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ENVIRONMENT

CP Logistics UK Reading Propco Limited
Theale
Reading
Mineral Resource Assessment

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P2	July 2021	S2	Pete Davies	Pete Davies	Pete Davies
P3	July 2023	S2	Chris Rhodes BSc MSc FGS	Tim Hull BSc MSc CGeol FGS SiLC SQP	
P4	August 2023	S2	Updated Masterplan		
			Chris Rhodes BSc MSc FGS	Tim Hull BSc MSc CGeol FGS SiLC SQP	
					

Notice

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DRAWINGS

APPENDICES

1. INTRODUCTION

Instruction

1.1 This report has been produced in support of a planning application for land at the Hoad Way, Theale.

1.2 The development comprises a full planning application for the construction of 2 employment units for flexible uses within Class E (light industrial), B2 and/or B8 of the Use Classes Order (including ancillary office provision) with associated enabling works, access from Hoad Way, parking, and landscaping. The plans are presented as **Appendix 1**.

1.3 The application site lies within a Mineral Safeguarding Area (MSA), and mineral resource mapping available to Berkshire County Council indicates that there may be construction aggregates underlying the site.

Scope of Work

1.4 A Mineral Resource Assessment is required for the application site encompassing intrusive investigation. Consideration should be given to whether prior extraction or part prior extraction are feasible where a viable resource is found to be underlying the site.

1.5 The Minerals Resource Assessment should provide the following information as further detailed below:

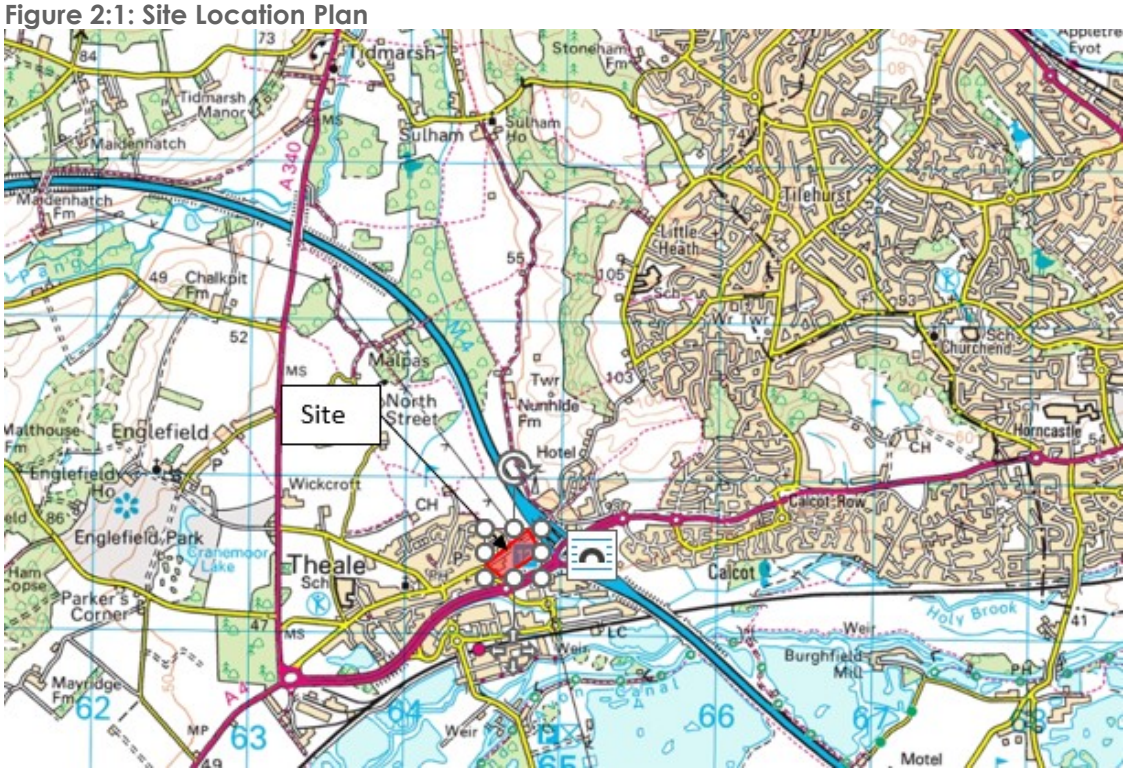
- The type of mineral resource(s) thought to be present;
- the potential extent of sterilisation which could occur as a result of the development in terms of tonnage;
- Economic value and viability of the mineral, i.e., the market interest;
- Site specific considerations that may affect feasibility or acceptability of extraction from the Site; and
- Potential options for prior or part prior extraction including the amount that could be extracted, nearby operators that could extract and process the material, or opportunities for on-site use.

2. THE SITE

Site Location

2.1 The site is located off Hoard Way, Theale, Reading located at national grid reference 464810, 171413. The location of the site is shown in **Figure 2:1.**

Figure 2:1: Site Location Plan



Site Description

2.2 The layout of the site with the main features is presented as **Drawing 1**.

2.3 The site is a broadly rectangular shaped field covering an area of 5.5 hectares. The site is broadly flat, with minor elevation fluctuations ranging between 45m above ordinance datum (AOD) in the north west and 44m AOD in the south east.

2.4 The field was left to grass at the time of the walkover (September 2018) with knee-high vegetation growth. An area of hummocky vegetation was present in the south west corner of the site, deep ruts were noted in this location indicating that it was prone to being boggy. Within the southern and western boundaries, areas of dense vegetation were present. An electricity pylon is located in the east of the site.

2.5 The site boundary was formed by fencing along the western and southern boundaries, dense tree growth to the east, and a mixture of fencing and hedgerows along the northern boundary. Beyond the boundary, steep embankments lead to the M4 slip road to the north east and A4 to the south east, with smaller embankments leading up to Hoad Way to the south west and High Street to the north west. A garage, offices and a

contractor storage compound are located immediately adjacent to the north western boundary, whilst an electricity substation is located adjacent to the site entrance in the northern corner of the site.

2.6 Further afield, overgrown scrubland and residential premises are present to the north, retail premises are located beyond the M4 to the east, the village of Theale is located to the west, and commercial premises are located to the south.

2.7 Access to the site was gained through an open entry in the northern corner of the site, with a locked gate halfway along the north western boundary.

Site History

2.8 The site has historically remained largely undeveloped, with some minor buildings located in the west of the site. Some minor watercourses used to be present along the southern, western, and central areas of the site which have likely been infilled.

2.9 Off site, two garages and a possible petrol filling station have been located adjacent to the north west boundary. The site boundaries have been embanked following development of the M4 (east) and A4 (south).

Previous Reports

2.10 BWB have previously undertaken the following reports, which discuss the ground conditions at the site:

- BWB Consulting Ltd for CP Logistics UK Reading Propco Limited, Theale, Reading, Phase 1 and 2 Geo-Environmental Assessment; Reference THR-BWB-ZZ-XX-RP-YE-0001_Ph1&2, P8, dated July 2023.

2.11 It is assumed that the reader has familiarity with the above report and as such information has been included within this report, where relevant.

Phase 1 and 2 Geo-Environmental Assessment Report

2.12 The Phase 2 report incorporated ground investigation data acquired from 16 trial pits, 4 dynamic sampler boreholes, 6 cable percussive boreholes, 2 gas and groundwater monitoring visits and geotechnical and chemical analysis of soils. An exploratory hole location plan is presented as **Drawing 2**. Copies of the logs and gas and ground water monitoring results are presented as **Appendices 2** and **3** respectively.

3. GROUND CONDITIONS

Published Information

3.1 British Geological Survey (BGS) published geological mapping, including the BGS 1:50,000 Solid and Drift Sheet 268, Reading, dated 2000 and the online BGS Geology of Britain viewer, indicate that the site is underlain by Alluvial deposits (clay, silt, sand and gravel) across the majority of the site, excluding the north west corner. The Beenham Grange Gravel (sand and gravel) is mapped in the north west corner of the site and could potentially be present underlying the Alluvial deposits. The Langley Silt Member (clay and silt) is mapped marginally encroaching within the site's eastern extents.

3.2 The bedrock geology is indicated to comprise the Seaford Chalk Formation, described as firm white chalk with conspicuous semi-continuous nodular and tabular flint seams. Hard grounds and thin marls are known from the lowest beds. Some flint nodules are large to very large.

Phase 2 Geo-Environmental Report

3.3 The ground conditions recorded confirmed the published geology as discussed above, comprising Topsoil over Alluvium, over Beenham Sands and Gravels, over the Seaford Chalk Formation, with the Alluvium locally absent in the north west of the site. Limited Made Ground was encountered at the site. A cross section through the site is presented as **Drawing 3**.

Topsoil/ Made Ground

3.4 Topsoil was encountered in all investigation locations to thickness of between 0.2m and 0.45m thick. The stratum was commonly encountered as clayey, gravelly sand, or sandy, gravely clay with frequent rootlets.

3.5 Gravels were commonly recorded as angular to rounded flint and quartzite, however rare coal and tile inclusions were also noted, leading to it being described as Made Ground.

3.6 Elsewhere on site, Made Ground was sporadically encountered. Within TP11, a slightly sandy slightly gravelly clay with organic relics was encountered from 0.35m to 1.1m, however barrier tape was noted at 0.9m. Given the location next to an old drain, and the sub-horizontal interface of the underlying gravels, it is considered likely that the material is reworked Alluvial deposits utilised to infill the drainage channel.

3.7 Within TP04, ground conditions were recorded as gravelly clayey sand over sandy clayey gravel. Whilst no obvious anthropogenic impact was noted in the material, it was the only location on site where granular material was located above the cohesive Alluvium. Given its location in an area where an old water course was located, it was hypothesised that the granular material was reworked natural deposits used to infill the river channel.

Alluvium

3.8 Alluvial deposits were recorded in the majority of exploratory hole locations across the site, excluding DS02 – DS04 in the north west of the site. The Alluvium was encountered directly under the Topsoil/Made Ground and proven to depths of between 0.5m and 2.1m below ground (bgl).

3.9 The Alluvium was commonly encountered as a soft or very soft (occasionally firm) gravelly sandy clay with varying inclusions of organic relics. The inclusions of organic relics ranged from occasional to frequent and abundant in the areas in close proximity to former watercourses/ drains. The Alluvium was occasionally encountered as peaty clay (BH06 – 0.3m to 1.55m; TP09 – 0.7m to 1.5m; TP16 – 0.75m to 0.9m) or an organic clay (TP02 – 0.3m to 0.7m; TP03 – 0.3m to 0.8m; TP05 – 0.4m to 0.7m; TP12 – 0.35m to 0.9m; TP16 – 0.45m to 0.75m).

Beenham Sand and Gravel Member

3.10 The Beenham Sand and Gravel Member was recorded in all locations across the site, encountered from between 0.25m bgl and 2.1m bgl. Where the extent of the gravels was proven in the cable percussive boreholes, the thickness ranged from 1.0m in BH06 to 5.3m in BH04.

3.11 The material was commonly encountered as slightly sandy, occasionally slightly clayey gravel of flint and occasional chalk. Standard Penetration Testing (SPT) N60 values within the strata ranged from 6 to 27, indicative of a loose to medium dense material The SPT N60 values were quite varied, however display a general increase with depth.

Seaford Chalk Formation

3.12 The chalk was encountered underlying the gravels in all cable percussive boreholes, at depths ranging from 3.0m to 6.5m bgl. The stratum was initially encountered as a very soft or soft gravelly clay with gravels of weak chalk and occasional flint. The strata became more competent with depth and was encountered as a slightly silty gravel (flint and chalk) from depths of between 4.0m bgl (BH02) and 6.5m bgl (BH04).

Ground Model

3.13 The recorded ground conditions are summarised in **Table 3:1** below.

Table 3:1: Summary of Ground Conditions

Stratum	Top Depth (m)		Base Depth (m)		Thickness (m)		SPT N Value	
	Min	Max	Min	Max	Min	Max	Min	Max
Topsoil	GL		0.20	0.45	0.20	0.45	NR	NR
Made Ground	GL		0.25	1.10	0.25	1.10	NR	NR
Alluvium	0.20	0.90	0.50	2.10	0.10	1.70	12*	13*
Beenham Grange Gravel Member	0.25	2.10	3.00	6.50	1.00	5.30	5	21

Stratum	Top Depth (m)		Base Depth (m)		Thickness (m)		SPT N Value	
	Min	Max	Min	Max	Min	Max	Min	Max
Seaford Chalk Formation	3.00	6.50	10.00	10.00	>3.50	>7.00	0	17
* SPTs impacted by underlying granular material								

Hydrogeology

3.14 During the investigation, groundwater was encountered within the Beenham Gravel and Sand Member at all exploratory hole locations at depths of between 1.0m and 2.0m bgl. Additionally, a perched pocket of groundwater was identified at 0.4m bgl in TP04 within Made Ground.

3.15 During the groundwater monitoring, resting groundwater levels were recorded between 0.53m bgl and 2.0m bgl, which correlates to between 43.42m and 43.64m AOD. An inferred groundwater flow diagram is presented as **Drawing 4**, indicating general groundwater flow is towards the east. The boreholes have response zones predominantly within the gravels; however, a response zone was also located within the Alluvium and chalk also. Therefore, the monitoring indicates that the groundwater bodies at the site are in hydraulic continuity with each other.

3.16 Groundwater levels appear quite consistent across the site, and in areas of increased Alluvium thickness, groundwater levels were noted to rise above the levels of the gravels indicating that the Alluvium is locally confining the underlying aquifer.

Contamination Observations

3.17 No visual or olfactory evidence of contamination was identified during the ground investigation.

3.18 During the gas and groundwater monitoring, marginally elevated PID readings of 24.4ppm and 64.2ppm were recorded within DS01 and DS03.

4. SAND AND GRAVEL MINERAL RESOURCE

Background

4.1 The site is located within a Minerals Safeguarding Area (MSA) as identified in West Berkshire Council Minerals and Waste Local Plan (2022 - 2037) (MWLP).

4.2 Policy 9 of the MWLP states that:

"Minerals Safeguarding

'Minerals Safeguarding Areas' (MSAs) have been defined which safeguard the following from sterilisation by non-mineral development:

a. Known construction aggregate mineral deposits(31);

b. Existing (including those with planning permission yet to be implemented) and allocated mineral extraction sites;

In addition, the following Minerals Infrastructure is safeguarded against development that would unnecessarily prevent or prejudice the operation of the infrastructure:

c. Potential, planned and existing minerals associated infrastructure, including rail sites and mineral processing plant sites.

