Our Ref: 17-179.01L

FAO [redacted]
Portland Consulting Engineers
10 Bankside
The Watermark
Gateshead
Tyne and Wear
NE11 9SY

Arc Environmental Ltd
Solum House
Unit 1 Elliott Court
St. John's Road
Meadowfield
DH7 8PN

20th June 2017

Dear [redacted],

RE: Former West Boldon Primary School – Post Demolition Trial Pits

Attachments:-

- Trial Pit Location Plan
- Trial Pit Record Sheets (TPA to TPG)

1.0 Introduction:-

As recommended within the Phase 2: Ground Investigation Report and following the recent demolition of the school building, a series of mechanically excavated trial pits have been carried out in and around the location of the former school building in order to determine the ground conditions below areas of the site not previously investigated. In total 7 no. trial pits were completed (labelled TPA to TPG), the locations of which can be seen on the trial pit record sheet attached with this report.

2.0 Ground Conditions:-

From the results of these supplementary investigation works, it can be seen that similar ground conditions were noted to those within the boreholes previously carried out, as summarised below.

Made ground was recorded to depths of between c.0.20m to c.1.40m below current ground level (bcgl), generally comprising disturbed natural strata with anthropogenic debris (i.e. brick, etc.). Concrete (possibly associated with adjacent drain) was noted within TPA at a depth of c.0.80m bcgl, with a relic foundation (c.0.60m x c.0.25m) trending north-east / south-west noted within TPB at a depth of c.0.35m bcgl.

The underlying natural drift deposits generally comprised stiff locally firm (medium & high strength) brown sandy gravelly CLAY, recorded to depths of between c.1.60m to c.2.80m bcgl. A band of orange brown silty SAND was noted within TPF at a depth of between c. 0.80m to c.1.40m bcgl, with a band of medium brown sandy GRAVEL noted within TPG at a depth of between c.1.40m to c.1.70m bcgl.

Underlying the natural drift deposits, reddish brown weathered MUDSTONE was recorded to a depth of at least c.3.20m bcgl within several of the trial pits carried out.

In summary there were no significant changes in ground conditions noted from the previous boreholes and there was no evidence of deleterious materials below the building footprints i.e.:-

- No evidence of significant or gross contamination - fuels, oils, ash, asbestos containing materials etc.
- No evidence of potentially expansive or sulphate bearing sub-base materials i.e. slag, shale, etc.
- No zones of made ground deeper than previously recorded

RE: Former West Boldon Primary School – Post Demolition Trial Pits (Cont'd)

3.0 Insitu Testing:-

3.1 Insitu Hand Shear Vane Tests:-

Insitu hand vane tests were carried out using portable insitu hand vane tester on the natural clays encountered, the results of which can be found adjacent to the appropriate sample level, on the graphic trial pit record sheets. From the results of the tests carried out, shear strength values ranging from 64kN/m^2 up to in excess of >120kN/m^2 (upper limit of testing equipment) were recorded, indicating medium and high strength deposits.

3.2 Insitu California Bearing Ratio (CBR) Tests:-

Insitu CBR tests were carried out using a MEXE Cone Penetrometer, in accordance with the manufacturer's instructions, in order to estimate the insitu CBR values of the initial natural clays noted within the trial pits. In each case a series of tests were carried out and an average of the results noted can been seen on the graphic trial pit record sheets, adjacent to the appropriate sample level.

In summary, from the results of the test completed, CBR values ranging from 4.0% to 5.0% were recorded. Therefore, where the natural clay deposits are to be used as an undisturbed subgrade, a characteristic design CBR value of 4.0% should be taken.

4.0 Foundation Options:-

When considering the ground conditions recorded within these supplementary investigation works do not differ from the ground conditions noted within the boreholes previously carried out, it is felt that the foundation option within the Phase 2 Ground Investigation Report will be applicable for the site as a whole. However, consideration should be given to the concrete obstructions noted within TP's A & B and it may be the case that further obstructions may be present below other portions of the site.

We trust the contents of this supplementary report is to your satisfaction and if you require any further information or clarification please do not hesitate to contact us.

