cgs civils

Consulting Civil Engineers

Foul and Surface Water Drainage Statement

Land West of Hanger Down House, Tortington, Arundel BN18 0BG

For

Smith Simmons & Partners

Rev - **P**

Reference **C3317**

Date **7th October 2024**

Revision	Date of Issue	Comments	Prepared By	Checked By
P	07/10/2024	Initial Issue	LH	CS

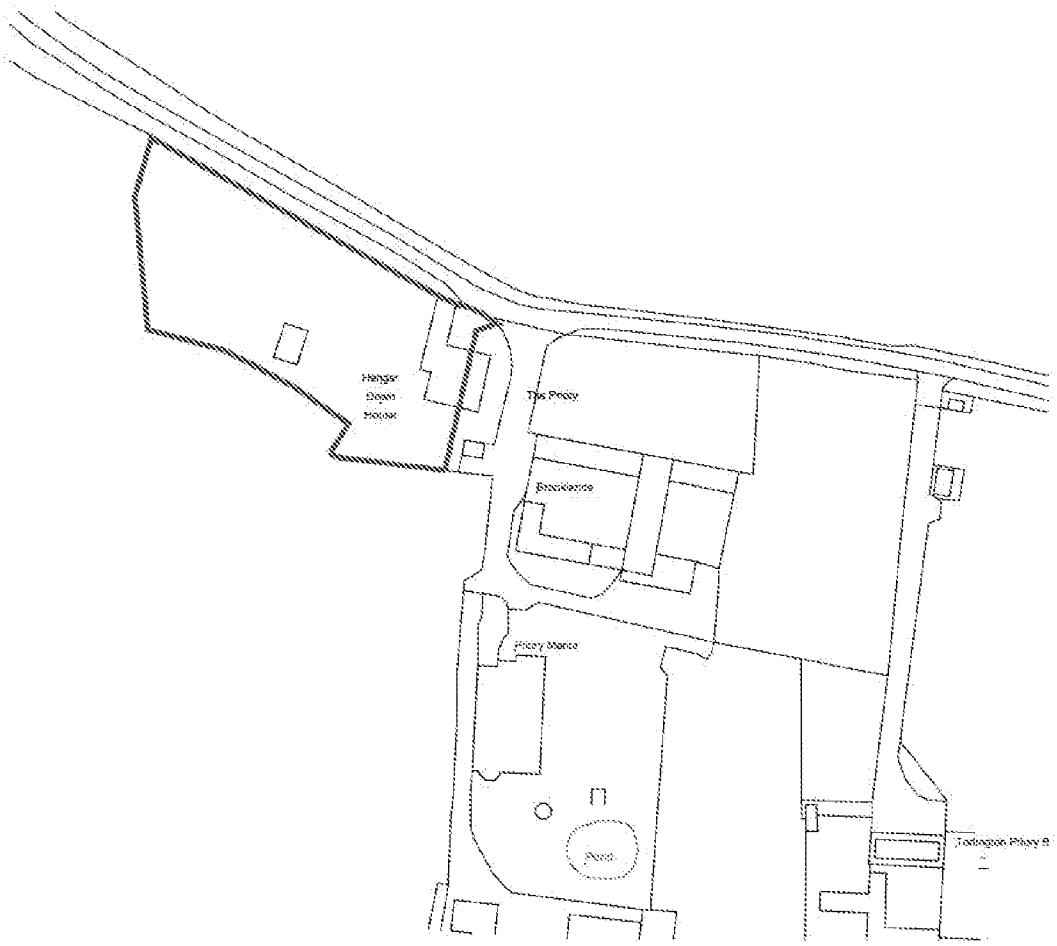
Contents

1 Introduction

1.1.1 CGS Civils Ltd has been appointed to undertake a drainage statement for a proposed development at the Land west of Hanger Down House in Tortington, Arundel.

1.1.2 The purpose of this drainage statement is to demonstrate how the development area can be satisfactorily drained without increasing flood risk onsite and elsewhere. The proposed development will consist of the construction of a single detached house and garage on the land to the west of Hanger Down House in Tortington, Arundel. The proposed development is located as OS Grid Reference TQ 00494 06115 and has the post code BN18 0BG.

