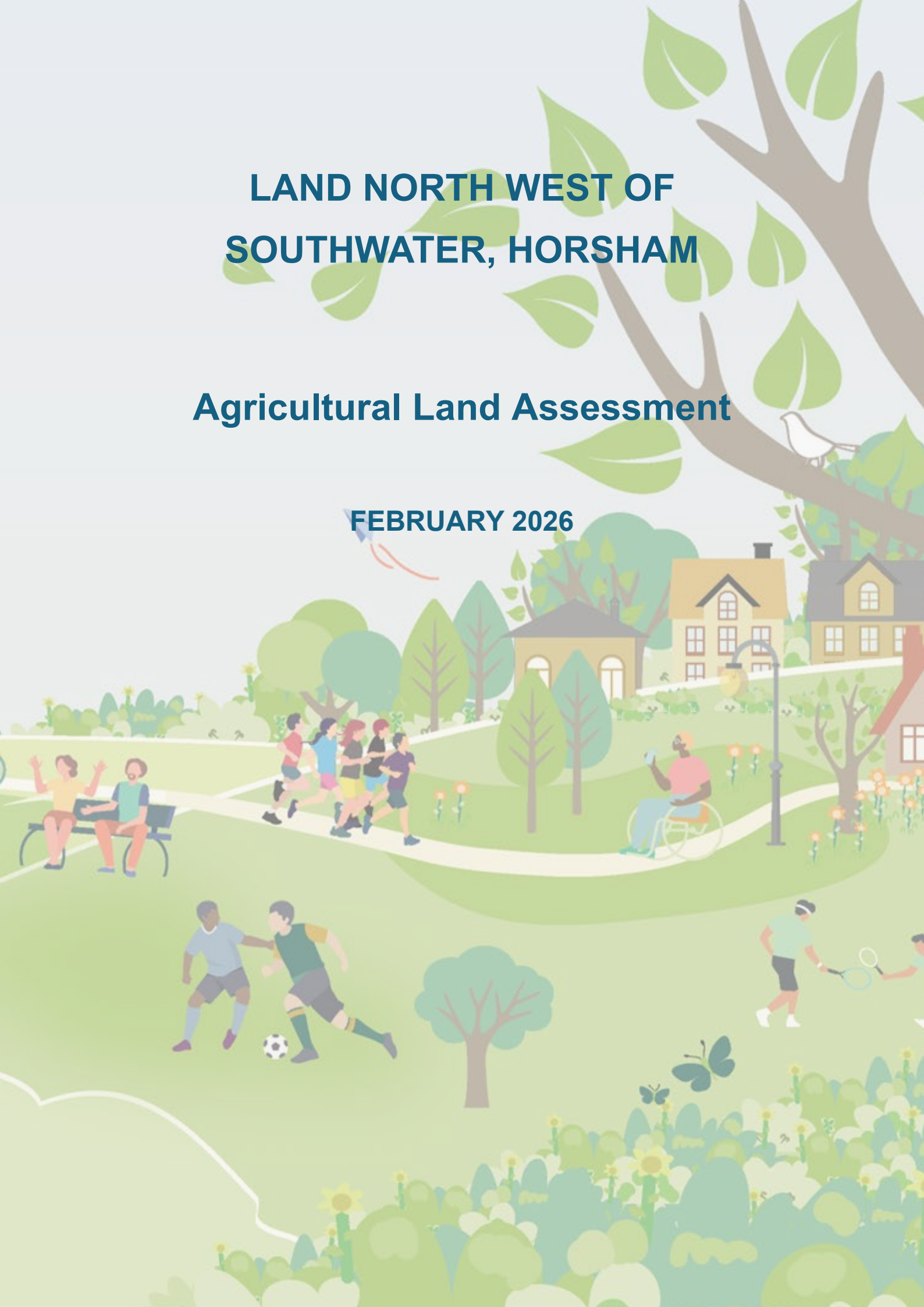


LAND NORTH WEST OF SOUTHWATER, HORSHAM

Agricultural Land Assessment

FEBRUARY 2026





Geo-Environmental

AGRICULTURAL LAND ASSESSMENT

for the site at


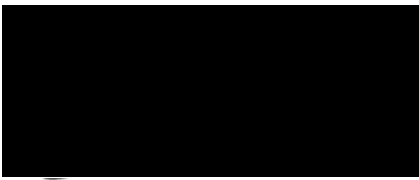
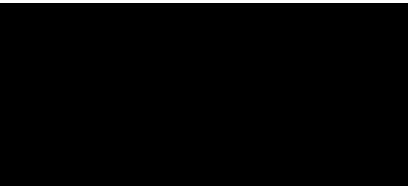
**LAND NORTH-WEST OF SOUTHWATER,
HORSHAM, WEST SUSSEX, RH13 9BH.**

on behalf of

BERKELEY STRATEGIC LAND LIMITED





Report:	AGRICULTURAL LAND ASSESSMENT
Site:	LAND NORTH-WEST OF SOUTHWATER, SOUTHWATER, HORSHAM, RH13 9BH
Client:	BERKELEY STRATEGIC LAND LIMITED
Date:	20/02/2026
Reference:	GE20620-ALAv8-FEB26
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AMENDMENT RECORD