Yours sincerely,

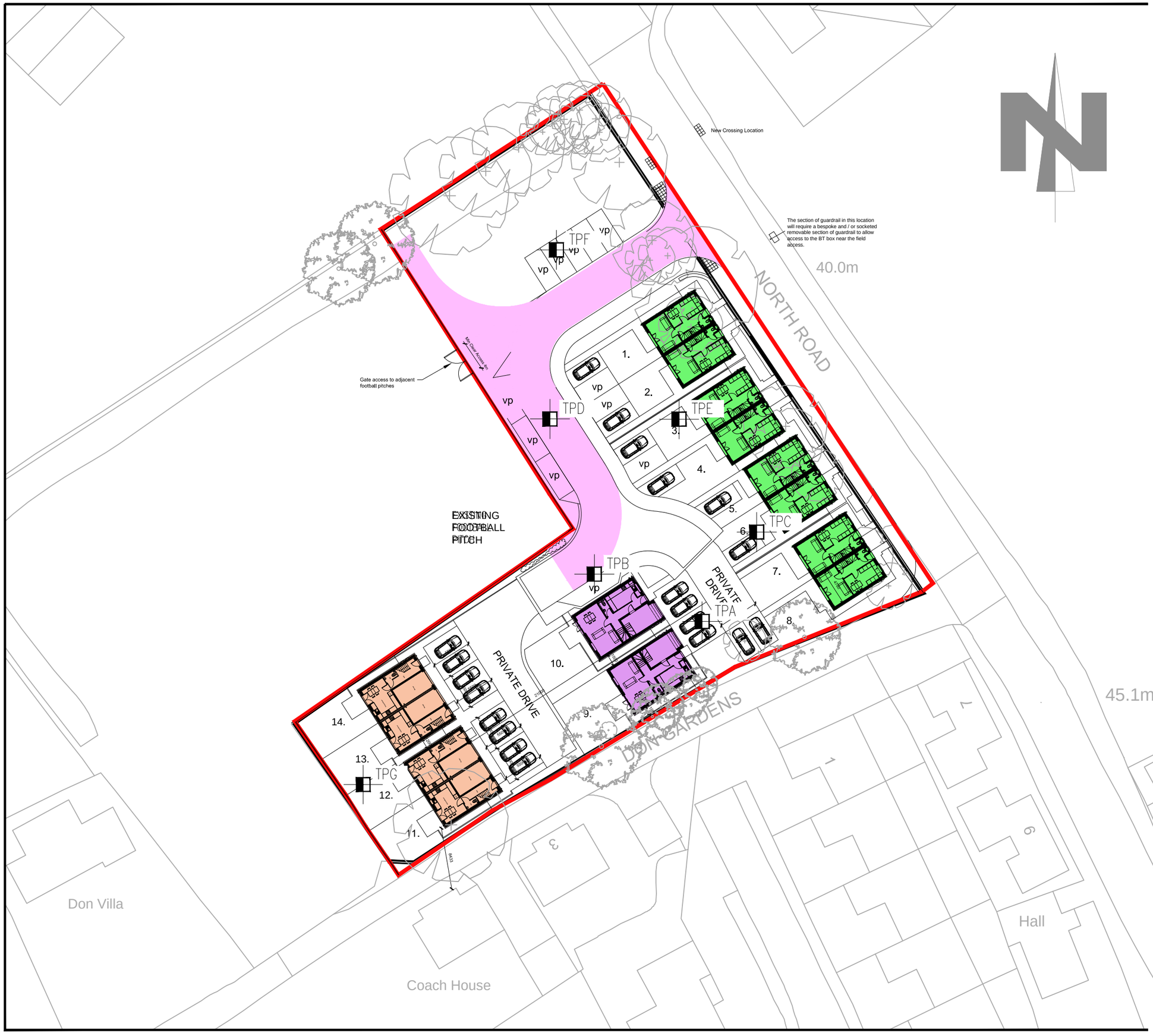
[redacted]……..
For and on behalf of Arc Environmental Ltd
[redacted]
Associate Director

cc [redacted] – Gus Robinson Developments Ltd

T: 0191 378 6380
F: 0191 378 0494
E: admin@arc-environmental.com
W: www.arc-environmental.com
Registered in England No. 05539784

Trial Pit Location Plan

T: 0191 378 6380
F: 0191 378 0494
E: admin@arc-environmental.com
W: www.arc-environmental.com
Registered in England No. 05539784



ARC ENVIRONMENTAL LTD
Solum House
Unit 1 Elliott Court
St. John's Road
Meadowfield
Durham, DH7 8PN
Tel: (0191) 378 6380
Fax: (0191) 378 0494
e-mail: admin@arc-environmental.com
web: www.arc-environmental.com

The contractor shall check all dimensions on site before commencement of any works. No dimensions to be scaled off this drawing.
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LEGEND	
	APPROXIMATE SITE BOUNDARY
	MECHANICALLY EXCAVATED TRAIL PIT POSITION

rev.	date	amendments	drawn	chckd
01	19.08.19	REVISED LAYOUT INCLUDED	P.D	D.M

Client: **GUS ROBINSON DEVELOPMENTS LTD**

Project Title:
Former West Boldon Primary School
North Road, West Boldon
Tyne & Wear, NE36 0QE

