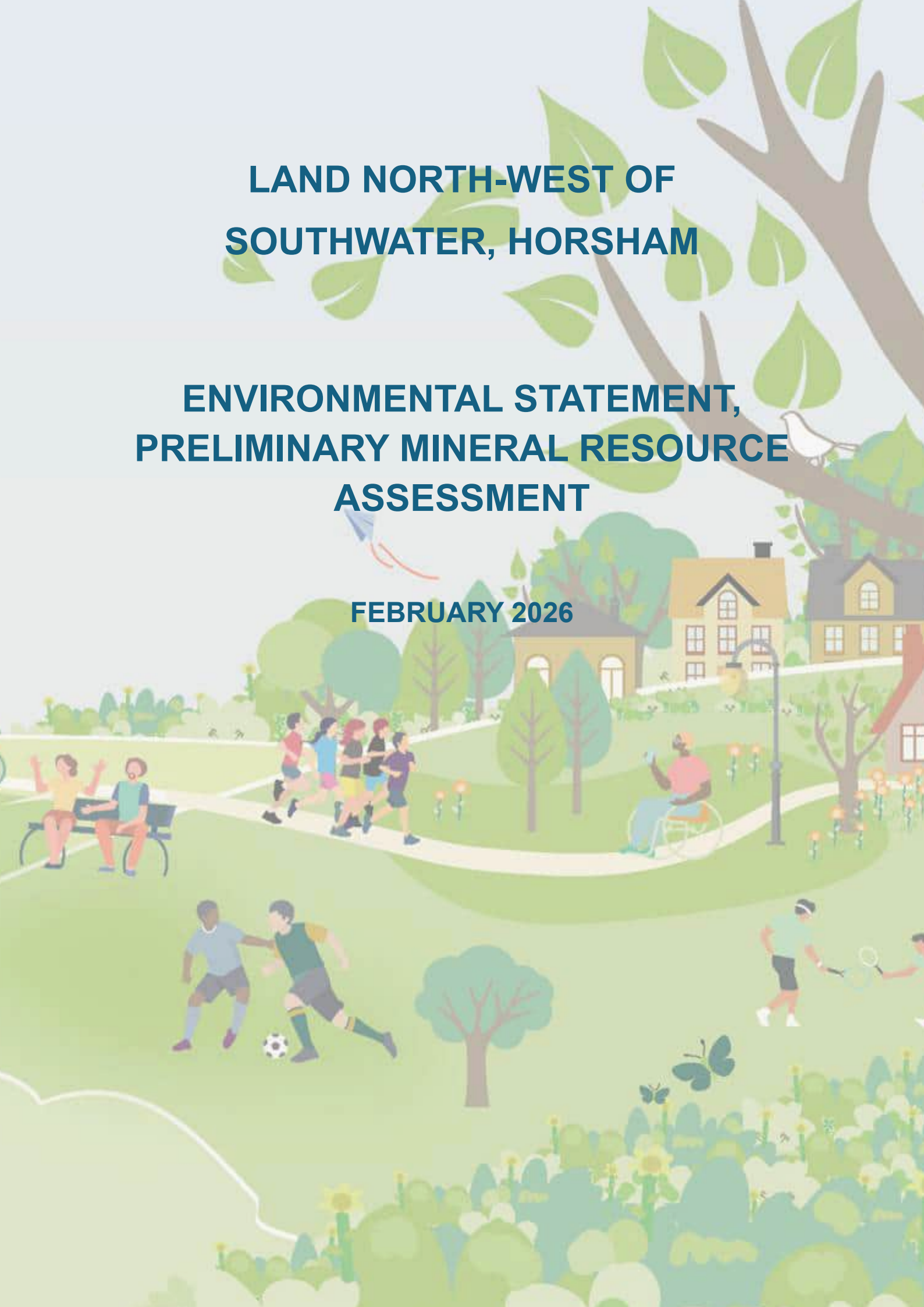
LAND NORTH-WEST OF SOUTHWATER, HORSHAM

ENVIRONMENTAL STATEMENT, PRELIMINARY MINERAL RESOURCE ASSESSMENT

FEBRUARY 2026



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EXECUTIVE SUMMARY

WSP has prepared this Preliminary Minerals Resource Assessment (MRA) on behalf of Berkeley Strategic Land Limited (the Applicant) to accompany a planning application of a proposed mixed-use development at Land North-West of Southwater ("the Site").

It has been identified that the majority of the Site lies within a Minerals Safeguarding Area (MSA) within the West Sussex Joint Minerals Local Plan, July 2018 (Partial Review March 2021) which incorporates West Sussex County Council and the South Downs National Park Authority. The Site area includes Weald Clay Formation (brick clay resource) (in the northern extent and small outcrops in the south) and the Horsham Stone (Building stone) (entire site).

A ground investigation was completed at the Site by Geo Environmental Services Limited in May 2022. The ground investigation comprised the advancement of 20 window sampler boreholes and 35 hand dug trial pits.

WSP concludes that the majority of the Site is not viable for commercial extraction and that the development overrides the presumption for mineral safeguarding such that sterilisation of the mineral can be permitted, primarily due to:

- The Site's strategic importance to West Sussex County Council's development, Horsham District Local Plan 2023-2040 (HA3);
- Existing sites and allocated brick clay extraction sites (specific to Weald Clay extraction) are estimated to contain 12.49 m tonnes across three active and two inactive sites. Annual sales from 2014-2023 averaged 310,000 tonnes. Therefore, these sites enable West Sussex to meet its estimated annual clay reserves with a sufficient land bank in reserve for up to 25 years;
- Viable deposits are not present in all areas of the Site;
- Clay deposits in Zone 2 are shown to be unsuitable for extraction due to either:
  - Being overlain by Overburden >2 m;
  - Not complying with a typical brick earth specification comprising a sand content of 35-50%, a silt content of 20-35% and a clay content 20-30%;
  - Suitable bands of deposits are <2 m thick; and,
  - Shallow groundwater encountered within the deposit;
- Building stone deposits in Zone 3 shown to be unsuitable for extraction due to either:
  - Being overlain by Overburden >2m, including unsuitable Weald Clay deposits;
  - No suitable bands noted. Material highly weathered with high clay content; and,
  - Shallow groundwater overlying the deposit.

1 INTRODUCTION AND OBJECTIVES

1.1 INTRODUCTION

WSP has prepared this Preliminary Minerals Resource Assessment (MRA) on behalf of Berkeley Strategic Land Limited (Berkeley) to accompany a planning application of a proposed mixed-use development of land, north-west of Southwater.

This report presents a Minerals Resource Assessment (MRA) to ascertain whether there are viable mineral reserves and the prospect of prior extraction.

It has been identified that the majority of the Site lies within a Minerals Safeguarding Area (MSA) within the West Sussex Joint Minerals Local Plan, July 2018 (Partial Review March 2021) which incorporates West Sussex County Council and the South Downs National Park Authority. The Site area includes Weald Clay Formation (brick clay resource) (in the northern extent and small outcrops in the south) and the Horsham Stone (Building stone) (entire site) as shown on **Figure A** and **Figure B** respectively below.

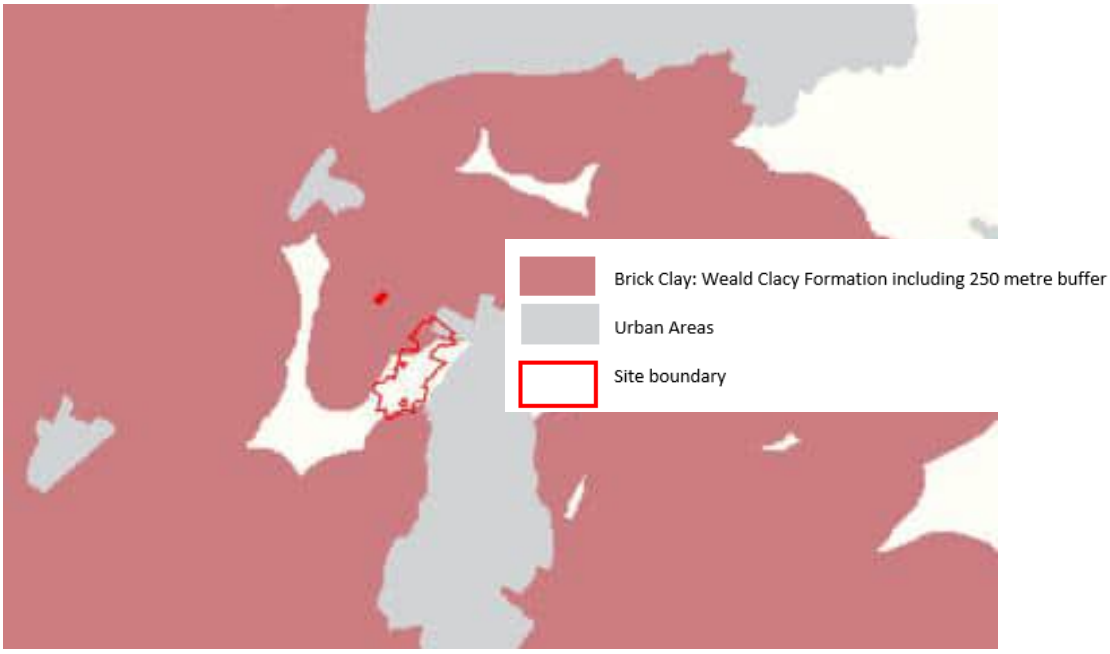


Figure A – Identified Mineral Resources – Brick clay[1]

[1] Brick Clay Resource Mineral Consultation Area (Appendix D), West Sussex Joint Minerals Local Plan, West Sussex Waste Local Plan, Minerals and Waste Safeguarding Guidance (March 2020)

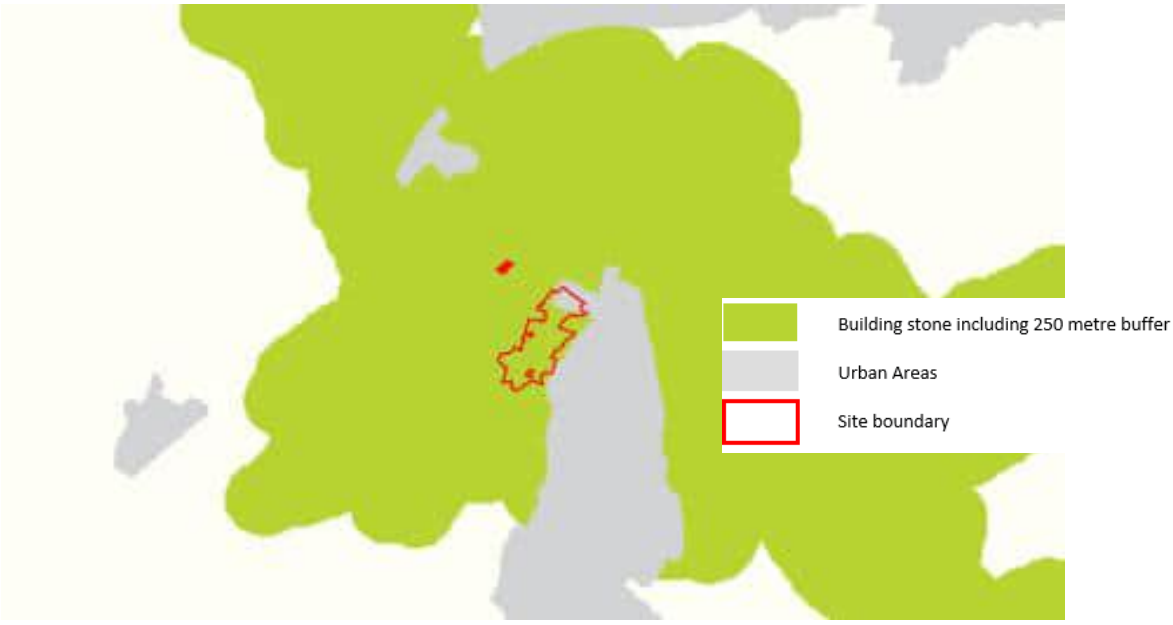


Figure B – Identified Mineral Resources – Building stone[2]

1.2 SCOPE OF WORKS

Accordingly, this Mineral Resource Assessment has been prepared, and addresses the following:

- Description of the Site and Proposed Development;
- Site geology and potential for a mineral resource to be present – analysis of British Geological Survey (BGS) mapping data and available site borehole records completed in ground investigations required;
- Mineral planning policy review – national and local planning policy;
- The practicability and viability of the prior extraction of the mineral - taking account of site-specific constraints; a market appraisal; transport considerations; and effect on the deliverability and viability of the non-minerals development; and,
- An assessment of compliance with Policy.

This report has been prepared in general accordance with:

- West Sussex Joint Minerals Local Plan (March 2021);
- West Sussex Joint Minerals Local Plan, West Sussex Waste Local Plan, Minerals and Waste Safeguarding Guidance (March 2020);
- West Sussex Minerals Local Plan and Waste Local Plan: Monitoring Report 2023/24;

[2] Building Stone Mineral Consultation Area (Appendix D), West Sussex Joint Minerals Local Plan, West Sussex Waste Local Plan, Minerals and Waste Safeguarding Guidance (March 2020)

- West Sussex Waste Local Plan, April 2014;
- Southwater Neighbourhood Development Plan (2019-2031), June 2021.
- Horsham District Planning Framework (excluding South Downs National Park), November 2015;
- Horsham District Local Plan 2023-40 Public Consultation (Regulation 19), December 2023[3].;
- BGS - A guide to mineral safeguarding in England, October 2007; and,
- The National Planning Policy Framework (2024).

1.3 LIMITATIONS

This report is addressed to and may be relied upon by the client (Berkeley Strategic Land Limited). It may not be relied upon or transferred to any other parties without the express agreement of WSP in writing. The report should be read and used in full. No responsibility will be accepted where this report is used, ether in its entirety or in part, by any other party. WSP cannot be held liable for third party information.

The limitations of this assessment are attached in **Appendix B**.

[3] Note this document is still in draft

2 SITE DESCRIPTION & PROPOSED DEVELOPMENT

2.1 SITE DESCRIPTION

The Site comprises approximately 116 hectares (ha) and is split into a main site and a smaller area; the car park site adjacent to Christ's Hospital Station and is approximately 1.35ha in size. The main site is primarily agricultural land which is located to the west of the A24 between Worthing Road and Two Mile Ash Road.

The Site location plan is provided as **Figure 1-1** in **Appendix A** and the Borehole Plan is provided as **Figure 2-1** and **Figure 3-1** in **Appendix A**.

The Site is located on predominantly greenfield agricultural land with three areas of ancient woodland which are located within the main site. The largest, Courtland Wood, lies in the centre of the site (which is contiguous with an area of ancient woodland known as Two Mile Ash Gill). Smith's Copse is located approximately 200 m north east of Courtland Wood.

Farm buildings with access lanes are located in the northwest and southeast. The Downs Link bridleway bisects the site from west to east in the south of the Site. The site is bound by woodland to the south, Two Mile Ash Road to the west with an area of housing to the northwest, the A24 to the north, Hop Oast roundabout to the northeast corner, housing to the northeast, Worthing Road to the east and to the southeast corner.

2.2 PROPOSED DEVELOPMENT

It is proposed that the land north-west of Southwater will comprise a residential-led development to include demolition of existing buildings and erection of up to 1,000 dwellings, employment space (Use Classes E(g)/B2/B8), flexible community facilities (Use Classes E/F1/F2); education facilities; sports facilities; 5 gypsy and traveller pitches; public open space; landscaping and related infrastructure.

3 MINERAL PLANNING POLICY REVIEW

3.1 NATIONAL PLANNING POLICY

National planning policy for minerals is set out in Section 17 of the National Planning Policy Framework (NPPF) 2024, 'Facilitating the sustainable use of minerals'.

National policy is clear that *"it is essential that there is a sufficient supply of minerals to provide the infrastructure, buildings, energy and goods that the country needs. Since minerals are a finite natural resource, and can only be worked where they are found, best use needs to be made of them to secure their long-term conservation" (Paragraph 222). Further Paragraph 225 adds that local planning authorities should "not normally permit other development proposals in mineral safeguarding areas where they might constrain potential future use for these purposes".*

With respect to further guidance on the scope of Mineral Assessments, the Planning Policy Guidance (PPG) refers to the detailed advice on Mineral Safeguarding in the BGS report "Mineral Safeguarding in England: Good Practice Advice" (2011). This identifies that there are two levels of Mineral Assessment:

1. *'A site-specific desk-based assessment of the existing surface and solid geological mineral resource information, comprising information on the mining and quarrying history, mineral assessments and market appraisals, boreholes, site investigations, geological memoirs, technical reports, mining plans, and the thickness of superficial geological deposits.*
2. *Analysis of the site-specific information derived from level 1 including:*
    - *An estimate of the economic value (for example quality and quantity) of the mineral resource;*
    - *Its potential for use in the forthcoming development and an assessment of whether it is feasible and viable to extract the mineral resource ahead of development to prevent unnecessary sterilisation; and*
    - *Where prior extraction can be undertaken, an explanation of how this will be carried out as part of the overall development scheme.*'

3.2 LOCAL PLANNING POLICY

The West Sussex Joint Minerals Local Plan which was adopted in July 2018 (Partial Review March 2021) and covers the period to 2033, is the current statement of the 'Authorities' (West Sussex County Council and South Downs National Park Authority) land use planning policy for minerals and sets out the vision and strategic objectives associated with minerals supply developments in West Sussex.

It has been identified the majority of the Site lies within a Minerals Safeguarding Area (MSA) within the West Sussex Joint Minerals Local Plan and the West Sussex Minerals and Waste Safeguarding Guidance. Section 6.9.13 of the Joint Minerals Local Plan (JMLP) indicates that '*where non-mineral development is proposed, developers may be required to carry out investigation works to ascertain whether economically viable mineral resources are present and whether prior extraction is practicable*'.

With respect to mineral safeguarding, the West Sussex Joint Minerals Local Plan states that much of the local area is underlain by areas of brick clay resources and building stone resources, which are safeguarded under policy M9 of the West Sussex Minerals and Waste Safeguarding Guidance.

The extent of the Mineral Safeguarding Areas for each resource are defined on the Map extract as shown in **Figures A and B** above.

The current Site area is shown in the redline boundary within **Figure 2-1** in **Appendix A**. The Site is located in Weald Clay deposits and Horsham Stone deposits.

In line with the adopted Minerals Plan, these brick clays and building stone (sandstone) deposits are regarded as economically important minerals. Policy M9 states the following with regards to safeguarding:

'*Soft sand (including potential silica sand), sharp sand and gravel, brick-making clay, building stone resources and chalk reserves are safeguarding against sterilisation. Proposals for non-mineral development within the Mineral Safeguarding Areas will not be permitted unless:*

(i) Mineral sterilisation will not occur; or

(ii) it Is appropriate and practicable to extract the mineral prior to the development taking places, having regards to other policies in the Plan; or

(iii) the overriding need for development outweighs the safeguarding of the mineral and it has been demonstrated that prior extraction is not practicable or environmentally feasible.'

In order to determine this the following needs to be taken into account during any assessment:

- The nature and extent of existing minerals;
- The practicability and viability of prior extraction; and,
- The extent to which the need for the proposed development is overriding.

The site was identified for strategic development for a minimum of 1,000 homes and employment, education and community uses under strategic Policy HA3 within the Regulation 19 version of the Horsham District Local Plan.

A portion of the site allocated for development within the Southwater Neighbourhood Development Plan (2021) under Policy SNP2.

4 NATURE OF THE EXISTING MINERAL

4.1 GEOLOGY

The BGS Map Sheet 302 – Horsham (1:50,000 Series, 1972) and BGS online maps have been reviewed and the underlying geology is presented in **Table 1** together with EA aquifer designations for the relevant geological units. It should be noted that there are no superficial deposits present across the Site.