Fig 1. Site Location



[redacted]

2 Executive Summary:

2.1.1 The Surface Water can either be discharged to ground or to an existing watercourse to the north. Site investigations are to be carried out to confirm if the use of infiltration is viable on site. If it is deemed that infiltration is not viable than a proposed connection to the existing watercourse is to be sought.

2.1.2 The Foul water will discharge into the existing watercourse to the north following on site treatment or to the existing network that serves Hanger Down House should a connection be viable.

3 Site Geology

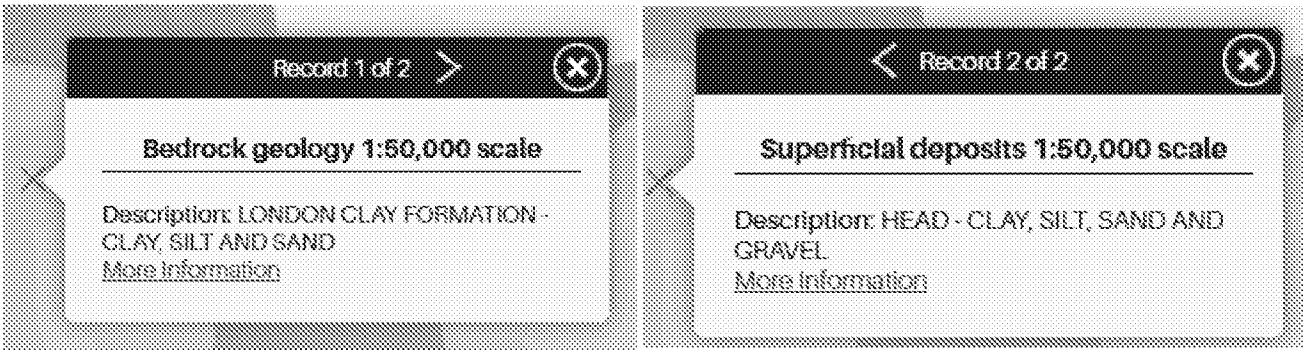
3.1 British Geological Survey information

3.1.1 The British Geological Survey confirms the bedrock geology to be made up of London Clay Formation, which is comprised of Clay, Silt and Sand. The BGS website confirms the superficial deposits on site to be made up of Head Formaiton, which is comprised of Clay, Silt, Sand and Gravel.

3.1.2 The British Geological survey also holds records of historical boreholes near the site which give some insight into the ground geology.

- Borehole TQ00NW152 (Located approx. on site) – Clay to a depth of 0.5mbgl followed by a layer of clay which starts to become clayed at 1.5mbgl.

Fig 2. British Geological Survey



3.2 Geological Assessment

3.2.1 An infiltration test to BRE365 should be undertaken at a depth of 0.9 – 1.0mbgl to calculate the infiltration rate of soils on site. Winter groundwater monitoring is to also be conducted to record the highest groundwater level throughout the year to confirm the viability of soakaways should infiltration be suitable on site.

[redacted]

4 Existing Drainage

4.1.1 It is not currently know how the existing Hanger Down House discharges both surface and foul water runoff. A CCTV Survey should be carried out to confirm how the runoff is discharged and to also confirm if a connection can be made into this network from the proposed development.

5 Proposed Drainage Strategy

5.1 SuDS Hierarchy

5.1.1 All options for the destination of run-off generated on site have been assessed in line with the SuDS hierarchy as set out in Building Regulations Part H document and DEFRA's Draft National Standards for SuDS.

