on behalf of
Sub Surface Consultants Limited



C. A. Marsden B.Sc.(Hons.), C.Eng., M.I.C.E.
Director
For and on behalf of
Sub Surface Consultants Limited.

INSITU TEST RESULTS

SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907								Standard Penetration Test Results				
Site : LAND OFF FLETCHER FOLD ROAD, BURY, GREATER MANCHESTER, BL9 9RX												Job Number 8123
Client : R. P. TYSON CONSTRUCTION LIMITED												Sheet
Engineer: CARLEY DAINES AND PARTNERS LIMITED												1 / 2
Borehole Number	Base of Borehole (m)	End of Seating Drive (m)	End of Test Drive (m)	Test Type	Seating Blows per 75mm		Blows for each 75mm penetration				Result	Comments
					1	2	1	2	3	4		
BH1	1.20	1.35	1.65	CPT	1	1	1	2	1	2	N=6	
BH1	2.00	2.15	2.45	CPT	1	2	1	1	0	1	N=3	
BH1	4.00	4.15	4.45	SPT	1	3	4	1	2	3	N=10	
BH1	6.00	6.15	6.45	SPT	1	2	3	2	2	3	N=10	
BH1	9.00	9.15	9.45	SPT	2	5	7	8	8	11	N=34	
BH1	10.00	10.15	10.45	SPT	3	5	7	9	10	12	N=38	
BH1	11.50	11.65	11.93	SPT	6	7	9	12	14	16	51/275mm	
BH1	13.10	13.25	13.35	SPT	10	11	15	35			50/95mm	
BH1	13.40	13.55	13.80	SPT	6	8	9	12	12	17	50/250mm	
BH1	13.80	13.95	14.23	SPT	7	10	14	14	14	8	50/275mm	
BH2	1.20	1.35	1.65	CPT	1	1	1	2	2	2	N=7	No Recovery
BH2	2.00	2.15	2.45	CPT	1	3	1	1	1	1	N=4	
BH2	4.00	4.15	4.45	SPT	1	2	2	2	2	1	N=7	
BH2	6.00	6.15	6.45	SPT	1	2	1	1	2	1	N=5	
BH2	7.50	7.65	7.95	SPT	1	2	3	3	3	3	N=12	
BH2	10.50	10.65	10.90	SPT	4	5	12	12	16	10	50/245mm	
BH2	12.00	12.15	12.45	SPT	4	8	9	9	12	13	N=43	
BH2	13.50	13.65	13.93	SPT	10	11	12	13	13	12	50/275mm	
BH2	15.00	15.15	15.31	SPT	6	12	13	17	20		50/160mm	
BH2	16.00	16.15	16.35	SPT	7	16	16	17	17		50/200mm	
BH3	1.20	1.35	1.65	CPT	1	1	2	4	1	6	N=13	
BH3	2.00	2.15	2.45	CPT	1	1	1	1	1	1	N=4	
BH3	4.00	4.15	4.45	SPT	1	1	2	1	2	4	N=9	
BH3	6.00	6.15	6.45	SPT	1	1	1	2	2	3	N=8	
BH3	9.00	9.15	9.45	SPT	3	5	9	9	10	11	N=39	
BH3	10.50	10.65	10.95	SPT	4	5	12	12	12	13	N=49	
BH3	12.00	12.15	12.43	SPT	4	9	10	14	14	12	50/275mm	
BH3	13.50	13.65	13.95	SPT	7	9	10	12	13	14	N=49	
BH3	14.40	14.55	14.73	SPT	10	11	12	16	22		50/180mm	
BH3	14.70	14.85	14.95	SPT	11	14	21	29			50/95mm	
BH4	1.20	1.35	1.65	CPT	1	1	1	1	1	1	N=4	No recovery Cobble obstruction, No recovery
BH4	3.00	3.15	3.45	SPT	1	2	1	2	1	2	N=6	
BH4	5.00	5.15	5.45	SPT	1	2	1	2	2	4	N=9	
BH4	8.00	8.15	8.45	SPT	4	8	8	9	10	11	N=38	
BH4	9.50	9.65	9.95	SPT	5	9	10	11	12	13	N=46	
BH4	11.00	11.15	11.45	SPT	6	9	10	11	12	15	N=48	
BH4	12.50	12.65	12.65	SPT	9	10	50				50/0mm	
BH4	13.50	13.65	13.82	CPT	10	11	15	21	14		50/170mm	
BH4	14.70	14.83	14.92	SPT	14	11	41	9			25*/125mm 50/95mm	
BH5	1.20	1.35	1.65	CPT	2	4	4	4	4	5	N=17	
BH5	2.00	2.15	2.45	CPT	1	2	6	4	4	7	N=21	
BH5	3.00	3.15	3.45	CPT	1	4	1	0	1	0	N=2	

S S SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907							Standard Penetration Test Results					
Site : LAND OFF FLETCHER FOLD ROAD, BURY, GREATER MANCHESTER, BL9 9RX												Job Number 8123
Client : R. P. TYSON CONSTRUCTION LIMITED												Sheet 2 / 2
Engineer: CARLEY DAINES AND PARTNERS LIMITED												
Borehole Number	Base of Borehole (m)	End of Seating Drive (m)	End of Test Drive (m)	Test Type	Seating Blows per 75mm		Blows for each 75mm penetration				Result	Comments
					1	2	1	2	3	4		
BH5	5.00	5.15	5.45	SPT	1	2	2	1	2	2	N=7	No recovery
BH5	8.00	8.15	8.45	SPT	2	4	5	6	7	9	N=27	
BH5	11.00	11.15	11.45	SPT	4	9	10	12	13	13	N=48	
BH5	12.50	12.65	12.95	SPT	7	8	9	10	11	12	N=42	
BH5	13.80	13.95	14.25	SPT	9	10	11	11	12	12	N=46	
BH5	14.70	14.85	15.01	SPT	4	9	16	19	15		50/160mm	
BH5	14.90	15.03	15.04	SPT	16	9	50				25*/125mm 50/10mm	

LABORATORY TEST RESULTS

S S SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907							Laboratory Test Results				
Site : LAND OFF FLETCHER FOLD ROAD, BURY, GREATER MANCHESTER, BL9 9RX Client : R. P. TYSON CONSTRUCTION LIMITED Engineer: CARLEY DAINES AND PARTNERS LIMITED											Job Number 8123
											Sheet 1 / 1
DETERMINATION OF MOISTURE CONTENT, LIQUID LIMIT AND PLASTIC LIMIT AND DERIVATION OF PLASTICITY AND LIQUIDITY INDEX											
Borehole/ Trial Pit	Depth (m)	Sample	Natural Moisture Content %	Sample Passing 425µm Sieve		Liquid Limit %	Plastic Limit %	Plasticity Index %	Liquidity Index	Group Symbol	Laboratory Description
				Percentage %	Moisture Content %						
BH1	4.00	D	30	77	39	32	20	12	1.58	CL	Soft to firm dark greyish brown slightly sandy silty CLAY
BH1	7.50	U	13	96	14	28	18	10	-0.45	CL	Stiff dark brown slightly gravelly slightly sandy CLAY. Gravel is subangular to subrounded fine to coarse sandstone, mudstone, coal and quartz
BH1	11.50	D	12	82	15	31	15	16	-0.03	CL	Very stiff dark brown and occasional dark reddish brown mottled slightly gravelly slightly sandy CLAY. Gravel is angular to rounded fine to coarse sandstone, mudstone, quartz and coal
BH2	1.20	B	27	47	57	29	19	10	3.84	CL	MADE GROUND: dark greyish brown very clayey sandy fine to coarse gravel sized fragments of stone and brick with occasional cobble sized fragments of stone and occasional pockets of clay
BH2	3.00	U	29	87	33	41	23	18	0.57	CI	Soft dark greyish brown slightly sandy very silty CLAY
BH2	5.00	U	26	87	30	28	22	6	1.32	CL/ML	Soft thinly laminated dark greyish brown slightly sandy very silty CLAY interbedded with clayey silt
BH2	6.50	B	19	81	23	26	15	11	0.77	CL	Firm to stiff dark brown and occasional dark reddish brown mottled slightly gravelly slightly sandy CLAY. Gravel is angular to subrounded fine to medium sandstone, quartz and mudstone
BH2	12.00	D	14	76	18	39	18	21	0.02	CI	Stiff to very stiff dark brown and occasional dark reddish brown mottled slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse mudstone, sandstone and coal
BH3	3.00	U	27	89	30	32	23	9	0.81	CL	Soft thinly laminated dark greyish brown slightly sandy very silty CLAY
BH3	5.00	U	24	99	24	27				NP	Dark greyish brown very clayey sandy SILT
BH3	7.50	U	20	79	25	26				NP	Greyish brown very clayey sandy SILT
BH3	12.00	D	12	97	12	26	14	12	-0.13	CL	Very stiff dark brown and occasional dark reddish brown mottled slightly gravelly slightly sandy CLAY. Gravel is subangular to rounded fine to coarse sandstone, mudstone, quartz and siltstone
BH4	2.00	U	27	80	34	36	23	13	0.83	CI	Soft thinly laminated dark greyish brown slightly sandy very silty CLAY. Occasional gravel is angular to rounded fine to coarse sandstone, quartz, mudstone and siltstone
BH4	6.50	U	14	79	18	26	15	11	0.25	CL	Very stiff dark brown and dark reddish brown mottled slightly gravelly slightly sandy CLAY. Gravel is angular to subrounded fine to coarse sandstone, mudstone and quartz
BH4	8.00	D	12	99	12	28	15	13	-0.22	CL	Very stiff dark brown and dark reddish brown mottled slightly gravelly slightly sandy CLAY. Gravel is angular to subrounded fine to coarse sandstone, mudstone and quartz
BH5	4.00	U	30	99	30	29	23	6	1.22	ML	Soft dark greyish brown slightly sandy clayey SILT
BH5	6.50	U	25	78	32	42	22	20	0.51	CI	Soft thinly laminated dark greyish brown slightly sandy very silty CLAY
BH5	8.00	D	12	97	12	25	14	11	-0.15	CL	Stiff dark brown and dark reddish brown mottled slightly gravelly slightly sandy CLAY. Gravel is angular to subrounded fine to coarse sandstone, mudstone, quartz and coal
Method of Preparation : BS 1377:PART 1:1990:7.4 Preparation of samples for classification tests BS 1377:PART 2:1990:4.2 & 5.2 Sample preparations											
Method of Test : BS 1377:PART 2:1990:3 Determination of moisture content 1990:4 Determination of the liquid limit BS 1377:PART 2:1990:5 Determination of the plastic limit and plasticity index											
Remarks :											