Non-mineral development in Minerals Safeguarding Areas or affecting Minerals Safeguarded Infrastructure may be considered acceptable in the following circumstances:

d. The proposal would not prejudice or detrimentally affect the extraction of underlying mineral resources, or the operation of a planned or existing mineral extraction site, or the operation of potential, planned or existing minerals associated infrastructure; or

e. It can be demonstrated that the underlying mineral is of no economic, or potential economic value, or that the mineral could not be extracted from the site for other valid planning reasons; or

f. Where a mineral resource underlies a prospective development site and prior extraction, or partial prior extraction of the mineral resources can be undertaken in advance of, or as part of, the proposed development; or

g. It can be demonstrated that the need for the proposed development outweighs the need to conserve the mineral resources, or maintain the operational capability of the minerals associated infrastructure; or

h. The proposed development is aligned with the specifications for a site allocated within an adopted local plan or neighbourhood plan, and the allocation was considered in light of this safeguarding policy."

4.3 The purpose of this report is to assess the existing ground conditions at the site with respect to the above criteria and to present this assessment such that the recovery or otherwise of the Sand and Gravel mineral beneath the site can be considered.

Potential Sand and Gravel Deposits

4.4 The ground conditions beneath the site are discussed in detail in **Section 3.0**. An analysis of this data with respect to the granular Beenham Sand and Gravel Member has been undertaken; quantities are based on statistical derivatives and are presented in **Table 4:1** below.

Table 4:1: Statistical Analysis

Element	Mean	Standard Deviation
Overburden Thickness (m)	1.10	0.53
Sand and Gravel Thickness (m)	2.97	1.56
Groundwater depth (m bgl)	1.29	0.54
Sand and Gravel thickness above groundwater (m)	0.16	1.15

4.5 Intrusive investigation works have shown that the Alluvium encountered beneath the site is primarily cohesive and has been assumed as part of the overburden. Particle Size Distribution testing of samples of the Beenham Sand and Gravel recorded most samples to have between 10.3% and 2.1% fines, although one sample recorded fins of over 20%.

4.6 For quantitative analysis, cohesive elements overlying the mineral have been considered as part of the overburden and would require stripping and on-site storing during any mineral abstraction exercise. **Table 3:1** also indicates the variability in the potential resource available.

4.7 The total area of the proposed development is approximately 5.5 hectares. The site final redevelopment levels are approximately 1.0-1.5m above existing levels therefore it is not anticipated that the existing ground will be significantly disturbed. There will be a need to support adjoining land which will reduce the workable area by at least 20%. The resultant potential workable area is therefore some 4.4 hectares.

4.8 **Table 4:2** presents the resultant volumes of sand and gravel that could potentially be abstracted from beneath the site. It should be noted that the BGS have suggested that some deposits can be considered uneconomic to abstract if less than 10 hectares in area.

Table 4:2: Potential Extraction Volume of Sand and Gravel

Element	Quantity (m^3)
Overburden	48,400
Sand & Gravel (total)	130,680
Sand & Gravel (above groundwater)	7,040

4.9 In order to maximise the quantities of extracted sand and gravel, **Table 4:2** indicates that there would have to be extensive dewatering measures put in place. Given the relatively high permeability of the deposit, such dewatering would lead to significant

additional costs. In addition, the dewatering and associated groundwater drawdown in the local area would run the risk of destabilising nearby structures including the electricity pylon on site and residential properties to the north and west and infrastructure around the site including the M4 motorway to the east. Large excavations / quarrying that may influence the National Highways (NH) asset would need to be done in consultation with HE and would likely require a full site of works in accordance with CD622 to ensure we weren't destabilising their asset.

4.10 The groundwater is likely to be in continuity with the underlying Chalk and therefore dewatering may not be practical without installation of deep retaining walls socketed into the Chalk Aquifer.

4.11 Utilising four 4 x 2 rigid tipper vehicles with a nominal carrying capacity of some 10 tonnes would result in some 21,000 vehicular movements to and from the site. An additional 21,000 vehicular movements would be required to transport infill material to provide the required finished site levels giving total vehicular movements, in addition to redevelopment traffic, of approximately 42,000 movements. Utilising 8 x 4 rigid tippers, if allowable, would reduce this to some 21,000 movements.

5. CONCLUSIONS

5.1 Based upon ground investigations undertaken in and around the site, not insignificant deposits of sand and gravel exist, however the following issues of extraction are likely to render the deposit economically and environmentally unviable:

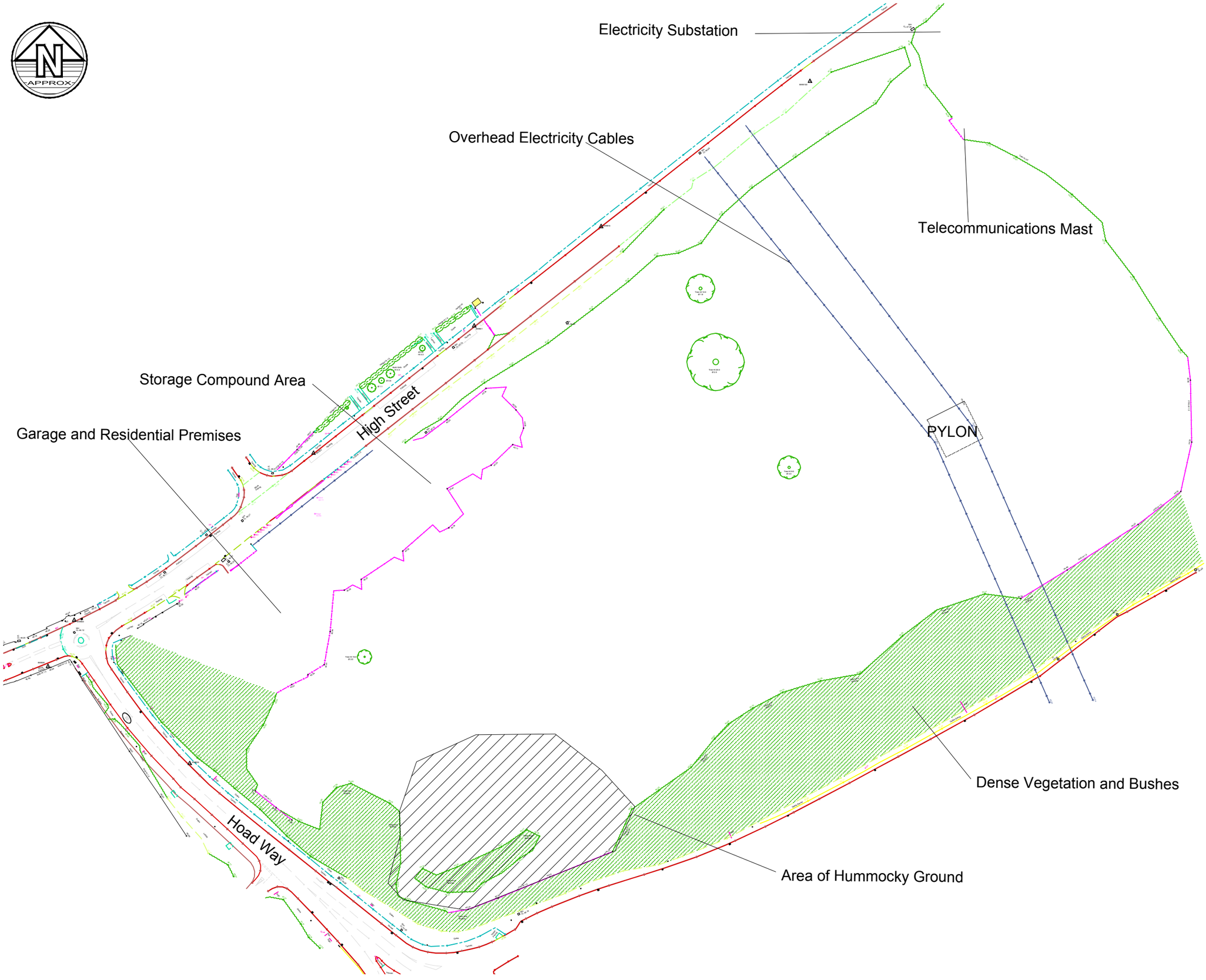
- Limited suitable / easily accessible resource thickness;
- High groundwater levels and saturation of the gravel deposit;
- Dewatering and stability issues, including associated costs; and
- Vehicular movements and resultant environmental impact.

5.2 As such it is concluded that in accordance with Policy 9 (e) of the MWLP the deposit is of little commercial interest and is unlikely to be so in the future. Furthermore, due to the proximity of the M4 and the potential for deep excavations to destabilise the asset that NH would object to extraction of the mineral or limit the extraction to a levels that is economically unviable.

5.3 The mineral resource will remain in the ground beyond the life span of the building; therefore, development will not permanently sterilise the resource should it become economically viable to extract in the future.

DRAWINGS

Drawing 1: Site Layout Plan



Notes

1. Do not scale this drawing. All dimensions must be checked/ verified on site. If in doubt ask.
2. This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
3. All dimensions in millimetres unless noted otherwise. All levels in metres unless noted otherwise.
4. Any discrepancies noted on site are to be reported to the engineer immediately.

Key Plan

Legend

Rev	Date	Details of issue / revision	Drw	Rev

Issues & Revisions

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Client
First Panattoni

Project Title
Theale, Reading

Drawing Title
Site Layout

Drawn:	CR		Reviewed:	KES	
BWB Ref:	NTE2460	Date:	Oct 18	Scale@A3:	NTS

Drawing Status
Final

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
THR-BWB-ZZ-XX-DR-YE-0001	**P1**	**V1**

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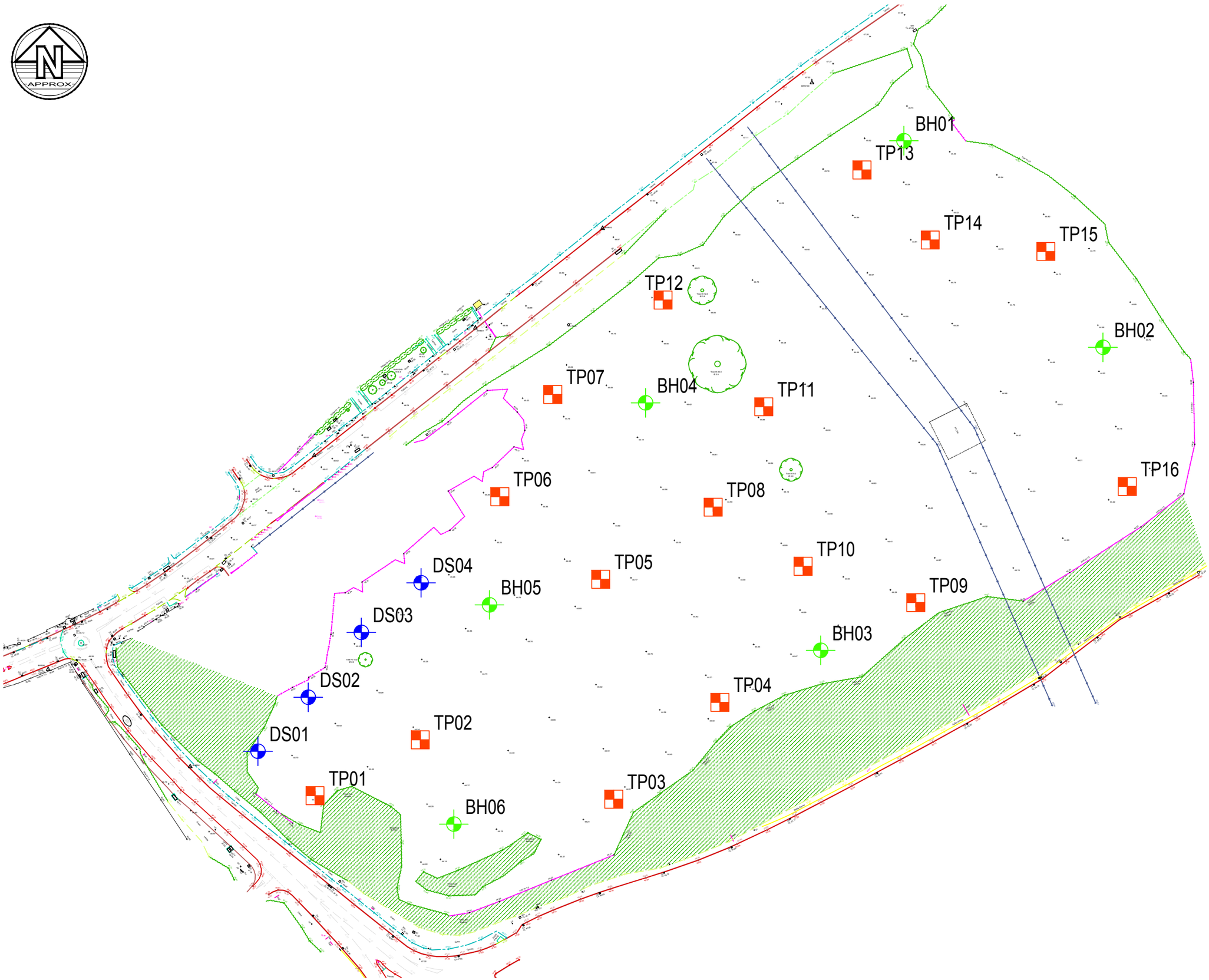
Drawing 2: Exploratory Hole Location Plan



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Key Plan

Legend

- BH01 — Cable percussive borehole location
- TP01 — Trial pit location
- DS01 — Dynamic sampler borehole location

Rev	Date	Details of issue / revision	Drw	Rev

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Client
First Panattoni

Project Title
Theale, Reading

Drawing Title
Exploratory Hole Location Plan

Drawn:	CR		Reviewed:	KES	
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Drawing Status
Final

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
THR-BWB-ZZ-XX-DR-YE-0002	P1	V1