Table 1. SuDS Hierarchy

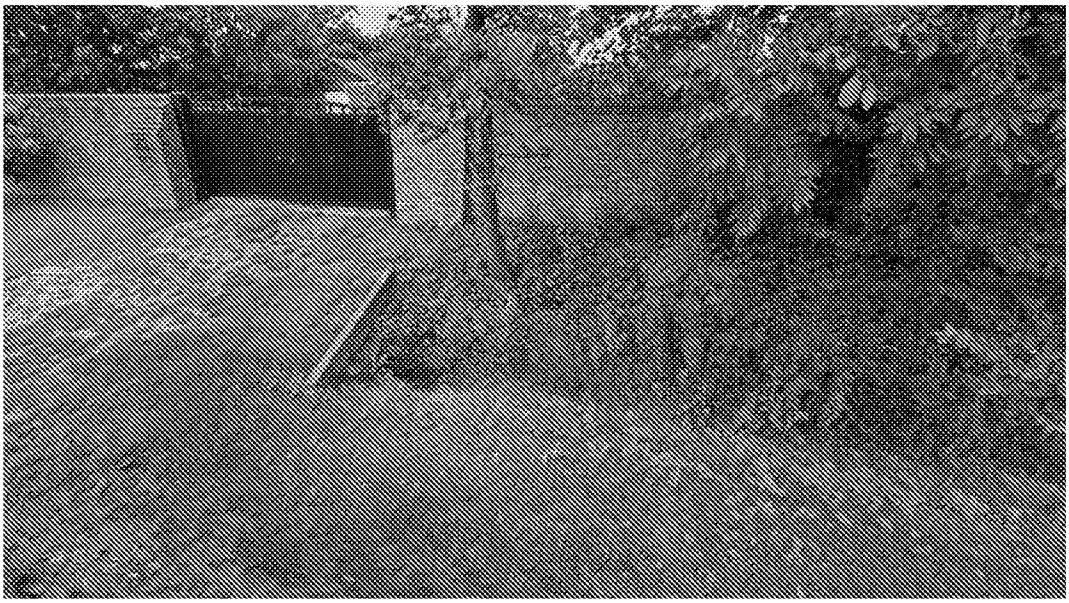
Discharge Destination	
Rainwater Harvesting	Rainwater harvesting should be considered
Discharge to Ground	Presumed to be viable between the depths of 0.5 and 1.50mbgl – onsite infiltration tests should be undertaken to confirm.
Discharge to Watercourse	Existing watercourse located along the front of the site that runs adjacent to Priory Lane.
Discharge to Surface Water Sewer	No surface water sewers nearby.
Discharge to Other Sewer	No foul water sewers nearby.

5.2 Surface Water Drainage

5.2.1 Based upon the information gathered from the British Geological Survey website, it is deemed that discharge to ground may be a viable option for surface water disposal. Further site investigations to be undertaken to confirm the infiltration rate of the soils between 0.5 and 1.5mbgl. Winte groundwater monitoring should also be carried out in order to confirm if there is groundwater present on site.

5.2.2 If it is deemed the use of infiltration is not a viable option for surface water disposal then a connection into the existing watercourse located along the northern boundary can be sought. An existing watercourse and culvert runs adjacent the site along Priory Lane and there is a culvert which runs under the existing access to the site.