Table 1 - Geology Summary

Geological unit	Location	Description*	Aquifer designation
Weald Clay	Across the Site	Dark grey thinly bedded mudstones (shales) and mudstones with subordinate siltstones, fine to medium grained sandstones including calcareous sandstone, shelly limestones and clay ironstones	Secondary A Aquifer
Horsham Stone Member**	Across the Site	Calcareous, generally fine-grained, micaceous, locally well laminated, pale grey to greenish/olive grey sandstone. Contains clayey partings and lignite fragments and rootlet traces	N/A

* BGS description

**Interbedded within the Weald Clay

There are several publicly available BGS borehole records located either on-site or within 100 m of the Site which confirm the above Site profile. Where the geological strata were not named, WSP has interpreted the descriptions and the identified ground profile is outlined in **Table 2**. Where the geological strata have been referenced, this has also been summarised in **Table 2**.

Locations are noted on **Figure 2-1 and 3-1** in **Appendix A** and a copy of the BGS logs are presented in **Appendix C.**

Table 2 - BGS Borehole Summary

Strata	Description	Depth to base (m bgl)	Water strikes (m bgl)	BGS Borehole
Topsoil	No description given. Presumed brown silty clay with rootlets	0.3 - 0.6	None encountered	TQ12NE23; TQ12NE26

Strata	Description	Depth to base (m bgl)	Water strikes (m bgl)	BGS Borehole
Made Ground	Roof tiles and rubble; firm to stiff mottled greyish brown clay with angular flint gravel; black and dark brown clayey fine to coarse Sand and fine to coarse metal, ash, bricks, glass and ceramic gravel.	1.0 – 1.3	None encountered	TQ12NE159; TQ12NE119
Weald Clay	Mixture of lithologies including: Stiff extremely closely fissure, mottled grey and brown clay; Very weak thinly laminated extremely closely fissured brown with grey mottling and dark red-brown stained mudstone Greyish green and yellowish brown clay Blue and red shales Brown and olive shaley clay	4.3 – 64.0	3.0 (TQ12NE23) 2.1, 2.6 (TQ12NE26)	TQ12NE159; TQ12NE119; TQ12NW4; TQ12NE23; TQ12NE26; TQ12NE119; TQ12NE93
Horsham Stone Member	Hard grey and brown calcareous sandstone Sandstone rock	3.0 – 19.8	None encountered	TQ12NW4; TQ12NE26

4.2 GEO-ENVIRONMENTAL SERVICES LIMITED GROUND INVESTIGATION

A ground investigation was undertaken at the Site in May 2022 by Geo-Environmental Services Ltd.

The purpose of the investigation was to identify existing ground conditions within the Site, examine chemical makeup of the underlying soils, consider geotechnical behaviour of the strata influencing settlement, foundation and earthworks design, to provide preliminary geotechnical parameters to inform outline geotechnical design.

The ground investigation comprised the advancement of 35 hand dug trial pits and 20 window sampler boreholes which were excavated to a maximum depth of 0.8 m bgl 4.0 m bgl respectively. The exploratory hole plans are presented in **Figure 2-1 and 3-1** in **Appendix A** and the exploratory hole logs are presented in **Appendix D**.

It should be noted that of the above, 1 window sample and 10 hand pit locations were not within the Site boundary.

GEOLOGY ENCOUNTERED

The geology encountered across the length of the Site was variable.

Topsoil was encountered in 38 No. exploratory holes ranging in thickness from 0.17 m to 0.45 m, and generally comprised ploughed crop or turf over dark brown slightly gravelly sandy silt with abundant rootlets. Gravel is fine to medium angular to subangular sandstone.

Made Ground was encountered in fourteen locations (HP01, HP02, HP06, HP12,, WS01-WS07, , WS18-WS20) and ranged in thickness from 0.15 m to 2.40 m. This deposit was generally described as either brown to dark brown slightly gravelly sandy silty clay or dark brown slightly gravelly slightly clayey silty sand. Gravel is comprised of fine to coarse angular to rounded flint, chalk, sandstone, occasional fragments of brick, steel, glass and plastic and cobbles of subrounded yellow and black ferruginous sandstone. Made Ground was encountered from the surface in all fourteen locations.

The Weald Clay (Brick clay) was encountered in all locations with the exception of HP01 and HP02 (located in the northwest), This deposit comprised of variable lithologies and described as soft to very stiff grey and orange mottled slightly sandy slightly gravelly clay or brown sandy gravelly silt. Gravel comprises of fine to medium sub angular to sub rounded siltstone, calcareous nodules, ferruginous siltstone, and sandstone.

The Horsham Stone was encountered in twelve locations across the Site. This deposit was predominantly located beneath the Weald Clay. This deposit was generally described as stiff to very stiff yellowish brown with orange and grey mottling clay thinly laminated silt/siltstone or stiff yellow and black mottled clayey sandstone. The thickest deposit was located at WS05 (2.30 m) and was located in the northwest of the Site.

Relevant exploratory hole logs are shown within **Appendix D.**

4.3 HYDROLOGY

During the ground investigation, groundwater was only encountered in five locations (WS01, WS03, WS07, WS10, WS13) in the north, central west and south of the main Site, within the brick clay deposits of the Weald Clay Formation. The groundwater was encountered between 1.95 m and 3.30 m bgl.

4.4 MINERAL RESOURCE PRESENCE

It has been identified the majority of the Site lies within a Minerals Safeguarding Area within the West Sussex JMLP as shown in **Figure A** and **B** above. The underlying minerals consist of the Weald Clay Formation (brick clay) and the Horsham Stone Member (building stone).

WSP has zoned the site according to the following parameters. The zoned areas are shown on **Figures 4.1 and 4.2** in **Appendix A.**

- Zone 1 – No viable deposits of either clay or stone mineral (not viable for extraction);
- Zone 2 – Weald Clay deposits noted however show to be unsuitable for extraction due to either:
  - Being overlain by Overburden >2 m;
  - Not complying with a typical brick earth specification comprising a sand content of 35-50%, a silt content of 20-35% and a clay content 20-30%;

- Suitable bands of deposits are <2 m thick; and,
- Shallow groundwater encountered within the deposit.

- Zone 3 – Horsham stone deposits also noted however shown to be unsuitable for extraction due to either:
  - Being overlain by Overburden >2 m, including unsuitable Weald Clay deposits;
  - No suitable bands noted. Material highly weathered with high clay content; and,
  - Shallow groundwater overlying the deposit.
- Zone 4 - Suitable deposits that could be commercially extracted (little overburden, sufficient expected brick earth content)
- Zone 5 – Potentially suitable deposits that could be removed prior to development however further clarification required.

Table 3 below shows details with regards to the brick clay (Weald Clay Formation) and building stone (Horsham Stone) encountered during the works including thickness, details on clay content and in turn which zone each intrusive location has been assigned.

It should be noted that the hand pits have been removed from this assessment as the deposit thickness was not proven in these locations. Preliminary information is included for the hand pits however, in **Table 4** which highlights the results from the Atterberg tests to indicate clay contents from wider range across the site.

Table 3 - Deposit Details

Borehole Location	Deposit Thickness (m)	Base of stratum proven	Overburden Thickness (m)	Passing 425µm (%)	Zone	Comments
WS01	2.60	3.05	0.45	99	2	Sample at 2.0 m bgl Sample taken in Weald Clay Formation
WS02	1.60	4.0	2.40	100	2	Sample at 3.0m bgl Sample taken in Weald Clay Formation
WS03	2.70	3.8	1.10	99	2	Sample at 3.50m bgl Sample taken in Weald Clay Formation
WS04	1.55	1.60	0.05	97	2	Sample taken at 1.0m bgl Sample taken in the Made Ground

Borehole Location	Deposit Thickness (m)	Base of stratum proven	Overburden Thickness (m)	Passing 425µm (%)	Zone	Comments
WS04	1.75	4.0	2.25	97	3	Sample taken at 2.50m bgl Sample taken within the Horsham Stone
WS05	1.45	1.70	0.25	99	2	Sample taken at 1.0m bgl Sample taken within the Weald Clay Formation
WS06	2.15	2.30	0.15	99	2	Sample taken at 1.5m bgl Sample taken within the Weald Clay Formation
WS07	1.85	2.05	0.20	70	2	Sample taken at 1.0m bgl Sample taken within the Weald Clay Formation
WS08	1.45	1.90	0.45	99	2	Sample taken at 0.5m bgl Sample taken within the Weald Clay Formation
WS09	1.45	1.90	0.45	97	2	Sample taken at 1.0m bgl Sample taken within the Weald Clay Formation
WS09	2.10	4	1.9	99	2	Sample taken at 2.5m bgl Sample taken within the Weald Clay Formation
WS10	1.15	2.10	0.95	98	2	Sample taken at 2.0m bgl Sample taken within the Weald Clay Formation
WS11	1.40	1.80	0.40	99	2	Sample taken at 1.50m bgl Sample taken within the Weald Clay Formation
WS12	1.50	1.90	0.40	92	2	Sample taken at 1.50m bgl

Borehole Location	Deposit Thickness (m)	Base of stratum proven	Overburden Thickness (m)	Passing 425µm (%)	Zone	Comments
						Sample taken within the Weald Clay Formation
WS13	2.40	2.70	0.30	100	2	Sample taken at 1.0m bgl Sample taken within the Weald Clay Formation
WS14	4.0	4.0	0.4	100	2	Sample taken at 4.0m bgl Sample taken within the Weald Clay Formation
WS16	3.4	3.7	0.3	95	2	Sample taken at 1.50m bgl Sample taken within the Weald Clay Formation
WS18	3.35	4.0	0.65	97	2	Sample taken at 1.0m bgl Sample taken within the Weald Clay Formation
WS18	3.35	4.0	0.65	95	2	Sample taken at 3.0m bgl Sample taken within the Weald Clay Formation
WS19	1.40	1.95	0.55	97	2	Sample taken at 1.0m bgl Sample taken within the Weald Clay Formation
WS20	1.70	2.10	0.40	99	2	Sample taken at 2.0m bgl Sample taken within the Weald Clay Formation

Table 4 - Atterberg Testing Summary for Hand Pit Locations

Borehole Location	Sample Depth	Stratum	Passing 425µm (%)	Comments
HP03	0.65	Weald Clay	92	High clay content

Borehole Location	Sample Depth	Stratum	Passing 425µm (%)	Comments
HP05	0.30	Weald Clay	99	High clay content
HP07	0.75	Weald Clay	99	High clay content
HP08	0.75	Weald Clay	90	High clay content
HP09	0.55	Weald Clay	97	High clay content in weathered sandstone
HP10	0.75	Weald Clay	99	High clay content
HP13	0.50	Weald Clay	100	High clay content
HP14	0.30	Weald Clay	97	High clay content
HP17	0.50	Weald Clay	99	High clay content
HP19	0.70	Weald Clay	100	High clay content
HP20	0.50	Weald Clay	95	High clay content
HP21	0.50	Weald Clay	99	High clay content
HP23	0.70	Weald Clay	92	High clay content
HP25	0.50	Weald Clay	99	High clay content
HP26	0.50	Weald Clay	99	High clay content
HP27	0.80	Weald Clay	100	High clay content
HP29	0.50	Weald Clay	100	High clay content

Cross sections of the deposits are shown in **Figure 5-1 to 5-4** in **Appendix A.**

4.5 MINERAL RESOURCE SIZE AND QUALITY

Brick clay of the Weald Clay Formation underlies the entire site. These deposits are, for the most part, located at the near surface. The Horsham Stone was encountered in twelve exploratory hole locations at depth within the window sampler locations. The site has been divided into three areas (Car park

site and north and south main site) and summaries of the encountered mineral resource in each area are detailed below.

CAR PARK SITE, LAND EAST OF CHRIST'S HOSPITAL STATION

Four locations were advanced in the smaller site (WS16, WS18, WS19, WS20). The maximum depth of the clay deposit was only proven in two locations (WS19 and WS20). The thickness of these deposits varied from 1.40m to 3.70m, with two locations (WS16 and WS18) showing a thickness greater than 2 m thick.

The thickness of the overburden deposits was ranged from 0.30 m to 0.65 m and comprised topsoil (WS16) and Made Ground deposits.

Horsham Stone was encountered in one location (WS20) with an unproven thickness of 0.50m. The thickness of the over burden deposit of 2.10 m with soils comprising topsoil, Made Ground and Weald Clay.

Atterberg tests carried out passing 425 µm % ranging from 95-97%. In addition, two hand pits were undertaken in the centre and north of the site respectively. No atterberg tests were carried out on the hand pits within this site.

In addition, one Particle Size Distribution (PSD) test was undertaken (WS18) which showed a clay content of 65.8%. PSD Sedimentation was not undertaken on this sample and therefore a uniform coefficient could not be established.

All samples were classified as Zone 2.

Exploratory hole logs are shown in **Appendix D**.

Atterberg test certificates are shown in **Appendix E.**

NORTH OF MAIN SITE

Seven locations were advanced in the north of the main site (WS01-WS07). The maximum depth of the clay deposit was only proven in six locations. The thickness of these deposits varied from 0.65 m to 2.70 m, with only three locations showing a thickness greater than 2 m thick.

The thickness of the overburden deposits was relatively uniform across the site, with the exception of WS02, WS03 and WS04, where the overburden ranged from 1.10 m to 2.40 m and comprised topsoil over Made Ground deposits.

Atterberg tests were carried out across the samples with passing 425 µm % ranging from 99-100% (one results of 70% was noted in WS07). In addition, nine hand pits were undertaken in the north of the site which returned passing 425 µm % results between 90-100%.

The results identified high clay content across the whole of the north of the site.

Horsham Stone was encountered in six locations with an unproven thicknesses ranging from 0.2 m to 2.30 m. The thickness of the over burden deposits ranged from 0.6 m to 3.8 m with soils comprising topsoil, Made Ground and Weald Clay.

The sample from the Horsham Stone from WS04 at 2.5 m bgl was classified as Zone 3. All remaining samples were classified as Zone 2.

Exploratory hole logs are shown in **Appendix D**.

Atterberg test certificates are shown in **Appendix E.**

SOUTH OF MAIN SITE

Seven locations were advanced in the south of the site (WS08-WS14). The maximum depth of the clay deposit was only proven in six locations. The thickness of these deposits varied from 0.50 m to 3.60 m, with only two locations showing a thickness greater than 2 m.

The thickness of the overburden deposits was relatively uniform across the site and comprised topsoil deposits.

Horsham Stone was encountered in five locations with an unproven thickness ranging from 1.15 m to 2.10 m. The majority of these locations had an overburden of <2 m.

All samples were classified as Zone 2.

Atterberg tests were carried out across the samples with passing 425 µm % ranging from 92-100%

In addition, one Particle Size Distribution (PSD) test was undertaken (HP27) which showed a clay content of 95.3%. PSD Sedimentation was not undertaken on this sample and therefore a uniform coefficient could not be established.

The results identified high clay content across the whole of the south of the site.

Exploratory hole logs are shown in **Appendix D**.

Atterberg test certificates are shown in **Appendix E.**

The PSD grading certificate is shown in **Appendix F.**

SUMMARY

The Weald clay deposits were encountered across the site, to varying depths with results identifying a very high clay content across the site which is not in line with the required brick earth specifications (comprising a sand content of 35-50%, a silt content of 20-35% and a clay content 20-30%). The entire site has been defined as Zone 2.

The building stone deposits were encountered in fourteen locations across the site with an overburden ranging between 0.6 m to 3.8 m. This stratum was noted as unsuitable due to highly weathered deposits being encountered.

5 PRACTICABILITY AND VIABILITY OF PRIOR EXTRACTION

The following section focuses on the practicability and viability of the prior extraction of the potential Minerals across the Site, noting the findings of the Site investigation discussed in the previous section, which demonstrated the poor suitability of the deposits.

Site Specific Considerations

- Zone 2 – Weald Clay deposits noted however shown to be unsuitable for extraction due to either:
  - Being overlain by Overburden >2 m;
  - Not complying with a typical brick earth specification comprising a sand content of 35-50%, a silt content of 20-35% and a clay content 20-30%
  - Suitable bands of deposits are <2 m thick; and,
  - Shallow groundwater encountered within the deposit.
- Zone 3 – Horsham stone deposits were also noted however shown to be unsuitable for extraction due to either:
  - Being overlain by Overburden >2 m, including unsuitable Weald Clay deposits;
  - No suitable bands noted. Material highly weathered with high clay content; and,
  - Shallow groundwater encountered overlying the deposit.

A mixed-use strategic development and associated infrastructure is proposed at the site.
Prior commercial extraction is not considered necessary at the site and therefore the only material movements would be the removal of overburden that is likely to be removed during the development plateau creation alongside excavation for any proposed drainage solutions and utility corridors. Material excavated can be reused within the development if shown to be geotechnically and chemically suitable.

The Site is likely to be of strategic importance to West Sussex County Council and is in the Horsham District Local Plan 2023-40.

WSP considers that there are strong material considerations to indicate that the need for the development overrides the presumption for mineral safeguarding such that sterilisation of the mineral can be permitted. It is also noted that the material onsite is not suitable.

5.1 MARKET CONSIDERATIONS

There are several active allocated sites within 30 km of the Site area with large resources of extractable material.

The West Sussex plan maintains a county-wide landbank of over 25 years for Clay as specified in the NPPF which states that '*mineral planning authorities should plan for maintaining a stock of permitted reserves to support level of actual and proposed investment. For brick clay reserves, these should be 25 years.*

The allocated brick clay extraction sites (specific to Weald Clay extraction) are estimated to contain 12.49 m tonnes across three active and two inactive sites. Annual sales from 2014-2023 averaged

310,000 tonnes. Therefore, these sites enable West Sussex to meet its estimated annual clay reserves with a sufficient land bank in reserve for up to 25 years.

The allocated building stone extraction are estimated to contain 2,480,000 tonnes with annual sales from 2014-2023 averaging 22,000 tonnes. There is no requirement for the West Sussex Joint Authorities to make provision of building stone as the industry is small and provides stone of distinctive character. However, Policy M6 (from the Joint Minerals Local Plan) related to building stone is intended to allow building stone excavation sites predominantly for conservation and restoration of old buildings. Operations with such site are likely to be intermittent and volumes produced are low. Therefore, the allocated sites would enable West Sussex to meet its estimated annual building stone reserves.

Several of these sites are presented below in **Table 5** (Clay) and **Table 6** (Stone).

Table 5 - Local allocated sites for Brick Clay

Quarry/Brickworks	Distance from site	Material	Allocated
Warnham/Langhurst Wood Quarry	7.3 km	Weald Clay	Yes
Laybrook Brickworks	7.0 km	Weald Clay	Yes
West Hoathly Brickworks (Inactive)	20km	Weald Clay	Yes
Freshfield Lane Brickworks	23 km	Warhurst Clay, East Grinstead Clay Tunbridge Wells Sandstone	Yes
Pitsham Brickworks **(Inactive)**	28 km	Gault Formation	Yes

Table 6 - Local allocated sites for Building Stone

Quarry	Distance from site	Material	Allocated
Philpot's Quarry	20 km	Horsham Stone	No

Quarry	Distance from site	Material	Allocated
Theale Farm Stone Quarry	5 km	Horsham Stone	No
Winter's Pit (Inactive)	26 km	Horsham Stone	No

6 CONCLUSIONS AND RECOMMENDATIONS

WSP has prepared this Preliminary Minerals Resource Assessment (MRA) on behalf of Berkeley Strategic Land Limited to accompany a planning application of a proposed mixed-use development of land to the north-west of Southwater (the 'Site').