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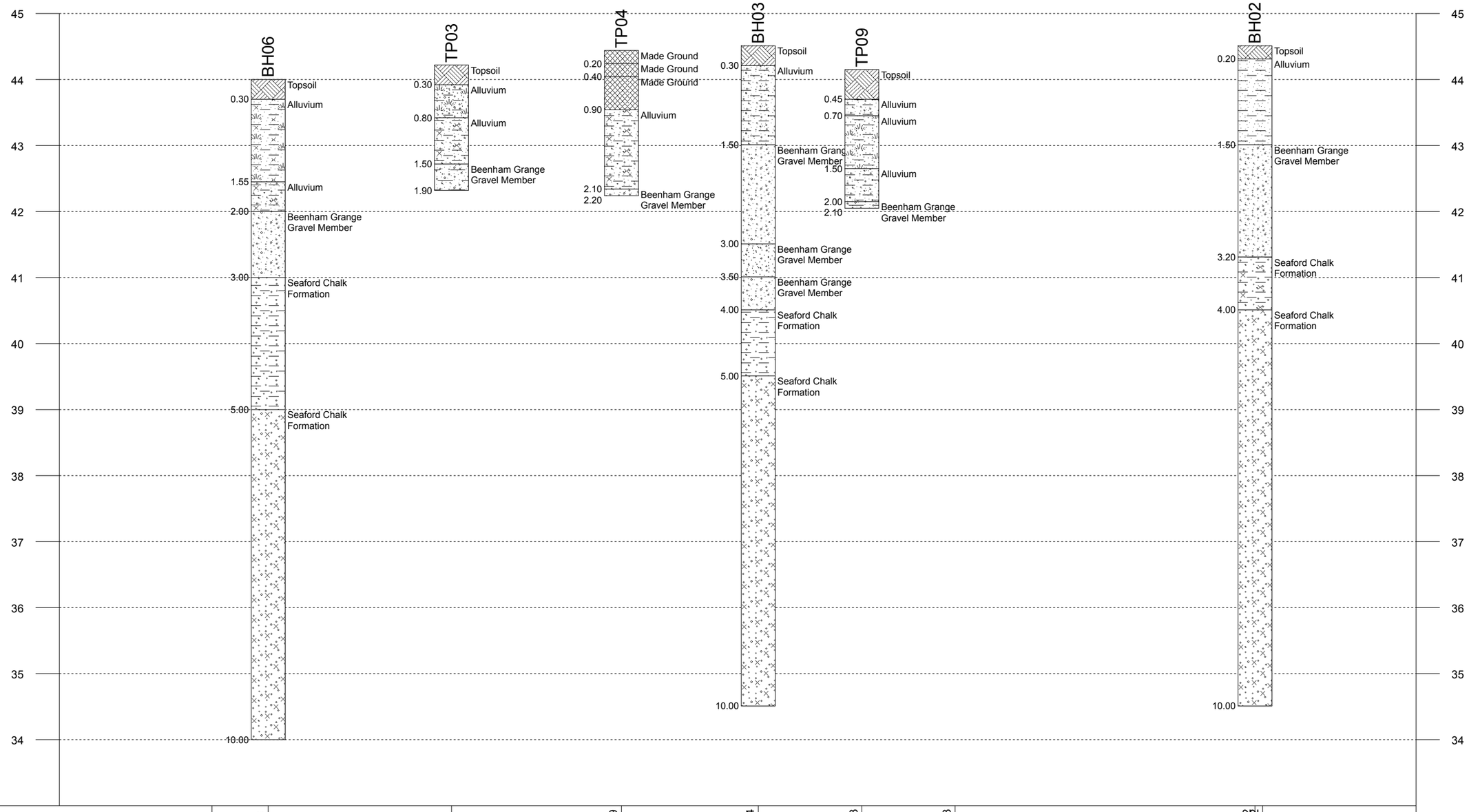
Drawing 3: Inferred Geological Cross Section

Project Id: NTE2460	Title: Section Line
Project Title: Theale, Reading	Vertical Scale: 1:64
Location: Theale, Reading	Horizontal Scale: 1:1215
Client: First Panattoni	Engineer:

Legend Key

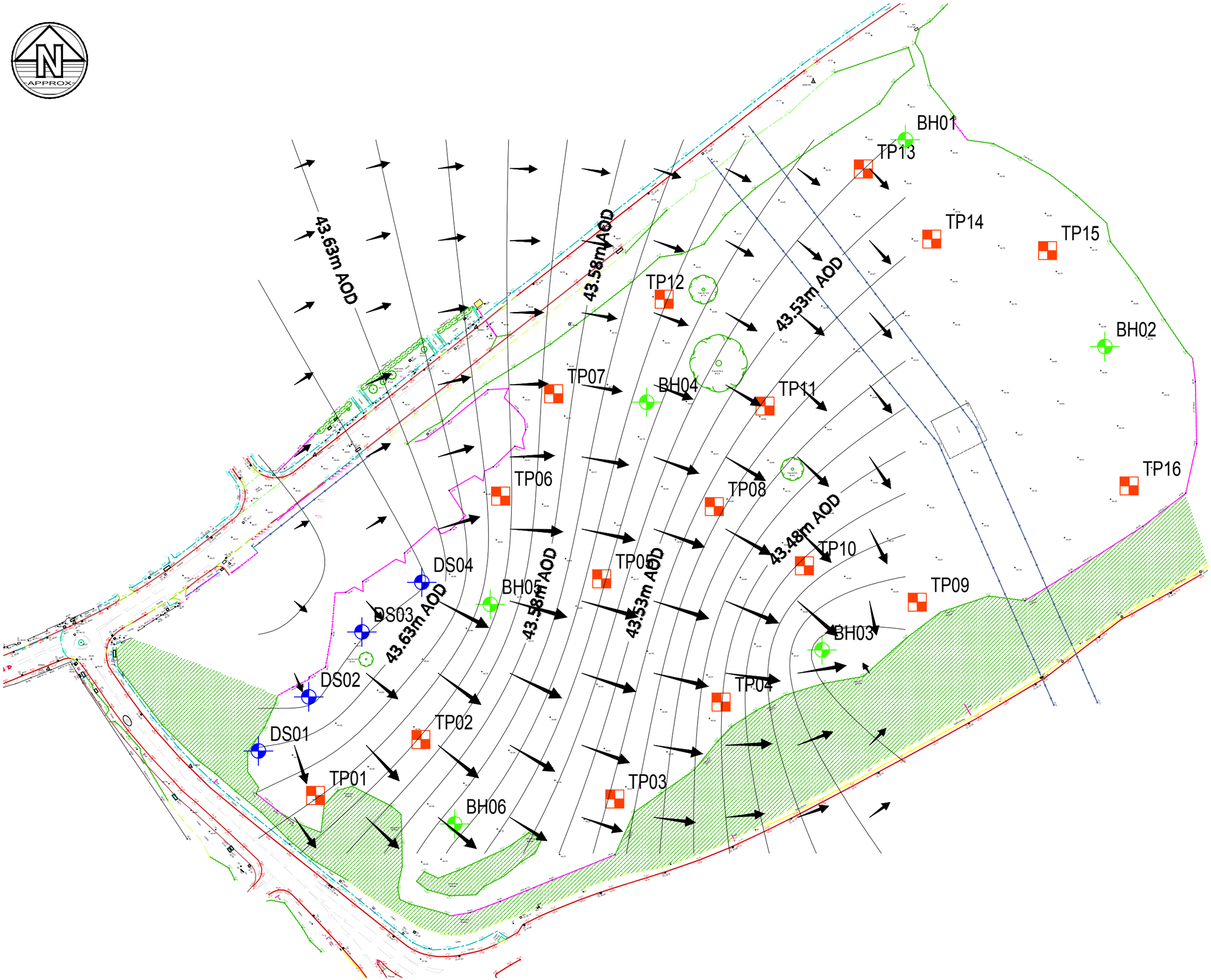
- TOPSOIL
- MADE GROUND
- Sandy CLAY
- Sandy gravelly CLAY
- Sandy gravelly organic CLAY
- Silty sandy organic CLAY
- Silty sandy gravelly CLAY
- Sandy organic CLAY
- Sandy GRAVEL
- Clayey sandy GRAVEL
- Gravelly SAND
- Silty gravelly CLAY
- Gravelly CLAY
- Silty GRAVEL



33.00

Chainage (m)	0.00	16.18	68.91	117.79	157.14	186.93	213.73	300.02 302.22
Offset (m)		3.14	18.19	11.58	10.62	12.98		8.67
Elevation (mAOD)		44.00	44.22	44.44	44.51	44.15		44.51

Drawing 4: Inferred Groundwater Flow Diagram



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Key Plan

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BH01	Cable percussive borehole location
TP01	Trial pit location
DS01	Dynamic sampler borehole location

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THR-BWB-ZZ-XX-DR-YE-0004	**P1**	**V1**

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APPENDICES

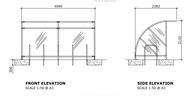
Appendix 1: Proposed Site Masterplan

Boundaries

- Red Line Boundary
- NDA
- Security Fence

01 WASTE MANAGEMENT STORE
Concrete base with 2.4m high timber palisade fencing with galvanized structure.

02 BICYCLE STORE
Urban Engineering 'Series A' or similar and approved Polycarbonate transparent sheets with polyester powder coated steel frame.
Colour: White (BS00E55) Shetfield steel cycle racks or similar and approved to accommodate 10 cycles per shelter.



Arrangement and quantity of Cycle Stands within the Cycle Store area in accordance with planning requirements

Refer to site plan for location and positioning.

03 BOUNDARY SECURITY FENCE

Typical Paladin Fencing:
The perimeter of the service yards will be provided with 2.4m high paladin fencing. Post and panels to be black finish. Fences to be suitably set back from vehicular areas to reduce risk of accidental impact. Fencing / landscaping to be co-ordinated such that a maximum gap beneath fence is 100mm.

04 KNEE RAIL FENCING
Made from softwood guaranteed for 25 years.
Galvanised strap for longer life
5 year treatment guarantee
Height 1.20m with planed finish.

05 DOCK APRON RETAINING WALL
External retaining walls to the sides of the dock access will be also of fair faced concrete. Armco barrier galvanised mild steel and handrailing is to be provided adjacent to the retaining wall to level access ramps. The barrier uprights are to be surface fixed to the concrete.

06-07 VEHICLE AND PEDESTRIAN GATES:

To security sensitive areas near the main access road, vehicle gate is to be black steel paladin, 2.4m high to BS 1722-12:2006 (including concrete foundations). Gates to hinge open and be able to be held in the open position by providing bolt sleeves. Posts to be square section powder coated black steel with capped tops, cast in concrete bases.

07 AUTO CANTILEVERED SLIDING GATE

2.4m high Paladin automated sliding Gates.

Rev	Date	Iss. By	App. By	Description
P1	26/07/23		ELF	Revised Layout.
P2	03/08/23		ELF	Access to Unit 1 moved.
P3	04/08/23		ELF	Car Park layout updated.
P4	08/08/23		ELF	Update site layout as per latest comments from Panattoni.
P5	09/08/23		ELF	Issued for Planning.

Red Line Boundary

Name	Area (Hectares)	Area (Acres)
Site Gross Area	5.43 hectare	13.41 acres
Total Area	5.43 hectare	13.41 acres

Planning Site Area Schedule

Name	Area (Hectares)	Area (Acres)
Net Dev Area Unit 1	0.98 hectare	2.42 acres
Net Dev Area Unit 2	1.04 hectare	2.58 acres
Total Area	2.02 hectare	4.99 acres

UNIT 1 GIA Area Schedule

Name	Area (m²)	Area (ft²)
Unit 1 Escape Stair	24.29 m²	261.48 ft²
Unit 1 GF Core	86.68 m²	933.06 ft²
Unit 1 Mezzanine Office	415.76 m²	4,475.16 ft²
Unit 1 Warehouse	4,029.72 m²	43,375.58 ft²
	4,556.45 m²	49,045.27 ft²

UNIT 2 GIA Area Schedule

Name	Area (m²)	Area (ft²)
Unit 2 Escape Stair	24.29 m²	261.48 ft²
Unit 2 GF Core	86.68 m²	933.06 ft²
Unit 2 Mezzanine Office	415.76 m²	4,475.16 ft²
Unit 2 Warehouse	4,561.56 m²	49,100.20 ft²
	5,088.29 m²	54,769.90 ft²

TOTAL GIA

Name	Area (m²)	Area (ft²)
<varies>	9,644.74 m²	103,815.17 ft²
	9,644.74 m²	103,815.17 ft²

GEA Schedule

Name	Area (m²)	Area (ft²)
<varies>	9,889.97 m²	106,454.73 ft²
Total GEA:	9,889.97 m²	106,454.73 ft²

SCALE 1:1000
0m 50m 100m

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Architects + Masterplanners
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2a Smith Way
Grove Park
Enderby
Leicester LE19 1SX
t: +44 (0)116 247 0557
www.stephengeorge.co.uk
Theale, Reading

Drawing Name:
Site Plan

Drawing Stage: **Planning**

Status: **S0**

SGP File Ref: 18-095-SGP-ZZ-ZZ-M3-A-00000

SGP Project No	Date	Drawn	Team	Scale	Rev
18-095	26/07/23	ELF	MMS	As indicated @ A1	P5

Drawing Number:
XX-XXX-SGP-ZZ-ZZ-DR-A- 131001
Project Code Originator Volume Level Type Role Number

Appendix 2: BWB Exploratory Hole Records

BOREHOLE LOG

Scale 1:50 Sheet 1 of 2

LOCATION ID					
BH01	**Project Name:** Theale, Reading			**Ground Level (m AOD):**	45.43
	Project Number: NTE2460			**Eastings:**	464828.05
	Client: First Panattoni			**Northings:**	171597.35
Hole Type: CP	**Rig:** Dando 2000	**Start & End Date:**	25/09/2018	**Engineer:** CR	**Checker:**

Groundwater			Strata			Samples				In-Situ Tests			
Strike	Strike Details	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (Ublows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
			[0.20]	Firm friable light brown slightly silty slightly sandy CLAY with occasional rootlets. (Topsoil)		0.20	B	0.20	0.50				
			45.23 [1.40]				D	0.50	1.00				
				Firm friable light brown slightly gravelly sandy CLAY. Gravel is fine to coarse angular to rounded flint. (Alluvium)						S	1.20	N=12 (3,2/2,2,3,5)	
▼ 1.6m bgl							B	1.50	1.50				
			43.83 [1.80]	Medium dense light brown slightly sandy GRAVEL. Gravel is fine to coarse angular to rounded flint. (Beenham Grange Gravel Member)		1.60	D	2.00	2.45	S	2.00	N=20 (3,3/3,5,6,6)	2.00m (0.80m bgl)
							D	3.00	3.00	S	3.00	N=11 (4,3/3,3,3,2)	3.00m (1.00m bgl)
			42.03 [1.60]	Medium dense light grey slightly sandy GRAVEL. Gravel is fine to coarse angular to rounded flint and chert. (Beenham Grange Gravel Member)		3.40	D	4.00	4.00	S	4.00	N=15 (3,4/4,4,3,4)	4.00m (2.50m bgl)
			40.43 [5.00]	White slightly silty slightly GRAVEL with moderate cobble content. Gravel is fine to coarse subangular chalk and occasional angular to subrounded flint (Seaford Chalk Formation)		5.00	D	5.00	5.00	S	5.00	N=8 (1,2/2,2,2,2)	5.00m (3.10m bgl)
							B	5.50	5.50				
										S	6.50	N=9 (2,2/3,2,2,2)	6.50m (3.50m bgl)
							D	7.00	7.00				
							D	8.00	8.00	S	8.00	N=11 (3,3/2,3,2,4)	8.00m (5.20m bgl)
							D	9.00	9.00				
										S	9.50	N=13 (2,2/2,3,4,4)	9.50m (5.80m bgl)

Chiseling		
From (m bgl)	To (m bgl)	Time (hh:mm)

Water Added		
From (m bgl)	To (m bgl)	Volume (l)

Remarks

Reason for Termination:

Borehole terminated at target depth.