S S SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907						Laboratory Test Results				
Site : LAND OFF FLETCHER FOLD ROAD, BURY, GREATER MANCHESTER, BL9 9RX										Job Number
Client : R. P. TYSON CONSTRUCTION LIMITED										8123
Engineer: CARLEY DAINES AND PARTNERS LIMITED										Sheet
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DETERMINATION OF DENSITY, MOISTURE CONTENT AND UNDRAINED SHEAR STRENGTH IN TRIAXIAL COMPRESSION WITHOUT MEASUREMENT OF PORE PRESSURE										
Borehole/ Trial Pit	Depth (m)	Sample	Moisture Content %	Bulk Density (Mg/m³)	Dry Density (Mg/m³)	Cell Pressure (kN/m²)	Deviator Stress (kN/m²)	Apparent Cohesion (kN/m²)	Angle of Shearing Resistance (degrees)	Laboratory Description
BH1	7.50	U	13	2.17	1.92	150 200 250	197 203 208	101	0.0	Stiff dark brown slightly gravelly slightly sandy CLAY. Gravel is subangular to subrounded fine to coarse sandstone, mudstone, coal and quartz
BH2	3.00	U	29	2.10	1.63	75 125 175	56 59 60	29	0.0	Soft dark greyish brown slightly sandy very silty CLAY
BH2	5.00	U	26							Soft thinly laminated dark greyish brown slightly sandy very silty CLAY interbedded with clayey silt
BH3	3.00	U	27	2.15	1.67	75 125 175	59 62 62	31	0.0	Soft thinly laminated dark greyish brown slightly sandy very silty CLAY
BH3	5.00	U#	24	2.03	1.57			35		Dark greyish brown very clayey sandy SILT
BH3	7.50	U	20							Greyish brown very clayey sandy SILT
BH4	2.00	U	27	2.12	1.67	50 100 150	43 46 46	23	0.0	Soft thinly laminated dark greyish brown slightly sandy very silty CLAY. Occasional gravel is angular to rounded fine to coarse sandstone, quartz, mudstone and siltstone
BH4	4.00	U	28	2.02	1.57	100 150 200	32 34 35	17	0.0	Soft thinly laminated dark greyish brown slightly sandy very silty CLAY
BH4	6.50	U	14	2.20	1.92	150 200 250	69 71 72	35	0.0	Very stiff dark brown and dark reddish brown mottled slightly gravelly slightly sandy CLAY. Gravel is angular to subrounded fine to coarse sandstone, mudstone and quartz
BH5	4.00	U#	30					25		Soft dark greyish brown slightly sandy clayey SILT
BH5	6.50	U	25	2.08	1.65	150 200 250	62 64 0	32	0.0	Soft thinly laminated dark greyish brown slightly sandy very silty CLAY
Method of Preparation : BS 1377:PART 1:1990:7.4.2 Moisture content 1990: Preparation of undisturbed samples for testing BS 1377:PART 2:1990:7.2										
Method of Test : BS 1377:PART 2:1990:3 Determination of moisture content 1990:7 Determination of density BS 1377:PART 7:1990:8 Undrained shear strength 1990:9 Multistage loading										
Remarks : # Hand Penetrometer test only										



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3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907

Laboratory Test Results

Site : LAND OFF FLETCHER FOLD ROAD, BURY, GREATER MANCHESTER, BL9 9RX

Client : R. P. TYSON CONSTRUCTION LIMITED

Engineer : CARLEY DAINES AND PARTNERS LIMITED

Job Number

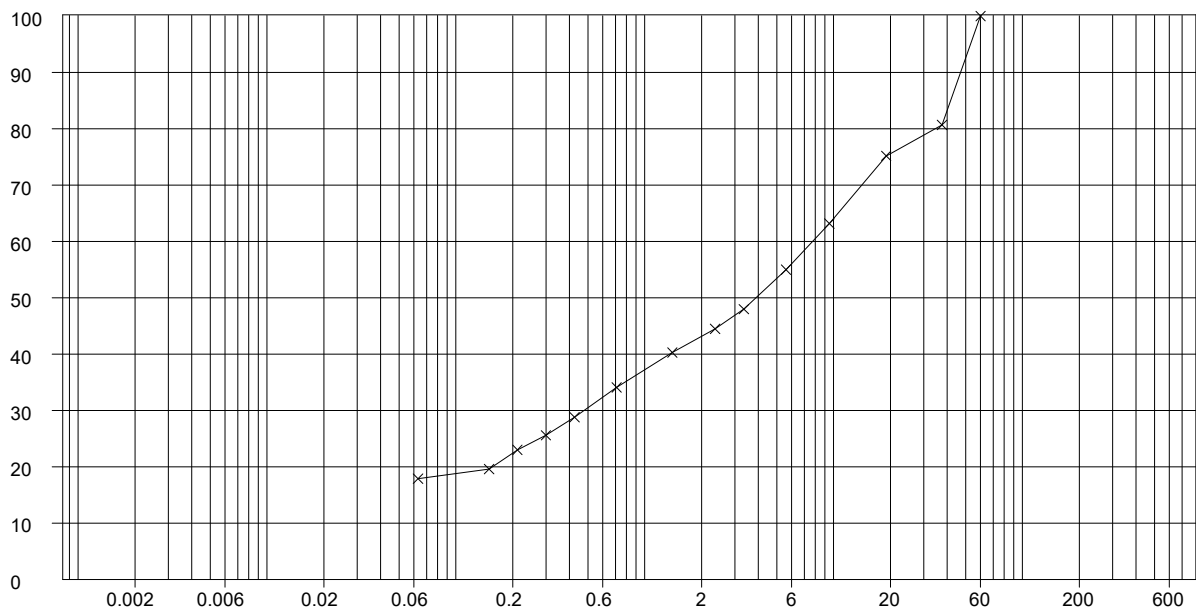
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Sheet

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DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Trial Pit	Depth (m)	Sample	Laboratory Description
BH1	1.20 - 1.65	B	Brown very sandy clayey subangular to rounded fine to coarse sandstone and quartz GRAVEL



Sieve / Particle Size	% Passing
60 mm	100.0
37.5 mm	80.7
19 mm	75.2
9.5 mm	63.2
5.6 mm	55.0
3.35 mm	48.0
2.36 mm	44.5
1.4 mm	40.3
710 µm	34.1
425 µm	28.8
300 µm	25.6
212 µm	23.0
150 µm	19.6
63 µm	17.9

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Grading Analysis	
D85	42.5 mm
D60	8.0 mm
D10	<63.0 µm
Uniformity Coefficient	-

Particle Proportions	
Cobbles + Boulders	-
Gravel	56.8%
Sand	25.3%
Silt/Clay	17.9%

Method of Preparation : BS 1377:PART 1:1990:7.3 Initial preparation 1990:7.4.5 Particle size tests

Method of Test : BS 1377:PART 2:1990:9 Determination of particle size distribution

Remarks :



SUB SURFACE

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Laboratory Test Results

Site : LAND OFF FLETCHER FOLD ROAD, BURY, GREATER MANCHESTER, BL9 9RX

Client : R. P. TYSON CONSTRUCTION LIMITED

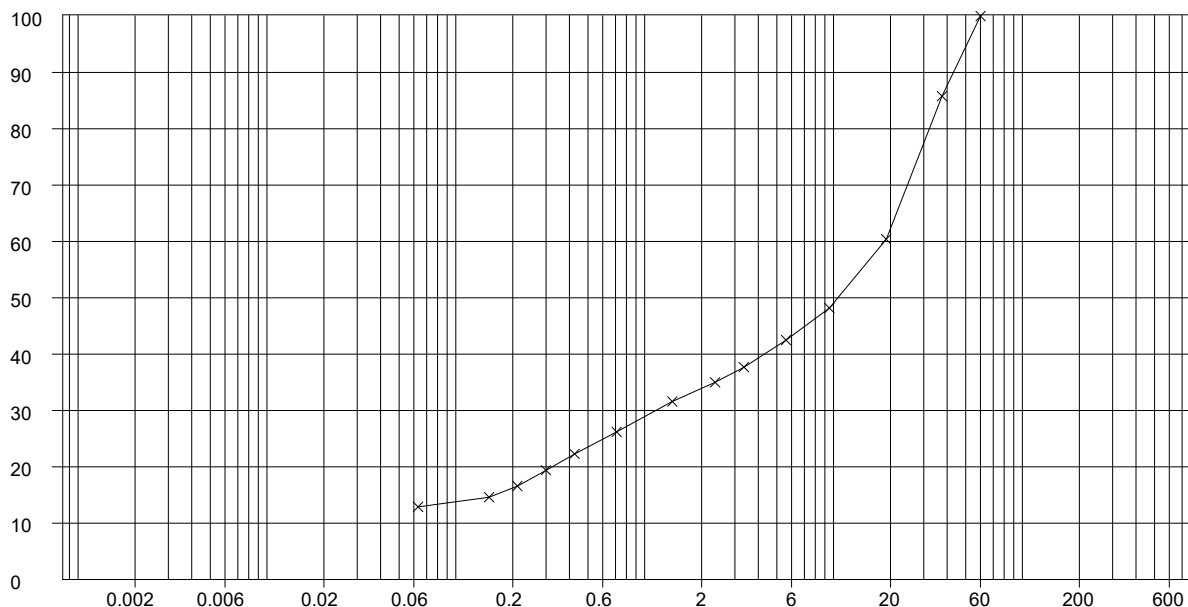
Engineer : CARLEY DAINES AND PARTNERS LIMITED