Drawing Title:
Trial Pit Location Plan

Scale at A3:	Date:	Drawn by:	Approved by:
1:500 @ A3	13.04.17	P.D	M.H

Job Ref:	Drg no:	Rev:
17-179	–	01

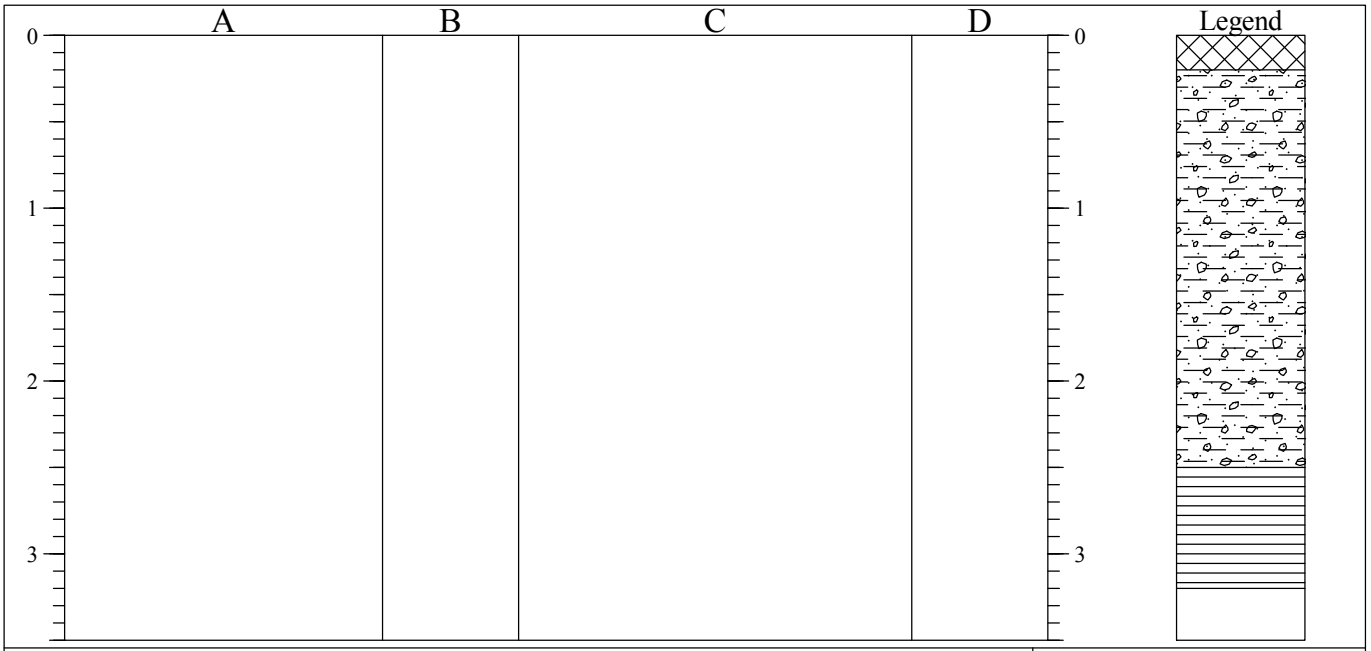
Trial Pit Record Sheets

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Durham, DH7 8PN
Telephone: 01913786380

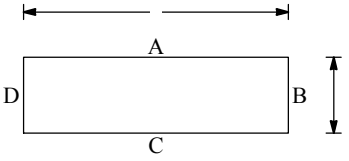
TRIAL PIT LOG

Project				TRIAL PIT No
West Boldon Primary School				**TPA**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
17-179	09-06-16			
Contractor				Sheet
				1 of 1



STRATA			SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	No	Remarks/Tests
0.00-0.20		Medium brown occasionally dark brown sandy soily clay with whole and half bricks (MADE GROUND).			
0.20-2.50		Stiff (high strength) dark brown sandy gravelly CLAY. Gravel is fine to medium subangular to rounded sandstone (PELAW CLAY).	0.40	CBR	4.0%
			0.70-0.90	B	
0.80		Concrete noted c.0.80m bgl, Possibly associated with adjacent drain.	1.00	V	102kN/m^2
			2.00	V	>120kN/m^2
2.50-3.20		Reddish brown weathered MUDSTONE (BASAL SANDS).			
			2.80-3.00	B	

Shoring/Support:
Stability:





GENERAL REMARKS

WATER: Trial Pit dry.