Groundwater Remarks:

Groundwater strike not recorded as drillers were adding water to assist drilling. Strike estimated by high groundwater levels recorded during SPT.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Borehole installed with 50mm HDPE pipe, rubber bung, gas tap and flush cover.

Legend

Sample Type:
B - Bulk
C - Core
D - Disturbed
ES - Environmental Sample
U - Undisturbed

Groundwater:
Groundwater Strike
Resting Groundwater
NR = Not Recorded

In-Situ Tests
C - Cone Penetration Test
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detection Screen
S - Standard Penetration Test

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BOREHOLE LOG

Scale 1:50 Sheet 2 of 2

LOCATION ID					
BH01	**Project Name:** Theale, Reading			**Ground Level (m AOD):**	45.43
	Project Number: NTE2460			**Eastings:**	464828.05
	Client: First Panattoni			**Northings:**	171597.35
Hole Type: CP	**Rig:** Dando 2000	**Start & End Date:**	25/09/2018	**Engineer:** CR	**Checker:**

Groundwater			Strata			Samples			In-Situ Tests			
Strike	Strike Details	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (Ublows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
			35.43	White slightly silty slightly GRAVEL with moderate cobble content. Gravel is fine to coarse subangular chalk and occasional angular to subrounded flint (Seaford Chalk Formation)		10.00	D	10.00	10.00				
				Hole Terminated at 10.00m bgl.									

Chiseling		
From (m bgl)	To (m bgl)	Time (hh:mm)

Water Added		
From (m bgl)	To (m bgl)	Volume (l)

Remarks

Reason for Termination:

Borehole terminated at target depth.

Groundwater Remarks:

Groundwater strike not recorded as drillers were adding water to assist drilling. Strike estimated by high groundwater levels recorded during SPT.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Borehole installed with 50mm HDPE pipe, rubber bung, gas tap and flush cover.

Legend

Sample Type:
B - Bulk
C - Core
D - Disturbed
ES - Environmental Sample
U - Undisturbed

Groundwater:
Groundwater Strike
Resting Groundwater
NR = Not Recorded

In-Situ Tests
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BOREHOLE LOG

Scale 1:50 Sheet 1 of 2

LOCATION ID				
BH02	**Project Name:** Theale, Reading		**Ground Level (m AOD):** 44.51	
	Project Number: NTE2460		**Eastings:** 464897.21	
	Client: First Panattoni		**Northings:** 171525.58	
Hole Type: CP	**Rig:** Dando 3000	**Start & End Date:** 24/09/2018	**Engineer:** CR	**Checker:**

Groundwater			Strata				Samples			In-Situ Tests			
Strike	Strike Details	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (Ublows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
			[0.20]	Grass over brown slightly clayey slightly gravelly SAND with frequent rootlets. Gravel is angular to subrounded flint and quartzite. (Topsoil)		0.20	B	0.20	0.70				
	1.00m bgl after 20mins		44.31 [1.30]	Soft to firm light brown mottled light grey very sandy CLAY with occasional sand pockets. (Alluvium)						S	1.20	N=12 (1,1/1,2,4,5)	0.00m (NR)
	1.5m bgl		43.01 [1.70]	Medium dense light brown slightly sandy GRAVEL. Gravel is fine to coarse angular to rounded flint. (Beenham Grange Gravel Member)		1.50	B	1.50	2.00				
							B	2.00	2.50	S	2.00	N=11 (2,3/3,3,3,2)	2.00m (1.00m bgl)
										S	3.00	N=11 (2,2/3,2,3,3)	3.00m (1.50m bgl)
			41.31 [0.80]	Soft white gravelly silty CLAY. Gravel is fine to coarse subangular chalk. (Seaford Chalk Formation)		3.20	B	3.20	4.00				
			40.51 [6.00]	White slightly silty slightly GRAVEL with moderate cobble content. Gravel is fine to coarse subangular chalk and occasional angular to subrounded flint (Seaford Chalk Formation)		4.00	B	4.00	4.50	S	4.00	N=0 (0,0/0,0,0,0)	4.00m (2.00m bgl)
							B	5.00	5.50	S	5.00	N=4 (1,0/1,1,1,1)	5.00m (3.00m bgl)
							B	6.00	6.50	S	6.00	N=4 (1,0/1,0,1,2)	6.00m (3.00m bgl)
							B	7.50	8.00	S	7.50	N=17 (1,0/2,4,5,6)	7.50m (4.00m bgl)
							B	9.00	9.50	S	9.00	N=10 (5,1/0,1,4,5)	9.00m (4.00m bgl)

Chiseling		
From (m bgl)	To (m bgl)	Time (hh:mm)

Water Added		
From (m bgl)	To (m bgl)	Volume (l)

Remarks

Reason for Termination:

Borehole terminated at target depth.

Groundwater Remarks:

Groundwater encountered at 1.5m rising to 1m after 20 minutes.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Borehole backfilled with arisings upon completion.

Legend

Sample Type:
B - Bulk
C - Core
D - Disturbed
ES - Environmental Sample
U - Undisturbed

Groundwater:
Groundwater Strike
Resting Groundwater
NR = Not Recorded

In-Situ Tests
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HSV - Hand Shear Vane Test
PID - Photo Ionisation Detection Screen
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BOREHOLE LOG

Scale 1:50 Sheet 2 of 2

LOCATION ID					
BH02	**Project Name:** Theale, Reading			**Ground Level (m AOD):**	44.51
	Project Number: NTE2460			**Eastings:**	464897.21
	Client: First Panattoni			**Northings:**	171525.58
Hole Type: CP	**Rig:** Dando 3000	**Start & End Date:**	24/09/2018	**Engineer:** CR	**Checker:**

Groundwater			Strata			Samples			In-Situ Tests			
Strike	Strike Details	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (Ublows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
			34.51	White slightly silty slightly GRAVEL with moderate cobble content. Gravel is fine to coarse subangular chalk and occasional angular to subrounded flint (Seaford Chalk Formation)		10.00	D	10.00	10.00	S	10.00	N=11 (1,1/2,2,3,4)	9.00m (4.00m bgl)
				Hole Terminated at 10.00m bgl.									

Chiseling		
From (m bgl)	To (m bgl)	Time (hh:mm)

Water Added		
From (m bgl)	To (m bgl)	Volume (l)

Remarks

Reason for Termination:

Borehole terminated at target depth.

Groundwater Remarks:

Groundwater encountered at 1.5m rising to 1m after 20 minutes.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Borehole backfilled with arisings upon completion.

Legend

Sample Type:
B - Bulk
C - Core
D - Disturbed
ES - Environmental Sample
U - Undisturbed

Groundwater:
Groundwater Strike
Resting Groundwater
NR = Not Recorded

In-Situ Tests
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BOREHOLE LOG

Scale 1:50 Sheet 1 of 2

LOCATION ID					
BH03	**Project Name:** Theale, Reading			**Ground Level (m AOD):**	44.51
	Project Number: NTE2460			**Eastings:**	464799.12
	Client: First Panattoni			**Northings:**	171420.36
Hole Type: CP	**Rig:** Dando 3000	**Start & End Date:**	24/09/2018 - 25/09/2018	**Engineer:** CR	**Checker:**

Groundwater			Strata				Samples			In-Situ Tests			
Strike	Strike Details	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (Ublows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
			[0.30]	Grass over dark brown slightly clayey slightly gravelly SAND with frequent rootlets. Gravel is angular to subrounded fine to coarse flint and quartzite. (Topsoil)			B	0.10	1.00				
			44.21 [1.20]			0.30							
				Firm brown sandy gravelly CLAY. Gravel is fine to coarse angular to subrounded flint. (Alluvium)						S	1.00	N=13 (3,3/2,3,3,5)	1.00m (NR)
	1.00m bgl after 20mins												
	1.5m bgl		43.01 [1.50]	Medium dense light brown slightly sandy GRAVEL. Gravel is fine to coarse angular to rounded flint and occasional chalk. (Beenham Grange Gravel Member)		1.50	B	1.50	2.00				
							B	2.00	2.50	S	2.00	N=16 (1,2/3,5,4,4)	2.00m (1.00m bgl)
			41.51 [0.50]	Medium dense brown slightly gravelly SAND. Gravel is fine and medium chalk and flint. (Beenham Grange Gravel Member)		3.00	B	3.00	3.50	S	3.00	N=19 (1,2/5,4,5,5)	3.00m (1.00m bgl)
			41.01 [0.50]	Light brown slightly sandy GRAVEL with low cobble content. Gravel is fine to coarse angular to rounded flint and occasional chalk. (Beenham Grange Gravel Member)		3.50							
			40.51 [1.00]	Very soft cream and orange brown gravelly CLAY. Gravel is fine to coarse angular to rounded chalk. (Seaford Chalk Formation)		4.00	B ES	4.00 4.00	4.50 4.50	S	4.00	N=3 (1,1/1,1,1,0)	4.00m (2.00m bgl)
			39.51 [5.00]	White slightly silty slightly GRAVEL with moderate cobble content. Gravel is fine to coarse subangular chalk and occasional angular to subrounded flint (Seaford Chalk Formation)		5.00	B	5.00	5.50	S	5.00	N=1 (1,0/1,0,0,0)	5.00m (3.00m bgl)
							B	6.00	6.50	S	6.00	N=0 (0,0/0,0,0,0)	6.00m (3.00m bgl)
							B	7.50	8.00	S	7.50	N=3 (0,0/1,0,1,1)	7.50m (2.00m bgl)
							B	9.00	9.50	S	9.00	N=7 (4,3/2,1,2,2)	9.00m (3.00m bgl)

Chiseling		
From (m bgl)	To (m bgl)	Time (hh:mm)

Water Added		
From (m bgl)	To (m bgl)	Volume (l)

Remarks

Reason for Termination:

Borehole terminated at target depth.

Groundwater Remarks:

Groundwater encountered at 1.5m rising to 1m after 20 minutes.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Borehole installed with 50mm HDPE pipe, rubber bung, gas tap and flush cover.

Legend

Sample Type:
B - Bulk
C - Core
D - Disturbed
ES - Environmental Sample
U - Undisturbed

Groundwater:
Groundwater Strike
Resting Groundwater
NR = Not Recorded

In-Situ Tests
C - Cone Penetration Test
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detection Screen
S - Standard Penetration Test

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BOREHOLE LOG

Scale 1:50 Sheet 2 of 2

LOCATION ID					
BH03	**Project Name:** Theale, Reading			**Ground Level (m AOD):**	44.51
	Project Number: NTE2460			**Eastings:**	464799.12
	Client: First Panattoni			**Northings:**	171420.36
Hole Type: CP	**Rig:** Dando 3000	**Start & End Date:**	24/09/2018 - 25/09/2018	**Engineer:** CR	**Checker:**

Groundwater			Strata				Samples			In-Situ Tests			
Strike	Strike Details	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (Ublows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
			34.51	White slightly silty slightly GRAVEL with moderate cobble content. Gravel is fine to coarse subangular chalk and occasional angular to subrounded flint (Seaford Chalk Formation)		10.00	D	10.00	10.00				
				Hole Terminated at 10.00m bgl.						S	10.50	N=10 (1,1/1,1,3,5)	10.50m (3.00m bgl)

Chiseling		
From (m bgl)	To (m bgl)	Time (hh:mm)

Water Added		
From (m bgl)	To (m bgl)	Volume (l)

Remarks

Reason for Termination:

Borehole terminated at target depth.

Groundwater Remarks:

Groundwater encountered at 1.5m rising to 1m after 20 minutes.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Borehole installed with 50mm HDPE pipe, rubber bung, gas tap and flush cover.

Legend

Sample Type:
B - Bulk
C - Core
D - Disturbed
ES - Environmental Sample
U - Undisturbed

Groundwater:
Groundwater Strike
Resting Groundwater
NR = Not Recorded

In-Situ Tests
C - Cone Penetration Test
HSV - Hand Shear Vane Test
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BOREHOLE LOG

Scale 1:50 Sheet 1 of 2

LOCATION ID					
BH04	**Project Name:** Theale, Reading			**Ground Level (m AOD):**	44.13
	Project Number: NTE2460			**Eastings:**	464738.26
	Client: First Panattoni			**Northings:**	171506.28
Hole Type: CP	**Rig:** Dando 2000	**Start & End Date:**	25/09/2018	**Engineer:** CR	**Checker:**

Groundwater			Strata				Samples			In-Situ Tests			
Strike	Strike Details	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (Ublows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
			[0.20]	Firm brown slightly gravelly sandy CLAY with occasional rootlets. Gravel is fine to coarse angular to subrounded flint. (Topsoil)		0.20	B	0.20	0.50				
			43.93 [1.00]				D	0.50	1.00				
	1.00m bgl after 20mins			Very soft dark brown gravelly sandy CLAY. Gravel is fine to coarse angular to subrounded flint. (Alluvium)									
			42.93 [5.30]	Loose to medium dense light brown slightly sandy GRAVEL. Gravel is fine to coarse angular to rounded flint. (Beenham Grange Gravel Member)		1.20				S	1.20	N=6 (2,1/1,1,2,2)	
							B	1.50	1.50				
	2m bgl						D	2.00	2.45	S	2.00	N=11 (2,2/3,3,2,3)	2.00m (1.00m bgl)
							D	3.00	3.00	S	3.00	N=11 (4,4/4,3,2,2)	3.00m (2.80m bgl)
							D	4.00	4.00	S	4.00	N=15 (4,3/3,5,4,3)	4.00m (3.10m bgl)
							D	5.00	5.00	S	5.00	N=17 (3,4/4,4,4,5)	5.00m (3.30m bgl)
							D	6.00	6.00				
			37.63 [3.50]	White and pale brown slightly clayey slightly silty GRAVEL. Gravel is fine to coarse subangular chalk and occasional angular to subrounded flint. (Seaford Chalk Formation)		6.50	B	6.50	6.50	S	6.50	N=3 (1,1/2,1,0,0)	6.50m (3.70m bgl)
							D	8.00	8.00	S	8.00	N=7 (2,3/2,1,2,2)	8.00m (4.20m bgl)
							D	9.00	9.00				
										S	9.50	N=10 (2,4/2,3,3,2)	9.50m (4.50m bgl)

Chiseling		
From (m bgl)	To (m bgl)	Time (hh:mm)

Water Added		
From (m bgl)	To (m bgl)	Volume (l)

Remarks

Reason for Termination:

Borehole terminated at target depth.