Job Number
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Sheet
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DETERMINATION OF PARTICLE SIZE DISTRIBUTION

Borehole / Trial Pit	Depth (m)	Sample	Laboratory Description
BH5	1.20 - 1.65	B	Dark brown very sandy clayey subangular to rounded fine to coarse sandstone, quartz and mudstone GRAVEL



Sieve / Particle Size	% Passing
60 mm	100.0
37.5 mm	85.8
19 mm	60.4
9.5 mm	48.2
5.6 mm	42.5
3.35 mm	37.7
2.36 mm	35.0
1.4 mm	31.6
710 µm	26.2
425 µm	22.3
300 µm	19.4
212 µm	16.6
150 µm	14.6
63 µm	12.9

CLAY	Fine	Medium	Coarse	Fine	Medium	Coarse	Fine	Medium	Coarse	COBBLES	BOULDERS
	SILT			SAND			GRAVEL				

Grading Analysis	
D85	36.9 mm
D60	18.7 mm
D10	<63.0 µm
Uniformity Coefficient	-

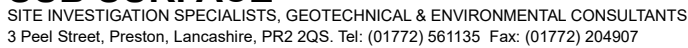
Particle Proportions	
Cobbles + Boulders	-
Gravel	66.1%
Sand	21.0%
Silt/Clay	12.9%

Method of Preparation : BS 1377:PART 1:1990:7.3 Initial preparation 1990:7.4.5 Particle size tests

Method of Test : BS 1377:PART 2:1990:9 Determination of particle size distribution

Remarks :

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Site : LAND OFF FLETCHER FOLD ROAD, BURY, GREATER MANCHESTER, BL9 9RX Client : R. P. TYSON CONSTRUCTION LIMITED Engineer: CARLEY DAINES AND PARTNERS LIMITED													Job Number 8123	
													Sheet 1 / 2	
DETERMINATION OF pH, SULPHATE CONTENT AND TOTAL SULPHUR OF SOIL AND GROUNDWATER AND MAGNESIUM, CHLORIDE, AMMONIA AND NITRATE CONTENT														
Borehole/ Trial Pit	Depth (m)	Sample	Concentration of Sulphate			Total Sulphur %	Magnesium mg/l	Ammonium NH4 mg/l	Water Soluble Chloride mg/l	Water Soluble Nitrate mg/l	pH	Design Class	Laboratory Description	
			Soil		Ground Water g /l									
			Total S03 %	S04 in 2:1 water:soil g /l										
BH1	0.50	B		0.13							8.1	DS-1	MADE GROUND: brown very sandy clayey fine to coarse gravel sized fragments of stone and brick with some rootlets, occasional cobble sized fragments of brick and occasional pockets of clay	
BH1	4.00	D		0.04							8.7	DS-1	Soft to firm dark greyish brown slightly sandy silty CLAY	
BH1	13.10	D	0.05	0.05		0.0600	< 10	< 10	7.00	< 1.0	8.4	DS-1	Very stiff dark brown and occasional dark reddish brown mottled slightly gravelly slightly sandy CLAY. Gravel is angular to rounded fine to coarse sandstone, mudstone, quartz and coal	
BH2	1.20	B		0.02							7.9	DS-1	MADE GROUND: dark greyish brown very clayey sandy fine to coarse gravel sized fragments of stone and brick with occasional cobble sized fragments of stone and occasional pockets of clay	
BH2	6.50	B		0.03							7.2	DS-1	Firm to stiff dark brown and occasional dark reddish brown mottled slightly gravelly slightly sandy CLAY. Gravel is angular to subrounded fine to medium sandstone, quartz and mudstone	
BH2	15.50	D	0.01	0.02		< 0.01	< 10	< 10	3.70	< 1.0	8.6	DS-1	Extremely weak very thinly bedded grey and dark reddish brown highly to completely weathered MUDSTONE	
BH3	4.00	D		0.04							8.6	DS-1	Soft dark brown clayey SILT	
BH3	9.00	D		0.05							8.7	DS-1	Very stiff dark brown and occasional dark reddish brown mottled slightly gravelly slightly sandy CLAY. Gravel is subangular to rounded fine to coarse sandstone, mudstone, quartz and siltstone	
BH3	14.70	D	0.09	0.02		0.02	< 10	< 10	18.00	< 1.0	8.5	DS-1	Extremely weak very thinly bedded dark reddish brown highly to completely weathered MUDSTONE with thin bands of siltstone	
BH4	0.60	B		0.28							7.5	DS-1	MADE GROUND: soft brown slightly gravelly sandy clay. Gravel sized fragments are fine to coarse stone and brick with occasional cobble sized fragments of stone and occasional pockets of sand	
BH4	8.00	D		0.05							8.4	DS-1	Very stiff dark brown and dark reddish brown mottled slightly gravelly slightly sandy CLAY. Gravel is angular to subrounded fine to coarse sandstone, mudstone and quartz	
BH4	13.50	B	0.01	0.02		< 0.01	< 10	< 10	5.00	< 1.0	7.2	DS-1	Extremely weak very thinly bedded dark reddish brown highly to completely weathered MUDSTONE	
BH5	1.20	B		0.08							7.2	DS-1	Dark brown very sandy clayey subangular to rounded fine to coarse sandstone, quartz and mudstone GRAVEL	
Method of Preparation : BS 1377:PART 1:1990:7.5 Preparation of soil for chemical tests BS 1377:PART 3:1990:5.2, 5.3, 5.4 & 9.4														
Method of Test : Lab in-house methods based on BS1377: Part 3 for contents of water sol sulphate, pH, chloride and magnesium. Lab in-house method based on MEWAM (EA, 2006) for total sulphur														
Remarks : Classification relates to Design Sulphate Class of BRE Special Digest 1 (2005)														



Site : LAND OFF FLETCHER FOLD ROAD, BURY, GREATER MANCHESTER, BL9 9RX Client : R. P. TYSON CONSTRUCTION LIMITED Engineer : CARLEY DAINES AND PARTNERS LIMITED	Job Number 8123
	Sheet 2 / 2

Borehole/ Trial Pit	Depth (m)	Sample	Concentration of Sulphate			Total Sulphur %	Magnesium mg/l	Ammonium NH4 mg/l	Water Soluble Chloride mg/l	Water Soluble Nitrate mg/l	pH	Design Class	Laboratory Description
			Soil		Ground Water g /l								
			Total S03 %	S04 in 2:1 water:soil g /l									
BH5	5.00	D		0.05							7.8	DS-1	Soft dark greyish brown slightly sandy clayey SILT
BH5	14.70	D	0.01	0.01		< 0.01	< 10	< 10	4.80	< 1.0	8.0	DS-1	Extremeley weak very thinly bedded dark reddish brown highly to completely weathered MUDSTONE

Remarks	: Classification relates to Design Sulphate Class of BRE Special Digest 1 (2005)
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**SUB SURFACE**

SITE INVESTIGATION AND SPECIALIST GEOTECHNICAL CONSULTANTS
3 Peel Street, Preston, PR2 2QS. Tel. (01772) 561135 Fax (01772) 204907

BRE Special Digest 1

AGGRESSIVE CHEMICAL ENVIRONMENT FOR CONCRETE (ACEC) SITE CLASSIFICATION.**Table C1 Aggressive Chemical Environment for Concrete (ACEC) classification for natural ground locations ^a**

Sulfate Design Sulfate Class for location	2:1 water/soil extract ^b	Groundwater	Total potential sulfate ^c	Groundwater		ACEC Class for location
				Static water	Mobile water	
1	2 (SO ₄ mg/l)	3 (SO ₄ mg/l)	4 (SO ₄ %)	5 (pH)	6 (pH)	7
DS-1	< 500	< 400	< 0.24	≥ 2.5	> 5.5 ^d 2.5–5.5	AC-1s AC-1 ^d AC-2z
DS-2	500–1500	400–1400	0.24–0.6	> 3.5 2.5–3.5	> 5.5 2.5–5.5	AC-1s AC-2 AC-2s AC-3z
DS-3	1600–3000	1500–3000	0.7–1.2	> 3.5 2.5–3.5	> 5.5 2.5–5.5	AC-2s AC-3 AC-3s AC-4
DS-4	3100–6000	3100–6000	1.3–2.4	> 3.5 2.5–3.5	> 5.5 2.5–5.5	AC-3s AC-4 AC-4s AC-5
DS-5	> 6000	> 6000	> 2.4	> 3.5 2.5–3.5	≥ 2.5	AC-4s AC-5

Notes

- a** Applies to locations on sites that comprise either undisturbed ground that is in its natural state (ie is not brownfield – Table C2) or clean fill derived from such ground.
b The limits of Design Sulfate Classes based on 2:1 water/soil extracts have been lowered relative to previous Digests (Box C7).
c Applies only to locations where concrete will be exposed to sulfate ions (SO₄) which may result from the oxidation of sulfides (eg pyrite) following ground disturbance (Appendix A1 and Box C8).
d For flowing water that is potentially aggressive to concrete owing to high purity or an aggressive carbon dioxide level greater than 15 mg/l (Section C2.2.3), increase the ACEC Class to AC-2z.