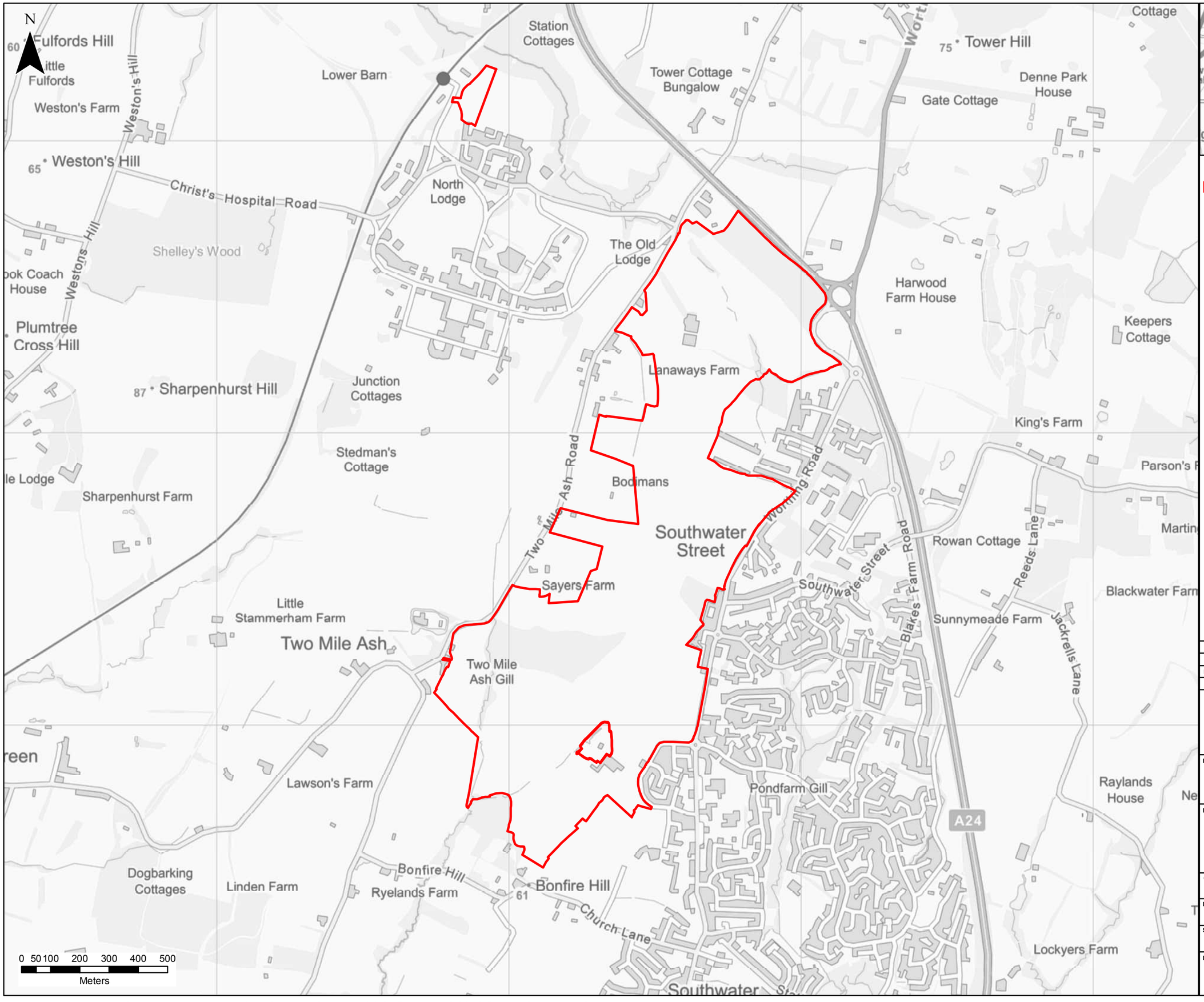
WSP concludes that the majority of the Site is not viable for commercial extraction and that the development overrides the presumption for mineral safeguarding such that sterilisation of the mineral can be permitted, primarily due to:

- The Site's strategic importance to West Sussex County Council's development, Horsham District Local Plan 2023-2040 (HA3);
- Existing sites and allocated brick clay extraction sites (specific to Weald Clay extraction) are estimated to contain 12.49 m tonnes across three active and two inactive sites. Annual sales from 2014-2023 averaged 310,000 tonnes. Therefore, these sites enable West Sussex to meet its estimated annual clay reserves with a sufficient land bank in reserve for up to 25 years
- Viable deposits are not present in all areas of the Site;
- Clay deposits in Zone 2 are shown to be unsuitable for extraction due to either:
  - Being overlain by Overburden >2 m;
  - Not complying with a typical brick earth specification comprising a sand content of 35-50%, a silt content of 20-35% and a clay content 20-30%;
  - Suitable bands of deposits are <2 m thick; and,
  - Shallow groundwater encountered within the deposit.
- Building stone deposits in Zone 3 noted however shown to be unsuitable for extraction due to either:
  - Being overlain by Overburden >2m, including unsuitable Weald Clay deposits;
  - No suitable bands noted. Material highly weathered with high clay content; and,
  - Shallow groundwater overlying the deposit.

It is recommended that this report is submitted alongside any planning application for comment by West Sussex County Council.

Appendix A

FIGURES



Legend

Site Boundary

REVISION	DRAWN	CHECKED	APPROVED	DATE
P01	AP	SP	NL	14/06/2022

DESCRIPTION: FIRST DRAFT ISSUE

PROJECT TITLE:

LAND NORTH-WEST OF SOUTHWATER

DRAWING TITLE:

FIGURE 1-1 - SITE LOCATION PLAN

CONFIDENTIALITY: PUBLIC

DRAWN:	CHECKED:	APPROVED:	AUTHORISED:
AM	AM	AM	AM

SCALE @ A3 SIZE:	DATE:	REVISION:
1:12,000	08/01/2025	P01

DRAWING NUMBER:

UK0043490.9681 1-1.

\\uk.wspgroup.com\central data\Projects\70091xxx\70091497 - North Southwater, Phase 2\03 WIP\EN Environment\GIS\MXD\Figure_1_Site_Location_Plan.mxd

Project No.:	UK0043490.9681	Title:	Figure 2-1 Borehole Location Plan
Project Title:	Land North-West of Southwater	Scale:	NTS
Location:	Southwater	Drawn By:	WB
Client:	Berkeley Strategic	Checked by:	AEM

Legend Key

- Locations By Type - TP
- Locations By Type - WLS

LEGEND

SITE BOUNDARY

HAND PIT LOCATIONS

WINDOW SAMPLING LOCATIONS

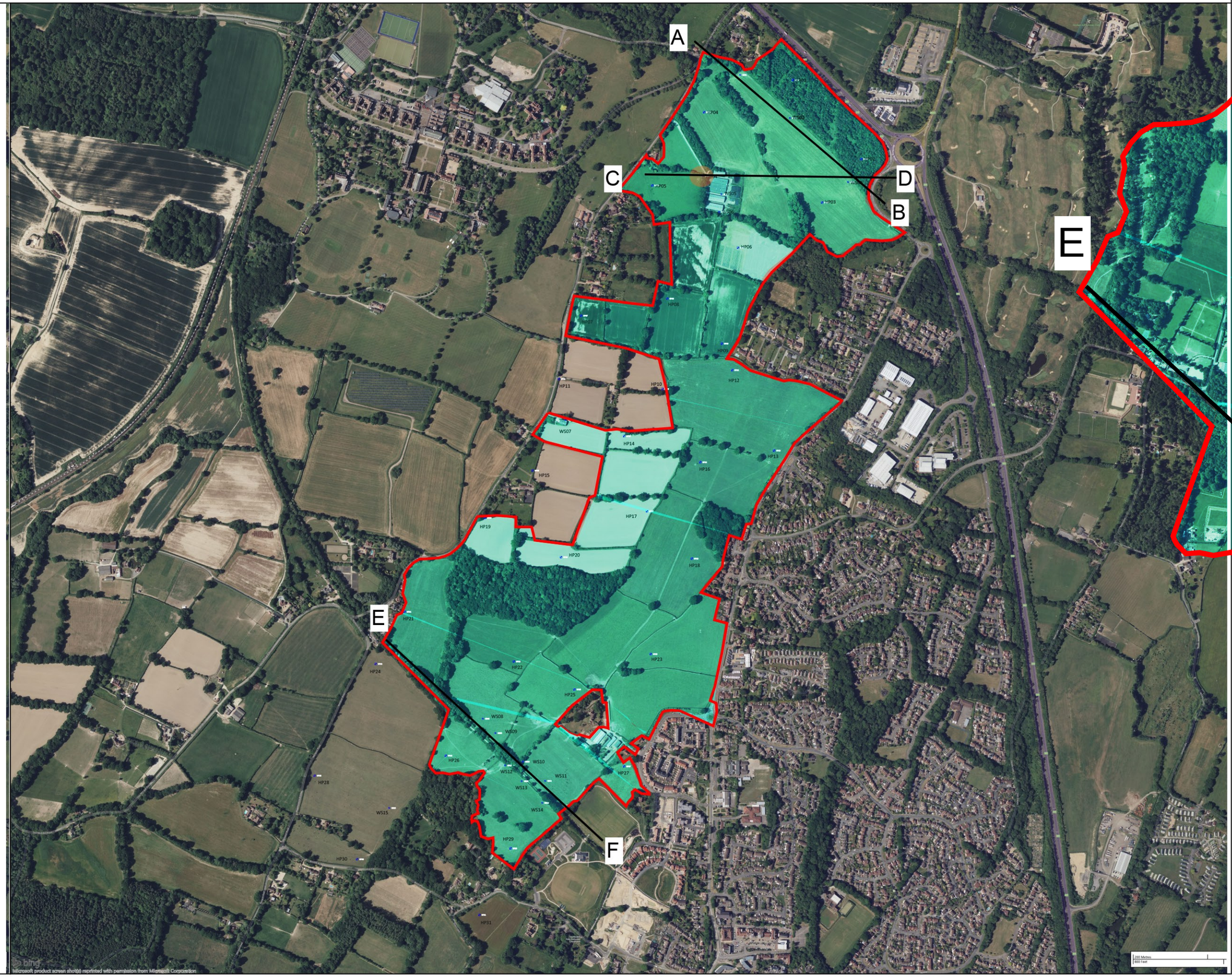
WSP House, 70 Chancery Lane,
London, WC2A 1AF
Tel: 0207 314 5000
Fax: 0207 314 5111

Project No.	UK0043490.9681	Scale	NTS
Date	January 2026	Figure No.	3-1
Project	Land North-West of Southwater	Drawn by	WB
Title	Borehole location plan – Car Park Site	Checked by	AM

Project Id:	UK0043490.9681	Title:	Figure 4-1 Mineral Zone Map and Cross Section locations
Project Title:	Land North-West of Southwater	Scale:	NTS
Location:	Southwater	Drawn By	WB
Client:	Berkeley Strategic	Checked:	AM

Legend Key

- Locations By Type - TP
- Locations By Type - WLS
- Mineral Zone 2
- Mineral Zone 3
- Cross Section



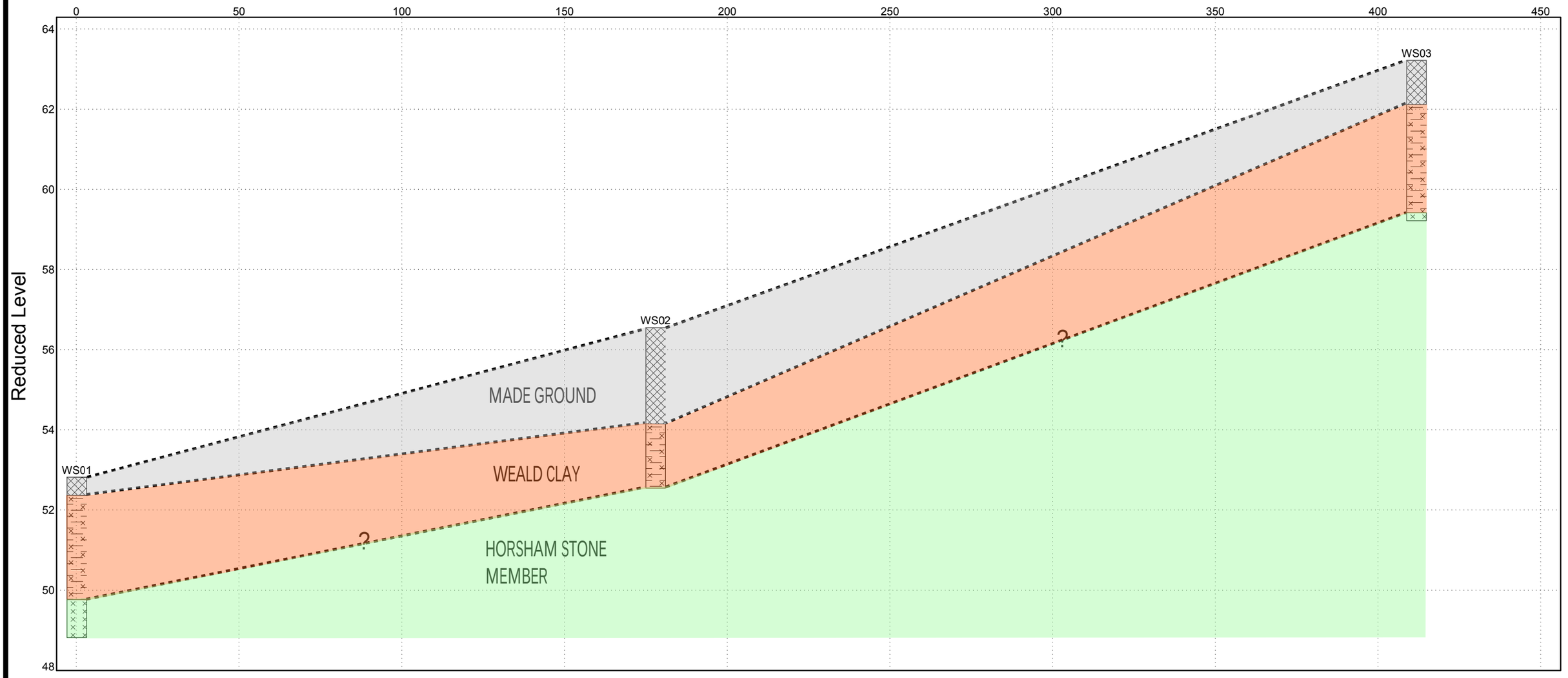
LEGEND

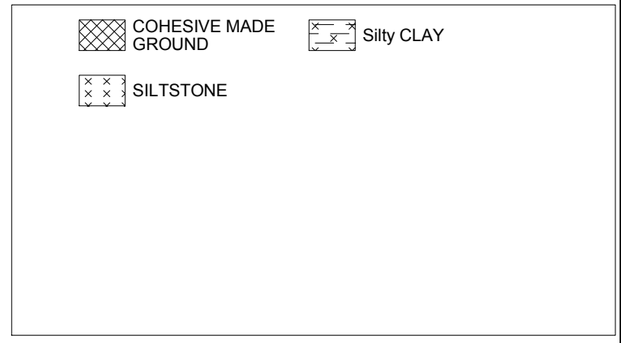
SITE BOUNDARY

WSP House, 70 Chancery Lane,
London, WC2A 1AF
Tel: 0207 314 5000
Fax: 0207 314 5111

Project No.	UK0043490.9681	Scale	NTS
Date	January 2026	Figure No.	4-2
Project	Land North-West of Southwater	Drawn by	WB
Title	Minerals Zoning Plan – Car Park Site	Checked by	AM

This is a generalised section based on ground conditions encountered in exploratory holes. Actual ground conditions including depths and the properties of strata may vary.





WSP

Telephone:
Fax:

N

Figure 5 - SECTION A to B

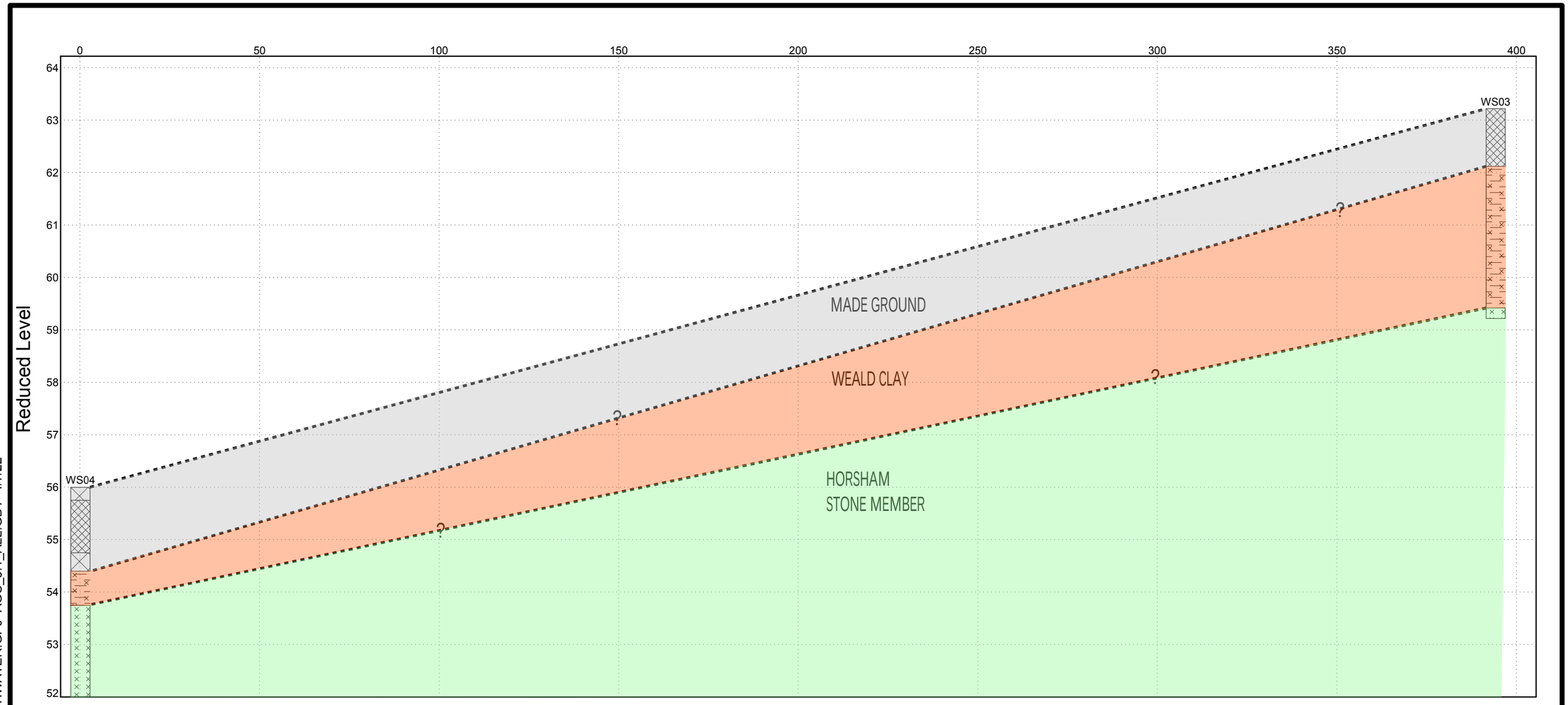
Client: Berkeley Strategic

Project: Land North-west of Southwater

Number: UK0043490.9681

A3 LITHOLOGY SITE MAP 10091575 NORTH SOUTHWATER.GPJ AGS_3.1_ALL.GDT 4/7/22

This is a generalised section based on ground conditions encountered in exploratory holes. Actual ground conditions including depths and the properties of strata may vary.