Groundwater Remarks:

Groundwater encountered at 2m rising to 1m after 20 minutes.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Borehole backfilled with arisings upon completion.

Legend

Sample Type:
B - Bulk
C - Core
D - Disturbed
ES - Environmental Sample
U - Undisturbed

Groundwater:
Groundwater Strike
Resting Groundwater
NR = Not Recorded

In-Situ Tests
C - Cone Penetration Test
HSV - Hand Shear Vane Test
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BOREHOLE LOG

Scale 1:50 Sheet 2 of 2

LOCATION ID					
BH04	**Project Name:** Theale, Reading			**Ground Level (m AOD):**	44.13
	Project Number: NTE2460			**Eastings:**	464738.26
	Client: First Panattoni			**Northings:**	171506.28
Hole Type: CP	**Rig:** Dando 2000	**Start & End Date:**	25/09/2018	**Engineer:** CR	**Checker:**

Groundwater			Strata			Samples			In-Situ Tests			
Strike	Strike Details	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (Ublows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
			34.13	White and pale brown slightly clayey slightly silty GRAVEL. Gravel is fine to coarse subangular chalk and occasional angular to subrounded flint. (Seaford Chalk Formation)		10.00	D	10.00	10.00				
				Hole Terminated at 10.00m bgl.									

Chiseling		
From (m bgl)	To (m bgl)	Time (hh:mm)

Water Added		
From (m bgl)	To (m bgl)	Volume (l)

Remarks

Reason for Termination:

Borehole terminated at target depth.

Groundwater Remarks:

Groundwater encountered at 2m rising to 1m after 20 minutes.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Borehole backfilled with arisings upon completion.

Legend

Sample Type:
B - Bulk
C - Core
D - Disturbed
ES - Environmental Sample
U - Undisturbed

Groundwater:
Groundwater Strike
Resting Groundwater
NR = Not Recorded

In-Situ Tests
C - Cone Penetration Test
HSV - Hand Shear Vane Test
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BOREHOLE LOG

Scale 1:50 Sheet 1 of 2

LOCATION ID					
BH05	**Project Name:** Theale, Reading			**Ground Level (m AOD):** 44.75	
	Project Number: NTE2460			**Eastings:** 464684.01	
	Client: First Panattoni			**Northings:** 171436.14	
Hole Type: CP	**Rig:** Dando 3000	**Start & End Date:** 25/09/2018 - 26/09/2018		**Engineer:** CR	**Checker:**

Groundwater			Strata				Samples			In-Situ Tests			
Strike	Strike Details	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (Ublows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
			[0.30]	Brown gravelly SAND with occasional rootlets. Gravel is fine to coarse angular to rounded flint.			B	0.10	1.00				
			44.45				B	0.10	1.00				
			[0.70]	(Topsoil)		0.30							
				Firm friable gravelly sandy CLAY. Gravel is fine to coarse angular to rounded flint.									
	1.00m bgl after 20mins			(Alluvium)									
			43.75			1.00				S	1.00	N=5 (2,2/1,1,1,2)	1.00m (NR)
			[0.50]	Brown slightly clayey sandy GRAVEL. Gravel is fine to coarse angular to rounded flint.									
	1.5m bgl			(Beenham Grange Gravel Member)									
			43.25			1.50	B	1.50	2.00				
			[3.40]	Medium dense becoming loose brown slightly sandy GRAVEL. Gravel is fine to coarse angular to rounded flint.									
				Becoming light brown from 3.0m.			B	2.00	2.50	S	2.00	N=21 (1,4/6,4,5,6)	2.00m (1.00m bgl)
				(Beenham Grange Gravel Member)									
							B	3.00	3.50	S	3.00	N=13 (1,2/3,4,3,3)	3.00m (2.00m bgl)
							B	4.00	4.50	S	4.00	N=9 (1,2/3,3,1,2)	4.00m (3.00m bgl)
			39.85			4.90							
			[1.10]	Very soft cream gravelly CLAY. Gravel is fine to coarse subangular chalk and angular flint.			B	5.00	5.50	S	5.00	N=3 (1,1/1,1,1,0)	5.00m (4.00m bgl)
				(Seaford Chalk Formation)									
			38.75			6.00	B	6.00	6.50	S	6.00	N=4 (1,0/1,1,1,1)	6.00m (4.00m bgl)
			[4.00]	White slightly silty slightly GRAVEL with moderate cobble content. Gravel is fine to coarse subangular chalk and occasional angular to subrounded flint			ES	6.00	6.50				
				(Seaford Chalk Formation)									
							B	7.50	8.00	S	7.50	N=1 (1,0/0,1,0,0)	7.50m (4.00m bgl)
							B	9.00	9.50	S	9.00	N=3 (1,0/1,1,0,1)	9.00m (4.00m bgl)

Chiseling		
From (m bgl)	To (m bgl)	Time (hh:mm)

Water Added		
From (m bgl)	To (m bgl)	Volume (l)

Remarks

Reason for Termination:

Borehole terminated at target depth.

Groundwater Remarks:

Groundwater encountered at 1.5m rising to 1m after 20 minutes.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Borehole backfilled with arisings upon completion.

Legend

Sample Type:
B - Bulk
C - Core
D - Disturbed
ES - Environmental Sample
U - Undisturbed

Groundwater:
Groundwater Strike
Resting Groundwater
NR = Not Recorded

In-Situ Tests
C - Cone Penetration Test
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detection Screen
S - Standard Penetration Test

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BOREHOLE LOG

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LOCATION ID					
BH05	**Project Name:** Theale, Reading			**Ground Level (m AOD):**	44.75
	Project Number: NTE2460			**Eastings:**	464684.01
	Client: First Panattoni			**Northings:**	171436.14
Hole Type: CP	**Rig:** Dando 3000	**Start & End Date:**	25/09/2018 - 26/09/2018	**Engineer:** CR	**Checker:**

Groundwater			Strata			Samples			In-Situ Tests			
Strike	Strike Details	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (Ublows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
			34.75	White slightly silty slightly GRAVEL with moderate cobble content. Gravel is fine to coarse subangular chalk and occasional angular to subrounded flint (Seaford Chalk Formation)		10.00	D	10.00	10.00	S	10.00	N=3 (1,1/0,1,1,1)	9.00m (4.00m bgl)
				Hole Terminated at 10.00m bgl.									

Chiseling		
From (m bgl)	To (m bgl)	Time (hh:mm)

Water Added		
From (m bgl)	To (m bgl)	Volume (l)

Remarks

Reason for Termination:

Borehole terminated at target depth.

Groundwater Remarks:

Groundwater encountered at 1.5m rising to 1m after 20 minutes.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Borehole backfilled with arisings upon completion.

Legend

Sample Type:
B - Bulk
C - Core
D - Disturbed
ES - Environmental Sample
U - Undisturbed

Groundwater:
Groundwater Strike
Resting Groundwater
NR = Not Recorded

In-Situ Tests
C - Cone Penetration Test
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detection Screen
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BOREHOLE LOG

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LOCATION ID					
BH06	**Project Name:** Theale, Reading			**Ground Level (m AOD):** 44.00	
	Project Number: NTE2460			**Eastings:** 464671.00	
	Client: First Panattoni			**Northings:** 171360.00	
Hole Type: CP	**Rig:** Dando 3000	**Start & End Date:** 25/09/2018		**Engineer:** CR	**Checker:**

Groundwater			Strata				Samples			In-Situ Tests			
Strike	Strike Details	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (Ublows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
			[0.30]	Soft brown slightly silty slightly sandy CLAY with occasional rootlets.			B	0.10	1.00				
			43.70 [1.25]	(Topsoil)		0.30							
				Soft dark brown sandy peaty CLAY with organic odour and organic relics. (Alluvium)			U	1.00	1.00				
	1.00m bgl after 20mins						D	1.50	1.50				
	1.5m bgl		42.45 [0.45]	Very soft grey and light grey slightly silty slightly sandy slightly gravelly CLAY with occasional organic relics. Gravel is coarse angular flint.		1.55							
			42.00 [1.00]	(Alluvium)		2.00	B	2.00	2.00	S	2.00	N=16 (1,2/3,3,4,6)	2.00m (1.00m bgl)
				Medium dense light brown sandy GRAVEL with low cobble content. Gravel is fine to coarse angular to rounded flint. (Beenham Grange Gravel Member)			D	2.00	2.50				
			41.00 [2.00]	Soft white and pale brown gravelly CLAY. Gravel is fine to coarse subangular chalk and occasional angular to subrounded flint. (Seaford Chalk Formation)		3.00	D	3.00	3.00	S	3.00	N=9 (2,3/1,2,3,3)	3.00m (2.00m bgl)
							B	4.00	4.45	S	4.00	N=7 (0,1/3,2,1,1)	4.00m (3.00m bgl)
			39.00 [5.00]	White slightly silty slightly GRAVEL with moderate cobble content. Gravel is fine to coarse subangular chalk and occasional angular to subrounded flint (Seaford Chalk Formation)		5.00	B	5.00	5.50	S	5.00	N=2 (1,0/0,1,1,0)	5.00m (3.00m bgl)
							B	6.00	6.50	S	6.00	N=5 (1,0/1,1,1,2)	6.00m (3.00m bgl)
							B	7.50	8.00	S	7.50	N=3 (1,0/0,1,1,1)	7.50m (4.00m bgl)
							B	9.00	9.50	S	9.00	N=12 (1,0/5,3,2,2)	9.00m (4.00m bgl)

Chiseling		
From (m bgl)	To (m bgl)	Time (hh:mm)

Water Added		
From (m bgl)	To (m bgl)	Volume (l)

Remarks

Reason for Termination:

Borehole terminated at target depth.

Groundwater Remarks:

Groundwater encountered at 1.5m rising to 1m after 20 minutes.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Borehole installed with dual 50mm and 19mm HDPE pipe, rubber bung, gas tap and flush cover. 3. Coordinates estimated from topographic survey.

Legend

Sample Type:
B - Bulk
C - Core
D - Disturbed
ES - Environmental Sample
U - Undisturbed

Groundwater:
Groundwater Strike
Resting Groundwater
NR = Not Recorded

In-Situ Tests
C - Cone Penetration Test
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detection Screen
S - Standard Penetration Test

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BOREHOLE LOG

Scale 1:50 Sheet 2 of 2

LOCATION ID					
BH06	**Project Name:** Theale, Reading			**Ground Level (m AOD):**	44.00
	Project Number: NTE2460			**Eastings:**	464671.00
	Client: First Panattoni			**Northings:**	171360.00
Hole Type: CP	**Rig:** Dando 3000	**Start & End Date:**	25/09/2018	**Engineer:** CR	**Checker:**

Groundwater			Strata			Samples			In-Situ Tests			
Strike	Strike Details	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (Ublows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
			34.00	White slightly silty slightly GRAVEL with moderate cobble content. Gravel is fine to coarse subangular chalk and occasional angular to subrounded flint (Seaford Chalk Formation)		10.00	D	10.00	10.00	S	10.00	N=10 (1,1/2,2,3,3)	10.00m (3.00m bgl)
				Hole Terminated at 10.00m bgl.									

Chiseling		
From (m bgl)	To (m bgl)	Time (hh:mm)

Water Added		
From (m bgl)	To (m bgl)	Volume (l)

Remarks

Reason for Termination:

Borehole terminated at target depth.

Groundwater Remarks:

Groundwater encountered at 1.5m rising to 1m after 20 minutes.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Borehole installed with dual 50mm and 19mm HDPE pipe, rubber bung, gas tap and flush cover. 3. Coordinates estimated from topographic survey.

Legend

Sample Type:
B - Bulk
C - Core
D - Disturbed
ES - Environmental Sample
U - Undisturbed

Groundwater:
Groundwater Strike
Resting Groundwater
NR = Not Recorded

In-Situ Tests
C - Cone Penetration Test
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BOREHOLE LOG

Scale 1:50 Sheet 1 of 1

LOCATION ID				
DS01	**Project Name:** Theale, Reading		**Ground Level (m AOD):**	44.95
	Project Number: NTE2460		**Eastings:**	464603.57
	Client: First Panattoni		**Northings:**	171385.32
Hole Type: WLS	**Rig:** Geotool	**Start & End Date:** 25/09/2018	**Engineer:** JA	**Checker:**

Groundwater			Strata				Samples			In-Situ Tests			
Strike	Strike Details	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (Ublows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
			[0.40]	Firm brown slightly sandy slightly gravelly CLAY with frequent rootlets. Gravel is angular to subrounded fine to coarse flint, quartzite, coal and brick. (Made Ground)		0.40							
			44.55 [0.40]										
			44.15 [0.20]	Firm light brown mottled orange slightly sandy slightly gravelly CLAY with occasional relic rootlets. Gravel is angular and subangular fine to coarse chalk and flint. (Alluvium)		0.80	D	0.80	0.90				
▼	1m bgl 1.00m bgl after 20mins		43.95 [4.00]			1.00	ES	0.90	1.00				
				Soft greyish brown slightly gravelly sandy CLAY with occasional relic rootlets. Gravel is angular and subangular fine to coarse flint. (Alluvium)									
				Orangish brown sandy GRAVEL. Gravel is angular to subrounded fine to coarse flint. (Beenham Grange Gravel Member)			ES	2.20	2.30				
				From 1.80m to 1.85m bgl: Pocket of medium and coarse sand. *Below 1.90m bgl: Slightly clayey and dark greyish brown.*									
				From 3.00m to 5.00m bgl: No recovery- gravels pushed to side.									
			39.95	Hole Terminated at 5.00m bgl.		5.00							

Chiseling		
From (m bgl)	To (m bgl)	Time (hh:mm)

Water Added		
From (m bgl)	To (m bgl)	Volume (l)

Remarks

Reason for Termination:

Borehole terminated at target depth.