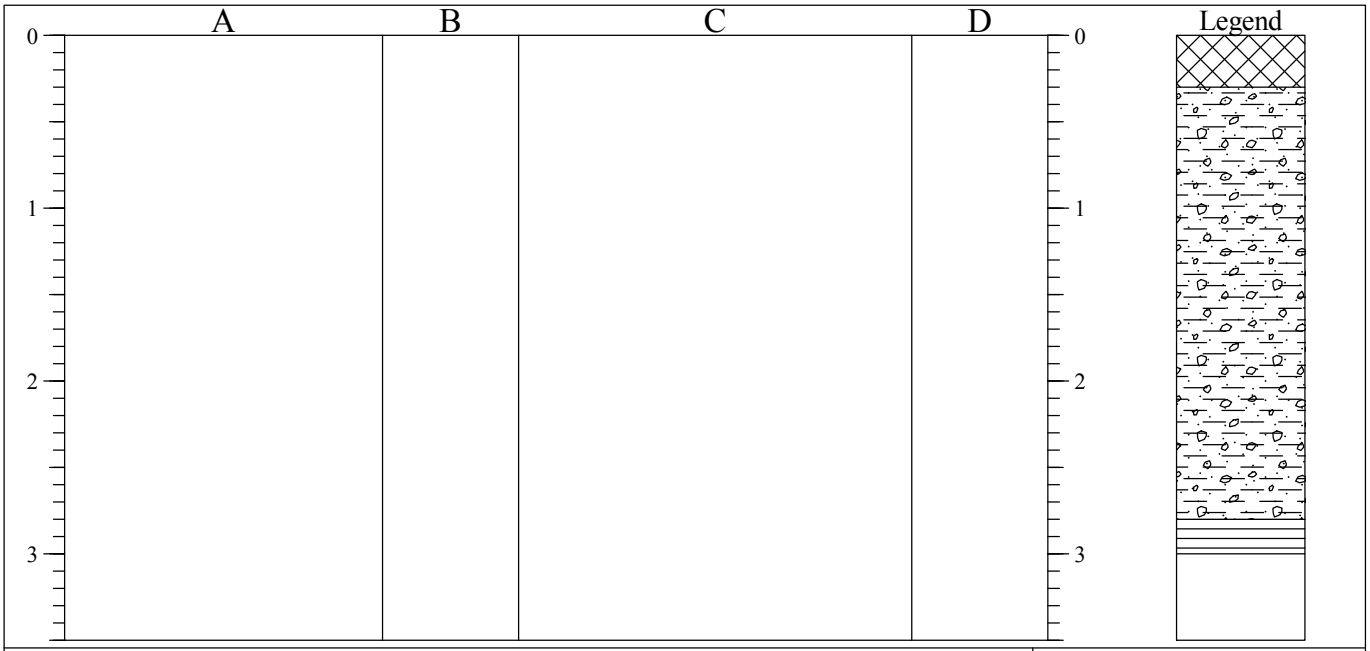
All dimensions in metres Scale 1:43.75	Client Portland Consulting	Method/ Plant Used Mechanicall Excavated	Logged By DMC

AGS3 UK TP BH LOGS.GPJ AGS3_ALL.GDT 20/6/17

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St Johns Road, Meadowfield
Durham, DH7 8PN
Telephone: 01913786380

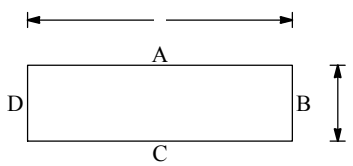
TRIAL PIT LOG

Project				TRIAL PIT No
West Boldon Primary School				**TPB**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
17-179	09-06-16			
Contractor				Sheet 1 of 1



STRATA			SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	No	Remarks/Tests
0.00-0.30		Black sandy gravelly soil with occasional whole and half bricks (MADE GROUND).	0.10-0.30	J	
0.30-2.80 0.35		Stiff (high strength) dark brown sandy gravelly CLAY. Gravel is fine to medium subangular to rounded sandstone (PELAW CLAY). Relic foundation (c.0.60m x c.0.25m) trending NE/SW noted c.0.35m bgl.	0.70 0.80-1.00 0.90	CBR B V	5.0% 110kN/m^2
			2.00	V	>120kN/m^2
2.80-3.00		Reddish brown weathered MUDSTONE (BASAL SANDS).			

Shoring/Support:
Stability:





GENERAL REMARKS

WATER: Trial Pit dry.