COHESIVE MADE GROUND

Silty CLAY

SILTSTONE

GRANULAR MADE GROUND

N

WSP

Telephone:
Fax:

Figure 5 - SECTION C to D

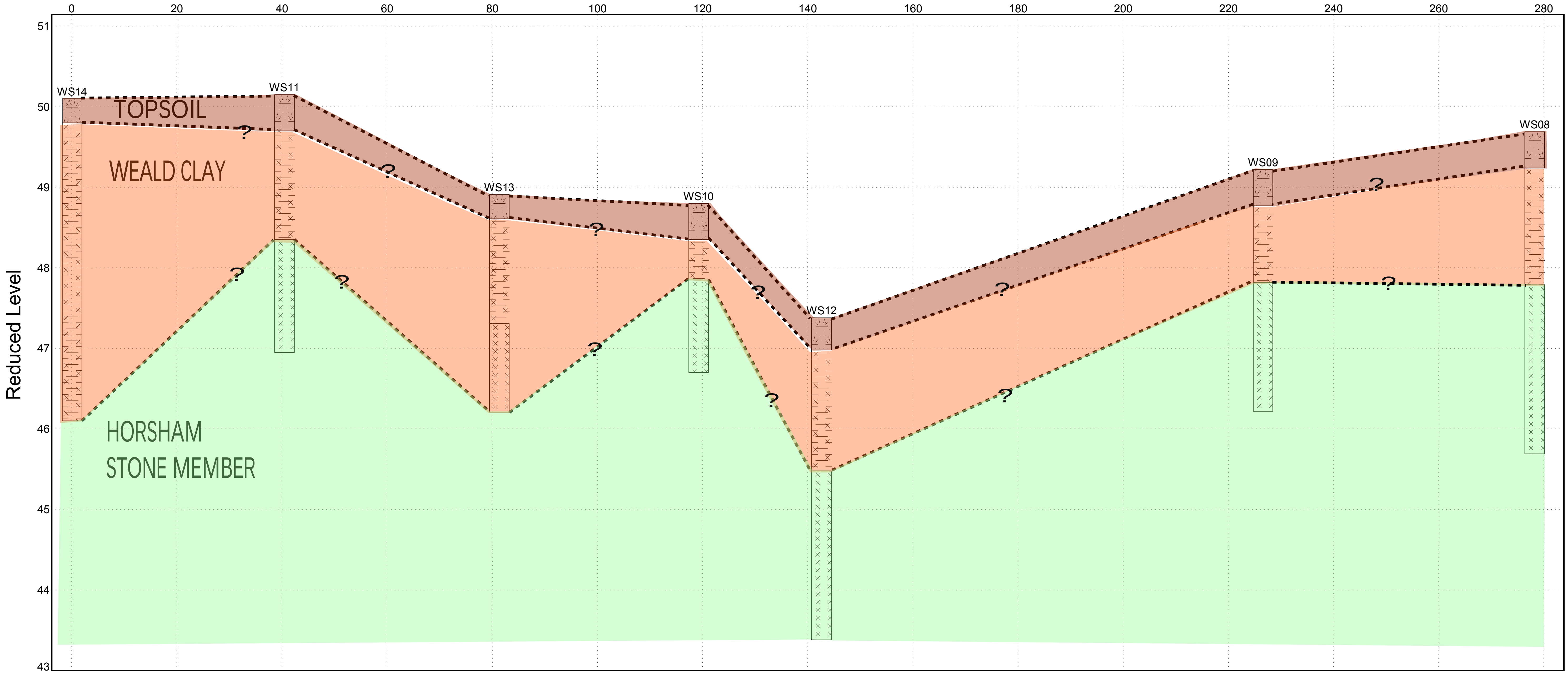
Client: Berkeley Strategic

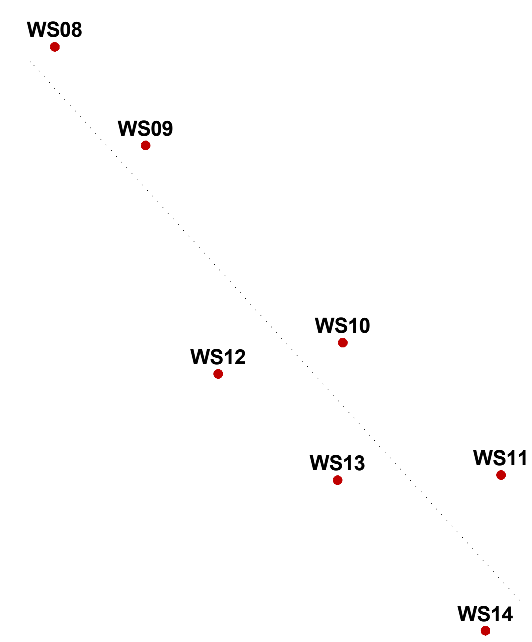
Project: Land North-west of Southwater

Number: UK0043490.9681

A3 LITHOLOGY SITE MAP 7009575 NORTH SOUTHWATER.GPJ AGS_3.1_ALL.GDT 4/7/22

This is a generalised section based on ground conditions encountered in exploratory holes. Actual ground conditions including depths and the properties of strata may vary.





TOPSOIL
Silty CLAY
SILTSTONE

WSP

Telephone:
Fax:

N

Figure 5 - SECTION E to F

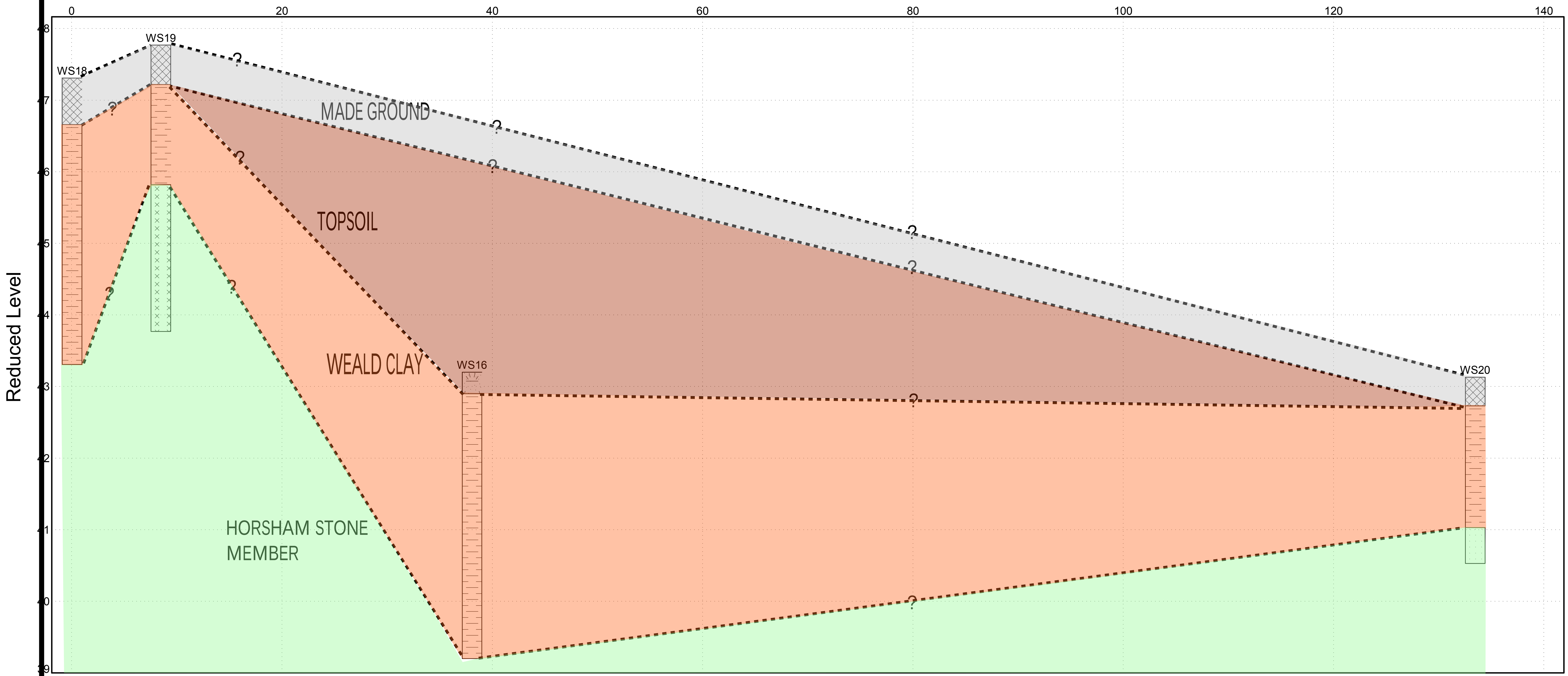
Client: Berkeley Strategic

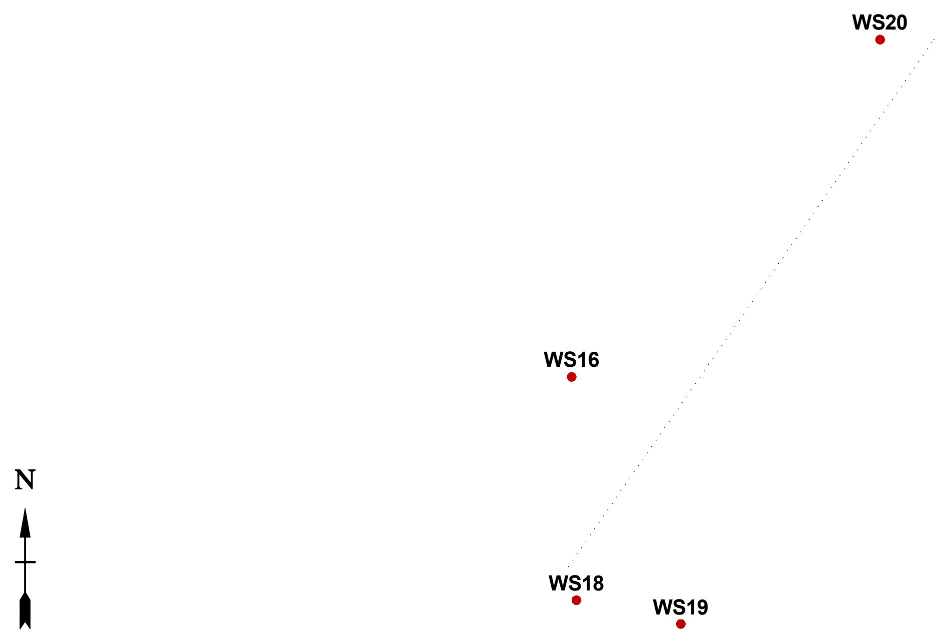
Project: Land North-west of Southwater

Number: UK0043490.9681

A3 LITHOLOGY SITE MAP 70091575 NORTH SOUTHWATER.GPJ AGS 3.1 ALL.GDT 4/7/22

This is a generalised section based on ground conditions encountered in exploratory holes. Actual ground conditions including depths and the properties of strata may vary.





TOPSOIL
CLAY
COHESIVE MADE GROUND
SILTSTONE
SANDSTONE

WSP UK Limited

Telephone:
Fax:

Figure 5 - SECTION G to H

Client: Berkeley Strategic

Project: Land North-west of Southwater

Number: UK0043490.9681

A3 LITHOLOGY 70091575 NORTH SOUTHWATER.GPJ AGS_3.1_ALL.GDT 1/7/22

Appendix B

LIMITATIONS

REPORT LIMITATIONS - GROUND AND WATER

GENERAL

1. WSP UK Limited has prepared this report solely for the use of the Client and those parties with whom a warranty agreement has been executed, or with whom an assignment has been agreed and outlined in the body of the report.

2. Unless explicitly agreed otherwise, in writing, this report has been prepared under WSP UK Limited standard Terms and Conditions as included within our proposal to the Client.

3. Project specific appointment documents may be agreed at our discretion and a charge may be levied for both the time to review and finalise appointments documents and also for associated changes to the appointment terms. WSP UK Limited reserves the right to amend the fee should any changes to the appointment terms create an increase risk to WSP UK Limited.

4. The report needs to be considered in the light of the WSP UK Limited proposal and associated limitations of scope. The report needs to be read in full and isolated sections cannot be used without full reference to other elements of the report and any previous works referenced within the report.

INTRUSIVE INVESTIGATION REPORTS

Coverage: The following report titles (or combination) may cover this category of work: geo environmental site investigation; geotechnical assessment; GIR (Ground Investigation reports); preliminary environmental and geotechnical risk assessment; and, geotechnical risk register.

5. The investigation has been undertaken to provide information concerning either:

6. The type and degree of contamination present at the site in order to allow a generic quantitative risk assessment to be undertaken; or

7. Information on the soil properties present at the site to allow for geotechnical development constraints to be considered.

8. The scope of the investigation was selected on the basis of the specific development and land use scenario proposed by the Client and may be inappropriate to another form of development or scheme. If the development layout was not known at the time of the investigation the report findings may need revisiting once the development layout is confirmed.

9. For contamination purposes, the objectives of the investigation are limited to establishing the risks associated with potential contamination sources with the potential to cause harm to human health, building materials, the environment (including adjacent land), or controlled waters.

10. For geotechnical investigations the purpose is to broadly consider potential development constraints associated with the physical property of the soils underlying the site within the context of the proposed future or continued use of the site, as stated within the report.

11. The amount of exploratory work, soil property testing and chemical testing undertaken has necessarily been restricted by various factors which may include accessibility, the presence of services; existing buildings; current site usage or short timescales. The exploratory holes completed assess only a small percentage of the area in relation to the overall size of the Site, and as such can only provide a general indication of conditions.

12. The number of sampling points and the methods of sampling and testing do not preclude the possible existence of contamination where concentrations may be significantly higher than those actually encountered or ground conditions that vary from those identified. In addition, there may be exceptional ground conditions elsewhere on the site which have not been disclosed by this investigation and which have therefore not been taken into account in this report.

13. The inspection, testing and monitoring records relate specifically to the investigation points and the timeframe that the works were undertaken. They will also be limited by the techniques employed. As part of this assessment, WSP UK Limited has used reasonable skill and care to extrapolate conditions between these points based upon assumptions to develop our interpretation and conclusions. The assumption made in forming our conclusions is that the ground and groundwater conditions (both chemically and physically) are the same as have been encountered during the works undertaken at the specific points of investigation. Conditions can change between investigation points and these interpretations should be considered indicative.

14. The risk assessment and opinions provided are based on currently available guidance relating to acceptable contamination concentrations; no liability can be accepted for the retrospective effects of any future changes or amendments to these values. Specific assumptions associated with the WSP UK Limited risk assessment process have been outlined within the body or associated appendix of the report.

15. Additional investigations may be required in order to satisfy relevant planning conditions or to resolve any engineering and environmental issues.

16. Where soil contamination concentrations recorded as part of this investigation are used for commentary on potential waste classification of soils for disposal purposes, these should be classed as indicative only. Due consideration should be given to the variability of contaminant concentrations taken from targeted samples versus bulk excavated soils and the potential variability of contaminant concentrations between sampling locations. Where major waste disposal operations are considered, targeted waste classification investigations should be designed.

17. The results of the asbestos testing are factually reported and interpretation given as to how this relates to the previous use of the site, the types of ground encountered and site conceptualisation. This does not however constitute a formal asbestos assessment. These results should be treated cautiously and should not be relied upon to provide detailed and representative information on the delineation, type and extent of bulk ACMs and / or trace loose asbestos fibres within the soil matrix at the site.

18. If costs have been included in relation to additional site works, and / or site remediation works these must be considered as indicative only and must be confirmed by a qualified quantity surveyor.

EUROCODE 7: GEOTECHNICAL DESIGN

19. On 1st April 2010, BS EN 1997-1:2004 (Eurocode 7: Geotechnical Design – Part 1) became the mandatory baseline standard for geotechnical ground investigations.

20. In terms of geotechnical design for foundations, slopes, retaining walls and earthworks, EC7 sets guidance on design procedures including specific guidance on the numbers and spacings of boreholes for geotechnical design, there are limits to methods of ground investigation and the quality of data obtained and there are also prescriptive methods of assessing soil strengths and methods of design. Unless otherwise explicitly stated, the work has not been undertaken in accordance with EC7. A standard geotechnical interpretative report will not meet the requirements of the Geotechnical Design Report (GDR) under Eurocode 7. The GDR can only be prepared following confirmation of all structural loads and serviceability requirements. The report is likely to represent a Ground Investigation Report (GIR) under the Eurocode 7 guidance.

Appendix C

BRITISH GEOLOGICAL SURVEY BOREHOLE LOGS

GROUND EXPLORATIONS Ltd.

66/76 Alpha Street, Slough, Bucks., SL1 1QX

Contract Southwater Bypass

Location Horsham Bypass A24

Report No 5949/BW

TQ12NE/23

1599. 2847

Borehole No 8

Started 22.5.73

Completed 22.5.73

Diameter 150 mm

Ground Level O.D. 63.53 m

Description	Legend	Thickness m	Depth m	Level m	Sample Type	Sample No	Depth m	C'O (N)	M/C (G/Sa/Si)	Water
Topsoil		0.3	0.3	63.2	D	324	0.3			
Mottled orange-brown & light grey clay with small pieces of sandstone		1.5	1.8	61.7	D U B	325 326 327	0.5 0.5 1.2			
Brown and olive shaly clay		3.1	4.9	58.6	D U B B W D U B	328 329 330 340 331 332 333	2.0 2.0 3.0 3.0 3.5 3.5 4.3			SK 5.0/22.5.
Blue-grey clay-shale		0.4	5.3	58.2	D U	334 335	5.0 5.0			
Blue-grey clay-shale with thin layers of brown mudstone		1.7	7.0	56.5	D B D D	336 337 338 339	5.8 6.1 6.7 6.8 7.0	(105/150)		WE 3.0/4.6/22.5.

GROUND EXPLORATIONS Ltd.

68/76 Alpha Street, Slough, Bucks., SL1 1QX

Contract: Southwater Bypass TQ12NE/26

Location: A24 Horsham Bypass Roundabout area

Report No: 5949/BW 1598.2834

Borehole No	13
Started	24.5.73.
Completed	25.5.73.
Diameter	150 mm
Ground Level	O.D. 60·97 m

Description	Legend	Thickness m	Depth m	Level m	Sample Type	Sample No	Depth m	C/O (N)	M/C/V (G/Sa/Si)	Water
Topsoil		0·6	0·6	60·4	D	362	0·5			
Mottled orange-brown and grey sandy clay		2·1			D	363	0·8			
					U	364	1·1			
					B	365	1·8			
					W	371	2·1			
					D	366	2·3			
			2·7	58·3	U	367	2·6			SK 2·7/24.5.
Hard grey and brown calcareous sandstone		0·3	3·0	57·0	D	368	3·0			
Blue-grey clay-shale		2·8			D	369	4·3			
										WE 4·0/3·0/24.5.
					U	370	5·3			WS 2·1/3·0/25.5.
			5·8	55·2						WE 2·1/4·6/25.5.

NE 93

GEORGE STOW CO. LTD.

Waterworks Engineers

READING ROAD – HENLEY-on-THAMES. OXON.

TQ 12/26

RECORD OF WELL (SHAFT OR BOREHOLE) TQ12NE/93.

TQ 15 26

DATE COMPLETED 10.3.86

All depths to be measured below Ground Level

Work carried out for Conoco (U.K.) Ltd.

Locality (Exact Site) Southwater (Near Horsham) : off A24, Southwater By-pass TQ. 1606 2678

Level of Ground Surface above Sea Level (O.D.) - m.

Depth of Shaft - m. Diameter - mm.

Depth of Bore 15.55 m. Diameter: At Top 712 mm. At Bottom 712 mm.

Details of Permanent Lining Tubes

Diameter		Length Inserted						
508	mm.	16.15	m. Plain	Nil	m. Slotted	Top At 0.61	m above ~~below~~	cellar Ground Level
	"		"		"	"		"
	"		"		"	"		"
	"		"		"	"		"
	"		"		"	"		"
	"		"		"	"		"

Water Struck at depth of (in m.) 3.04 metres

Rest Level of Water ~~below~~ Ground Level 0.5 m. (in cellar)

Yield on - Hours / Days test. Pumping - litres per sec. - Date -

Pump Water level - m. below Ground Level.

Time of Recovery -

Remarks 20" dia. starter pipe installed to 51 ft. below cellar ground level - No.readings on verticality check - Temporary coverplate tack welded onto top of casing - casing grouted in position - additional 12 ft. length casing left on site (20" dia.)

See back for Strata Record.