Groundwater Remarks:

Wet soils noted at 1.0m

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Borehole installed with 50mm HDPE pipe, rubber bung, gas tap and flush cover.

Legend

Sample Type:
B - Bulk
C - Core
D - Disturbed
ES - Environmental Sample
U - Undisturbed

Groundwater:
Groundwater Strike
Resting Groundwater
NR = Not Recorded

In-Situ Tests
C - Cone Penetration Test
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detection Screen
S - Standard Penetration Test

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BOREHOLE LOG

Scale 1:50 Sheet 1 of 1

LOCATION ID				
DS02	**Project Name:** Theale, Reading		**Ground Level (m AOD):** 44.85	
	Project Number: NTE2460		**Eastings:** 464621.02	
	Client: First Panattoni		**Northings:** 171404.06	
Hole Type: WLS	**Rig:** Geotool	**Start & End Date:** 26/09/2018	**Engineer:** JA	**Checker:**

Groundwater			Strata				Samples			In-Situ Tests			
Strike	Strike Details	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (Ublows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
			[0.30]	Dark brown slightly gravelly clayey SAND with frequent rootlets. Gravel is angular to subrounded fine to coarse flint, quartzite, chalk and brick. (Made Ground)			ES	0.10	0.20				
			44.55 [0.40]			0.30							
			44.15 [2.30]	Brown clayey gravelly SAND. Gravel is angular and subangular fine to coarse flint and chalk. (Beenham Grange Gravel Member)		0.70							
▼	1m bgl 1.00m bgl after 20mins						ES	1.00	1.10		1.00	N=13 (4,4/3,4,3,3)	
				Medium dense grey sandy GRAVEL. Gravel is angular and subangular fine to coarse chalk and flint. (Beenham Grange Gravel Member)									
				Below 1.50m bgl: Orangish brown							2.00	N=15 (4,5/4,3,4,4)	
			41.85	Hole Terminated at 3.00m bgl.		3.00					3.00	N=9 (2,3/2,3,2,2)	

Chiseling		
From (m bgl)	To (m bgl)	Time (hh:mm)

Water Added		
From (m bgl)	To (m bgl)	Volume (l)

Remarks

Reason for Termination:

Borehole terminated at target depth.

Groundwater Remarks:

Wet soils noted at 1.0m.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Borehole installed with 50mm HDPE pipe, rubber bung, gas tap and flush cover.

Legend

Sample Type:
B - Bulk
C - Core
D - Disturbed
ES - Environmental Sample
U - Undisturbed

Groundwater:
Groundwater Strike
Resting Groundwater
NR = Not Recorded

In-Situ Tests
C - Cone Penetration Test
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detection Screen
S - Standard Penetration Test

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BOREHOLE LOG

Scale 1:50 Sheet 1 of 1

LOCATION ID				
DS03	**Project Name:** Theale, Reading		**Ground Level (m AOD):** 45.41	
	Project Number: NTE2460		**Eastings:** 464639.49	
	Client: First Panattoni		**Northings:** 171426.59	
Hole Type: WLS	**Rig:** Geotool	**Start & End Date:** 27/09/2018	**Engineer:** JA	**Checker:**

Groundwater			Strata			Samples			In-Situ Tests			
Strike	Strike Details	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (Ublows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
			[0.40]	Dark brown slightly gravelly clayey SAND with frequent rootlets. Gravel is angular to subrounded fine to coarse flint, brick and clinker. (Made Ground)		0.40	ES	0.20	0.30				
			45.01 [0.30]										
			44.71 [4.30]	Orangish brown slightly gravelly clayey SAND with rare rootlets. Gravel is angular and subangular fine to coarse flint. (Beenham Grange Gravel Member)		0.70							
1.2m bgl 1.20m bgl after 20mins				Brown slightly sandy GRAVEL. Gravel is angular and subangular fine to coarse flint. (Beenham Grange Gravel Member)			ES	2.70	2.80				
				Below 1.20m bgl: Damp, sandy (medium and coarse) and orangish brown.									
				Below 1.40m bgl: Occasionally slightly clayey.									
			40.41	Hole Terminated at 5.00m bgl.		5.00							

Chiseling		
From (m bgl)	To (m bgl)	Time (hh:mm)

Water Added		
From (m bgl)	To (m bgl)	Volume (l)

Remarks

Reason for Termination:

Borehole terminated at target depth.

Groundwater Remarks:

Wet soils noted at 1.2m.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Borehole installed with 50mm HDPE pipe, rubber bung, gas tap and flush cover.

Legend

Sample Type:
B - Bulk
C - Core
D - Disturbed
ES - Environmental Sample
U - Undisturbed

Groundwater:
Groundwater Strike
Resting Groundwater
NR = Not Recorded

In-Situ Tests
C - Cone Penetration Test
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detection Screen
S - Standard Penetration Test

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BOREHOLE LOG

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LOCATION ID				
DS04	**Project Name:** Theale, Reading		**Ground Level (m AOD):** 45.36	
	Project Number: NTE2460		**Eastings:** 464660.24	
	Client: First Panattoni		**Northings:** 171443.81	
Hole Type: WLS	**Rig:** Geotool	**Start & End Date:** 28/09/2018	**Engineer:** JA	**Checker:**

Groundwater			Strata			Samples			In-Situ Tests			
Strike	Strike Details	Well	Level (m AOD) & [Thickness (m)]	Description	Legend	Depth (m bgl)	Type (Ublows)	From (m)	To (m)	Type	Depth (m)	Result	Casing Depth & (Water Level)
			[0.25]	Dark brown slightly gravelly clayey SAND with frequent rootlets. Gravel is angular to subrounded fine to coarse flint and brick. (Made Ground)		0.25							
			45.11 [2.75]	Medium dense light brown slightly sandy GRAVEL with occasional rootlets. Gravel is angular to subrounded fine to coarse flint. (Beenham Grange Gravel Member)							1.00	N=21 (8,7/5,6,5,5)	
				Below 0.95m bgl: Damp and dark orangish brown.			ES	1.50	1.60				
▼	1.8m bgl 1.80m bgl after 20mins			*Below 1.00m bgl: Occasionally slightly clayey.*							2.00	N=13 (4,4/3,3,3,4)	
							ES	2.70	2.80				
			42.36	Hole Terminated at 3.00m bgl.		3.00					3.00	N=11 (3,3/3,3,3,2)	

Chiseling		
From (m bgl)	To (m bgl)	Time (hh:mm)

Water Added		
From (m bgl)	To (m bgl)	Volume (l)

Remarks

Reason for Termination:

Borehole terminated at target depth.

Groundwater Remarks:

Wet soils noted at 1.8m.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Borehole installed with 50mm HDPE pipe, rubber bung, gas tap and flush cover.

Legend

Sample Type:
B - Bulk
C - Core
D - Disturbed
ES - Environmental Sample
U - Undisturbed

Groundwater:
Groundwater Strike
Resting Groundwater
NR = Not Recorded

In-Situ Tests
C - Cone Penetration Test
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detection Screen
S - Standard Penetration Test

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TRIAL PIT LOG

Scale: 1:20 Sheet 1 of 1

LOCATION ID:	**Project Name:** Theale, Reading		
TP01	**Project Number:** NTE2460		Pit Dimensions (m) Degrees
	Client: First Panattoni		
Hole Type: TP	**Plant:** JCB 3CX	**Start & End Date:** 26/09/2018	Stability: Significant side wall collapse in gravels.
Ground Level (m AOD): 44.65		**Eastings & Northings:** 464623E 171370N	Engineer: JA / Checker:

Groundwater		Strata						Samples			In-Situ Tests		
Strike	Strike Details	Backfill	Level (m AOD)	Thickness	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
			44.40	0.25m	Soft brown slightly gravelly sandy CLAY with abundant rootlets. Gravel is fine to coarse angular to subangular flint, quartzite and coal. (Topsoil)		0.25	ES	0.10	0.10			
				0.75m	Firm and stiff light grey mottled orange slightly sandy slightly gravelly CLAY. Gravel is fine to coarse angular to subrounded flint. (Alluvium)			D	0.30	0.30	HSV	0.30	(92, 80, 56)kPa
▼	1m bgl 1.00m bgl after 20mins		43.65	0.50m	Orangish brown slightly clayey sandy GRAVEL. Gravel is fine to coarse angular to subrounded flint. (Beenham Grange Gravel Member)		1.00	B	1.30	1.30			
			43.15		Hole Terminated at 1.50m bgl.		1.50						

Remarks

Reason for Termination:

Trial pit terminated due to ingress of groundwater and poor stability

Groundwater Notes:

Significant groundwater ingress from gravels.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Trial pit backfilled with arisings upon completion.

Legend

Samples:
B - Bulk
D - Disturbed
ES - Environmental Sample

Groundwater Strikes:
Groundwater Strike Resting
Groundwater Level

In-Situ Tests:
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detector Test

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TRIAL PIT LOG

Scale: 1:20 Sheet 1 of 1

LOCATION ID:	**Project Name:** Theale, Reading		
TP02	**Project Number:** NTE2460		Pit Dimensions (m) Degrees
	Client: First Panattoni		
Hole Type: TP	**Plant:** JCB 3CX	**Start & End Date:** 26/09/2018	Stability: Significant side wall collapse in gravels.
Ground Level (m AOD): 44.34		**Eastings & Northings:** 464660E 171389N	Engineer: JA / Checker:

Groundwater		Strata					Samples			In-Situ Tests		
Strike	Strike Details	Backfill	Level (m AOD)	Thickness	Description	Legend / Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
			44.04	0.30m	Soft to firm brown slightly gravelly sandy CLAY with abundant rootlets. Gravel is fine to coarse angular to subangular flint and quartzite. (Topsoil)	0.30						
			43.64	0.40m	Soft to firm dark brown slightly gravelly sandy organic CLAY with frequent relic rootlets. Gravel is fine to coarse angular to subrounded flint. (Alluvium)	0.70						
▼	0.70m bgl after 20mins			0.60m	Very soft to soft dark grey mottled orange slightly gravelly sandy CLAY. Gravel is fine to coarse angular to subrounded flint. (Alluvium)		D	0.80	0.80	HSV	0.80	(8, 12, 12)kPa
							ES	1.20	1.20			
▽	1.4m bgl		43.04	0.20m	Orangish brown slightly clayey sandy GRAVEL. Gravel is fine to coarse angular to subrounded flint. (Beenham Grange Gravel Member)	1.30						
			42.84		Hole Terminated at 1.50m bgl.	1.50						

Remarks

Reason for Termination:

Trial pit terminated due to ingress of groundwater and poor stability

Groundwater Notes:

Significant groundwater ingress from gravels.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Trial pit backfilled with arisings upon completion.

Legend

Samples:
B - Bulk
D - Disturbed
ES - Environmental Sample

Groundwater Strikes:
▽ Groundwater Strike Resting
▼ Groundwater Level

In-Situ Tests:
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detector Test

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LOCATION ID:	**Project Name:** Theale, Reading		
TP03	**Project Number:** NTE2460		Pit Dimensions (m) Degrees
	Client: First Panattoni		
Hole Type: TP	**Plant:** JCB 3CX	**Start & End Date:** 26/09/2018	Stability: Significant side wall collapse in gravels.
Ground Level (m AOD): 44.22		**Eastings & Northings:** 464727E 171369N	Engineer: JA / Checker:

Groundwater		Strata						Samples			In-Situ Tests		
Strike	Strike Details	Backfill	Level (m AOD)	Thickness	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
			43.92	0.30m	Soft dark brown slightly gravelly sandy CLAY with frequent rootlets. Gravel is fine to coarse angular to subrounded flint and quartzite. (Topsoil)		0.30						
			43.42	0.50m	Soft dark brown slightly silty slightly gravelly organic CLAY with frequent organic relics. Gravel is fine to coarse angular to subrounded flint. (Alluvium)		0.80	ES	0.40	0.40			
▼	1.20m bgl after 20mins		42.72	0.70m	Very soft to soft bluish grey slightly silty slightly sandy slightly gravelly CLAY. Gravel is fine to coarse angular to subrounded flint. (Alluvium)		1.50	D	1.00	1.00	HSV	1.00	(14, 12, 12)kPa
▽	1.5m bgl		42.32	0.40m	Orangish brown slightly sandy slightly clayey GRAVEL. Gravel is fine to coarse angular to subrounded flint. (Beenham Grange Gravel Member)		1.90	B	1.80	1.80			
					Hole Terminated at 1.90m bgl.								

Remarks

Reason for Termination:

Trial pit terminated due to ingress of groundwater and poor stability

Groundwater Notes:

Significant groundwater ingress from gravels.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Trial pit backfilled with arisings upon completion.

Legend

Samples:
B - Bulk
D - Disturbed
ES - Environmental Sample

Groundwater Strikes:
Groundwater Strike Resting
Groundwater Level

In-Situ Tests:
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detector Test

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LOCATION ID:	**Project Name:** Theale, Reading		
TP04	**Project Number:** NTE2460		Pit Dimensions (m) Degrees
	Client: First Panattoni		
Hole Type: TP	**Plant:** JCB 3CX	**Start & End Date:** 26/09/2018	Stability: Significant side wall collapse in gravels.
Ground Level (m AOD): 44.44		**Eastings & Northings:** 464766E 171399N	Engineer: JA / Checker:

Groundwater		Strata						Samples			In-Situ Tests		
Strike	Strike Details	Backfill	Level (m AOD)	Thickness	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
			44.24	0.20m	Brown slightly clayey slightly gravelly SAND with frequent rootlets. Gravel is fine to coarse angular to subrounded flint, quartzite and tile. (Made Ground)		0.20						
			44.04	0.20m	Orangish brown slightly gravelly clayey SAND. Gravel is fine to coarse angular to subrounded flint. (Possible reworked Natural Material) (Made Ground)		0.40	ES	0.30	0.30			
▼	0.4m bgl			0.50m	Orangish brown slightly sandy clayey GRAVEL. Gravel is fine to coarse angular to subrounded flint. (Possible reworked Natural Material) (Made Ground)								
			43.54				0.90						
				1.20m	Soft to firm light grey mottled orange slightly sandy slightly silty gravelly CLAY. Gravel is fine to coarse angular to subrounded flint. (Strata recorded between 1.1m and 1.8m in western face). (Alluvium)			D	1.20	1.20	HSV	1.20	(34, 28, 34)kPa
▼	1.8m bgl										HSV	1.80	(33, 37, 30)kPa
			42.34	0.10m	Orangish brown sandy GRAVEL. Gravel is fine to coarse angular to subangular flint. (Beenham Grange Gravel Member)		2.10						
			42.24		Hole Terminated at 2.20m bgl.		2.20						

Remarks

Reason for Termination:

Trial pit terminated due to ingress of groundwater and poor stability

Groundwater Notes:

Minor ingress at 0.4m. Significant ingress at 1.8m.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Trial pit backfilled with arisings upon completion.