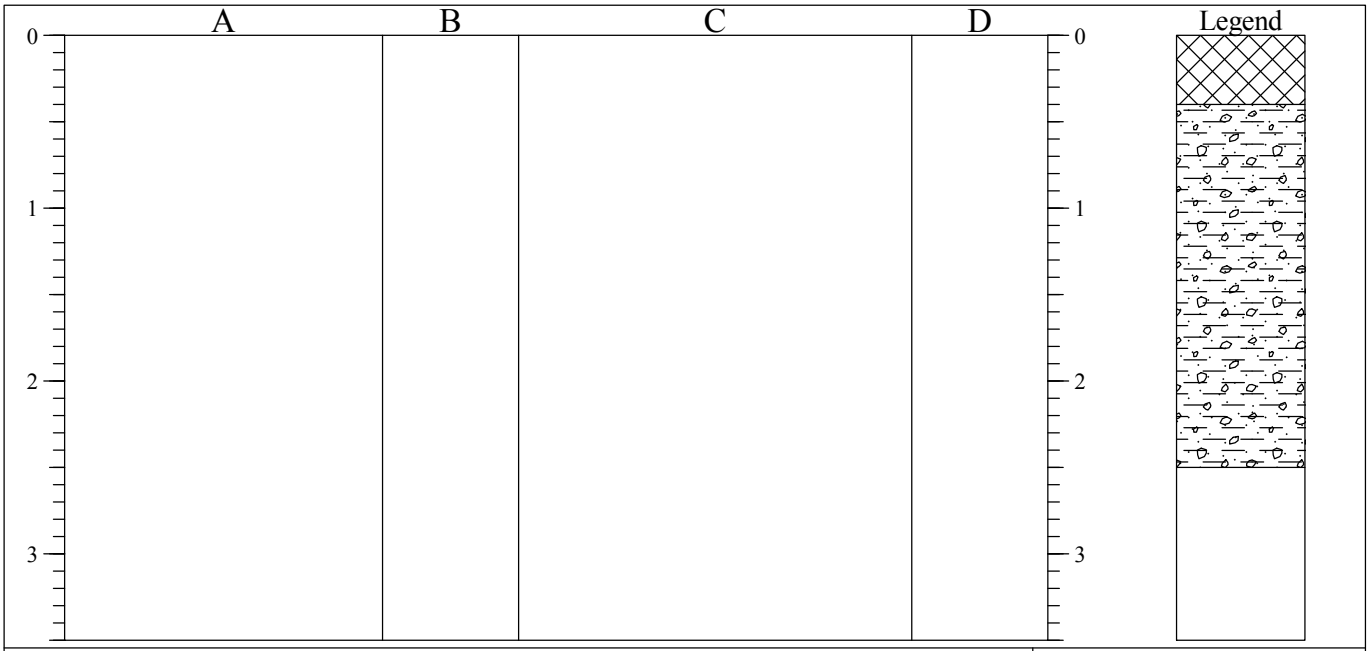
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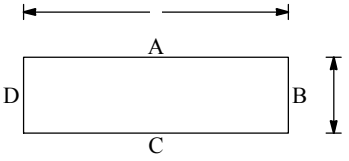
TRIAL PIT LOG

Project				TRIAL PIT No
West Boldon Primary School				**TPC**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
17-179	09-06-16			
Contractor				Sheet
				1 of 1



STRATA			SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	No	Remarks/Tests
0.00-0.40		Medium brown sandy soily clay with whole and half bricks (MADE GROUND).			
0.40-2.50		Stiff (high strength) dark brown sandy gravelly CLAY. Gravel is fine to medium subangular to rounded sandstone (PELAW CLAY).	0.60	CBR	4.5%
			0.80	V	96kN/m^2
			1.00-1.20	B	
			1.60	V	>120kN/m^2

Shoring/Support:
Stability:





GENERAL REMARKS

WATER: Ingress of water c.0.40m. Standing level recorded at c.2.40m.

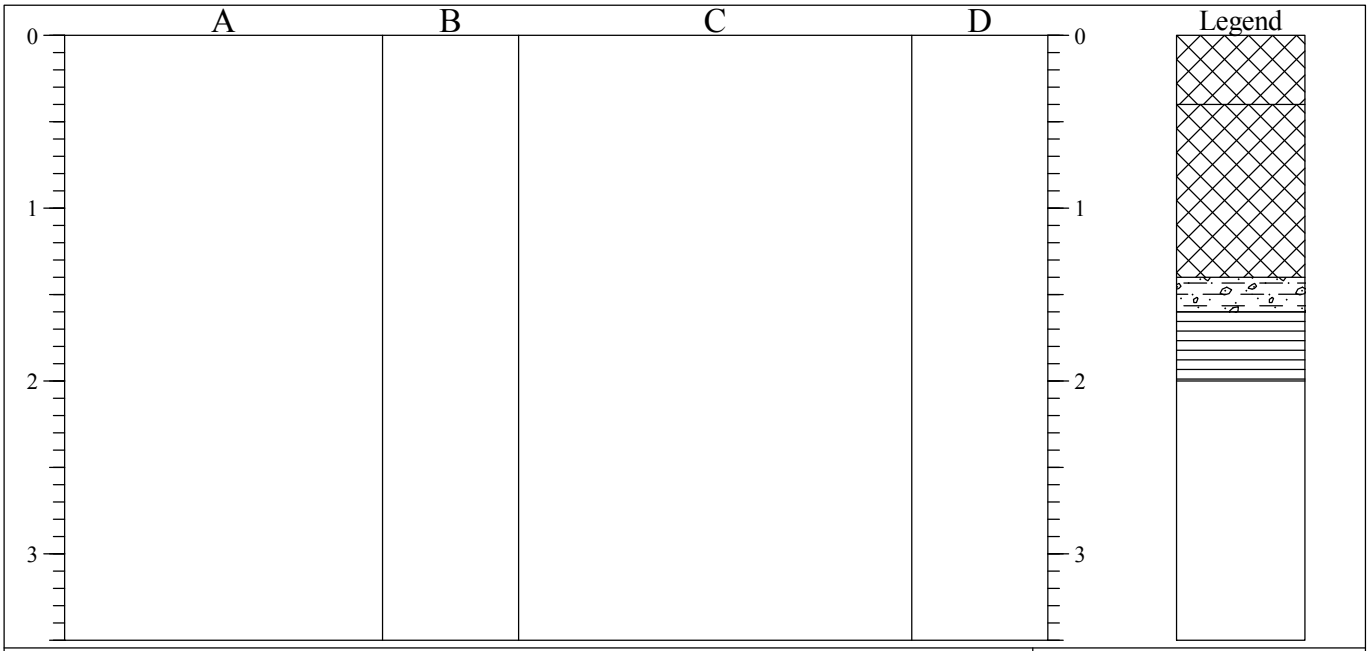
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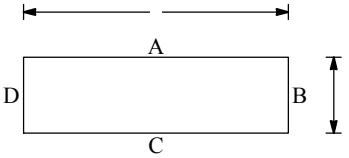
TRIAL PIT LOG