British Geological Survey

Version 2.0.6.6

BGS ID: 578413 : BGS Reference: TQ12NE93
British National Grid (27700) : 516060,126780
Report an issue with this borehole

TQ12 NE 93
1606 2678

GEOLOGICAL CLASSIFICATION	DETAILS OF STRATA: NATURE OF STRATA (and any additional remarks)	DEPTHS BELOW G.L.: THICKNESS METRES	DEPTH METRES
*	Grey/green/yellow/red shale - water bearing	1.26	3.96
	Soft variegated shale, then grey clay	0.91	4.87
	Soft grey/green clay + yellow brown clay	2.71	7.58
	Soft crumbly grey clay + light grey very fine powdery granules	1.52	9.10
	Hard grey/black clay + shale bands with calcareous content	4.88	13.98
Weald Clay	Grey plastic clay with grit size (5mm) calcareous content particles	0.83	14.81
	Hard Mudstone with shale bands	0.73	15.55
	All calcareous content confirmed by HCl test		
	* Suspect that majority of water in augered hole coming from this point.		

R.T.Wyatt 28.8.87

GEORGE STOW CO. LTD.

Waterworks Engineers

READING ROAD – HENLEY-on-THAMES. OXON.

TQ12/26

TQ 12NE/93

RECORD OF WELL (SHAFT OR BOREHOLE)

TQ 15 26

DATE COMPLETED 10.3.86

All depths to be measured below Ground Level

Work carried out for Conoco (U.K.) Ltd.

Locality (Exact Site) Southwater (Near Horsham) : off A24, Southwater By-pass

TQ. 1606 2678

Level of Ground Surface above Sea Level (O.D.) - m.

Depth of Shaft - m. Diameter - mm.

Depth of Bore 15.55 m. Diameter: At Top 712 mm. At Bottom 712 mm.

Details of Permanent Lining Tubes

Diameter		Length Inserted				Top At		
508	mm.	16.15	m. Plain	N11	m. Slotted	0.61	m above ~~XXXX~~	cellar Ground Level
	"		"		"	"		"
	"		"		"	"		"
	"		"		"	"		"
	"		"		"	"		"
	"		"		"	"		"

Water Struck at depth of (in m.) 3.04 metres

Rest Level of Water below ~~XXXX~~ Ground Level 0.5 m. (in cellar)

Yield on - Hours / Days test. Pumping - litres per sec. - Date -

Pump Water level - m. below Ground Level.

Time of Recovery -

Remarks 20" dia. starter pipe installed to 51 ft. below cellar ground level - No.readings on verticality check - Temporary coverplate tack welded onto top of casing - casing grouted in position - additional 12 ft. length casing left on site (20" dia.)

See back for Strata Record.

DETAILS OF STRATA

DEPTHS BELOW G.L.

GEOLOGICAL CLASSIFICATION	NATURE OF STRATA (and any additional remarks)	THICKNESS METRES	DEPTH METRES
*	Grey/green/yellow/red shale - water bearing	1.26	3.96
	Soft variegated shale, then grey clay	0.91	4.87
	Soft grey/green clay + yellow brown clay	2.71	7.58
	Soft crumbly grey clay + light grey very fine powdery granules	1.52	9.10
	Hard grey/black clay + shale bands with calcareous content	4.88	13.98
Weald	Grey plastic clay with grit size (5mm) calcareous content particles	0.83	14.81
Clay	Hard Mudstone with shale bands	0.73	15.55
	All calcareous content confirmed by HCl test		
	* Suspect that majority of water in augered hole coming from this point.		

R.J. Uyatt
28.8.87

British Geological Survey

Site	Borehole Number
Southwater Village - The Downlink Centre	BH01

Boring Method	Casing Diameter	Ground Level (mOD)	Client	Job Number
Cable Percussion		46.50	Miller Construction (UK) Ltd.	P3071
Location		**Dates**	**Engineer**	**Sheet**
515633 E 126424 N		12/03/2004		1/1

Depth (m)	Sample / Tests	Casing Depth (m)	Water Depth (m)	Field Records	Level (mOD)	Depth (m) (Thickness)	Description	Legend	Water
					45.30	0.20	MADE GROUND : Soft to firm, brown organic sandy CLAY with abundant rootlets. (TOPSOIL)		
0.30-0.30	D01					(0.25)			
					45.05	0.45	MADE GROUND : Firm to stiff, mottled grey and brown, CLAY with some fine to coarse angular flint gravel.		
0.60-0.60	D01								
0.60-0.60	D02					(0.85)	MADE GROUND : Black and dark brown, clayey fine to coarse SAND and fine to coarse metal, ash, brick, glass and ceramic GRAVEL. Occasional whole bricks and cobble sized fragments of rusted metal.		
0.60-0.60	D01								
					44.20	1.30	Stiff, extremely closely fissured, mottled grey and brown, CLAY. (WEALD CLAY)		
1.40-1.40	D03					(0.70)			
1.90-1.90	D04				43.50	2.00	Very weak, thinly laminated, extremely closely fissured, brown with grey mottling and dark red-brown staining on laminae surfaces, MUDSTONE. (WEALD CLAY)		
2.60-2.60	D05					(1.75)			
3.20-3.20	D06								
3.80-4.20	B01				41.75	3.75	Very weak, thinly laminated, extremely closely fissured grey MUDSTONE. (WEALD CLAY)		
						(0.55)			
4.20-4.20	D07			12/03/2004	41.20	4.30	Complete at 4.30m		

Remarks
1. Hand dug service inspection pit from ground level to 1.20m bgl. 2. Borehole remained dry during excavation. 3. 50mm diameter standpipe installed to 4.00m bgl. Plain pipe with bentonite seal from ground level to 1.00m bgl. Slotted pipe with gravel from 1.00m to 4.00m bgl. Bung gas valve and stopcock cover fitted.

Scale (approx)	Logged By
1:50	JPW

Figure No.

TQ 12 /28.

British Geological Survey
NATURAL ENVIRONMENT RESEARCH COUNCIL

INFORMATION MANAGEMENT PROGRAMME

A SITE DETAILS

Borehole drilled for: HORSHAM GOLF + FITNESS
Location: WORTHING ROAD HORSHAM
NGR (8 figures): TQ 16687 28799
Ground Level (if known): Please attach site plan
Drilling Company: HYDROSERVE DRILLING
Date of Drilling: Commenced / / Completed / / 2014

B CONSTRUCTION DETAILS

Borehole Datum (if not ground level) _____ above / m below GL
(point from which all measurements of depth are taken e.g. flange, edge of chamber, etc.)

Borehole drilled diameter 300 mm from 0 to 6 m/depth
200 mm from 6 to 120 m/depth
PLAIN mm from to m/depth
Casing material STEEL diameter 9 5/8" mm from 0 to 6 m/depth
and type (e.g. if plain steel, plastic slotted)

Casing material PLAIN PVC diameter 125x113 mm from 0 to 40 m/depth
Casing material 0.3 SLOT PVC diameter 125x113 mm from 40 to 80 m/depth
Casing material 0.5 SLOT PVC diameter 125x113 mm from 80 to 120 m/depth
Grouting details Bentonite SEAL 0M — 36M.
Water struck at 42M m (depth below datum - mbd)
87 M m (depth below datum - mbd)
Rest water level on completion 30M 21 CM mbd

C TEST PUMPING SUMMARY (Please supply full details on Forms WR-39)

Test Pumping Datum (if different from borehole datum) _____ m above / below borehole datum (mbd)
Pump Suction depth 80M. mbd
Water Level (Start of Test) _____ mbd
Water Level (End of Test) mbd
Pumping rate _____ m^3/d:1/s
for _____ days/hours
Recovery to (from end of pumping) _____ mbd in _____ mins: hrs: days
Date(s) of measurements
Please supply chemical Analysis if available

D STRATA LOG

Geological Classification (BGS only)	Description of strata	Thickness m	Depth m
	Made Ground ROOF TILES + RUBBLE	0	1
WEALD	yellow + Buff clay	6	7
"	Grey/Blue clay	7	17
"	Grey Shale / coal + lignite	17	24
"	Grey Shale/Fine Grey/ sandstone	24	32
START UTWS	Grey Shale/Brown clay	32	40
	Brown Mudstone	40	42
UTWS	Light Blue/Green Mudstone	42	47
	Dark Brown Sandstone (Hard) WATER STEADY 3M3?	47	52
UTWS	(Hard) Grey/White Sandstone very fine	52	70
	very Hard Sandstone	70	94
UTWS	Light Brown (WATER VOLUME RSEING POSS 5+ MTRS)	94	110
UTWS	Pepper Fine Light Grey/ Sand Stone	110	120

(continue on separate page if necessary)

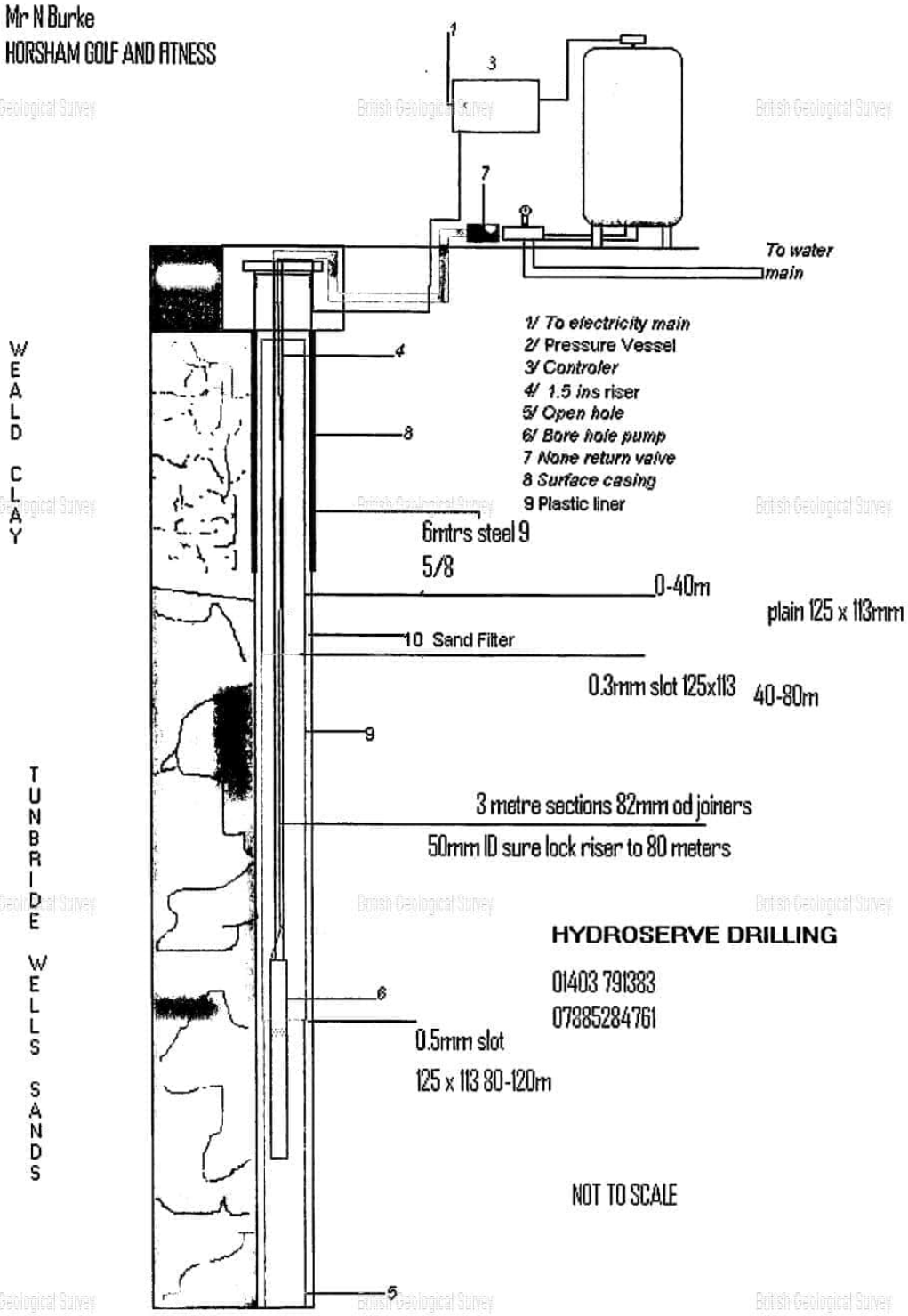
Other comments (~~e.g. gas encountered~~, ~~saline water intercepted, etc.~~)

94M. More WATER By 120M 10+ MTRS CUBED By Air lift Aprox SLIGHT H_2S Smell To The WATER

FOR OFFICIAL USE ONLY

FILE	CONSENT NO	NGS REF NO:
LIC NO:	PURPOSE:	EA REF NO:
DATE REC:	COPY TO:	ENTERED BY:

Mr N Burke
HORSHAM GOLF AND FITNESS



1/ To electricity main
2/ Pressure Vessel
3/ Controler
4/ 1.5 ins riser
5/ Open hole
6/ Bore hole pump
7 None return valve
8 Surface casing
9 Plastic liner

6mtrs steel 9
5/8
0-40m
plain 125 x 113mm
0.3mm slot 125x113 40-80m
3 metre sections 82mm od joiners
50mm ID sure lock riser to 80 meters
0.5mm slot
125 x 113 80-120m

HYDROSERVE DRILLING
01403 791383
07885284761

NOT TO SCALE

TQ 12 NW 4
1490 2903

(1)

RECORD OF WELL (SHAFT OR BORE)

For Survey use only
N. TQ 12/2A
302/10A

EXACT SITE OF WELL
At Christ's Hospital,
Stammerham,
Town or Village Horsham
County Sussex

Licence No.

Six-inch quarter sheet 13 SE/W

For ... State whether owner, tenant, builder, contractor, consultant, etc.:—

Address (if different from above)

Level of ground surface above sea-level (O.D.) ... ft.

If well-top is not at ground level, state how far { above: below; ... ft.

SHAFT 140½ ft.; diameter ... ft.; Full details of headings (dimensions and directions)
Cylinders to 140½.

BORE 276½ ft.; diameter of bore: at top ... ins.; at bottom ... ins.

Full details of permanent lining tubes (position, length, diameter, plain, slotted etc.)

Water struck at depths of ... ft. below well-top.

TEST CONDITIONS
Rest level of water 57 6/6 ft. ~~above~~ below well-top. Suction at ... ft. Yield on ... hours'/days' test pumping at ... galls. per ... with depression to ... ft. below well-top.
Recovery to rest-level in ... mins./hours. Capacity of pump ... g.p.h. Date of measurements 20·10·1896

NORMAL CONDITIONS
DESCRIPTION OF PERMANENT PUMPING EQUIPMENT:
Make and/or type ... Motive power ...
Capacity ... gallons per hour. Suction at ... ft.
Amount pumped ... galls. per day. Estimated consumption ... galls. per week.

Well made by Messrs. Docwra Date of well 1896

Information from W. S. Sx. I, p. 53.

ADDITIONAL NOTES

ANALYSIS (please attach copy if available)

LOG OF STRATA OVERLEAF.

Geological Survey and Museum, South Kensington, London, S.W.7.		Section 6.	Date Received	1" O.S. Map No.	Site marked on 1" Map	(use symbol) on 6" Map
					O	⊙

(1527) Dd574/W137583 12,000 8/54 JC&S Gp689

TQ12 NW4
1490 2903

(For Survey use only) Geological Classification	Nature of Strata — If measurements start below ground surface, state how far ..	Thickness Feet	Thickness Inches	Depth Feet	Depth Inches
	Sandstone rock (with grades, Tin, above	65		65	
	Blue shale	30		95	
	Red marl	2		97	
	Blue shale	74		171	
	Red marl	1		172	
	Blue shale	40		212	
	Hard beds of limestone rock & blue shale	81	7	293	7
	Hard sand-rock	16	8	310	3
	Hard clay	2	6	312	9
	Hard sand-rock	38	3	351	
	Blue shale, with coals rock from 353-353½	3		354	
	Hard sand-rock, with coals rock from 400½ to 401½ feet	63		417	

TQ 12/2A+B

302/10 Christ's Hospital, Horsham

(a) W.S.Sx.I, p. 53. Surface +165. Shaft 140½; rest bore 3 in. Depth 417. Shaft lined with cylinders to 140½. Water struck in UIW (yield c. 1,500 g.p.h.). R.W.L. +107¼. *Docwra, Oct. 1896.*

R.W.L. +c.80. *Aug. 1929.*

(b) W.S.Sx.III, p. 131. Surface +165. Shaft 140. Headings: (i) c. 20 N.W., floor 137½ down, connected to (a); (ii) N.E., floor 137½ down; (iii) S.E., floor 137½ down; (iv) S.W., floor 137½ down. *1905.*

Silted to 137½. *Apr.* Deepened by bore. Lining tubes: 217 × 12 in from ¾ down; 225¼ × 10 in from 198 down (perforated). R.W.L. +34. P.W.L. -64. Yield 3,580 g.p.h. (51 h. test). *Isler, Nov. 1929.* R.W.L. +65. *Feb. 1940.* Suction -75. Electric pump. *Before Feb. 1958.* P.W.L. -70. *Oct. 1960;* -65. *Oct. 1962.*

(a) and (b) R.W.L. +42½. Yield 2,000 g.p.h. *Dec. 1928.* Suction +27. Yield c. 50,000 g.p.d. *Nov. 1929;* c. 3,640 g.p.h., 11 h.p.d. *Feb. 1940;* 4,500 g.p.h. *Oct. 1960;* 4,000 g.p.h. *Oct. 1962;* 3,300 g.p.h. *Oct. 1963.*

(b)	WC	...	250	250
	UIW	...	207	457

(For S... use only) Geological Classification	Nature of Strata. If measurements start below ground surface, state how far ..	Thickness Feet	Thickness Inches	Depth Feet	Depth Inches
302/10A					
Probably clays with sst beds (Horsham Stone)	Sandstone rock (with grader, 7in, above	65		65	
	Blue shale	30		95	
	Red marl	2		97	
Weald Clay c 250'	Blue shale	74		171	
	Red marl	1		172	
	Blue shale	40		212	
Junction probably at about 250 ft	Hard beds of sandstone rock & blue shale	81	7	293	7
	Hard sand-rock	16	8	310	3
	Hard clay	2	6	312	9
Upper Tunbridge Wells Sand c. 167	Hard sand-rock	38	3	351	
	Blue shale, with coarse rock from 353-353½	3		354	
	Hard sand-rock, with coarse rock from				
	400½ to 401½ ft	63		417	
R.G. pp R.G.T. 19/11/69.					