Explanation of suffix symbols to ACEC Class

- Suffix 's' indicates that the water has been classified as static.
- Concrete placed in ACEC Classes that include the suffix 'z' primarily have to resist acid conditions and may be made with any of the cements or combinations listed in Table D2 on page 42.

Table C2 Aggressive Chemical Environment for Concrete (ACEC) classification for brownfield locations ^a

Sulfate and magnesium					Groundwater			ACEC
Design Sulfate Class for location	2:1 water/soil extract ^b		Groundwater		Total potential sulfate ^c	Static water	Mobile water	Class for location
1	2 (SO ₄ mg/l)	3 (Mg mg/l)	4 (SO ₄ mg/l)	5 (Mg mg/l)	6 (SO ₄ %)	7 (pH) ^d	8 (pH) ^d	9
DS-1	< 500		< 400		< 0.24	≥ 2.5	> 6.5 ^d 5.5–6.5 4.5–5.5 2.5–4.5	AC-1s AC-1 AC-2z AC-3z AC-4z
DS-2	500–1500		400–1400		0.24–0.6	> 5.5 2.5–5.5	> 6.5 5.5–6.5 4.5–5.5 2.5–4.5	AC-1s AC-2 AC-2s AC-3z AC-4z AC-5z
DS-3	1600–3000		1500–3000		0.7–1.2	> 5.5 2.5–5.5	> 6.5 5.5–6.5 2.5–5.5	AC-2s AC-3 AC-3s AC-4 AC-5
DS-4	3100–6000	≤ 1200	3100–6000	≤ 1000	1.3–2.4	> 5.5 2.5–5.5	> 6.5 2.5–6.5	AC-3s AC-4 AC-4s AC-5
DS-4m	3100–6000	> 1200 ^e	3100–6000	> 1000 ^e	1.3–2.4	> 5.5 2.5–5.5	> 6.5 2.5–6.5	AC-3s AC-4m AC-4ms AC-5m
DS-5	> 6000	≤ 1200	> 6000	≤ 1000	> 2.4	> 5.5 2.5–5.5	≥ 2.5	AC-4s AC-5
DS-5m	> 6000	> 1200 ^e	> 6000	> 1000 ^e	> 2.4	> 5.5 2.5–5.5	≥ 2.5	AC-4ms AC-5m

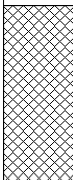
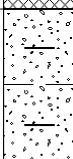
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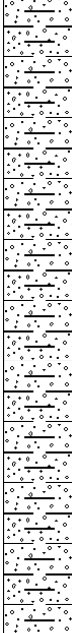
- a** Brownfield locations are those sites, or parts of sites, that might contain chemical residues produced by or associated with industrial production (Section C5.1.3).
b The limits of Design Sulfate Classes based on 2:1 water/soil extracts have been lowered from previous Digests (Box C7).
c Applies only to locations where concrete will be exposed to sulfate ions (SO₄), which may result from the oxidation of sulfides such as pyrite, following ground disturbance (Appendix A1 and Box C8).
d An additional account is taken of hydrochloric and nitric acids by adjustment to sulfate content (Section C5.1.3).
e The limit on water-soluble magnesium does not apply to brackish groundwater (chloride content between 12 000 mg/l and 17 000 mg/l). This allows 'm' to be omitted from the relevant ACEC classification. Seawater (chloride content about 18 000 mg/l) and stronger brines are not covered by this table.

Explanation of suffix symbols to ACEC Class

- Suffix 's' indicates that the water has been classified as static.
- Concrete placed in ACEC Classes that include the suffix 'z' have primarily to resist acid conditions and may be made with any of the cements in Table D2 on page 42.
- Suffix 'm' relates to the higher levels of magnesium in Design Sulfate Classes 4 and 5.

BOREHOLE RECORD SHEETS

SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907							Site LAND OFF FLETCHER FOLD ROAD, BURY, GREATER MANCHESTER, BL9 9RX		Borehole Number BH1		
Boring Method CABLE PERCUSSIVE		Casing Diameter 150mm cased to 9.00m			Ground Level (mOD)		Client R. P. TYSON CONSTRUCTION LIMITED			Job Number 8123	
		Location AS PLAN			Dates 24/02/2025		Engineer CARLEY DAINES AND PARTNERS LIMITED			Sheet 1/2	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description			Legend	Water
0.00-0.40	B						MADE GROUND: brown very sandy clayey fine to coarse gravel sized fragments of stone and brick with some rootlets, occasional cobble sized fragments of brick, and occasional pockets of clay.				
0.50-1.00	B					(1.20)					
1.20-1.65 1.20-1.65	SPT(C) N=6 B			1,1/1,2,1,2 Water inflow(1) at 1.40m, rose to 1.00m in 20 mins, sealed at 2.50m.		1.20 (1.00)	Loose brown very sandy clayey subangular to rounded fine to coarse sandstone and quartz GRAVEL.				
2.00-2.45 2.30-2.80	SPT(C) N=3 B			1,2/1,1,0,1		2.20					
3.00-3.45 3.00-3.45	B U NR						Very soft very low strength to soft low strength becoming soft to firm medium strength dark greyish brown slightly sandy silty CLAY with some bands of clayey silt and occasional gravel. Gravel is subangular to rounded fine to coarse sandstone, mudstone and coal, with occasional cobble sized fragments of sandstone.				
4.00-4.45 4.00-4.45 4.00-4.45	SPT N=10 B D			1,3/4,1,2,3		(4.30)	...below 4.00m : soft to firm medium strength.				
5.00-5.45 5.00-5.45	B U NR						Stiff high strength dark brown slightly gravelly slightly sandy CLAY with occasional pockets of sandy silt. Gravel is subangular to subrounded fine to coarse sandstone, mudstone, coal and quartz.				
6.00-6.45 6.00-6.45	SPT N=10 D			1,2/3,2,2,3		6.50					
6.50-7.00	B										
7.50-7.95	U c=101kPa										
8.00	D					(3.50)					
9.00-9.45 9.00-9.45 9.00-9.45	SPT N=34 B D			2,5/7,8,8,11							
10.00-10.45	SPT N=38			3,5/7,9,10,12							
Remarks Hand dug inspection pit from GL to 1.20m to check for services - 1 hr NR = No recovery Chiselling 13.40m to 13.80m - 1 hr Backfilled with arisings							Scale (approx) 1:50		Logged By LMB/HB		
							Figure No. 8123.BH1				

S S SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907						Site LAND OFF FLETCHER FOLD ROAD, BURY, GREATER MANCHESTER, BL9 9RX		Borehole Number BH1		
Boring Method CABLE PERCUSSIVE		Casing Diameter 150mm cased to 9.00m			Ground Level (mOD)		Client R. P. TYSON CONSTRUCTION LIMITED		Job Number 8123	
		Location AS PLAN			Dates 24/02/2025		Engineer CARLEY DAINES AND PARTNERS LIMITED		Sheet 2/2	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
10.00-10.45	D					10.00	Very stiff very high strength dark brown and occasional dark reddish brown mottled slightly gravelly slightly sandy CLAY. Gravel is angular to rounded fine to coarse sandstone, mudstone, quartz and coal.			
11.50-11.93 11.50-11.93 11.50-12.00	SPT 51/275 D D			6,7/9,12,14,16		(4.23)				
13.10-13.35 13.10-13.35 13.40-13.80 13.40-13.80	SPT 50/95 D SPT 50/250 B			10,11/15,35 6,8/9,12,12,17						
13.80-14.23 13.80-14.23	SPT 50/275 B			7,10/14,14,14,8						
				24/02/2025:DRY		14.23				
							Complete at 14.23m			
Remarks								Scale (approx) 1:50	Logged By LMB/HB	
								Figure No. 8123.BH1		

SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907						Site LAND OFF FLETCHER FOLD ROAD, BURY, GREATER MANCHESTER, BL9 9RX		Borehole Number BH2	
Boring Method CABLE PERCUSSIVE		Casing Diameter 150mm cased to 10.50m		Ground Level (mOD)		Client R. P. TYSON CONSTRUCTION LIMITED		Job Number 8123	
		Location AS PLAN		Dates 25/02/2025		Engineer CARLEY DAINES AND PARTNERS LIMITED		Sheet 1/2	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.40	B					(0.40)	MADE GROUND: dark brown very clayey fine to coarse sand and fine to coarse gravel sized fragments of stone, brick and clinker.		
0.50-1.00	B					(0.60)	MADE GROUND: stiff greyish brown and yellowish brown mottled slightly gravelly slightly sandy clay with occasional pockets of sand. Gravel sized fragments are fine to coarse stone.		▼1
1.20-1.65	B			Water inflow(1) at 1.20m, rose to 0.90m in 20 mins, sealed at 2.20m. 1,1/1,2,2,2		(1.20)	MADE GROUND: dark greyish brown very clayey sandy fine to coarse gravel sized fragments of stone and brick with occasional cobble sized fragments of stone and occasional pockets of clay.		▼1
1.20-1.65	SPT(C) N=7								
2.00-2.45	SPT(C) N=4			1,3/1,1,1,1		2.20			
2.40-2.90	B						Very soft to soft low strength thinly laminated dark greyish brown slightly sandy very silty CLAY interbedded with clayey silt. Occasional gravel is angular to subrounded fine to medium sandstone.		
3.00-3.45	U c=29kPa								
3.50	D								
4.00-4.45	SPT N=7			1,2/2,2,2,1		(4.25)			
4.00-4.45	B								
4.00-4.45	D								
5.00-5.45	U NTP								
5.50	D								
6.00-6.45	SPT N=5			1,2/1,1,2,1		6.45			
6.00-6.45	D								
6.50-7.00	B					(1.95)	Firm to stiff medium strength dark brown and occasional dark reddish brown mottled slightly gravelly slightly sandy CLAY. Gravel is angular to subrounded fine to medium sandstone, quartz, and mudstone.		
7.50-7.95	SPT N=12			1,2/3,3,3,3		8.40			
7.50-7.95	B								
7.50-7.95	D								
9.00-9.45	B						Very stiff very high strength dark brown and occasional dark reddish brown mottled slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse mudstone, sandstone and coal.		▼2
9.00-9.45	U NR								
Remarks Hand dug inspection pit from GL to 1.20m to check for services - 1 hr NTP = No test possible NR = No recovery Chiselling from 15.00m to 16.00m - 1 hr Backfilled with arisings								Scale (approx) 1:50	Logged By LMB/HB
								Figure No. 8123.BH2	