Project				TRIAL PIT No
West Boldon Primary School				TPD
Job No	Date	Ground Level (m)	Co-Ordinates ()	
17-179	09-06-16			
Contractor				Sheet
				1 of 1



STRATA			SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	No	Remarks/Tests
0.00-0.40		Black sandy gravelly clayey soil (MADE GROUND).	0.10-0.30	J	
0.40-1.40		Dark brown sandy gravelly clayey soil with fragments of dolomitic stone (MADE GROUND).	1.20-1.40	B	
1.40-1.60		Stiff dark brown sandy gravelly CLAY. Gravel is fine to medium subangular to rounded sandstone (PELAW CLAY).	1.40-1.60	B	
1.60-2.00		Reddish brown weathered MUDSTONE (BASAL SANDS).	1.80-2.00	B	
			1.80	V	78kN/m^2

Shoring/Support:
Stability:





GENERAL REMARKS

WATER: Ingress of water c.1.60m. Standing level recorded at c.1.70m.

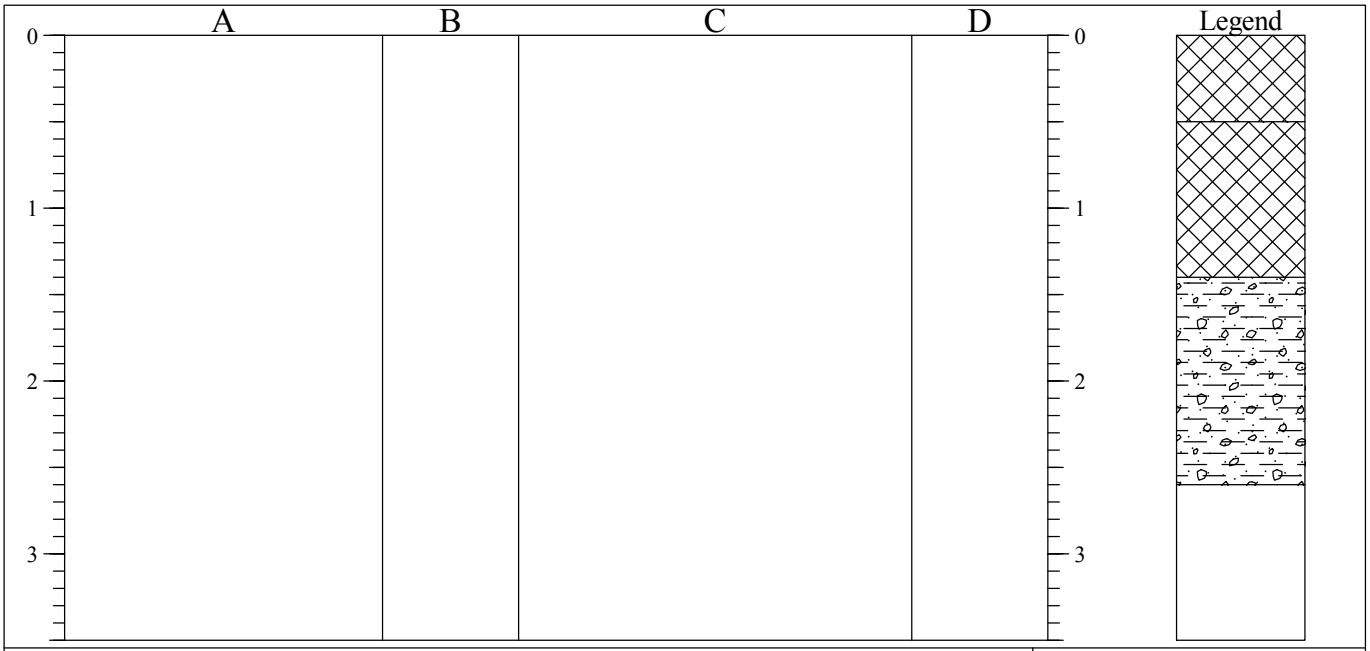
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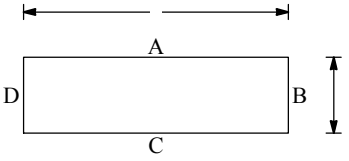
TRIAL PIT LOG