TQ 12/2A+B

302/10 Christ's Hospital, Horsham

(a) W.S.Sx.I, p. 53. Surface +165. Shaft 140½; rest bore 3 in. Depth 417. Shaft lined with cylinders to 140½. Water struck in UIW (yield c. 1,500 g.p.h.). R.W.L. +107¼. *Docwra, Oct. 1896.*

R.W.L. +c.80. *Aug. 1929.*

(b) W.S.Sx.III, p. 131. Surface +165. Shaft 140. Headings: (i) c. 20 N.W., floor 137½ down, connected to (a); (ii) N.E., floor 137½ down; (iii) S.E., floor 137½ down; (iv) S.W., floor 137½ down. *1905.*

Silted to 137½. *Apr.* Deepened by bore. Lining tubes: 217 × 12 in from ¾ down; 225¾ × 10 in from 198 down (perforated). R.W.L. +34. P.W.L. -64. Yield 3,580 g.p.h. (51 h. test). *Isler, Nov. 1929.* R.W.L. +65. *Feb. 1940.* Suction -75. Electric pump. *Before Feb. 1958.* P.W.L. -70. *Oct. 1960;* -65. *Oct. 1962.*

(a) and (b) R.W.L. +42½. Yield 2,000 g.p.h. *Dec. 1928.* Suction +27. Yield c. 50,000 g.p.d. *Nov. 1929;* c. 3,640 g.p.h., 11 h.p.d. *Feb. 1940;* 4,500 g.p.h. *Oct. 1960;* 4,000 g.p.h. *Oct. 1962;* 3,300 g.p.h. *Oct. 1963.*

(b)	WC	...	250	250
	UIW	...	207	457

302/10A

	Thickness Ft	Ins	Depth Ft	Ins
Sandstone rock with gravel, 7in. above	65		65	
Blue shale	30		95	
Red marl	2		97	
Blue shale	74		171	
Red marl	1		172	
Blue shale	40		212	
Hard beds of ironstone rock & blue shale	81	7	293	7
Hard sand-rock	16	8	310	3
Hard clay	2	6	312	9
Hard sand-rock	38	8	351	
Blue shale, with coals rock from 353-353½	3		354	
Hard sand-rock, with coals rock from 400½ to 401½ ft	63		417	

Appendix D

GEO ENVIRONMENTAL SERVICES LIMITED BOREHOLE LOGS

Geo-Environmental
Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL
www.gesl.net

Trial Pit Log

TrialPit No
HP01
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords: 515829.36 - 128653.99 Level:
Location:	Southwater	Dimensions (m): 0.30 x 0.30	Date 13/05/2022
Client:	Berkeleys	Depth 0.70	Scale 1:25 Logged Jim Cameron

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
							Grass overlying brown slightly gravelly silty sand. Gravel comprised of sub-angular to angular siltstone and sandstone. Gravel occasionally ferruginous. MADE GROUND
				0.40			Reworked light brown slightly gravelly silty clay. Gravel comprised sub-angular concrete and siltstone. MADE GROUND
	0.70 0.70	D ES		0.70			End of Pit at 0.70m

1
2
3
4
5

Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

AGS

Geo-Environmental
Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL
www.gesl.net

Trial Pit Log

TrialPit No
HP02
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords: 516019.13 - 128445.62 Level: 56.48
Location:	Southwater	Dimensions (m): 0.30 x 0.30	Date 13/05/2022
Client:	Berkeleys	Depth 0.70	Scale 1:25 Logged Jim Cameron

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20	56.28		Grass overlying brown slightly gravelly slightly clayey sandy silt. Gravel is sub-angular to angular siltstone and sandstone. Frequent rootlets and rare roots. MADE GROUND
				0.40	56.08		Brown slightly gravelly silty clay. Gravel is composed of sub-angular to very angular flint and siltstone sandstone. Rare rootlets MADE GROUND
	0.70 0.70	D ES		0.70	55.78		Reworked orangish brown gravelly silty clay. Gravel is composed of rounded to angular flint siltstone and sandstone. MADE GROUND
							End of Pit at 0.70m

1
2
3
4
5

Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

AGS

Geo-Environmental
Unit 7, Danworth Farm
Hurstpierpoint
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Trial Pit Log

TrialPit No
HP03
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords: 515915.98 - 128325.23 Level:
Location:	Southwater	Dimensions (m): Depth 0.65	0.30 / 0.30
Client:	Berkeleys		

Date
13/05/2022

Scale
1:25

Logged
Will Purslow

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
							Brown slightly sandy slightly gravelly clayey SILT TOPSOIL
	0.20	ES		0.20			
	0.30	D					Orange and grey mottled sandy very gravelly CLAY. Gravels consists of medium to coarse angular yellow and black ferruginous sandstone WEALD CLAY
	0.65	D		0.65			
							End of Pit at 0.65m

1
2
3
4
5

Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

AGS

Geo-Environmental
Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL
www.gesl.net

Trial Pit Log

TrialPit No
HP04
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords: 515590.63 - 128562.10 Level:
Location:	Southwater	Dimensions (m): Depth 0.65	0.30 / 0.30
Client:	Berkeleys		

Date 12/05/2022
Scale 1:25
Logged Will Purslow

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.20			Crop over dark brown slightly clayey SILT. Occasional 1mm rootlets. TOPSOIL
	0.30	D					Brown slightly gravelly CLAY. Gravels are fine subrounded black ferruginous clasts. WEALD CLAY
	0.65	D		0.65			End of Pit at 0.65m

1
2
3
4
5

Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

AGS

Geo-Environmental

Unit 7, Danworth Farm
Hurstpierpoint
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Trial Pit Log

TrialPit No
HP05
Sheet 1 of 1

Project Name: Northwest Southwater	Project No. GE20620 GI	Co-ords: 515454.67 - 128360.94 Level:	Date 13/05/2022
Location: Southwater		Dimensions (m): 0.30 x 0.30 Depth 0.80	Scale 1:25
Client: Berkeleys			Logged Will Purslow

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20 0.30	ES D		0.20 0.60 0.80			Turf over Light brown slightly sandy SILT with abundant 1-2mm rootlets . TOPSOIL Yellow, black and grey mottled sandy CLAY with abundant 1-2mm rootlets. WEALD CLAY Stiff yellow grey and black mottled CLAY. Yellow parts are medium to coarse sand lenses with frequent 1-2mm rootlets WEALD CLAY End of Pit at 0.80m

1
2
3
4
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Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

AGS

Geo-Environmental
Unit 7, Danworth Farm
Hurstpierpoint
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Trial Pit Log

TrialPit No
HP06
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords: 515691.08 - 128198.11 Level:
Location:	Southwater	Dimensions (m): Depth 0.70	0.30 / 0.30
Client:	Berkeleys		

Date
13/05/2022

Scale
1:25

Logged
Will Purslow

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.20			Brown slightly gravelly slightly sandy slightly clayey SILT with rare rootlets 1mm. Gravels consists of angular yellow and black ferruginous sandstone. MADE GROUND
	0.30	D		0.40			Reworked brown slightly sandy slightly clayey silty COBBLES. Cobbles consists of subrounded yellow and black ferruginous sandstone 45mm diameter MADE GROUND
	0.70	D		0.70			Brownish yellow very sandy gravelly CLAY with occasional cobbles. Gravels and cobbles consists of yellow and black ferruginous sandstone WEALD CLAY
							End of Pit at 0.70m

1
2
3
4
5

Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

AGS

Geo-Environmental
Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL
www.gesl.net

Trial Pit Log

TrialPit No
HP07
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords: 515269.98 - 128004.58 Level:
Location:	Southwater	Dimensions (m): Depth 0.75	0.30 / 0.30
Client:	Berkeleys		

Date 13/05/2022
Scale 1:25
Logged Will Purslow

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.20			Turf over slightly gravelly sandy SILT. Gravels are fine subrounded to subangular sandstone. TOPSOIL
	0.30	D					Firm to stiff orangish brown and grey mottled slightly gravelly CLAY. Gravels are fine subrounded to subangular clasts. WEALD CLAY
				0.50			Very soft to soft orangish brown and grey mottled slightly gravelly CLAY. Gravels are fine subrounded sandstone clasts. WEALD CLAY
	0.75	D		0.75			End of Pit at 0.75m

1
2
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4
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Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

AGS

Geo-Environmental
Unit 7, Danworth Farm
Hurstpierpoint
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Trial Pit Log

TrialPit No
HP08
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords: 515502.62 - 128055.81 Level:
Location:	Southwater	Dimensions (m): Depth 0.75	0.30 / 0.30
Client:	Berkeleys		

Date
13/05/2022

Scale
1:25

Logged
Will Purslow

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.20			Dark brown sandy SILT. Abundant 1-2mm rootlets. TOPSOIL
	0.30	D					Soft brown to orangish brown and grey mottled slightly sandy slightly gravelly CLAY. Gravels are black fine to medium sandstone clasts. Rare 1-5mm rootlets/roots. WEALD CLAY
	0.75	D		0.75			End of Pit at 0.75m

1
2
3
4
5

Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

AGS

Geo-Environmental
Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL
www.gesl.net

Trial Pit Log

TrialPit No
HP09
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords: 515652.75 - 127938.08 Level:
Location:	Southwater	Dimensions (m): 0.30 × 0.30 Depth 0.55	Date 13/05/2022 Scale 1:25
Client:	Berkeleys		Logged Will Purslow

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.20			Turf over light brown sandy SILT with abundant 1-2mm rootlets TOPSOIL
	0.30	D					Orange and grey mottled sandy slightly gravelly CLAY. Gravels consists of yellow and black ferruginous sandstone. WEALD CLAY
	0.55	D		0.55			End of Pit at 0.55m

1
2
3
4
5

Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

AGS

Geo-Environmental
Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL
www.gesl.net

Trial Pit Log

TrialPit No
HP10
Sheet 1 of 1

Project Name: Northwest Southwater	Project No. GE20620 GI	Co-ords: 515494.52 - 127812.20 Level:	Date 12/05/2022
Location: Southwater		Dimensions (m): Depth 0.75 — 0.30 × 0.30	Scale 1:25
Client: Berkeleys			Logged Will Purslow

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.20			Turf over dark brown SILT. Abundant 1-2mm rootlets. TOPSOIL
	0.30	D		0.40			Brown to orange and grey mottled slightly sandy silty CLAY. Rare 1-2mm rootlets. WEALD CLAY
	0.75	D		0.75			Orange and grey mottled slightly silty slightly sandy CLAY. Rare 2-4mm roots. WEALD CLAY *... 2-4mm roots.* End of Pit at 0.75m

1
2
3
4
5

Water Strike Details (mbgl)		Remarks	
Depth	Rose To		
		Stability	

AGS

Geo-Environmental
Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL
www.gesl.net

Trial Pit Log

TrialPit No
HP12
Sheet 1 of 1

Project Name: Northwest Southwater	Project No. GE20620 GI	Co-ords: 515682.43 - 127867.19 Level:	Date 13/05/2022
Location: Southwater		Dimensions (m): 0.30 x 0.30 Depth 0.60	Scale 1:25
Client: Berkeleys			Logged Jim Cameron

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.25			Brown slightly gravelly clayey sandy silt. Rare sub-angular to angular brick and sandstone. Rotting crops and muck down to 0.2. MADE GROUND
	0.50	D		0.60			Stiff grey with orange and brown mottling slightly gravelly slightly sandy silty CLAY. Gravel comprised of sub-angular to angular fine grained sandstone. WEALD CLAY
							End of Pit at 0.60m

1
2
3
4
5

Water Strike Details (mbgl)	
Depth	Rose To

Remarks: Ploughed field recently spread with muck.

Stability:

AGS

Geo-Environmental
Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL
www.gesl.net

Trial Pit Log

TrialPit No
HP13
Sheet 1 of 1

Project Name: Northwest Southwater	Project No. GE20620 GI	Co-ords: 515800.64 - 127651.67 Level:	Date 13/05/2022
Location: Southwater		Dimensions (m): Depth 0.70 — 0.30 × 0.30	Scale 1:25
Client: Berkeleys			Logged Jim Cameron

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10	ES		0.30			Brown slightly gravelly slightly sandy silty clay. Gravel comprised of sub-angular to angular sandstone flint and silt. Numerous rotting crop vegetation to 0.2. TOPSOIL
	0.50 0.50	D PP	PP=2kg/cm2	0.70			Stiff mottled grey and orange slightly gravelly slightly sandy silty CLAY. Gravel is sub-angular sandstone. Rare ferruginous staining. WEALD CLAY
							End of Pit at 0.70m

1
2
3
4
5

Water Strike Details (mbgl)	
Depth	Rose To

Remarks: Ploughed field recently spread with muck.

Stability:

AGS

Geo-Environmental
Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL
www.gesl.net

Trial Pit Log

TrialPit No
HP14
Sheet 1 of 1

Project Name: Northwest Southwater	Project No. GE20620 GI	Co-ords: 515393.58 - 127681.60 Level:	Date 12/05/2022
Location: Southwater		Dimensions (m): 0.30 x 0.30 Depth 0.60	Scale 1:25
Client: Berkeleys			Logged Will Purslow

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.20			Light brown sandy gravelly SILT with abundant rootlets. Gravel consists of fine subrounded to subangular yellow and black sandstone. Frequent 1-2mm rootlets. TOPSOIL
	0.30	D					Dark brown slightly clayey sandy SILT. Frequent 1-2mm rootlets. WEALD CLAY
				0.50			Brown to mottled grey and orangish brown slightly sandy, slightly silty CLAY. Occasional 1-2mm rootlets with one 20mm live tree root. WEALD CLAY
	0.60	D		0.60			*... 20mm tree root*
							End of Pit at 0.60m

1
2
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4
5

Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

AGS

Geo-Environmental
Unit 7, Danworth Farm
Hurstpierpoint
BN6 9GL
www.gesl.net

Trial Pit Log

TrialPit No
HP16
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords: 515601.75 - 127616.20 Level:
Location:	Southwater	Dimensions (m): Depth 0.80	0.30 / 0.30
Client:	Berkeleys		

Date 13/05/2022
Scale 1:25
Logged Jim Cameron

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES					Brown slightly gravelly slightly sandy clayey silt. Gravel is angular sandstone and rare flint. Numerous rootles and rotting vegetation. TOPSOIL
	0.30	D		0.30			
	0.50	PP	PP=2kg/cm2				Stiff brown with grey and orange mottling slightly gravelly silty CLAY. Gravel comprised of sub-angular to angular sandstone. Rare ferruginous staining. Rare roots 1-3mm. WEALD CLAY
	0.60	D					
				0.80			End of Pit at 0.80m

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Water Strike Details (mbgl)	
Depth	Rose To

Remarks: Ploughed field recently spread with muck.

Stability:

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Trial Pit Log

TrialPit No
HP17
Sheet 1 of 1

Project Name: Northwest Southwater	Project No. GE20620 GI	Co-ords: 515459.79 - 127479.92 Level:	Date 12/05/2022
Location: Southwater		Dimensions (m): Depth 0.50 — 0.30 × 0.30	Scale 1:25
Client: Berkeleys			Logged Will Purslow

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.20	ES		0.20			Ploughed crop stubble over dark brown slightly sandy SILT. Occasional decomposing rootlets. TOPSOIL
	0.30	D					Dark brown and orange mottled slightly sandy CLAY. WEALD CLAY
	0.50	D		0.50			End of Pit at 0.50m

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Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

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Trial Pit Log

TrialPit No
HP18
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords: 515584.52 - 127354.60 Level:
Location:	Southwater	Dimensions (m): 0.30 x 0.30 Depth 0.55	Date 11/05/2022 Scale 1:25
Client:	Berkeleys		Logged Joshua Hagger

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.30	ES		0.20			Light brown SILT with abundant roots and rootlets TOPSOIL
				0.40			Light brown slightly sandy SILT with abundant rootlets WEALD CLAY
				0.55			Light brown, yellow and black mottled slightly sandy CLAY WEALD CLAY
							End of Pit at 0.55m

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Water Strike Details (mbgl)			
Depth	Rose To	Remarks	
		Stability	

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Trial Pit Log

TrialPit No
HP19
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords: 515021.39 - 127452.13 Level:
Location:	Southwater	Dimensions (m): Depth 0.72	0.30 / 0.30
Client:	Berkeleys		

Date
12/05/2022

Scale
1:25

Logged
Will Purslow

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.20			Turf over brown slightly clayey SILT. Abundant 1-2mm rootlets. TOPSOIL
	0.30	D					Mottled orangish brown and grey CLAY. Occasional rootlets. WEALD CLAY
	0.70	D		0.72			End of Pit at 0.72m

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Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

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Trial Pit Log

TrialPit No
HP20
Sheet 1 of 1

Project Name: Northwest Southwater	Project No. GE20620 GI	Co-ords: 515230.37 - 127350.70 Level:	Date 12/05/2022
Location: Southwater		Dimensions (m): Depth 0.50 — 0.30 × 0.30	Scale 1:25
Client: Berkeleys			Logged Will Purslow

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20	ES		0.20			Ploughed crop stubble over slightly sandy SILT. TOPSOIL
	0.30	D		0.30			Soft Dark brown and orange slightly sandy CLAY. WEALD CLAY
	0.50	D		0.50			Soft Orange and grey mottled sandy slightly gravelly CLAY. Gravels consists of weak fine to medium subrounded to subangular orange and black ferruginous sandstone. WEALD CLAY
							End of Pit at 0.50m

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Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

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Trial Pit Log

TrialPit No
HP21
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords: 514809.37 - 127194.21 Level:
Location:	Southwater	Dimensions (m): 0.30 x 0.30 Depth 0.70	Date 11/05/2022 Scale 1:25
Client:	Berkeleys		Logged Joshua Hagger

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20			Brown slightly gravelly SILT with abundant rootlets TOPSOIL
	0.30	ES					Light yellowy brown very sandy, orange and grey mottled SILT WEALD CLAY
	0.50	D					
	0.70	D		0.70			End of Pit at 0.70m

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Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

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Trial Pit Log

TrialPit No
HP22
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords: 515108.27 - 127065.74 Level:
Location:	Southwater	Dimensions (m): 0.30 × 0.30 Depth 0.55	Date 11/05/2022 Scale 1:25
Client:	Berkeleys		Logged Joshua Hagger

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20			Brown slightly gravelly SILT with abundant rootlets TOPSOIL
	0.30	ES					Brown sandy slightly gravelly SILT. Gravel consists of stiff yellow and black angular sandstone. WEALD CLAY
	0.50	D		0.55			End of Pit at 0.55m

Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

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Trial Pit Log

TrialPit No
HP23
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords: 515478.95 - 127094.02 Level:
Location:	Southwater	Dimensions (m): 0.30 x 0.30 Depth 0.75	Date 11/05/2022 Scale 1:25
Client:	Berkeleys		Logged Joshua Hagger

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20			Ploughed. Light grey slightly gravelly SILT. Gravel consists of medium angular flint. TOPSOIL
	0.30	ES					Dark brown slightly sandy CLAY WEALD CLAY
	0.50	D					
				0.60			Orange and grey mottled slightly sandy CLAY WEALD CLAY
	0.70	D		0.75			End of Pit at 0.75m

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Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

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Trial Pit Log

TrialPit No
HP25
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords: 515274.44 - 126994.38 Level:
Location:	Southwater	Dimensions (m): Depth 0.50	0.30 / 0.30
Client:	Berkeleys		

Date
11/05/2022

Scale
1:25

Logged
Joshua Hagger

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
				0.20			Brown slightly gravelly SILT with abundant rootlets TOPSOIL
	0.30	ES		0.40			Dark brown sandy SILT with frequent rootlets WEALD CLAY
	0.50	D		0.50			Medium stiff orangey brown slightly sandy slightly gravelly SILT. Gravel consists of angular yellow and black mottled sandstone WEALD CLAY
							End of Pit at 0.50m

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Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

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Trial Pit Log

TrialPit No
HP26
Sheet 1 of 1

Project Name: Northwest Southwater	Project No. GE20620 GI	Co-ords: 514929.36 - 126807.03 Level:	Date 11/05/2022
Location: Southwater		Dimensions (m): 0.30 x 0.30 Depth 0.55	Scale 1:25
Client: Berkeleys			Logged Joshua Hagger

Water Strike	Samples & In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
	Depth	Type	Results				
	0.10 - 0.20	ES		0.20			Brown slightly gravelly SILT with abundant rootlets TOPSOIL
	0.30	ES		0.40			Light brown slightly sandy SILT with abundant rootlets WEALD CLAY
	0.50	D		0.50			Light brown very sandy, slightly orange and black mottled grey CLAY with frequent small rootlets WEALD CLAY
				0.55			Light brown, yellow and black mottled slightly sandy CLAY WEALD CLAY
							End of Pit at 0.55m

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Water Strike Details (mbgl)		Remarks	
Depth	Rose To		
		Stability	

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Trial Pit Log

TrialPit No
HP27
Sheet 1 of 1

Project Name: Northwest Southwater	Project No. GE20620 GI	Co-ords: 515413.50 - 126788.79 Level:	Date 10/05/2022
Location: Southwater		Dimensions (m): 0.30 x 0.30 Depth 0.80	Scale 1:25
Client: Berkeleys			Logged Joshua Hagger

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	ES		0.20			Brown slightly gravelly SILT with abundant rootlets TOPSOIL
	0.50	D		0.60			Slightly yellow light brown slightly gravelly slightly sandy SILT WEALD CLAY
	0.80	D		0.80			Orange and grey mottled sandy CLAY WEALD CLAY
							End of Pit at 0.80m

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Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

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Trial Pit Log

TrialPit No
HP28
Sheet 1 of 1

Project Name: Northwest Southwater	Project No. GE20620 GI	Co-ords: 514575.46 - 126745.13 Level:	Date 10/05/2022
Location: Southwater		Dimensions (m): 0.30 x 0.30 Depth 0.65	Scale 1:25
Client: Berkeleys			Logged Joshua Hagger