Fig 3. Existing watercourse and culvert

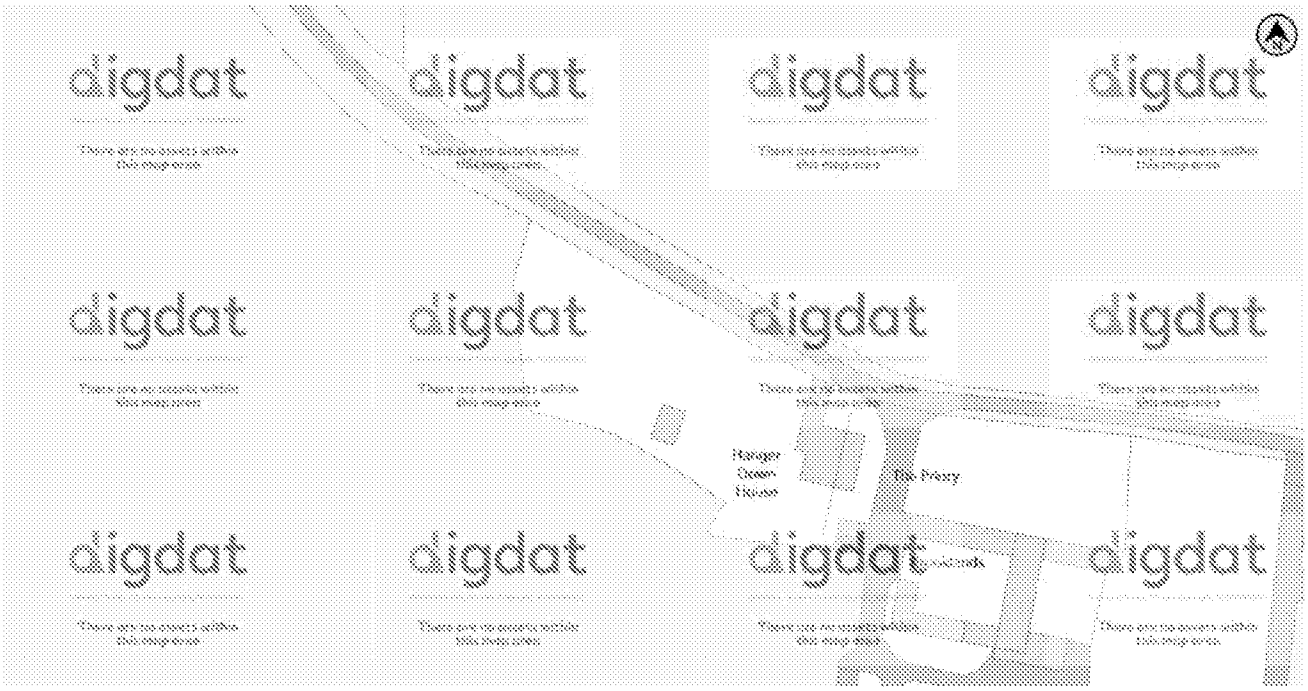


5.3 Foul water drainage

5.3.1 There are no foul water sewers near the site, therefore, the foul water can be treated on site via a new package treatment plant prior to being discharged into the existing watercourse located along the northern boundary of the site.

5.3.2 Depending on the report following a CCTV drainage survey, it may be determined that the foul water can be discharged into the existing network that serves Hanger Down House.

Fig 4. Southern Water sewer records



6 Summary and Conclusions

6.1.1 CGS Civils has been instructed to produce a Drainage statement under National Planning Policy Framework (NPPF) to support the Planning Application for the construction of a new dwelling located adjacent to the existing Hanger Down House.

6.1.2 The Surface Water can either be discharged to ground or to an existing watercourse to the north. Site investigations are to be carried out to confirm if the use of infiltration is viable on site. If it is deemed that infiltration is not viable than a proposed connection to the existing watercourse is to be sought.

6.1.3 The Foul water will discharge into the existing watercourse to the north following on site treatment or to the existing network that serves Hanger Down House should a connection be viable.

6.1.4 The report has demonstrated that the proposed drainage measures ensure that suitable means of surface water and foul drainage can be achieved for the proposed development.