Project				TRIAL PIT No
West Boldon Primary School				**TPE**
Job No	Date	Ground Level (m)	Co-Ordinates ()	
17-179	09-06-16			
Contractor				Sheet 1 of 1



STRATA			SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	No	Remarks/Tests
0.00-0.50		Dark brown sandy soily clay with fragments of brick, dolomitic stone and sandstone cobbles (MADE GROUND).	0.20-0.40	J	
0.50-1.40		Dark brown sandy gravelly clayey soil with fragments of dolomitic stone (MADE GROUND).			
1.40-2.60		Stiff (high strength) dark brown sandy gravelly CLAY. Gravel is fine to medium subangular to rounded sandstone (PELAW CLAY).	1.60-1.80 1.60 2.40 2.60-2.80	B V V B	 82kN/m^2 118kN/m^2

Shoring/Support:
Stability:





GENERAL REMARKS

WATER: Slight ingress of water c.2.60m. No standing level recorded.

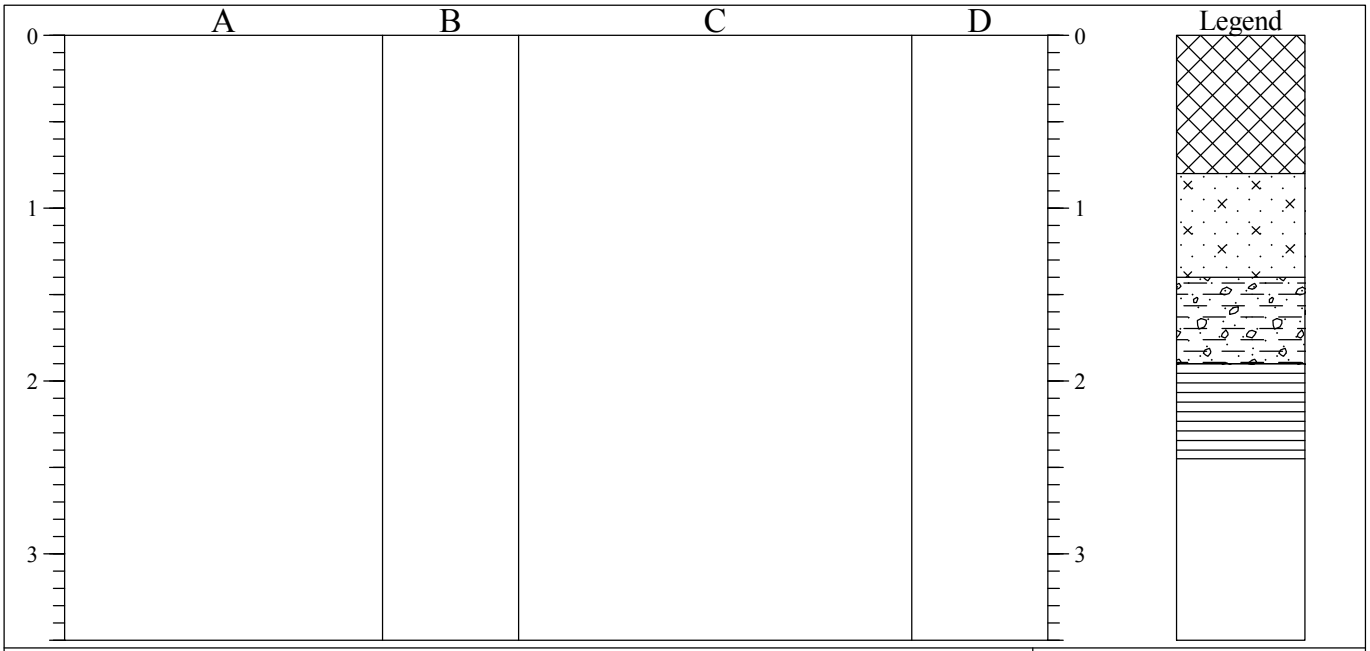
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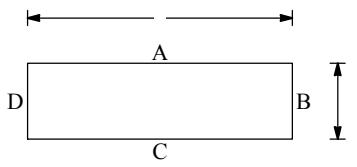
TRIAL PIT LOG

Project				TRIAL PIT No
West Boldon Primary School				TPF
Job No	Date	Ground Level (m)	Co-Ordinates ()	
17-179	09-06-16			
Contractor				Sheet
				1 of 1



STRATA			SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	No	Remarks/Tests
0.00-0.80		Grass overlying dark brown sandy gravelly soil with fine rootlets (MADE GROUND).			
0.80-1.40		Orange brown silty SAND (PELAW CLAY).			
1.40-1.90		Stiff (high strength) dark brown sandy gravelly CLAY. Gravel is fine to medium subangular to rounded sandstone (PELAW CLAY).	1.60-1.80 1.60	B V	 82kN/m^2
1.90-2.45		Reddish brown weathered MUDSTONE (BASAL SANDS).	2.00-2.20 2.00 2.20-2.45	B V B	 108kN/m^2

Shoring/Support:
Stability:





GENERAL REMARKS

WATER: Trial Pit dry.