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.20 - 0.30	ES		0.20			Brown slightly gravelly SILT with abundant rootlets TOPSOIL
				0.50			Slightly yellowy brown fine to medium angular gravelly SILT. Gravel consists of stratified layers of yellow and black SANDSTONE. WEALD CLAY
				0.65			Yellow, brown and black mottled sandy slightly gravelly CLAY. Gravel consists of stratified yellow and black SANDSTONE. WEALD CLAY
							End of Pit at 0.65m

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Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

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Trial Pit Log

TrialPit No
HP29
Sheet 1 of 1

Project Name: Northwest Southwater	Project No. GE20620 GI	Co-ords: 515110.49 - 126559.82 Level:	Date 11/05/2022
Location: Southwater		Dimensions (m): Depth 0.70 — 0.30 × 0.30	Scale 1:25
Client: Berkeleys			Logged Joshua Hagger

Water Strike	Samples & In Situ Testing: Depth	Type	Results	Depth (m)	Level (m)	Legend	Stratum Description
	0.10 - 0.20	ES		0.10			Brown slightly gravelly SILT with abundant rootlets TOPSOIL
				0.30			Orange very sandy CLAY with frequent rootlets WEALD CLAY
	0.50	D					Orange and grey mottled slightly sandy CLAY with frequent rootlets WEALD CLAY
	0.70	D		0.70			End of Pit at 0.70m

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Water Strike Details (mbgl)	
Depth	Rose To

Remarks

Stability

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Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS01** Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords: 515686E - 128665N	Hole Type WLS
Location:	Southwater		Level: 52.82	Scale 1:25
Client:	Berkeleys		Dates: 13/05/2022	Logged By Jim Cameron

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES					Grass overlying brown slightly gravelly slightly clayey silty sand. Gravel is sub-angular concrete and siltstone. Numerous rootlets. MADE GROUND
		0.50 0.50	D PP	2.0kg/cm2	0.45	52.37		Stiff to very stiff brown with grey and orange mottling becoming yellowish brown slightly gravelly slightly sandy silty CLAY. Gravel comprised of sub-angular to angular sandstone and siltstone. Sandstone is dark brown ferruginous. Occasional orange and dark brown staining. WEALD CLAY
		1.00 1.00	D PP	2.5kg/cm2				*... ferruginous sandstone band.*
		1.50 1.50	D PP	3.0kg/cm2				
		2.00 2.00	D PP	3.0kg/cm2				*... dark orangish brown ferruginous siltstone.*
		2.50 2.50	D PP	3.5kg/cm2				
		3.00 3.00	D PP	4.0kg/cm2				*... dark orangish brown ferruginous siltstone.*
	▼				3.05	49.77		Orangish brown to yellowish brown clayey SILT / thinly bedded to laminated SILTSTONE. Occasional dark brown staining. HORSHAM STONE
		3.50	D					*... dark orangish brown ferruginous siltstone.*
		4.00	D		4.00	48.82		End of Borehole at 4.00m

Dynamic Sampling Run Details			Water Strike Details (mbgl)		Remarks
Depth Top	Depth Base	Diameter	Depth Strike	Rose To	
			3.30	3.30	

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Borehole Log

Borehole No. **WS02**

Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords:	515824E - 128552N	Hole Type WLS
Location:	Southwater		Level:	56.55	Scale 1:25
Client:	Berkeleys		Dates:	12/05/2022	Logged By Jim Cameron

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES		0.20	56.35		Brown slightly clayey silty sand. Rare rootlets MADE GROUND
		0.50 0.50	D ES					Slightly gravelly slightly sandy silty CLAY. Gravel is siltstone and brick. MADE GROUND
		1.00	D					
		1.50	D					
		2.00	D					
		2.50	D		2.40	54.15		Very stiff mottled grey and orangish brown slightly gravelly slightly sandy silty CLAY. Gravel comprised of sub-angular to angular ferruginous siltstone and nodular calcareous material. WEALD CLAY
		3.00	D					
		3.50	D					
		4.00	D		4.00	52.55		End of Borehole at 4.00m

1 2 3 4 5

Dynamic Sampling Run Details			Water Strike Details (mbgl)		Remarks
Depth Top	Depth Base	Diameter	Depth Strike	Rose To	

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Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords: 515985E - 128382N	Hole Type WLS
Location:	Southwater		Level: 63.22	Scale 1:25
Client:	Berkeleys		Dates: 12/05/2022	Logged By Jim Cameron

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES					Brown slightly clayey silty sand. Rare rootlets. MADE GROUND
					0.25	62.97		
		0.40	ES					Reworked brown slightly gravelly slightly sandy silty clay. Gravel comprised of rounded to angular flint, brick, siltstone. Rare rootlets. MADE GROUND
		0.50	D					
		0.50	PP	4.0kg/cm2				
		1.00	D		1.00	62.22		Reworked siltstone. MADE GROUND
		1.00	PP	4.0kg/cm2	1.10	62.12		Firm to very stiff brown to mottled grey and brown slightly gravelly silty CLAY. Gravel comprised of sub-angular to angular siltstone and white calcareous nodules. Rare roots 1-10mm. WEALD CLAY
		1.30	ES					
		1.50	D					*... ferruginous band with dark brown material.*
		1.50	PP	2.5kg/cm2				
	▼	2.00	D					
	▼	2.00	PP	1.5kg/cm2				*... ferruginous band with dark brown material.*
		2.50	D					
		2.50	PP	3.0kg/cm2				
		3.00	D					
		3.00	PP	4.0kg/cm2				
		3.50	D					
		3.50	PP	2.0kg/cm2				
					3.80	59.42		Brown clay SILT / thinly bedded to laminated SILTSTONE. HORSHAM STONE
		4.00	D		4.00	59.22		End of Borehole at 4.00m

Dynamic Sampling Run Details			Water Strike Details (mbgl)		**Remarks**
Depth Top	Depth Base	Diameter	Depth Strike	Rose To	
			2.10	2.10	

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Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS04** Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords: 515591E - 128389N	Hole Type WLS
Location:	Southwater		Level: 56.00	Scale 1:25
Client:	Berkeleys		Dates: 12/05/2022	Logged By Jim Cameron

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
					0.05	55.95		Grass overlying brown slightly gravelly silty sand. Gravel comprised of rounded to angular flint and sandstone. MADE GROUND
		0.10	ES		0.13	55.87		
					0.25	55.75		Orange and brown very gravelly sand. Gravel comprised of sub-angular to very angular brick, clay pipe, mortar sandstone and siltstone. MADE GROUND
		0.50	D					
		0.50	ES					
		0.50	PP	4.5kg/cm2				Yellowish brown very gravelly sand. Gravel comprised of sub-angular to angular sandstone and brick MADE GROUND
		1.00	D					Reworked? Brown very stiff slightly gravelly silty CLAY. Gravel comprised of sub-angular to angular siltstone and fine to medium white calcareous nodules. Frequent orange staining Rare roots 1-4mm MADE GROUND
		1.00	PP	4.5kg/cm2				
					1.25	54.75		Reworked? Brown fine to medium SAND. MADE GROUND
		1.50	D					
					1.60	54.40		Very stiff mottled orange and brown slightly gravelly silty CLAY. Gravel comprised of sub-angular to very angular siltstone and occasional calcareous nodules. Occasional dark brown ferruginous staining. WEALD CLAY
		2.00	D					
		2.00	PP	4.5kg/cm2				
					2.25	53.75		Very stiff brown clayey SILT / SILTSTONE. Occasional orange and brown staining. HORSHAM STONE
		2.50	D					
		2.50	PP	4.5kg/cm2				
		3.00	D					*... dark brown colour.*
		3.00	PP	4.5kg/cm2				
		3.50	D					
		3.50	PP	4.5kg/cm2				
		4.00	D		4.00	52.00		End of Borehole at 4.00m
		4.00	PP	5.0kg/cm2				

Dynamic Sampling Run Details			Water Strike Details (mbgl)		Remarks
Depth Top	Depth Base	Diameter	Depth Strike	Rose To	

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Borehole Log

Borehole No. **WS05**

Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords:	515643E - 128341N	Hole Type WLS
Location:	Southwater		Level:	56.09	Scale 1:25
Client:	Berkeleys		Dates:	12/05/2022	Logged By Jim Cameron

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES					Grass overlying reworked brown slightly gravelly sandy silty clay. Gravel comprised of sub-angular to angular flint. Low sub-angular flint cobble content. MADE GROUND
		0.30	ES		0.25	55.84		Very stiff mottled grey and orangish brown slightly gravelly silty CLAY. Gravel is sub-angular to angular siltstone and calcareous nodules. WEALD CLAY
		0.50	D					
		0.50	PP	4.0kg/cm2				
		1.00	D					
		1.00	PP	4.0kg/cm2				
		1.50	D					
		1.50	PP	3.0kg/cm2				
					1.70	54.38		Very stiff yellowish brown with orange staining clayey SILT / SILTSTONE. HORSHAM STONE
		2.00	D		1.95	54.14		Brown clay SILT / SILTSTONE. HORSHAM STONE
		2.00	PP	4.0kg/cm2				
		2.50	D					
		2.50	PP	5.0kg/cm2				
		3.00	D					
		3.00	PP	5.0kg/cm2				
		3.50	D					
		3.50	PP	5.0kg/cm2				
		4.00	D		4.00	52.08		End of Borehole at 4.00m
		4.00	PP	5.0kg/cm2				

1 2 3 4 5

Dynamic Sampling Run Details			Water Strike Details (mbgl)		Remarks
Depth Top	Depth Base	Diameter	Depth Strike	Rose To	

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Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	Borehole Log	Borehole No. **WS06** Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords: 515638E - 128294N	Hole Type WLS
Location:	Southwater		Level: 56.89	Scale 1:25
Client:	Berkeleys		Dates: 12/05/2022	Logged By Jim Cameron

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES		0.15	56.74		Grass overlying sandy gravel chalk crush. Gravel comprised of sub-angular to very angular chalk and flint. MADE GROUND
		0.40	ES					Orangish brown with grey mottling slightly gravelly silty CLAY. Gravel comprised of angular siltstone and ferruginous siltstone/sandstone. WEALD CLAY
		0.50	D					
		0.50	ES					
		0.50	PP	2.0kg/cm2				
		1.00	D					
		1.00	PP	4.0kg/cm2				
		1.50	D					
		1.50	PP	4.0kg/cm2				
		2.00	D					
		2.00	PP	4.0kg/cm2				
					2.30	54.59		Very stiff brown clayey SILT / thinly bedded to laminated SILTSTONE. HORSHAM STONE
		2.50	D					
		2.50	PP	3.5kg/cm2				
		3.00	D					
		3.00	PP	5.0kg/cm2				
		3.50	D					
		3.50	PP	5.0kg/cm2				
		4.00	D		4.00	52.89		End of Borehole at 4.00m
		4.00	PP	5.0kg/cm2				

Dynamic Sampling Run Details			Water Strike Details (mbgl)		Remarks
Depth Top	Depth Base	Diameter	Depth Strike	Rose To	

AGS

Geo-Environmental	Unit 7, Danworth Farm Hurstpierpoint BN6 9GL www.gesl.net	**Borehole Log**	Borehole No. **WS07** Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords:	515234E - 127722N	Hole Type WLS
Location:	Southwater		Level:	56.48	Scale 1:25
Client:	Berkeleys		Dates:	12/05/2022	Logged By Jim Cameron

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES		0.13	56.35		Grass and nettles overlying white sandy gravel chalk crush. Gravel is sub-rounded chalk and very angular flint. MADE GROUND
					0.20	56.28		Brown slightly clayey silty sand. TOPSOIL
		0.40	ES		0.35	56.13		Light brown clayey sandy silt. WEALD CLAY
		0.50	D					Very stiff orangish brown slightly sandy clayey SILT. Numerous ferruginous staining and orange mottling. WEALD CLAY
		0.50	PP	3.5kg/cm2	0.70	55.78		Stiff mottled grey and orangish brown slightly gravelly silty CLAY. Gravel comprised of sub-angular sandstone. WEALD CLAY
		1.00	D		0.95	55.53		*... sandstone band.*
		1.00	PP	2.0kg/cm2				Orangish brown gravelly clayey SAND. Gravel comprised of sub-angular sandstone. WEALD CLAY
		1.50	D					
		1.50	PP	2.0kg/cm2	1.60	54.88		Mottled grey and orange clayey very sandy SILT. WEALD CLAY
		2.00	D					
	▼	2.00	PP	4.0kg/cm2	2.05	54.43		Light brown slightly gravelly SAND. Gravel comprised of sub-angular sandstone. HORSHAM STONE
		2.40	D		2.40	54.08		End of Borehole at 2.40m

Dynamic Sampling Run Details			Water Strike Details (mbgl)		Remarks
Depth Top	Depth Base	Diameter	Depth Strike	Rose To	
			2.26	2.26	

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Borehole Log

Borehole No. **WS08**
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords:	515028E - 126910N	Hole Type WLS
Location:	Southwater		Level:	49.69	Scale 1:25
Client:	Berkeleys		Dates:	11/05/2022	Logged By Jim Cameron

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES					Grass overlying brown slightly gravelly sandy clayey silt. Gravel comprised of sub-angular to angular siltstone and sandstone. Abundant rootlets and rare roots 1-2mm. Orange staining around rootlets. TOPSOIL
		0.40	ES		0.45	49.24		
		0.50	D					Very stiff mottled grey and orangish brown silty CLAY. WEALD CLAY
		0.50	PP	3.0kg/cm2				
					0.90	48.79		
		1.00	D					Very stiff light brown with occasional orange and grey mottling slightly gravelly clayey SILT. Gravel comprised of sub-angular to angular siltstone. WEALD CLAY
		1.00	PP	3.5kg/cm2				
		1.50	D					
		1.50	PP	3.5kg/cm2				
					1.90	47.79		
		2.00	D					Very stiff light brown clayey SILT / thinly bedded SILTSTONE. Numerous dark brown ferruginous staining. HORSHAM STONE
		2.00	PP	5.0kg/cm2				
		2.50	D					
		2.50	PP	5.0kg/cm2				
		3.00	D					
		3.00	PP	5.0kg/cm2				
		3.50	D					
		3.50	PP	5.0kg/cm2				
		4.00	D		4.00	45.69		End of Borehole at 4.00m
		4.00	PP	5.0kg/cm2				

1 2 3 4 5

Dynamic Sampling Run Details			Water Strike Details (mbgl)		Remarks
Depth Top	Depth Base	Diameter	Depth Strike	Rose To	

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Borehole Log

Borehole No. **WS09**
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords:	515063E - 126872N	Hole Type WLS
Location:	Southwater		Level:	49.22	Scale 1:25
Client:	Berkeleys		Dates:	11/05/2022	Logged By Jim Cameron

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES					Grass overlying brown slightly sandy clayey silt. Frequent rootlets. TOPSOIL
		0.40	ES		0.45	48.77		
		0.50	D					Very stiff light brown with grey and orange mottling slightly gravelly silty CLAY. Gravel comprised of sub-angular siltstone. Rare ferruginous staining. Rare rootlets. WEALD CLAY
		0.50	PP	3.0kg/cm2				*... band of ferruginous material.*
		1.00	D					
		1.00	PP	4.5kg/cm2	1.40	47.82		
		1.50	D					Light brown slightly gravelly clayey SILT / thinly bedded weak SILTSTONE. HORSHAM STONE
		1.50	PP	5.0kg/cm2				
		2.00	D					
		2.50	D					
		3.00	D		3.00	46.22		End of Borehole at 3.00m

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Dynamic Sampling Run Details			Water Strike Details (mbgl)		Remarks
Depth Top	Depth Base	Diameter	Depth Strike	Rose To	Refused at 3.0m

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Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords:	515139E - 126796N	Hole Type WLS
Location:	Southwater		Level:	48.80	Scale 1:25
Client:	Berkeleys		Dates:	11/05/2022	Logged By Jim Cameron

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES					Grass overlying brown slightly gravelly sandy clayey silt. Gravel comprised of sub-angular to angular siltstone. Frequent rootlets. TOPSOIL
		0.40	ES		0.45	48.35		
		0.50 0.50	D PP	2.0kg/cm2				Stiff mottled grey and orangish brown slightly gravelly sandy silty CLAY. Gravel is fine to medium sub-angular siltstone and coarse sandstone. Sand is dark brown ferruginous. WEALD CLAY
					0.75	48.05		*... band of ferruginous sand and sandstone.*
		1.00 1.00	D PP	0.5kg/cm2	0.95	47.85		Firm mottled light grey and orange silty CLAY. WEALD CLAY
		1.50 1.50	D PP	4.0kg/cm2				Very stiff yellowish brown with grey mottling clayey SILT / SILTSTONE. HORSHAM STONE
	▼	2.00 2.00	D PP	5.0kg/cm2				*... hard sandstone band.*
					2.10	46.70		End of Borehole at 2.10m

Dynamic Sampling Run Details			Water Strike Details (mbgl)		Remarks
Depth Top	Depth Base	Diameter	Depth Strike	Rose To	
			1.95	1.95	

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Borehole Log

Borehole No.
WS11
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords:	515200E - 126745N	Hole Type WLS
Location:	Southwater		Level:	50.15	Scale 1:25
Client:	Berkeleys		Dates:	11/05/2022	Logged By Jim Cameron

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES					Grass overlying brown slightly sandy clayey silt. Frequent rootlets. TOPSOIL
		0.40	ES		0.40	49.74		
		0.50	D					Mottled grey and orange silty CLAY. WEALD CLAY
		0.50	PP	3.0kg/cm2				
		1.00	D					
		1.00	PP	3.8kg/cm2				
					1.15	49.00		
		1.50	D					Very stiff dark brown with grey mottling silty CLAY. WEALD CLAY
		1.50	PP	4.0kg/cm2				
					1.80	48.34		
		2.00	D					Very stiff brown with orange and grey mottling clayey SILT / SILTSTONE. HORSHAM STONE
		2.00	PP	4.0kg/cm2				
		2.50	D					
		2.50	PP	4.0kg/cm2				
		3.00	D					
		3.00	PP	4.5kg/cm2				
					3.20	46.94		End of Borehole at 3.20m

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Dynamic Sampling Run Details			Water Strike Details (mbgl)		Remarks
Depth Top	Depth Base	Diameter	Depth Strike	Rose To	Refused at 3.2m

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Borehole Log

Borehole No. **WS12**
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords:	515091E - 126784N	Hole Type WLS
Location:	Southwater		Level:	47.38	Scale 1:25
Client:	Berkeleys		Dates:	11/05/2022	Logged By Jim Cameron

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES					Grass overlying light brown slightly gravelly sandy clayey silt. Gravel comprised of sub-angular very angular sandstone and siltstone. Frequent rootlets and rare roots 1-2mm. TOPSOIL
					0.40	46.98		
		0.50	D					Very stiff brown to mottled orange and grey gravelly sandy silty CLAY. Gravel comprised of sub-angular to angular siltstone and dark brown to black ferruginous sandstone and siltstone. WEALD CLAY
		0.50	ES					
		0.50	PP	2.5kg/cm2				
		1.00	D					*... zone of ferruginous sand and sandstone.*
		1.00	PP	2.0kg/cm2				
		1.50	D					*... occasional light grey coarse sand and fine to medium siltstone gravel.*
		1.50	PP	4.5kg/cm2				
					1.90	45.48		
		2.00	D					Brown with rare dark brown staining gravelly sandy clayey SILT / thinly bedded to laminated weak SILTSTONE. Gravel comprised of siltstone and sandstone. HORSHAM STONE
		2.00	PP	4.0kg/cm2				
		2.50	D					
		2.50	PP	4.5kg/cm2				
		3.00	D					
		3.00	PP	3.0kg/cm2				
		3.50	D					
		3.50	PP	5.0kg/cm2				
		4.00	D		4.00	43.38		End of Borehole at 4.00m
		4.00	PP	5.0kg/cm2				

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Dynamic Sampling Run Details			Water Strike Details (mbgl)		Remarks
Depth Top	Depth Base	Diameter	Depth Strike	Rose To	