Revision ref.	Date	Reasons for amendment	Author's initials	Reviewed By	Authorised By
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2.0	08/07/22	Updated following clients' comments	VB	LL	MB
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4.0	15/07/22	Updated following clients' comments	VB	LL	MB
5.0	08/09/22	Updated following clients' comments	VB	LL	MB
6.0	12/01/26	Updates to reflect revised site extent/boundary	LL	GE	MB
7.0	18/02/26	Additional site boundary updates	LL	GE	MB
8.0	20/02/26	Updates from review	LL	GE	MB

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EXECUTIVE SUMMARY

The report has been revised from the September 2022, v5 report to reflect that the site boundary for the site has been amended to remove an area to the south of the main development areas and an area on the western boundary of the main development area. The base dataset still includes all of the areas within the proposed development boundary and as such is still considered to be relevant to the proposed development.

The site has been assessed in line with the guidelines in the Agricultural Land Classification¹⁵ (ALC) system, from which the following has been identified:

- The site has been split into two parcels within the report for ease of reference. The Main Site comprises the main development area to the North West of Southwater, and the North Site comprises a small area to the east of the existing railway station at Christ's Hospital.
- The total proposed development of the whole application Site comprises ~141ha split into site one comprising 115.36ha and the North Site which comprises ~1.34ha. The development would result in the loss of farmed land, of approximately 139.65Ha (minus an area of ancient woodland the area) from Main Site and 1.34Ha from the North Site.
- Analysis of available data revealed that Main Site was partially covered by an Agri-environment scheme, (please refer to the map in figure 16 which details what parts of the Site are covered by the scheme) and a Forestry and Woodland Scheme which covers the woodland on site, which is also considered a priority landscape and ancient woodland that is to be retained within the development proposal (Shown in Figure 3). The North Site was not covered by any Agri-environment, Forestry and Woodland or Other Land Based Schemes.
- Given that Agricultural Land Classification works on the premise of the most limiting factor it was anticipated that the Main Site would be classified as Grade 3b or Grade 4 in the southernmost part of the Main Site, with the North Site classified as Grade 3b.
- Main Site: Whilst the climatic factors and chemical testing on the site are not considered to limit land-quality to less than Grade 1, the wetness class would limit the quality of the soil to no better than Sub-grade 3b. The depth of the Topsoil across the majority of the site would limit the classification of the soil to no better than Grade 3b or 4.
- North Site: Whilst the climatic factors and chemical testing on the site are not considered to limit land-quality to less than Grade 1, the wetness class would limit the quality of the soil to no better than Sub-grade 3b. The depth of the Topsoil would limit the classification of the soil to no better than Grade 3b.

This Executive Summary is intended to provide a brief summary of the main findings and conclusions of the assessment. For detailed information, the reader is referred to the main report below ref. GE20620/ALAv7.0/FEB26.



1.0 INTRODUCTION

1.1 General

Geo-Environmental Services Limited (Geo-Environmental) was instructed by Berkeley Homes (Southern) Limited updated to Berkeley Strategic Land (the Client 'Berkeley') to undertake an Agricultural Land Assessment for the Land North West of Southwater, Worthing Road, Southwater, Horsham, RH13 9BH herein referred to as 'Main Site' and the land at to the east of Christ's Hospital Station, Horsham, RH13 0BG herein referred to as 'North Site' herein referred to as 'the application Main Site and North Site'.

It should be noted that the report has been revised from the September 2022, v5 report to reflect that the site boundary for the site has been amended to remove an area to the south of the main development area and an area on the western boundary of the main development area. The base dataset still includes all of the areas within the proposed development boundary and as such is still considered to be relevant to the proposed development.

The application site's location and updated site boundary is presented in Figure 1a and comprises, the main development area Main Site 139.65Ha and North Site a 1.35 Ha comprising land to the east of the existing Christs Hospital train station.