S S SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907 Site LAND OFF FLETCHER FOLD ROAD, BURY, GREATER MANCHESTER, BL9 9RX Borehole Number BH2									
Boring Method CABLE PERCUSSIVE		Casing Diameter 150mm cased to 10.50m		Ground Level (mOD)		Client R. P. TYSON CONSTRUCTION LIMITED		Job Number 8123	
		Location AS PLAN		Dates 25/02/2025		Engineer CARLEY DAINES AND PARTNERS LIMITED		Sheet 2/2	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
10.50-10.90 10.50-10.95 10.50-10.90	D B SPT 50/245			Water inflow(2) at 10.30m, rose to 9.80m in 20 mins, sealed at 10.50m. 4,5/12,12,16,10		(6.20)	Very stiff very high strength dark brown and occasional dark reddish brown mottled slightly gravelly CLAY. Gravel is subangular to subrounded fine to coarse mudstone, sandstone and coal.	</	

SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907						Site LAND OFF FLETCHER FOLD ROAD, BURY, GREATER MANCHESTER, BL9 9RX		Borehole Number BH3	
Boring Method CABLE PERCUSSIVE		Casing Diameter 150mm cased to 9.00m		Ground Level (mOD)		Client R. P. TYSON CONSTRUCTION LIMITED		Job Number 8123	
		Location AS PLAN		Dates 27/02/2025		Engineer CARLEY DAINES AND PARTNERS LIMITED		Sheet 1/2	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.60	B					(0.60)	MADE GROUND: brown very clayey fine to coarse sand and fine to coarse gravel sized fragments of stone and brick with occasional cobble sized fragments of stone.		
0.60-1.20	B					0.60	MADE GROUND: firm brown gravelly slightly sandy clay. Gravel sized fragments are fine to coarse stone and brick.		
1.20-1.65 1.20-1.65	SPT(C) N=13 B			1,1/2,4,1,6		(1.50)			
2.00-2.45 2.20-2.70	SPT(C) N=4 B			1,1/1,1,1,1		2.10	Soft low strength thinly laminated dark greyish brown slightly sandy very silty CLAY interbedded with clayey silt.		
3.00-3.45	U c=31kPa								
3.50	D								
4.00-4.45 4.00-4.45 4.00-4.45	SPT N=9 B D			1,1/2,1,2,4					
5.00-5.45	U NTP			HP at 5.00m c=35kPa		(5.70)	...at 5.00m : band of dark greyish brown very clayey sandy SILT.		
5.50	D								
6.00-6.45 6.00-6.45 6.00-6.45	SPT N=8 B D			1,1/1,2,2,3					
7.50-7.95	U NTP						...at 7.50m : band of greyish brown very clayey sandy SILT.		
8.00	D					7.80	Very stiff very high strength dark brown and occasional dark reddish brown mottled slightly gravelly slightly sandy CLAY. Gravel is subangular to rounded fine to coarse sandstone, mudstone, quartz and siltstone.		
9.00-9.45 9.00-9.45 9.00-9.45	SPT N=39 B D			3,5/9,9,10,11					
Remarks Hand dug inspection pit from GL to 1.20m to check for services - 1 hr NTP = No test possible HP = Hand Penetrometer test Chiselling from 14.40m to 14.70m - 1 hr Backfilled with arisings							Scale (approx)	Logged By	
							1:50	LMB/HB	
							Figure No. 8123.BH3		



LAND OFF FLETCHER FOLD ROAD, BURY, GREATER
MANCHESTER, BL9 9RX

Legend	Water
--------	-------

Job Number
8122

Sheet
2/2

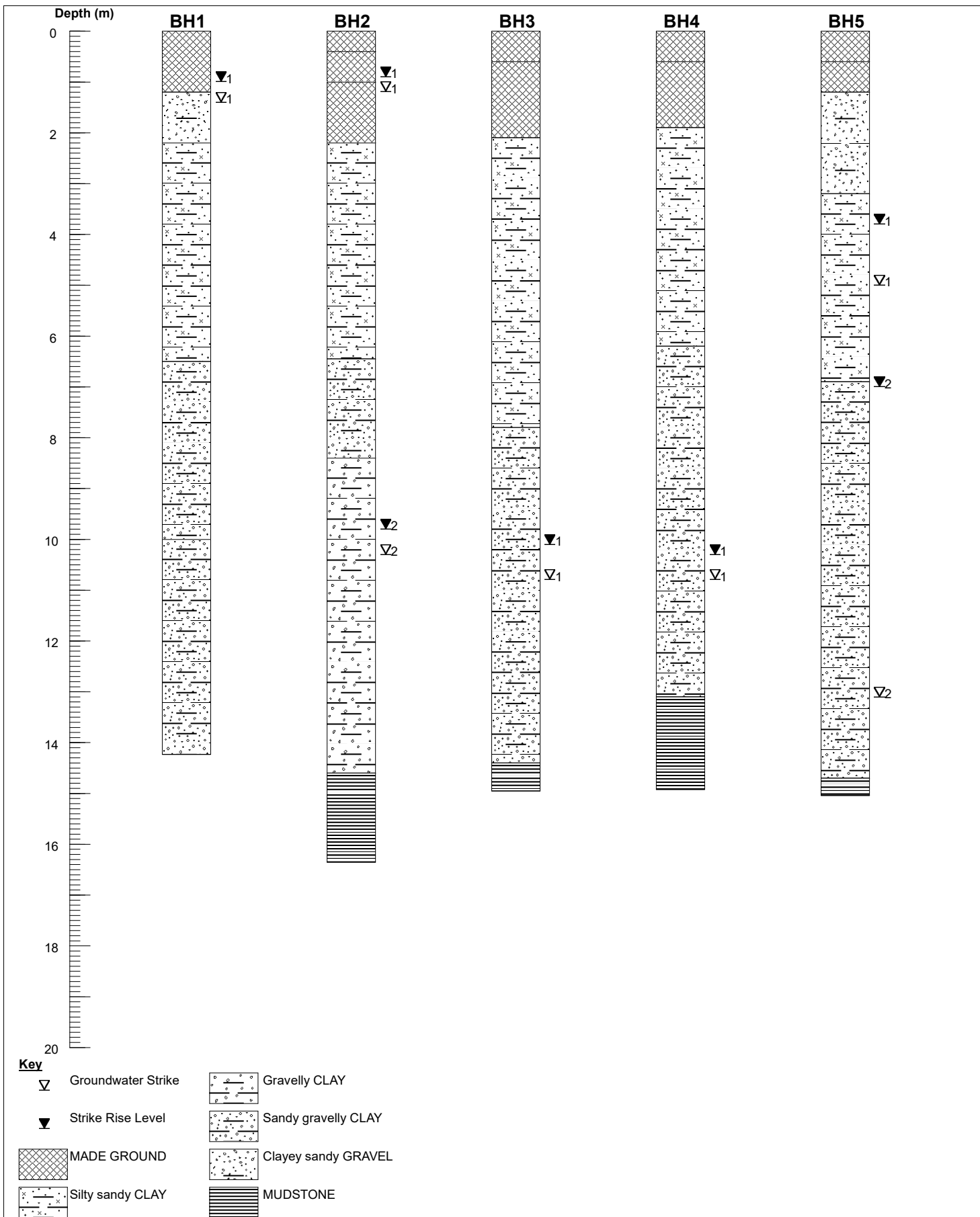
Figure No.
8123.BH3

SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907						Site LAND OFF FLETCHER FOLD ROAD, BURY, GREATER MANCHESTER, BL9 9RX		Borehole Number BH4		
Boring Method CABLE PERCUSSIVE		Casing Diameter 150mm cased to 9.00m			Ground Level (mOD)		Client R. P. TYSON CONSTRUCTION LIMITED		Job Number 8123	
		Location AS PLAN			Dates 25/02/2025		Engineer CARLEY DAINES AND PARTNERS LIMITED		Sheet 1/2	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
0.00-0.60	B					(0.60)	MADE GROUND: brown very clayey fine to coarse sand and fine to coarse gravel sized fragments of stone and brick with occasional cobble sized fragments of stone.			
0.60-1.20	B					0.60	MADE GROUND: soft brown slightly gravelly sandy clay. Gravel sized fragments are fine to coarse stone and brick with occasional cobble sized fragments of stone and occasional pockets of sand.			
1.20-1.65 1.20-1.65	SPT(C) N=4 B			1,1/1,1,1,1		(1.30)				
2.00-2.45	U c= 23kPa					1.90	Soft low strength locally very low strength thinly laminated dark greyish brown slightly sandy very silty CLAY with occasional bands of clayey silt. Occasional gravel is angular to rounded fine to coarse sandstone, quartz, mudstone and siltstone.			
2.50	D									
3.00-3.45 3.00-3.45 3.00-3.45	SPT N=6 B D			1,2/1,2,1,2						
4.00-4.45	U c=17kPa					(4.30)				
4.50	D						...at 4.00m: very low strength			
5.00-5.45 5.00-5.45 5.00-5.45	SPT N=9 B D			1,2/1,2,2,4						
6.50-6.95	U c=35kPa					6.20	Very stiff very high strength dark brown and dark reddish brown mottled slightly gravelly slightly sandy CLAY. Gravel is angular to subrounded fine to coarse sandstone, mudstone, and quartz.			
7.00	D									
8.00-8.45 8.00-8.45 8.00-8.45	SPT N=38 B D			4,8/8,9,10,11						
9.50-9.95 9.50-9.95 9.50-9.95	SPT N=46 B D			5,9/10,11,12,13		(6.90)				
Remarks Hand dug inspection pit from GL to 1.20m to check for services - 1 hr Chiselling from 14.30m to 14.70m - 1 hr Backfilled with arisings								Scale (approx) 1:50	Logged By LMB/HB	
								Figure No. 8123.BH4		