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Borehole Log

Borehole No. **WS13**
Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords:	515137E - 126743N	Hole Type WLS
Location:	Southwater		Level:	48.91	Scale 1:25
Client:	Berkeleys		Dates:	11/05/2022	Logged By Jim Cameron

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES					Grass overlying light brown slightly gravelly sandy clayey silt. Gravel comprised of sub-angular siltstone and sandstone. Frequent rootlets and rare roots 1-2mm.
					0.30	48.61		TOPSOIL
		0.40	ES					Stiff to very stiff light brown with grey and orange mottling slightly gravelly silty CLAY. Gravel is comprised of rare angular dark brown ferruginous sandstone. Rare rootlets
		0.50	D					WEALD CLAY
		0.50	PP	2.5kg/cm2				
		1.00	D					
		1.00	PP	2.5kg/cm2				
		1.50	D					
		1.50	PP	2.5kg/cm2	1.60	47.31		Stiff to very stiff light brown with grey and orange mottling gravelly sandy silty CLAY / thinly bedded to laminated SILTSTONE. Gravel is comprised of sub-angular angular siltstone and dark brown ferruginous sandstone. Occasional light grey sub-angular coarse siltstone sand. Rare rootlets
		2.00	D					WEALD CLAY
		2.00	PP	3.0kg/cm2				*... band of ferruginous fine to medium grained sandstone.*
	▼	2.50	D					
	▼	2.50	PP	4.5kg/cm2				
					2.70	46.21		*... band of ferruginous fine to medium grained sandstone.*
								End of Borehole at 2.70m

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Dynamic Sampling Run Details			Water Strike Details (mbgl)		Remarks
Depth Top	Depth Base	Diameter	Depth Strike	Rose To	Refused at 2.7 on sandstone cobble.
			2.60	2.60	

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Borehole Log

Borehole No. **WS14**

Sheet 1 of 1

Project Name:	Northwest Southwater	Project No. GE20620 GI	Co-ords:	515194E - 126685N	Hole Type WLS
Location:	Southwater		Level:	50.10	Scale 1:25
Client:	Berkeleys		Dates:	11/05/2022	Logged By Jim Cameron

Well	Water Strikes	Sample and In Situ Testing			Depth (m)	Level (m)	Legend	Stratum Description
		Depth (m)	Type	Results				
		0.10	ES					Grass overlying light brown slightly sandy clayey silt. Frequent rootlets. TOPSOIL
					0.30	49.80		
		0.40	ES					Stiff to very stiff mottled grey and orange silty CLAY. Rare roots 1-2mm. WEALD CLAY
		0.50	D					
		0.50	PP	3.5kg/cm2				
					0.70	49.40		Very stiff mottled grey and orange slightly sandy slightly gravelly silty CLAY. Gravel is sub-angular to angular siltstone. WEALD CLAY
		1.00	D					
		1.00	PP	2.5kg/cm2				
					1.25	48.85		Very stiff dark brown and orange silty CLAY / thinly bedded to laminated weak SILTSTONE. Rare grey clay laminations. Numerous dark reddish brown ferruginous staining. WEALD CLAY
		1.50	D					
		1.50	PP	4.0kg/cm2				
		2.00	D					
		2.00	PP	5.0kg/cm2				
		2.50	D					
		2.50	PP	5.0kg/cm2				
		3.00	D					
		3.00	PP	5.0kg/cm2				
		3.50	D					
		3.50	PP	5.0kg/cm2				
		4.00	D		4.00	46.10		End of Borehole at 4.00m
		4.00	PP	5.0kg/cm2				

1 2 3 4 5

Dynamic Sampling Run Details			Water Strike Details (mbgl)		Remarks
Depth Top	Depth Base	Diameter	Depth Strike	Rose To	

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Appendix E

K4 SOILS ATTERBERG TESTING CERTIFICATES

Summary of Natural Moisture Content, Liquid Limit and Plastic Limit Results

Job No.	Project Name	Programme	
31900	Northwest Southwater	Samples received	19/05/2022
		Schedule received	20/05/2022
Project No.	Client	Project started	20/05/2022
GE20620 GI	GESL	Testing Started	13/06/2022

Hole No.	Sample				Soil Description	NMC	Passing 425µm	LL	PL	PI	Remarks
	Ref	Top m	Base m	Type		%	%	%	%	%	
HP03	-	0.65	-	D	Brown slightly gravelly sandy silty CLAY (gravel is fmc)	23	92	51	22	29	
HP05	-	0.30	-	D	Brown sandy silty CLAY with rare fine gravel and rootlets	24	99	51	26	25	
HP07	-	0.75	-	D	Greenish grey mottled orangish brown silty CLAY with sandy patches and rare fine gravel	25	99	53	23	30	
HP08	-	0.75	-	D	Brown slightly gravelly sandy silty CLAY with sandy patches (gravel is fm ironstained)	18	90	31	17	14	
HP09	-	0.55	-	D	Brown mottled light grey slightly gravelly sandy silty CLAY (gravel is fine ironstained)	23	97	58	26	32	
HP10	-	0.75	-	D	Greyish brown and orangish brown mottled slightly sandy silty CLAY with rare fine gravel	25	99	47	20	27	
HP11	-	0.70	-	D	Brown mottled light grey and orangish brown silty CLAY with sandy patches and rare fine gravel	23	99	50	21	29	
HP13	-	0.50	-	D	Brown, orangish brown and occasional light grey silty CLAY with traces of rootlets	19	100	45	19	26	
HP14	-	0.30	-	D	Greenish grey and orangish brown mottled slightly gravelly silty CLAY with sandy patches and rare roots (gravel is fm)	23	97	56	23	33	
HP17	-	0.50	-	D	Brown mottled light grey and orangish brown slightly sandy silty CLAY with sandy patches and rare fine gravel	22	99	50	21	29	
HP19	-	0.70	-	D	Greenish grey mottled brown and orangish brown silty CLAY with sandy patches	29	100	57	26	31	
HP20	-	0.50	-	D	Brown slightly gravelly sandy silty CLAY with pockets of light grey silty clay (gravel is medium and coarse sandstone gravel)	24	95	50	20	30	

Test Methods: BS1377: Part 2: 1990:
Natural Moisture Content : clause 3.2
Atterberg Limits: clause 4.3 and 5.0
These results only apply to the items tested

Test Report by K4 SOILS LABORATORY
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Date: 15/06/2022

Summary of Natural Moisture Content, Liquid Limit and Plastic Limit Results

Job No.	Project Name	Programme	
31900	Northwest Southwater	Samples received	19/05/2022
		Schedule received	20/05/2022
Project No.	Client	Project started	20/05/2022
GE20620 GI	GESL	Testing Started	13/06/2022

Hole No.	Sample				Soil Description	NMC	Passing 425µm	LL	PL	PI	Remarks
	Ref	Top m	Base m	Type		%	%	%	%	%	
HP21	-	0.50	-	D	Light brown slightly sandy silty CLAY with rare fine gravel and rootlets	15	99	43	20	23	
HP23	-	0.70	-	D	Greenish grey and brown mottled silty CLAY with sandy patches and rare fine gravel	30	99	52	22	30	
HP25	-	0.50	-	D	Brown mottled orangish brown and light grey sandy silty CLAY with rare fine gravel	23	99	51	22	29	
HP26	-	0.50	-	D	Brown slightly sandy silty CLAY with rare ironstained fine gravel and rootlets	22	99	44	21	23	
HP27	-	0.80	-	D	Orangish brown and greenish grey mottled silty CLAY with sandy patches	34	100	77	31	46	
HP29	-	0.50	-	D	Light grey and orangish brown mottled silty CLAY with brown sandy patches	31	100	81	31	50	
HP30	-	0.50	-	D	Brown and dark brown mottled silty CLAY with sandy patches and rootlets	20	100	53	24	29	
HP31	-	0.60	-	D	Brown, orangish brown and light grey mottled slightly gravelly silty CLAY with sandy patches (gravel is fm)	31	97	77	29	48	
WS01	-	2.00	-	D	Brown mottled greenish grey silty CLAY with sandy patches and rare fm gravel	25	99	58	27	31	
WS02	-	3.00	-	D	Greenish grey and orangish brown silty CLAY with sandy patches	26	100	55	24	31	
WS03	-	3.50	-	D	Brown and grey mottled silty CLAY with sandy patches and rare fine gravel	30	99	61	27	34	
WS04	-	1.00	-	D	Light grey mottled brown slightly sandy slightly gravelly silty CLAY (gravel is fm)	18	97	43	20	23	

Test Methods: BS1377: Part 2: 1990:
Natural Moisture Content : clause 3.2
Atterberg Limits: clause 4.3 and 5.0
These results only apply to the items tested

Test Report by K4 SOILS LABORATORY
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2519 Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

Summary of Natural Moisture Content, Liquid Limit and Plastic Limit Results

Job No.	Project Name	Programme	
31900	Northwest Southwater	Samples received	19/05/2022
		Schedule received	20/05/2022
Project No.	Client	Project started	20/05/2022
GE20620 GI	GESL	Testing Started	13/06/2022

Hole No.	Sample				Soil Description	NMC	Passing 425µm	LL	PL	PI	Remarks
	Ref	Top m	Base m	Type		%	%	%	%	%	
WS04	-	2.50	-	D	Light brown and light grey mottled slightly gravelly slightly shaley silty CLAY with sandy patches (gravel is fm)	17	97	46	22	24	
WS05	-	1.00	-	D	Orangish brown and light grey mottled silty CLAY with sandy patches and rare fine gravel	22	99	58	24	34	
WS06	-	1.50	-	D	Greenish grey and orangish brown mottled silty CLAY with sandy patches and rare fine gravel	22	99	52	23	29	
WS07	-	1.00	-	D	Brown and light brown mottled sandy silty CLAY with rare black ironstained sandy and fine gravel and medium to cobble sized sandstone gravel	24	70	34	18	16	
WS08	-	0.50	-	D	Greenish grey mottled orangish brown silty CLAY with sandy patches and rare fine gravel	24	99	56	22	34	
WS09	-	1.00	-	D	Brown mottled orangish brown and light grey slightly gravelly silty CLAY with sandy patches (gravel is fm)	19	97	42	20	22	
WS09	-	2.50	-	D	Greenish grey and orangish brown mottled silty CLAY with sandy patches and rare fine gravel	20	99	50	23	27	
WS10	-	2.00	-	D	Brown mottled light grey sandy silty CLAY with sandy patches and rare fine gravel	19	98	40	20	20	
WS11	-	1.50	-	D	Reddish brown mottled greenish grey sandy silty CLAY with rare fine gravel	26	99	42	28	14	
WS12	-	1.50	-	D	Greenish grey mottled orangish brown slightly gravelly silty CLAY with sandy patches (gravel is fmc)	21	92	42	19	23	
WS13	-	1.00	-	D	Brown mottled light grey silty CLAY	29	100	69	29	40	
WS14	-	4.00	-	D	Brown, dark grey and orangish brown mottled silty CLAY with sandy patches	27	100	68	26	42	

Test Methods: BS1377: Part 2: 1990:
Natural Moisture Content : clause 3.2
Atterberg Limits: clause 4.3 and 5.0
These results only apply to the items tested

Test Report by K4 SOILS LABORATORY
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Date: 15/06/2022

Summary of Natural Moisture Content, Liquid Limit and Plastic Limit Results

Job No.	Project Name	Programme	
31900	Northwest Southwater	Samples received	19/05/2022
		Schedule received	20/05/2022
Project No.	Client	Project started	20/05/2022
GE20620 GI	GESL	Testing Started	13/06/2022

Hole No.	Sample				Soil Description	NMC	Passing 425µm	LL	PL	PI	Remarks
	Ref	Top m	Base m	Type		%	%	%	%	%	
WS15	-	2.00	-	D	Greyish brown and occasional orangish brown and light grey silty CLAY	22	100	39	18	21	
WS16	-	1.50	-	D	Brown and light grey mottled slightly gravelly silty CLAY with sandy patches (gravel is fm ironstained)	27	95	51	22	29	
WS18	-	1.00	-	D	Light brown and light grey mottled slightly gravelly silty CLAY with sandy patches (gravel is fm)	29	97	60	25	35	
WS18	-	3.00	-	D	Brown and dark brown mottled slightly gravelly slightly shaley silty CLAY with sandy patches (gravel is fm mudstone fragments)	26	95	66	27	39	
WS19	-	1.00	-	D	Dark orangish brown and brown mottled slightly gravelly silty CLAY with sandy patches (gravel is fm ironstained)	30	97	69	28	41	
WS20	-	2.00	-	D	Greenish grey mottled orangish brown silty CLAY with sandy patches and rare fine gravel	22	99	50	23	27	

Test Methods: BS1377: Part 2: 1990:
Natural Moisture Content : clause 3.2
Atterberg Limits: clause 4.3 and 5.0
These results only apply to the items tested

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Test Report by K4 SOILS LABORATORY
Unit 8 Olds Close Olds Approach
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Checked and Approved
Initials J.P
Date: 15/06/2022

2519 Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)

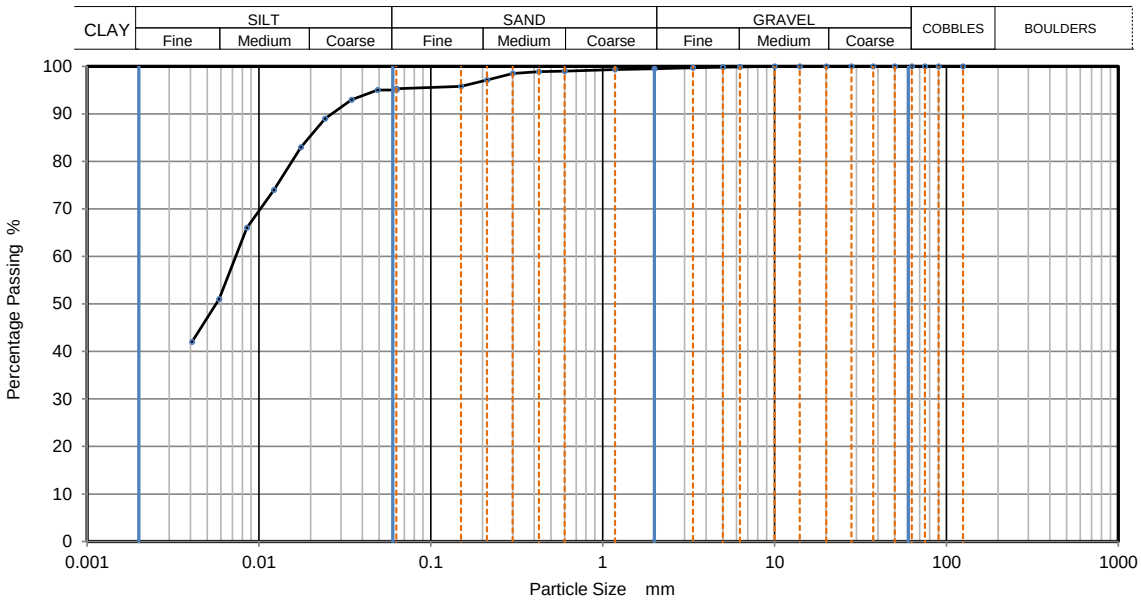
Appendix F

K4 SOILS PARTICLE DISTRIBUTION TESTING CERTIFICATES

PARTICLE SIZE DISTRIBUTION

				Job Ref	31900
				Borehole/Pit No.	HP27
Site Name	Northwest Southwater			Sample No.	2
Project No.	GE20620 GI	Client	GESL	Depth Top	0.50 m
Soil Description	Brown slightly sandy silty CLAY with occasional rootlets and rare fine gravel			Depth Base	- m
				Sample Type	D
				Samples received	19/05/2022
				Schedules received	20/05/2022
Test Method	BS1377:Part 2: 1990, clause 9.0			Project started	20/05/2022
				Date tested	10/06/2022

These results only apply to the items tested



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	95
90	100	0.0490	95
75	100	0.0345	93
63	100	0.0242	89
50	100	0.0175	83
37.5	100	0.0122	74
28	100	0.0085	66
20	100	0.0059	51
14	100	0.0041	42
10	100		
6.3	100		
5	100		
3.35	100		
2	100		
1.18	99		
0.6	99	Particle density (assumed)	
0.425	99	2.70 Mg/m3	
0.3	99		
0.212	97		
0.15	96		
0.063	95		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	0.5
Sand	4.2
Fines <0.063mm	95.3

Grading Analysis		
D100	mm	
D60	mm	0.00741
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

Preparation and testing in accordance with BS1377 unless noted below

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Date: 15/06/2022

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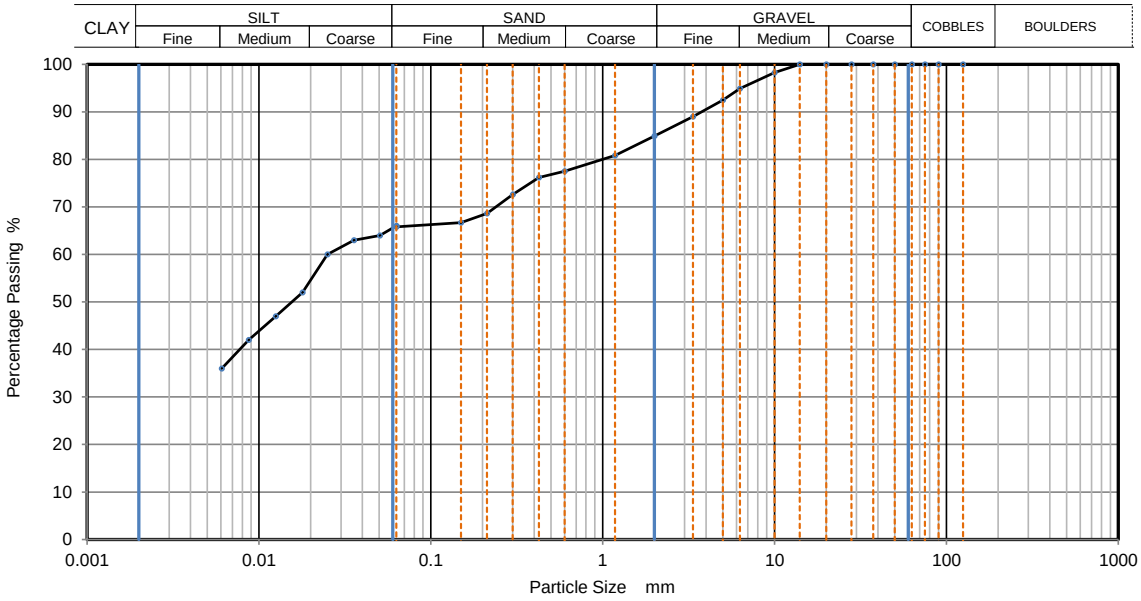
PARTICLE SIZE DISTRIBUTION

				Job Ref	31900
				Borehole/Pit No.	WS18
Site Name	Northwest Southwater			Sample No.	9
Project No.	GE20620 GI	Client	GESL	Depth Top	3.50 m
Soil Description	Orangish brown and greenish grey slightly sandy slightly shaley silty CLAY			Depth Base	- m
				Sample Type	D
				Samples received	19/05/2022
				Schedules received	20/05/2022
Test Method	BS1377:Part 2: 1990, clause 9.0			Project started	20/05/2022
				Date tested	10/06/2022

These results only apply to the items tested



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	66
90	100	0.0506	64
75	100	0.0357	63
63	100	0.0251	60
50	100	0.0179	52
37.5	100	0.0125	47
28	100	0.0087	42
20	100	0.0061	36
14	100		
10	98		
6.3	95		
5	93		
3.35	89		
2	85		
1.18	81		
0.6	78	Particle density	(assumed)
0.425	76	2.70	Mg/m3
0.3	73		
0.212	69		
0.15	67		
0.063	66		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	15.1
Sand	19.1
Fines <0.063mm	65.8

Grading Analysis		
D100	mm	
D60	mm	0.0246
D30	mm	
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks

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