Legend

Samples:
B - Bulk
D - Disturbed
ES - Environmental Sample

Groundwater Strikes:
Groundwater Strike Resting
Groundwater Level

In-Situ Tests:
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detector Test

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LOCATION ID:	**Project Name:** Theale, Reading		
TP05	**Project Number:** NTE2460		Pit Dimensions (m) Degrees
	Client: First Panattoni		
Hole Type: TP	**Plant:** JCB 3CX	**Start & End Date:** 26/09/2018	Stability: Significant side wall collapse in gravels.
Ground Level (m AOD): 44.54		**Eastings & Northings:** 464719E 171449N	Engineer: JA / Checker:

Groundwater		Strata					Samples			In-Situ Tests		
Strike	Strike Details	Backfill	Level (m AOD)	Thickness	Description	Legend / Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
			44.14	0.40m	Brown slightly clayey slightly gravelly SAND with frequent rootlets. Gravel is fine to coarse angular to subangular flint. (Topsoil)	0.40	ES	0.30	0.30			
			43.84	0.30m	Soft dark brown slightly gravelly sandy organic CLAY with organic relics and odour. Gravel is fine to coarse angular to subrounded flint. (Alluvium)	0.70	ES	0.60	0.60			
			43.64	0.20m	Very soft light grey slightly sandy gravelly CLAY. Gravel is fine to coarse angular to subangular flint. (Alluvium) *Below 0.80m bgl: Gravelly.*	0.90	D	0.80	0.80	HSV	0.80	(10, 12, 16)kPa
▼	1.5m bgl		43.04	0.60m	Orangish brown sandy GRAVEL. Gravel is fine to coarse angular to subangular flint. (Beenham Grange Gravel Member)	1.50						
					Hole Terminated at 1.50m bgl.							

Remarks

Reason for Termination:

Trial pit terminated due to ingress of groundwater and poor stability

Groundwater Notes:

Significant groundwater ingress from gravels.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Trial pit backfilled with arisings upon completion.

Legend

Samples:
B - Bulk
D - Disturbed
ES - Environmental Sample

Groundwater Strikes:
Groundwater Strike Resting
Groundwater Level

In-Situ Tests:
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detector Test

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LOCATION ID:	**Project Name:** Theale, Reading		
TP06	**Project Number:** NTE2460		Pit Dimensions (m) Degrees
	Client: First Panattoni		
Hole Type: TP	**Plant:** JCB 3CX	**Start & End Date:** 26/09/2018	Stability: Significant side wall collapse in gravels.
Ground Level (m AOD): 45.02		**Eastings & Northings:** 464692E 171461N	Engineer: JA / Checker:

Groundwater		Strata						Samples			In-Situ Tests		
Strike	Strike Details	Backfill	Level (m AOD)	Thickness	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
			44.62	0.40m	Brown slightly clayey slightly gravelly SAND with frequent rootlets. Gravel is fine to coarse angular to subrounded flint. (Topsoil)			ES	0.20	0.20			
			44.52	0.10m	Soft firm light brown mottled orange slightly sandy gravelly CLAY with occasional rootlets. Gravel is fine to coarse angular to subrounded flint. (Alluvium)		0.40						
▼	1.5m bgl			1.25m	Dark greyish brown sandy GRAVEL. Gravel is fine to coarse angular to subrounded flint. (Beenham Grange Gravel Member)		0.50						
			43.27		Hole Terminated at 1.75m bgl.		1.75	B	1.70	1.70			

Remarks

Reason for Termination:

Trial pit terminated due to ingress of groundwater and poor stability

Groundwater Notes:

Significant groundwater ingress from gravels.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Trial pit backfilled with arisings upon completion.

Legend

Samples:
B - Bulk
D - Disturbed
ES - Environmental Sample

Groundwater Strikes:
Groundwater Strike Resting
Groundwater Level

In-Situ Tests:
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detector Test

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LOCATION ID:	**Project Name:** Theale, Reading		
TP07	**Project Number:** NTE2460		Pit Dimensions (m) Degrees
	Client: First Panattoni		
Hole Type: TP	**Plant:** JCB 3CX	**Start & End Date:** 26/09/2018	Stability: Significant side wall collapse in gravels.
Ground Level (m AOD): 44.76		**Eastings & Northings:** 464708E 171506N	Engineer: JA / Checker:

Groundwater		Strata						Samples			In-Situ Tests		
Strike	Strike Details	Backfill	Level (m AOD)	Thickness	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
			44.41	0.35m	Brown slightly clayey slightly gravelly SAND with frequent rootlets. Gravel is fine to coarse angular to subrounded flint, quartzite and brick. (Topsoil)		0.35	ES	0.20	0.20			
			44.06	0.35m	Soft to firm orangish brown slightly gravelly sandy CLAY with frequent rootlets. Gravel is fine to coarse angular to rounded flint. Becoming grey from 0.5m. (Alluvium) *Below 0.50m bgl: Grey.*		0.70	D	0.50	0.50			
▽	1.20m bgl after 20mins			0.80m	Greyish brown sandy GRAVEL. Gravel is fine to coarse angular to subrounded flint. (Beenham Grange Gravel Member) *At 0.70m bgl: Derelict waterpipe.*			B	1.40	1.40			
▽	1.45m bgl		43.26		Hole Terminated at 1.50m bgl.		1.50						

Remarks

Reason for Termination:

Trial pit terminated due to ingress of groundwater and poor stability

Groundwater Notes:

Significant groundwater ingress from gravels.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Trial pit backfilled with arisings upon completion.

Legend

Samples:
B - Bulk
D - Disturbed
ES - Environmental Sample

Groundwater Strikes:
Groundwater Strike Resting
Groundwater Level

In-Situ Tests:
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detector Test

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LOCATION ID:	**Project Name:** Theale, Reading		
TP08	**Project Number:** NTE2460		Pit Dimensions (m) Degrees
	Client: First Panattoni		
Hole Type: TP	**Plant:** JCB 3CX	**Start & End Date:** 26/09/2018	Stability: Significant side wall collapse in gravels.
Ground Level (m AOD): 44.79		**Eastings & Northings:** 464743E 171470N	Engineer: JA / Checker:

Groundwater		Strata					Samples			In-Situ Tests		
Strike	Strike Details	Backfill	Level (m AOD)	Thickness	Description	Legend / Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
			44.39	0.40m	Dark brown slightly clayey slightly gravelly SAND with frequent rootlets. Gravel is fine to coarse angular to subrounded flint and occasional coal. (Topsoil)	0.40						
			43.99	0.40m	Soft light grey occasionally mottled orange slightly gravelly sandy CLAY with occasional rootlets. Gravel is fine to coarse angular to subangular flint. (Alluvium)	0.80	D	0.50	0.50			
▼	1.5m bgl		43.19	0.80m	Greyish brown sandy GRAVEL. Gravel is angular to subrounded fine to coarse flint. (Beenham Grange Gravel Member)	1.60	ES	1.40	1.40			
					Hole Terminated at 1.60m bgl.							

Remarks

Reason for Termination:

Trial pit terminated due to ingress of groundwater and poor stability

Groundwater Notes:

Groundwater encountered at 1.5m rising to was 1.40m bgl after 20 minutes.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Trial pit backfilled with arisings upon completion.

Legend

Samples:
B - Bulk
D - Disturbed
ES - Environmental Sample

Groundwater Strikes:
Groundwater Strike Resting
Groundwater Level

In-Situ Tests:
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detector Test

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LOCATION ID:	**Project Name:** Theale, Reading		
TP09	**Project Number:** NTE2460		Pit Dimensions (m) Degrees
	Client: First Panattoni		
Hole Type: TP	**Plant:** JCB 3CX	**Start & End Date:** 24/09/2018	Stability: Significant side wall collapse in gravels.
Ground Level (m AOD): 44.15		**Eastings & Northings:** 464826E 171434N	Engineer: JA / Checker:

Groundwater		Strata					Samples			In-Situ Tests		
Strike	Strike Details	Backfill	Level (m AOD)	Thickness	Description	Legend / Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
			44.15			0.00						
				0.45m	Dark brown slightly clayey slightly gravelly SAND with frequent rootlets. Gravel is angular to subrounded fine to coarse flint and quartzite. (Topsoil)							
			43.70			0.45						
				0.25m	Very soft orangish brown slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse flint and quartzite. (Alluvium)		D	0.50	0.50	HSV	0.50	(12, 16, 12)kPa
			43.45			0.70						
				0.80m	Very soft to soft dark brown slightly sandy peaty organic CLAY with frequent relic matter. (Alluvium)		ES	0.90	0.90			
							D	1.40	1.40	HSV	1.40	(25, 26, 19)kPa
			42.65			1.50						
▼	1.80m bgl after 20mins 2m bgl			0.50m	Very soft light grey slightly gravelly sandy CLAY. Gravel is angular to subrounded fine to coarse flint. (Alluvium)							
			42.15			2.00						
			42.05	0.10m	Light grey slightly clayey sandy GRAVEL. Gravel is angular to subrounded fine to coarse flint and chalk. (Beenham Grange Gravel Member)	2.10						
					Hole Terminated at 2.10m bgl.							

Remarks

Reason for Termination:

Trial pit terminated due to ingress of groundwater and poor stability

Groundwater Notes:

Significant groundwater ingress from gravels.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Trial pit backfilled with arisings upon completion.

Legend

Samples:
B - Bulk
D - Disturbed
ES - Environmental Sample

Groundwater Strikes:
Groundwater Strike Resting
Groundwater Level

In-Situ Tests:
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detector Test

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LOCATION ID:	**Project Name:** Theale, Reading		
TP10	**Project Number:** NTE2460		Pit Dimensions (m) Degrees
	Client: First Panattoni		
Hole Type: TP	**Plant:** JCB 3CX	**Start & End Date:** 24/09/2018	Stability: Significant side wall collapse in gravels.
Ground Level (m AOD): 44.88		**Eastings & Northings:** 464795E 171463N	Engineer: JA / Checker:

Groundwater		Strata						Samples			In-Situ Tests		
Strike	Strike Details	Backfill	Level (m AOD)	Thickness	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
			44.58	0.30m	Brown slightly clayey slightly gravelly SAND with frequent rootlets. Gravel is angular to subrounded fine to coarse flint and quartzite. (Topsoil)		0.30						
				0.50m	Light brown slightly clayey slightly gravelly SAND with frequent rootlets. Gravel is angular to subrounded fine to coarse flint and chalk. (Beenham Grange Gravel Member)			ES	0.40	0.40			
			44.08					D	0.70	0.70			
				0.70m	Orangish brown slightly clayey sandy GRAVEL. Gravel is angular to subrounded fine to coarse flint and chalk. (Beenham Grange Gravel Member)		0.80						
▼	1.30m bgl after 20mins 1.4m bgl		43.38		Hole Terminated at 1.50m bgl.		1.50	B	1.40	1.40			

Remarks

Reason for Termination:

Trial pit terminated due to ingress of groundwater and poor stability

Groundwater Notes:

Significant groundwater ingress from gravels.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Trial pit backfilled with arisings upon completion.

Legend

Samples:
B - Bulk
D - Disturbed
ES - Environmental Sample

Groundwater Strikes:
Groundwater Strike Resting
Groundwater Level

In-Situ Tests:
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PID - Photo Ionisation Detector Test

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LOCATION ID:	**Project Name:** Theale, Reading		
TP11	**Project Number:** NTE2460		Pit Dimensions (m) Degrees
	Client: First Panattoni		
Hole Type: TP	**Plant:** JCB 3CX	**Start & End Date:** 24/09/2018	Stability: Significant side wall collapse in gravels.
Ground Level (m AOD): 44.92		**Eastings & Northings:** 464779E 171505N	Engineer: JA / Checker:

Groundwater		Strata					Samples			In-Situ Tests		
Strike	Strike Details	Backfill	Level (m AOD)	Thickness	Description	Legend / Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
			44.57	0.35m	Light brown slightly clayey slightly gravelly SAND with frequent rootlets. Gravel is angular to subrounded fine to coarse flint. (Made Ground)	0.35						
				0.75m	Soft to firm orangish brown slightly sandy slightly gravelly CLAY with frequent organic relics. Gravel is angular to subrounded fine to coarse flint. (Made Ground)		ES	0.90	0.90			
					At 0.80m bgl: Gravel strata is shallower on west face wall.							
					At 0.90m bgl: Barrier tape in east wall face.							
			43.82	0.60m	Light brown slightly sandy GRAVEL with occasional pockets of slightly clayey sand. (Beenham Grange Gravel Member)	1.10	B ES	1.50 1.50	1.50 1.50			
▼	1.50m bgl after 20mins											
▽	1.7m bgl		43.22		Hole Terminated at 1.70m bgl.	1.70						

Remarks

Reason for Termination:

Trial pit terminated due to ingress of groundwater and poor stability

Groundwater Notes:

Significant groundwater ingress from gravels.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Trial pit backfilled with arisings upon completion.