S S SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907 Site LAND OFF FLETCHER FOLD ROAD, BURY, GREATER MANCHESTER, BL9 9RX Borehole Number BH4									
Boring Method CABLE PERCUSSIVE		Casing Diameter 150mm cased to 9.00m		Ground Level (mOD)		Client R. P. TYSON CONSTRUCTION LIMITED		Job Number 8123	
		Location AS PLAN		Dates 25/02/2025		Engineer CARLEY DAINES AND PARTNERS LIMITED		Sheet 2/2	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
11.00-11.45	B			Water inflow(1) at 10.80m, rose to 10.30m in 20 mins, sealed at 11.00m. 6,9/10,11,12,15			Very stiff very high strength dark brown and dark reddish brown mottled slightly gravelly slightly sandy CLAY. Gravel is angular to subrounded fine to coarse sandstone, mudstone, and quartz.		▼1
11.00-11.45	SPT N=48								
12.50-12.65	SPT 50/0 B			9,10/50			...at 12.50m: cobble		
12.50-12.65									
13.50-13.82	SPT(C) 50/170 B			10,11/15,21,14		13.10	Extremely weak very thinly bedded dark reddish brown highly to completely weathered MUDSTONE.		
13.50-13.82					(1.82)				
14.70-14.92	SPT 25*/125 50/95 D			14,11/41,9 25/02/2025:DAMP		14.92	Complete at 14.92m		
14.70-14.92									
Remarks								Scale (approx) 1:50	Logged By LMB/HB
								Figure No. 8123.BH4	

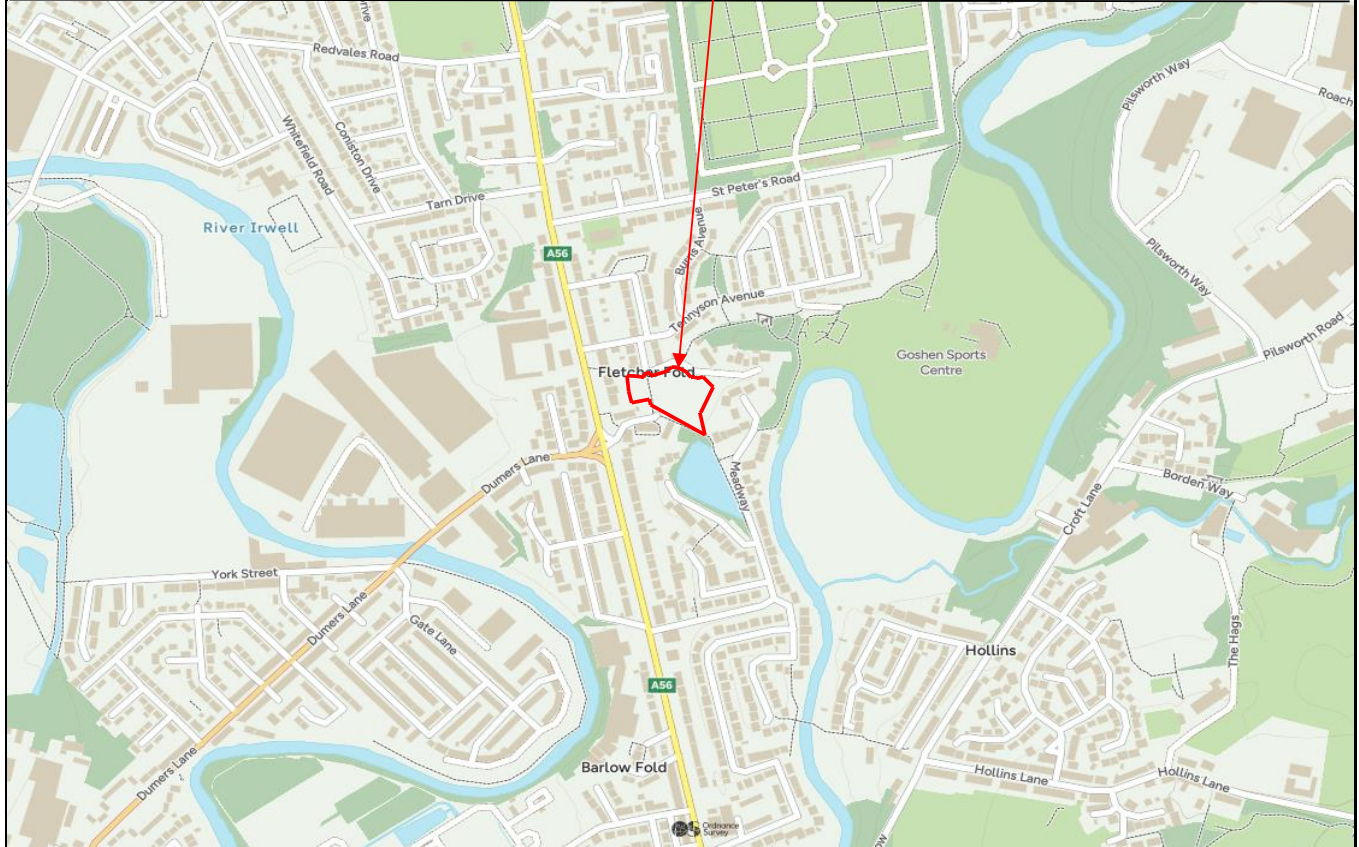
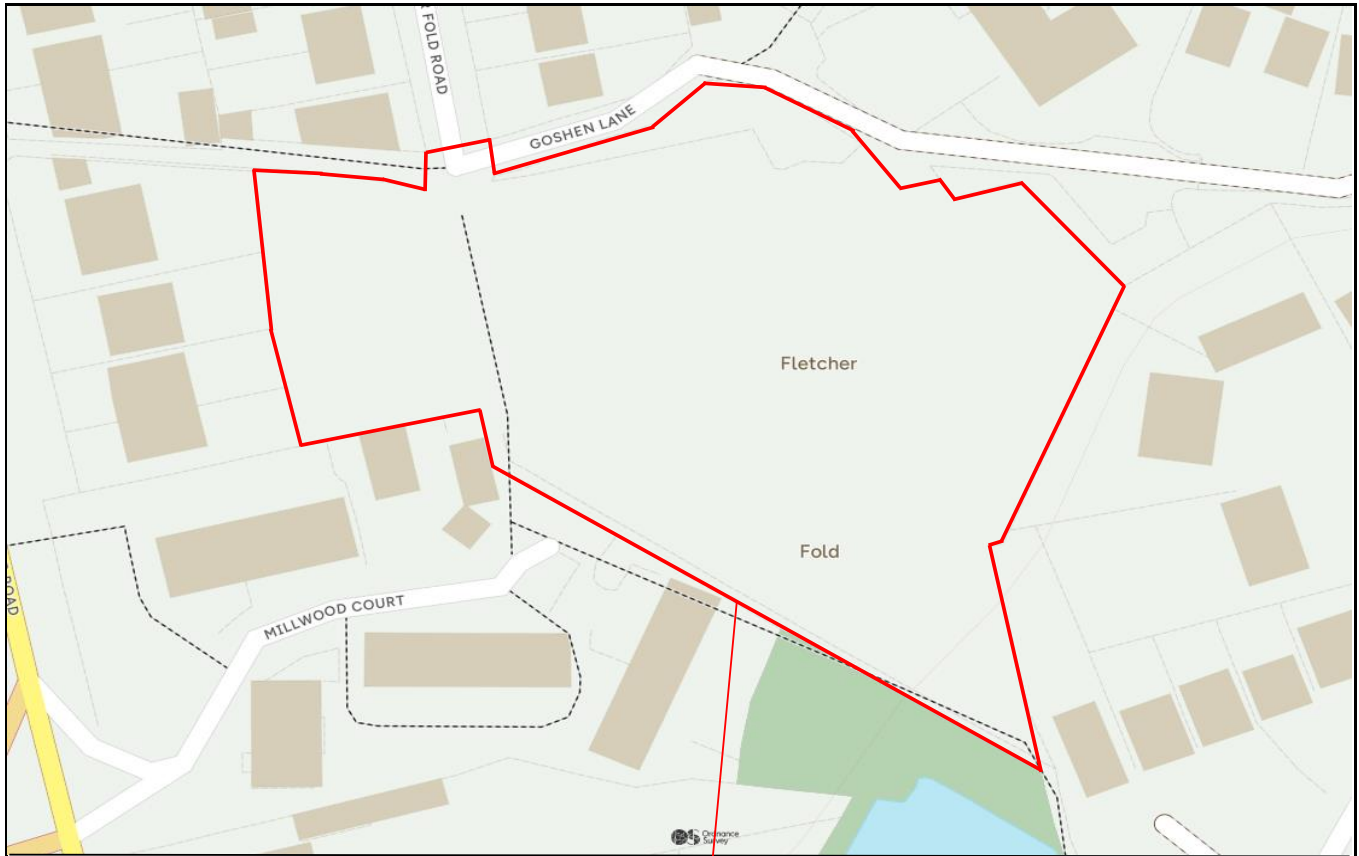
SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907						Site LAND OFF FLETCHER FOLD ROAD, BURY, GREATER MANCHESTER, BL9 9RX		Borehole Number BH5	
Boring Method CABLE PERCUSSIVE		Casing Diameter 150mm cased to 13.50m		Ground Level (mOD)		Client R. P. TYSON CONSTRUCTION LIMITED		Job Number 8123	
		Location AS PLAN		Dates 26/02/2025		Engineer CARLEY DAINES AND PARTNERS LIMITED		Sheet 1/2	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
0.00-0.60	B					(0.60)	MADE GROUND: dark brown very clayey fine to coarse sand and fine to coarse gravel sized fragments of stone and brick with occasional pockets of clay.		
0.60-1.20	B					0.60 (0.60)	MADE GROUND: dark reddish brown clayey fine to coarse sand and fine to coarse gravel sized fragments of stone and brick with occasional cobble sized fragments of brick.		
1.20-1.65 1.20-1.65	SPT(C) N=17 B			2,4/4,4,4,5		1.20	Medium dense dark brown very sandy clayey subangular to rounded fine to coarse sandstone, quartz and mudstone GRAVEL with occasional sandstone cobbles.		
2.00-2.45 2.00-2.45	SPT(C) N=21 B			1,2/6,4,4,7		(2.00)			
3.00-3.45 3.30-3.80	SPT(C) N=2 B			1,4/1,0,1,0		3.20	Soft extremely low strength becoming low strength thinly laminated dark greyish brown slightly sandy very silty CLAY interbedded with clayey silt. Occasional gravel is subangular to subrounded fine to medium sandstone, mudstone and coal.		▼1
4.00-4.45	U NTP			HP at 4.00m c=25kPa			...below 4.00m: low strength		
4.50	D								
5.00-5.45 5.00-5.45	B D			Water inflow(1) at 5.00m, rose to 3.80m in 20 mins, sealed at 7.00m. 1,2/2,1,2,2		(3.70)			▼1
5.00-5.45	SPT N=7								
6.50-6.95	U c=32kPa								
7.00	D					6.90	Stiff high strength becoming very stiff very high strength dark brown and dark reddish brown mottled slightly gravelly slightly sandy CLAY. Gravel is angular to subrounded fine to coarse sandstone, mudstone, quartz and coal.		▼2
8.00-8.45 8.00-8.45 8.00-8.45	SPT N=27 B D			2,4/5,6,7,9					
9.50-9.95 9.50-9.95	B U NTP								
Remarks Hand dug inspection pit from GL to 1.20m to check for services - 1 hr NTP = No test possible HP = Hand Penetrometer test Chiselling from 14.40m to 14.70m - 1 hr and 14.70m to 14.90m - 1 hr Backfilled with arisings							Scale (approx)	Logged By	
							1:50	LMB/HB	
							Figure No. 8123.BH5		