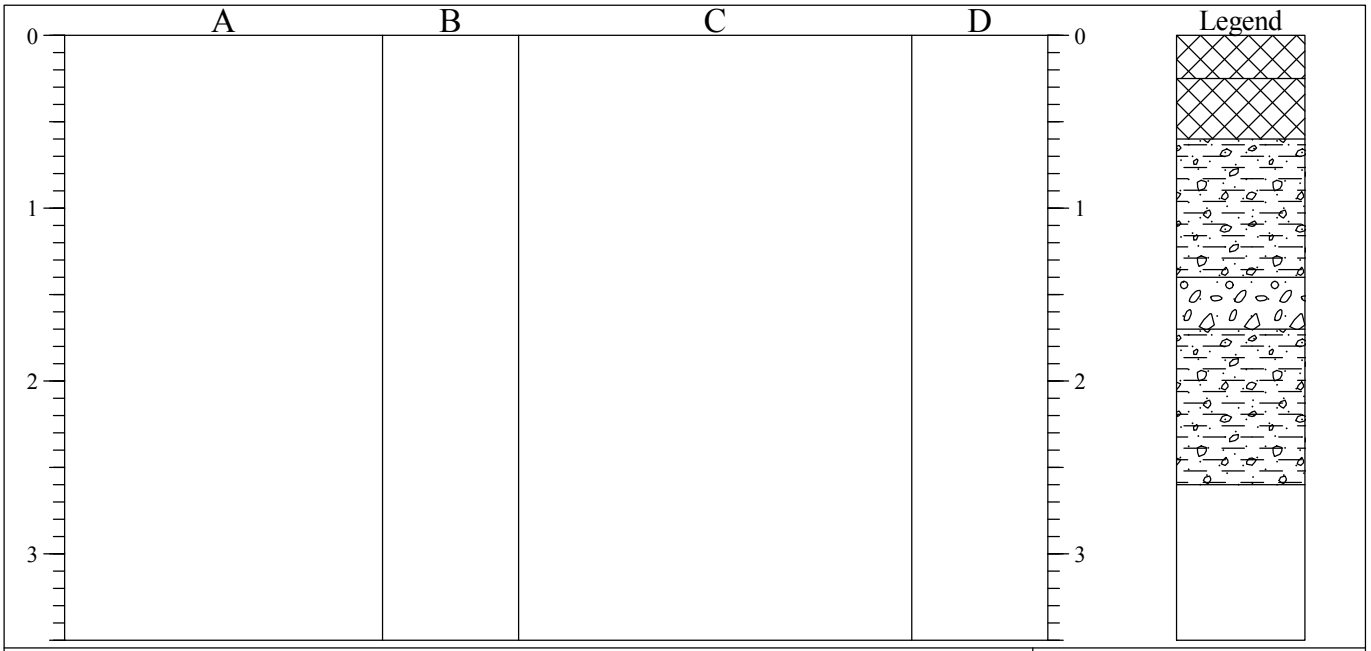
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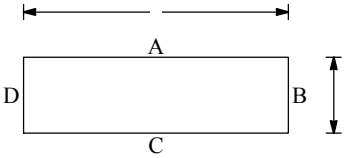
TRIAL PIT LOG

Project				TRIAL PIT No
West Boldon Primary School				TPG
Job No	Date	Ground Level (m)	Co-Ordinates ()	
17-179	09-06-16			
Contractor				Sheet
				1 of 1



STRATA			SAMPLES & TESTS		
Depth	No	DESCRIPTION	Depth	No	Remarks/Tests
0.00-0.25		Buff dolomitic stone and bituminous material (MADE GROUND).			
0.25-0.60		Dark brown sandy silty clay with occasional fragments of brick (MADE GROUND).			
0.60-1.40		Firm becoming stiff (medium & high strength) dark brown sandy gravelly CLAY. Gravel is fine to medium subangular to rounded sandstone (PELAW CLAY).	0.60	CBR	4.0%
			1.00-1.20	B	
			1.00	V	64kN/m^2
			1.30	V	78kN/m^2
1.40-1.70		Medium brown sandy GRAVEL. Gravel is fine to medium subangular to rounded sandstone (PELAW CLAY).			
1.70-2.60		Stiff (high strength) dark brown sandy gravelly CLAY. Gravel is fine to medium subangular to rounded sandstone (PELAW CLAY).	1.80-2.00	B	

Shoring/Support:
Stability:





GENERAL REMARKS

WATER: Slight ingress of water c.2.60m. No standing level recorded.

All dimensions in metres Scale 1:43.75	Client Portland Consulting	Method/ Plant Used Mechanicall Excavated	Logged By DMC

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