Legend

Samples:
B - Bulk
D - Disturbed
ES - Environmental Sample

Groundwater Strikes:
▽ Groundwater Strike Resting
▼ Groundwater Level

In-Situ Tests:
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detector Test

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LOCATION ID:	**Project Name:** Theale, Reading		
TP12	**Project Number:** NTE2460		Pit Dimensions (m) Degrees
	Client: First Panattoni		
Hole Type: TP	**Plant:** JCB 3CX	**Start & End Date:** 24/09/2018	Stability: Significant side wall collapse in gravels.
Ground Level (m AOD): 44.43		**Eastings & Northings:** 464746E 171533N	Engineer: JA / Checker:

Groundwater		Strata						Samples			In-Situ Tests		
Strike	Strike Details	Backfill	Level (m AOD)	Thickness	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
			44.08	0.35m	Brown slightly clayey slightly gravelly SAND with frequent rootlets. Gravel is angular to subrounded fine to coarse flint, quartzite and tile. (Made Ground)		0.35	ES	0.10	0.10			
			43.83	0.25m	Very soft dark brown slightly silty slightly sandy organic CLAY with occasional relic rootlets. (Alluvium)		0.60	D	0.50	0.50			
			43.53	0.30m	Very soft dark greyish brown sandy organic CLAY with occasional relic matter (Alluvium)		0.90	D	0.75	0.75			
▼	0.90m bgl after 20mins		43.33	0.20m	Very soft light grey mottled orangish brown slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse flint. Becomes gravelly towards base. (Alluvium)		1.10	D ES	1.00 1.00	1.00 1.00			
▽	1.1m bgl		42.93	0.40m	Orangish brown slightly clayey sandy GRAVEL. Gravel is angular to subrounded fine to coarse flint and chalk. (Beenham Grange Gravel Member)		1.50						
					Hole Terminated at 1.50m bgl.								

Remarks

Reason for Termination:

Trial pit terminated due to ingress of groundwater and poor stability

Groundwater Notes:

Significant groundwater ingress from gravels.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Trial pit backfilled with arisings upon completion.

Legend

Samples:
B - Bulk
D - Disturbed
ES - Environmental Sample

Groundwater Strikes:
▽ Groundwater Strike Resting
▼ Groundwater Level

In-Situ Tests:
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detector Test

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TRIAL PIT LOG

Scale: 1:20 Sheet 1 of 1

LOCATION ID:	**Project Name:** Theale, Reading		
TP13	**Project Number:** NTE2460		Pit Dimensions (m) Degrees
	Client: First Panattoni		
Hole Type: TP	**Plant:** JCB 3CX	**Start & End Date:** 24/09/2018	Stability: Significant side wall collapse in gravels.
Ground Level (m AOD): 45.20		**Eastings & Northings:** 464813E 171587N	Engineer: JA / Checker:

Groundwater		Strata						Samples			In-Situ Tests		
Strike	Strike Details	Backfill	Level (m AOD)	Thickness	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
			44.85	0.35m	Brown slightly clayey slightly gravelly SAND with frequent rootlets. Gravel is angular to subrounded fine to coarse, flint and tile. (Made Ground)		0.35						
			44.20	0.65m	Firm to stiff brown mottled light grey and orangish brown friable slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse flint. (Alluvium)		1.00	ES	0.50	0.50			
			43.50	0.70m	Soft brown mottled light grey slightly sandy slightly gravelly CLAY. Gravel is angular to subrounded fine to coarse flint. (Alluvium)		1.70	D	1.20	1.25	HSV	1.25	(38, 38, 38)kPa
▽	1.7m bgl												
▼	1.85m bgl after 20mins		42.90	0.60m	Brown slightly clayey sandy GRAVEL. Gravel is angular to subrounded fine to coarse flint. (Beenham Grange Gravel Member)		2.30	B	2.00	2.10			
					Hole Terminated at 2.30m bgl.								

Remarks

Reason for Termination:

Trial pit terminated due to ingress of groundwater and poor stability

Groundwater Notes:

Significant groundwater ingress from gravels.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Trial pit backfilled with arisings upon completion.

Legend

Samples:
B - Bulk
D - Disturbed
ES - Environmental Sample

Groundwater Strikes:
▽ Groundwater Strike Resting
▼ Groundwater Level

In-Situ Tests:
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detector Test

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TRIAL PIT LOG

Scale: 1:20 Sheet 1 of 1

LOCATION ID: TP14	**Project Name:** Theale, Reading		Pit Dimensions (m) Degrees
	Project Number: NTE2460		
	Client: First Panattoni		
Hole Type: TP	**Plant:** JCB 3CX	**Start & End Date:** 24/09/2018	Stability: Significant side wall collapse in gravels.
Ground Level (m AOD): 44.98		**Eastings & Northings:** 464837E 171563N	Engineer: JA / Checker:

Groundwater		Strata						Samples			In-Situ Tests		
Strike	Strike Details	Backfill	Level (m AOD)	Thickness	Description	Legend	Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
			44.68	0.30m	Brown slightly clayey slightly gravelly SAND with frequent rootlets. Gravel is angular sub-rounded fine to coarse flint and quartzite. (Topsoil)		0.30						
			44.23	0.45m	Orangish brown slightly sandy slightly gravelly CLAY with occasional rootlets. Gravel is angular to subrounded fine to coarse flint and quartzite. (Alluvium)		0.75	D	0.60	0.60			
▼	1.5m bgl		43.28	0.95m	Orangish brown slightly clayey sandy GRAVEL. Gravel is angular to subrounded fine to coarse flint and quartzite. (Beenham Grange Gravel Member)		1.70	ES	1.40	1.40			
					Hole Terminated at 1.70m bgl.								

Remarks

Reason for Termination:

Trial pit terminated due to ingress of groundwater and poor stability

Groundwater Notes:

Significant groundwater ingress from gravels.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Trial pit backfilled with arisings upon completion.

Legend

Samples:
B - Bulk
D - Disturbed
ES - Environmental Sample

Groundwater Strikes:
Groundwater Strike Resting
Groundwater Level

In-Situ Tests:
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detector Test

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TRIAL PIT LOG

Scale: 1:20 Sheet 1 of 1

LOCATION ID:	**Project Name:** Theale, Reading		
TP15	**Project Number:** NTE2460		Pit Dimensions (m) Degrees
	Client: First Panattoni		
Hole Type: TP	**Plant:** JCB 3CX	**Start & End Date:** 24/09/2018	Stability: Significant side wall collapse in gravels.
Ground Level (m AOD): 44.66		**Eastings & Northings:** 464877E 171559N	Engineer: JA / Checker:

Groundwater		Strata					Samples			In-Situ Tests		
Strike	Strike Details	Backfill	Level (m AOD)	Thickness	Description	Legend / Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
			44.26	0.40m	Brown slightly clayey slightly gravelly SAND with frequent rootlets. Gravel is angular to subrounded flint and quartzite. (Topsoil)	0.40						
				0.60m	Firm to stiff orangish brown mottled light grey slightly sandy slightly gravelly CLAY with occasional rootlets. Gravel is angular to subrounded flint and quartzite. (Alluvium)		ES	0.60	0.60			
▼	1.4m bgl		43.66	0.70m	Orangish brown slightly clayey sandy GRAVEL. Gravel is angular to subrounded flint and quartzite. (Beenham Grange Gravel Member) *Below 1.10m bgl: Dark grey.*	1.00	B	1.30	1.30			
			42.96		Hole Terminated at 1.70m bgl.	1.70						

Remarks

Reason for Termination:

Trial pit terminated due to ingress of groundwater and poor stability

Groundwater Notes:

Significant groundwater ingress from gravels.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Trial pit backfilled with arisings upon completion.

Legend

Samples:
B - Bulk
D - Disturbed
ES - Environmental Sample

Groundwater Strikes:
Groundwater Strike Resting
Groundwater Level

In-Situ Tests:
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detector Test

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TRIAL PIT LOG

Scale: 1:20 Sheet 1 of 1

LOCATION ID:	**Project Name:** Theale, Reading		
TP16	**Project Number:** NTE2460		Pit Dimensions (m) Degrees
	Client: First Panattoni		
Hole Type: TP	**Plant:** JCB 3CX	**Start & End Date:** 24/09/2018	Stability: Significant side wall collapse in gravels.
Ground Level (m AOD): 44.13		**Eastings & Northings:** 464906E 171477N	Engineer: JA / Checker:

Groundwater		Strata					Samples			In-Situ Tests		
Strike	Strike Details	Backfill	Level (m AOD)	Thickness	Description	Legend / Depth (m bgl)	Type	From (m)	To (m)	Type	Depth (m)	Result
			43.68	0.45m	Soft dark brown slightly gravelly sandy CLAY with frequent rootlets. Gravel is angular to subrounded fine to coarse flint and quartzite. (Topsoil)	0.45						
			43.38	0.30m	Very soft orangish brown becoming grey organic slightly gravelly CLAY with frequent rootlets. Gravel is angular to subrounded fine to coarse flint and quartzite. (Alluvium)	0.75				HSV	0.65	(20, 20, 18)kPa
▽	0.80m bgl after 20mins		43.23	0.15m	Very soft dark brown sandy peaty CLAY. (Alluvium)	0.90	D ES	0.80 0.80	0.80 0.80			
			42.93	0.30m	Very soft light grey and greenish grey slightly gravelly CLAY. Gravel is angular to subrounded fine and medium flint and chalk. (Alluvium)	1.20	D	1.00	1.00	HSV	1.00	(10, 11, 12)kPa
▽	1.2m bgl		42.43	0.50m	Light grey slightly clayey sandy GRAVEL. Gravel is angular to subrounded fine and medium flint and chalk. (Beenham Grange Gravel Member)	1.70	B	1.30	1.30			
					Hole Terminated at 1.70m bgl.							

Remarks

Reason for Termination:

Trial pit terminated due to ingress of groundwater and poor stability

Groundwater Notes:

Significant groundwater ingress from gravels.

Other Remarks:

1. No visual or olfactory evidence of contamination identified. 2. Trial pit backfilled with arisings upon completion.

Legend

Samples:
B - Bulk
D - Disturbed
ES - Environmental Sample

Groundwater Strikes:
▽ Groundwater Strike Resting
▼ Groundwater Level

In-Situ Tests:
HSV - Hand Shear Vane Test
PID - Photo Ionisation Detector Test

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Appendix 3: Gas and Groundwater Monitoring Results

BWB GAS AND GROUNDWATER MONITORING

Site:		Theale, Reading
Client:		First Panattoni
Job No.:		NTE2460
Date:		27th September 2018
Start / End Time:		07:10 - 10:50
Engineer:		ZT
Monitoring Equipment:	**Gas Meter ID**	**BWB00957**
	PID ID	**BWB00961**
	Dip Tape	
	Other	

NR = Not Recorded
Dry = No Groundwater

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Weather Conditions	Start	End
(Dry / Raining)	DRY	DRY
Cloud Cover (Oktas)	2	1
Wind Strength (m/s)	0.6	0.4
Wind Direction (from)	E	E
Temperature (°C)	6.0	13.0
Barometric Pressure (mb)	1022	1024
(Rising/ Falling)		RISING
PID - Air		
PID - Calibration Gas		

Location Reference	Relative Pressure (mbar)	Flow (l/hr)		Methane (%v/v)		Carbon Dioxide (%v/v)		Oxygen (%v/v)		Hydrogen Sulphide (ppm)	Carbon Monoxide (ppm)	PID (ppm)	Depth to water (m)	Base of Response Zone (m)	Free-Phase Product Level Top (m)	Groundwater Elevation (m AOD)	Notes
		Peak	Steady	Peak	Steady	Peak	Steady	Min	Steady								
Ambient Air Start (Calibration)																	
Ambient Air Finish (Calibration)																	
BH01			<0.1		<0.1		0.4		20.3	<1	<1	0.8	1.89	4.36		43.54	
BH03			<0.1		<0.1		0.2		20.8	<1	<1	0.1	1.07	3.68		43.44	
BH06 (S)		65.5	<0.1		<0.1		0.3		20.6	<1	<1	<0.1	0.55	1.23		43.56	
BH06 (D)			<0.1		<0.1		0.3		20.6	<1	<1	<0.1	0.53	10.04		43.58	
DS01			<0.1		<0.1		0.4		19.8	<1	<1	64.2	1.32	5.00		43.63	
DS02			<0.1		<0.1		<0.1		20.2	<1	<1	0.7	1.21	3.03		43.64	
DS03			<0.1		<0.1		0.6		20.0	<1	<1	24.4	1.77	4.99		43.64	
DS04		-0.3	<0.1		<0.1		0.3		19.7	<1	<1	1.8	1.72	3.04		43.64	

BWB GAS AND GROUNDWATER MONITORING

Site:		Theale, Reading
Client:		First Panattoni
Job No.:		NTE2460
Date:		3rd October 2018
Start / End Time:		09:00 - 10:00
Engineer:		ZT
Monitoring Equipment:	**Gas Meter ID**	**BWB00957**
	PID ID	**BWB00961**
	Dip Tape	
	Other	

NR = Not Recorded
Dry = No Groundwater

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Weather Conditions	Start	End
(Dry / Raining)	DRY	DRY
Cloud Cover (Oktas)	1	1
Wind Strength (m/s)	0.9	0.5
Wind Direction (from)	S	SE
Temperature (°C)	14.0	14.0
Barometric Pressure (mb)	1024	1022
(Rising/ Falling)		FALLING
PID - Air		
PID - Calibration Gas		

Location Reference	Relative Pressure (mbar)	Flow (l/hr)		Methane (%v/v)		Carbon Dioxide (%v/v)		Oxygen (%v/v)		Hydrogen Sulphide (ppm)	Carbon Monoxide (ppm)	PID (ppm)	Depth to water (m)	Base of Response Zone (m)	Free-Phase Product Level Top (m)	Groundwater Elevation (m AOD)	Notes
		Peak	Steady	Peak	Steady	Peak	Steady	Min	Steady								
Ambient Air Start (Calibration)																	
Ambient Air Finish (Calibration)																	
BH01		0.3	<0.1		<0.1		0.8		20.3	<1	<1	<0.1	2.00	4.35		43.43	
BH03		-27.2	<0.1		<0.1		0.2		21.2	<1	<1	0.1	1.09	3.70		43.42	
BH06 (S)		-0.1	<0.1		<0.1		<0.1		21.4	<1	<1	<0.1	0.53	1.59		43.58	
BH06 (D)		-0.3	<0.1		<0.1		0.4		21.1	<1	<1	0.4	0.55	9.99		43.56	
DS01		0.1	<0.1		<0.1		1.2		18.6	<1	<1	14.3	1.33	4.99		43.62	
DS02			<0.1		<0.1		0.4		20.0	<1	<1	0.2	1.31	3.04		43.54	
DS03			<0.1		<0.1		0.1		20.8	<1	<1	0.3	1.89	4.95		43.52	
DS04			<0.1		<0.1		0.8		20.2	<1	<1	0.3	1.92	2.94		43.44	

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