S S SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907					Site LAND OFF FLETCHER FOLD ROAD, BURY, GREATER MANCHESTER, BL9 9RX			Borehole Number BH5		
Boring Method CABLE PERCUSSIVE		Casing Diameter 150mm cased to 13.50m			Ground Level (mOD)		Client R. P. TYSON CONSTRUCTION LIMITED		Job Number 8123	
		Location AS PLAN			Dates 26/02/2025		Engineer CARLEY DAINES AND PARTNERS LIMITED		Sheet 2/2	
Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water	
11.00-11.45 11.00-11.45 11.00-11.45	SPT N=48 B D			4,9/10,12,13,13		(7.80)	...below 11.00m : very stiff very high strength.	                        	∇2	
12.50-12.95 12.50-12.95 12.50-12.95	SPT N=42 B D		7,8/9,10,11,12			                        				
13.80-14.25 13.80-14.25	SPT N=46 D		9,10/11,11,12,12			...below 14.20m : with occasional pockets of sandy clay.	    			
14.20-14.70	B									
14.70-15.01 14.70-15.01 14.90-15.04	SPT 50/160 D SPT 25*/125 50/10			4,9/16,19,15 16,9/50 26/02/2025:8.40m		14.70 (0.34) 15.04	Extremely weak very thinly bedded dark reddish brown highly to completely weathered MUDSTONE. Complete at 15.04m	                      		
Remarks								Scale (approx) 1:50	Logged By LMB/HB	
								Figure No. 8123.BH5		



S SUB SURFACE SITE INVESTIGATION SPECIALISTS, GEOTECHNICAL & ENVIRONMENTAL CONSULTANTS 3 Peel Street, Preston, Lancashire, PR2 2QS. Tel: (01772) 561135 Fax: (01772) 204907		Nominal Section		
Site LAND OFF FLETCHER FOLD ROAD, BURY, GREATER MANCHESTER, BL9 9RX	Date Drawn 28/03/2025	Date Checked	Sheet 1/1	Job Number 8123
Client R. P. TYSON CONSTRUCTION LIMITED	Drawn By	Checked By	Scale 1:100[V]	Figure No. 8123

FIGURES



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 SUB SURFACE SITE INVESTIGATION AND SPECIALIST GEOTECHNICAL CONSULTANTS 3 Peel Street, Preston, PR2 2QS. Tel. (01772) 561135 Fax (01772) 204907	General Site Location			
Site LAND OFF FLETCHER FOLD ROAD, BURY, GREATER MANCHESTER, BL9 9RX	Date Drawn 21-Mar-25	Date Checked	Orientation 	Job No. 8123
Client R. P. TYSON CONSTRUCTION LIMITED	Drawn By LMB	Checked By	Scale —	Figure No. 1

Notes
The Contractor is to check all dimensions and conditions on site before commencing. Do not scale from this drawing.
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Scale Bars		TO BE USED ONLY AS GUIDANCE			
1:100	mm	1000	2000	3000	4000
1:200	mm	5000	10000	15000	20000
1:500	M	5	10	15	20
1:1250	M	10	20	30	40

NOTES

- Site boundary
- - - Site ownership boundary

For the topographical information refer to drawing S23-0937 produced by Survey Operations/JPL Surveys

For the Arboricultural information refer to X10188.01.001 for the tree survey data and D10188.01.001 for the tree constraints plan both produced by The Environmental Partnership

P02	Revised site boundary to site ownership boundary and unadopted highway	BAP	08/02/24
-----	--	-----	----------

P01	Issued for Pre-App planning advice	EM	19/01/24
Rev	Description	By	Date

ARCON HOUSING ASSOCIATION (BOLTON AT HOME)

FLETCHER FOLD ROAD, BURY

PLANNING - SITE LOCATION PLAN

6071_1100 Rev P02

6071-POZ-00-ZZ-DR-A-1100

19/01/24 Scale 1:1250 @ A3

EM EM JW

Planning Tender Construction

Design Contract As Built

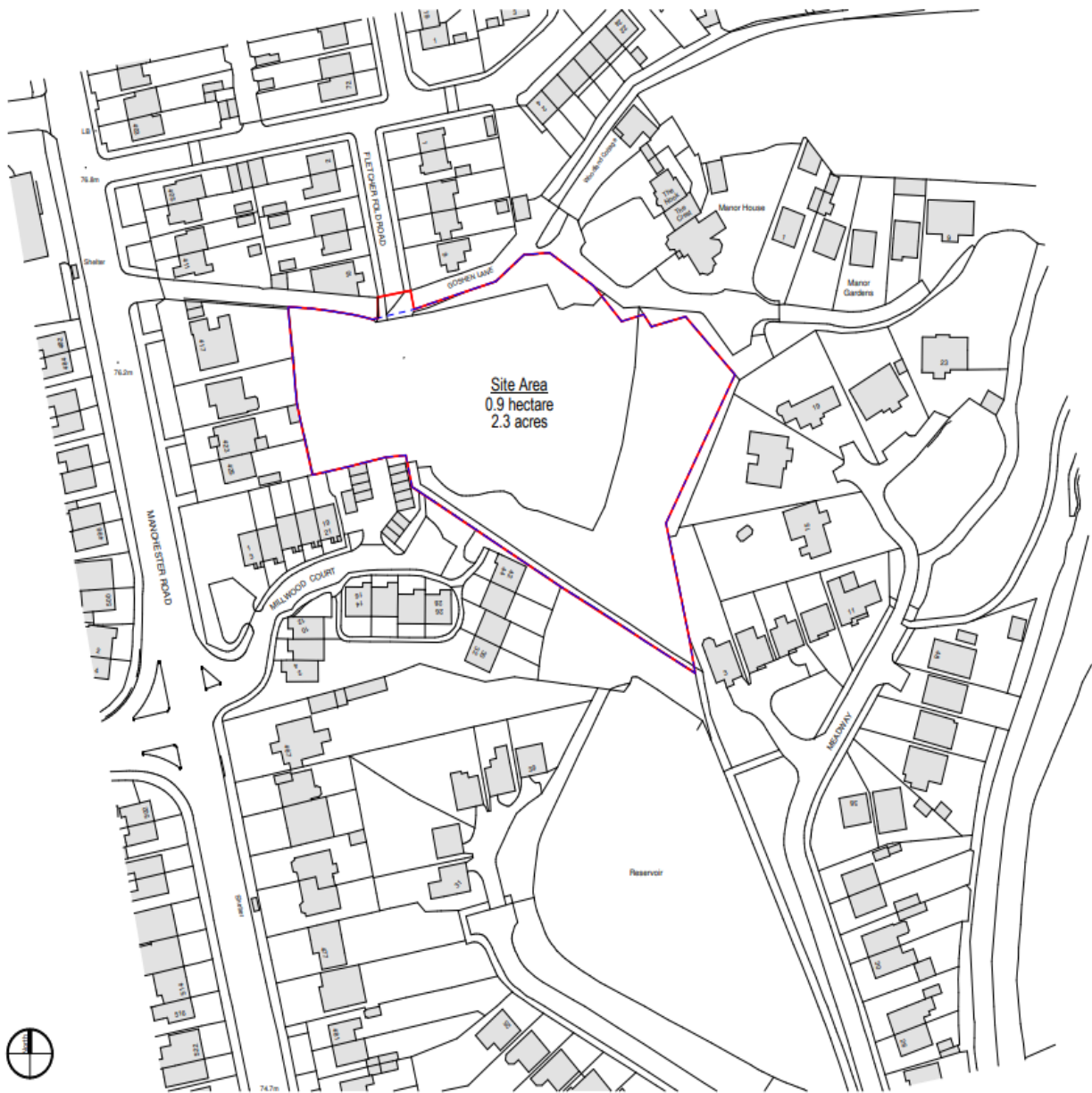
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SITE LOCATION PLAN