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7 Appendices

7.1 Appendix A – Site Plan

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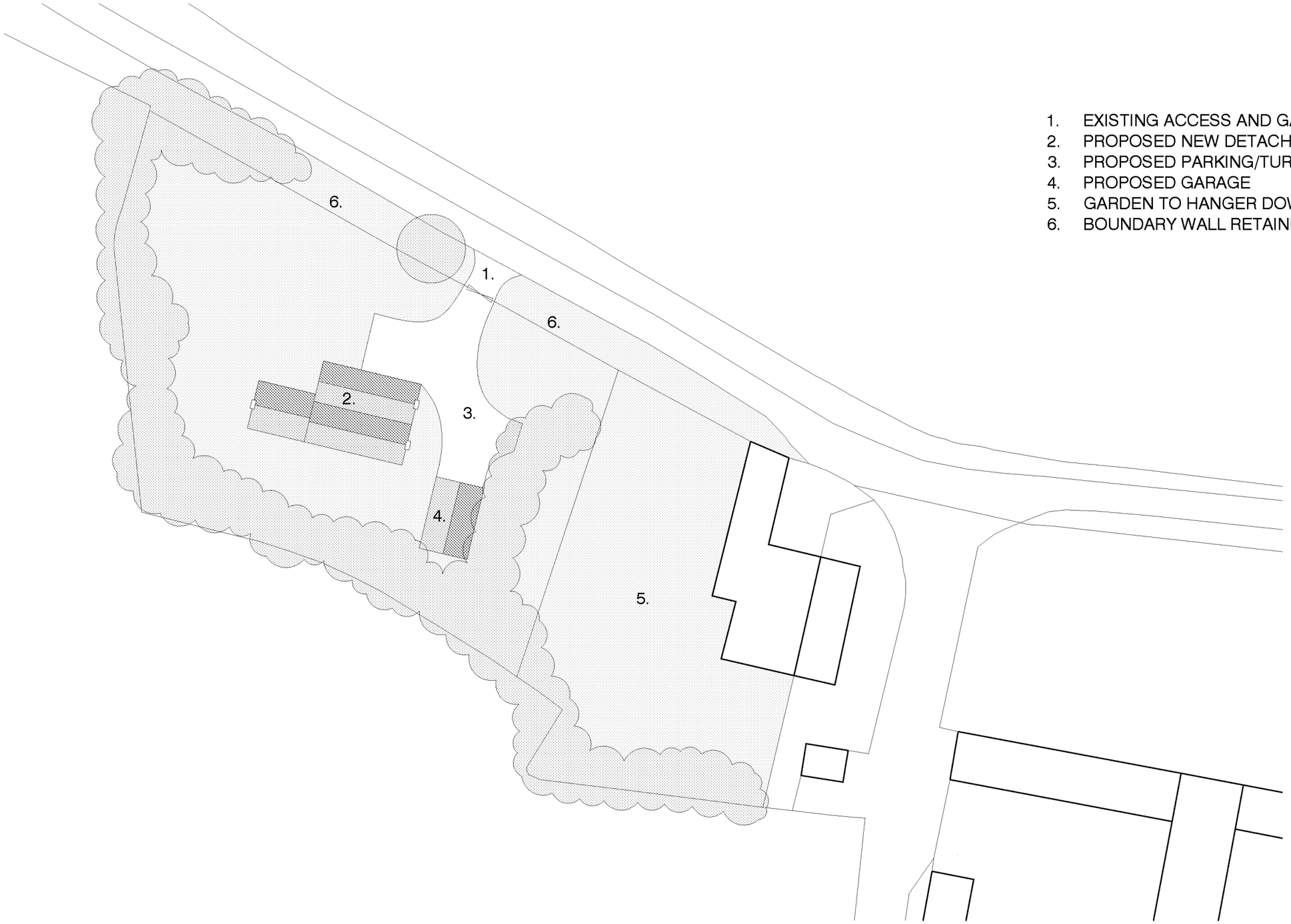

1. EXISTING ACCESS AND GATE
2. PROPOSED NEW DETACHED HOUSE
3. PROPOSED PARKING/TURNING
4. PROPOSED GARAGE
5. GARDEN TO HANGER DOWN HOUSE
6. BOUNDARY WALL RETAINED

Proposed Block Plan
Scale 1:500@A3

0m 5m 10m 25m

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HANGER DOWN HOUSE

REV 01

1722/SK03

7.2 **Appendix B – Borehole Logs**

RECORD OF TRIAL PIT No: 7

PROJECT: ...7 ARUNDEL BYPASS
LOCATION: THE PRIORY
CONTRACT No: 1791

METH... ...F EXCAVATION: MECHANICAL (JCB 3C)
SURFACE DIMENSIONS OF PIT: 0.90m x 2.10m
START DATE: 7/2/91 FINISH DATE: 7/2/91

CO-ORDINATES: E 500457 N 106149

Sheet 1 of 1
GROUND LEVEL: 16.36 m O.D.

INSITU TESTING Depth m	INSITU TESTING Type	SAMPLES Depth m	SAMPLES Type	SAMPLES No.	DESCRIPTION OF STRATA	Thickness m	Depth m	Level m O.D.	Time + Date	Strata Symbol
		0.10	D	1	TOPSOIL.	0.10	0.10	16.26	7/2	
		0.30	D	2	Stiff brown silty to very silty CLAY with some fine gravel. (HEAD)	0.40	0.50	15.86		
1.00	ISD (1.90Mg/m³)	1.00 - 1.50	B	3	Grey-brown, clayey, silty, sandy (fine to coarse), fine to coarse, angular to subangular flint GRAVEL with occasional flint cobbles. (HEAD GRAVEL) From 1.50m: Becoming slightly clayey.	>1.50				
		1.90	W	4			2.00	14.36	7/2	
					END OF TRIAL PIT					

REMARKS:
1. Groundwater ingress occurred at 1.90m, initiating sidewall collapse which caused termination of excavation at 2.00m.

PLAN

Scale 1:25 (when reduced to A4)

Logged by:	Date
ARG	7/2
Checked by:	
JC	21/2
Approved by:	

FOUNDATION [illegible] SERVICES

FIGURE 161

TQ00NW152