1:1250



SUB SURFACE

SITE INVESTIGATION AND SPECIALIST GEOTECHNICAL CONSULTANTS
3 Peel Street, Preston, PR2 2OS. Tel. (01772) 561135 Fax (01772) 204907

Site Location

LAND OFF FLETCHER FOLD ROAD, BURY,
GREATER MANCHESTER, BL9 9RX

Client
R. P. TYSON CONSTRUCTION LIMITED

Date Drawn
21-Mar-25

Drawn By
LMB

Date Checked

Checked By

Orientation
N

Scale
-

Job No.
8123

Figure No.
2

Notes
The Contractor is to check all dimensions and conditions on site before commencing. Do not scale from this drawing.
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Scale	Bar	TO BE USED ONLY AS GUIDANCE
1:100	0 1 2 3 4 5 6 7 8 9 10	
1:200	0 1 2 3 4 5 6 7 8 9 10	
1:500	0 1 2 3 4 5 6 7 8 9 10	
1:1000	0 1 2 3 4 5 6 7 8 9 10	

KEY

- Proposed Tree
- Existing category A tree*
- Existing category B tree*
- Existing category C tree*
- Root protection zones*

*For further information about the existing trees please refer to the Tree Survey by TSP

P06	Site 2 bed apartments changed to 1 bed following housing need feedback. 2 beds increased to NCDSS areas. Site adjusted accordingly.	EM	14/03/24
P05	Path alongside building in southern corner repositioned.	EM	29/02/24
P04	Building moved 5m to the right to allow the proposed drainage to sit outside of the tree root protection zones. Car parking adjusted accordingly.	EM	27/02/24
P03	Revised site boundary to site ownership boundary.	SAP	26/02/24
P02	Changes to car park and turning head following pre-app Highways feedback.	EM	30/01/24
P01	Issued for Pre-App planning advice.	EM	19/01/24
Rev	Description	By	Date

ARCON HOUSING ASSOCIATION
(BOLTON AT HOME)

11 FLETCHER FOLD ROAD, BURY

PLANNING - SITE LAYOUT PLAN

6071_1200 @ P06

6071-POZ-XX-ZZ-DR-A-1200

19/01/24 3 1:500 @ A2

EM	EM	JW
Planning	Tender	Construction
Design	Contract	As Built

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NOTES

ACCOMMODATION SUMMARY

TYPE	COUNT
Two bedroom bungalow	4
One bedroom apartment	39
Total	43

All accommodation is designed to meet the Nationally Described Space Standards and Part M4 Category 2: accessible and adaptable

PARKING PROVISION

Table 2 of Bury Council SPD 11 requires 1.5 parking spaces in an accessible area, which this is, for a 2 bed dwelling. For sheltered housing the requirement is for 1 space per 3 units.

We have indicated 2 spaces per dwelling for the bungalows which are for sale. For the apartments we have indicated 20 spaces for the 39 dwellings to allow for visitor parking.

REFUSE STORAGE PROVISION

Bungalows

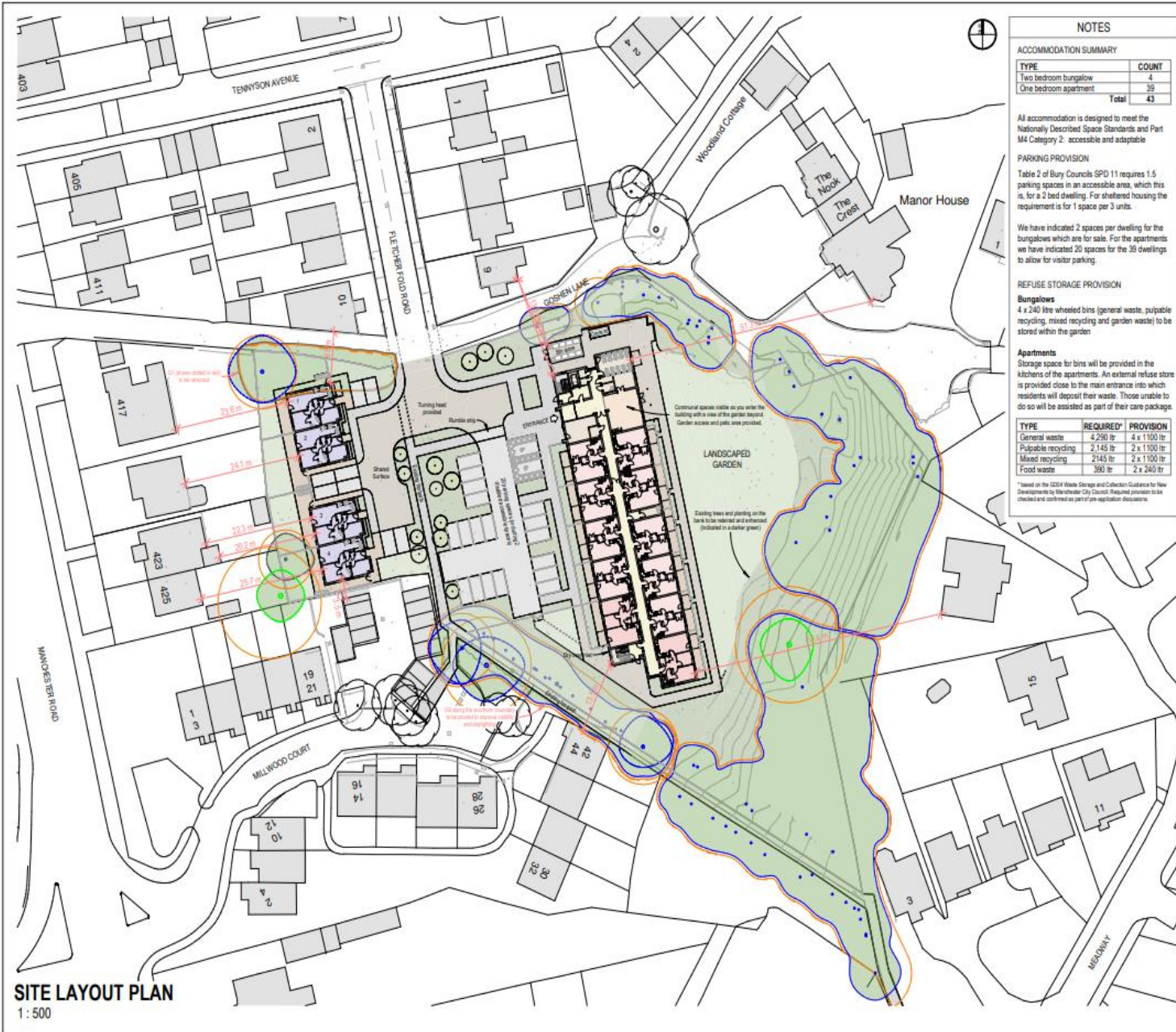
4 x 240 litre wheeled bins (general waste, putable recycling, mixed recycling and garden waste) to be stored within the garden

Apartments

Storage space for bins will be provided in the kitchens of the apartments. An external refuse store is provided close to the main entrance into which residents will deposit their waste. Those unable to do so will be assisted as part of their care package

TYPE	REQUIRED*	PROVISION
General waste	4,290 ltr	4 x 1100 ltr
Putable recycling	2,145 ltr	2 x 1100 ltr
Mixed recycling	2145 ltr	2 x 1100 ltr
Food waste	360 ltr	2 x 240 ltr

*Based on the 2014 Waste Storage and Collection Guidance for New Developments by Manchester City Council. Required provision to be checked and confirmed as part of pre-application discussions.



SITE LAYOUT PLAN
1:500



SUB SURFACE

SITE INVESTIGATION AND SPECIALIST GEOTECHNICAL CONSULTANTS

3 Peel Street, Preston, PR2 2OS. Tel: (01772) 561135 Fax: (01772) 204907

Proposed Development Plan

Date Drawn

21-Mar-25

Date Checked

Orientation

Job No.

8123

LAND OFF FLETCHER FOLD ROAD, BURY,
GREATER MANCHESTER, BL9 9RX

Client

R. P. TYSON CONSTRUCTION LIMITED

Drawn By

LMB

Checked By

Scale

—

Figure No.

3