1.2 Form of Development

The report has been produced to support 'the proposed development' which comprises the demolition of existing buildings and the construction of residential dwellings (including affordable housing) (Use Classes C2 and C3); a mixed-use neighbourhood centre (Use Classes E and F); education facilities (Use Class F1(a)); business and employment floorspace (Use Classes B2, B8 and E(g)); redevelopment of existing agricultural buildings including construction of a building for community use (Use Class F2); improvements to public rights of way; sports pitches; gypsy and traveller pitches/plots; public open space; landscaping, and associated infrastructure".

'Main Site' referred to herein represents the main development area and 'North Site' referred to herein represents land located in proximity to the existing Christ's Hospital railway station where further car parking and associated infrastructure is proposed.

1.3 Objectives

The scope of this report comprises a desktop study and site walkover of the Site, with samples of topsoil taken for laboratory testing, to gather and review pertinent information that will be used to assess the quality of agricultural land at the Site.

The report utilises published information on climate, geology, soils, and published DEFRA Provisional (pre-1988) ALC information, together with information on rural land designations, such as agri-environmental schemes, forestry and woodland schemes and other land-based schemes.

The information collected from the desk study and site walkover has been used to provide an interpretation of the Site's setting and is assumed to be factually correct. The recommendations and opinions expressed in this report are based on the data obtained. Geo-Environmental takes no responsibility for conditions that have either not been revealed in the available records or that occur between or under points of any physical investigation. Whilst every effort has been made to interpret the conditions, such information is only indicative, and liability cannot be accepted for its accuracy.



2.0 PLANNING POLICY AND GUIDELINES

2.1 Introduction

This chapter of the assessment considers the National, Regional and Local planning policies and guidelines with respect to identifying any opportunities or constraints that could impact development on the Site, in the context of the agricultural land quality of the Site.

2.2 Overview of Legislation

The key legislative drivers for dealing with development on agricultural land include:

- The Environment Act 1995¹ & 2021²;
- The Contaminated Land (England) Regulations 2000³;
- The Town and Country Planning Act 1990⁴;
- The Localism Act 2011⁵
- Planning Act 2008⁶
- Countryside and Rights of Way Act 2000⁷
- Environmental Damage (Prevention and Remediation) (Amendment) Regulations 2015⁸
- Agricultural Land (Removal of Surface Soil) Act 1953⁹
- Local Democracy, Economic Development and Construction Act 2009¹⁰

The Environment Act establishes regulating bodies for contaminated land, abandoned mines, national parks, control of pollution, conservation of natural resources, conservation or enhancement of the environment and fisheries. The Contaminated Land Regulations lay out provisions relating to the identification and remediation of contaminated land and the circumstances in which contaminated land affects controlled waters.

The Countryside and Rights of Way Act sets out rules on countryside access, rights of way, driving vehicles off road, nature conservation and protecting wildlife and areas of outstanding natural beauty. It also enables traffic regulation orders to be made to conserve areas of natural beauty.

The Environmental Damage Regulations, forces polluters to prevent and repair damage to water systems, land quality, species and their habitats and protected sites. The polluter does not need to be prosecuted first, so remedying the damage can be prioritised.

Finally, except where planning permission has already been granted, the Agricultural Land (Removal of Surface Soil) Act makes it an offence to remove surface soil from agricultural land with the intention of selling it, if the amount is more than 5 cubic yards in three months.

¹ HM Government, The Environment Act 1995 (Section 57)

² HM Government, The Environment Act 2021

³ HM Government, The Contaminated Land (England) Regulations 2000 revision (2000)

⁴ HM Government, The Town, and Country Planning Act (1990)

⁵ HM Government, The Localism Act (2011)

⁶ HM Government, Planning Act (2008)

⁷ HM Government, Countryside and Rights of Way Act (2000)

⁸ HM Government, (Prevention and Remediation) (England) Regulations 2015

⁹ HM Government, Agricultural Land (Removal of Surface Soil) Act (1953)

¹⁰ HM Government, Local Democracy, Economic Development and Construction Act 2009



2.3 National Planning Policy

The key national policy driver for planning is the National Planning Policy Framework (NPPF)¹¹, which was updated in February 2025.

In terms of development of agricultural land, the NPPF places a greater emphasis on sustainable development than previous policy documents. In its core planning principles it states the following, where planning policies and decisions should contribute to and enhance the natural and local environment by:

- *“Protecting and enhancing valued landscapes, sites of biodiversity or geological value and soils (in a manner commensurate with their statutory status or identified quality in the development plan)” (NPPF, paragraph 187a)*
- *“Recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland.” (NPPF, paragraph 187b)*

In describing what it means by “best and most versatile agricultural land”:

- 1) *“Best and most versatile agricultural land: Land in grades 1, 2 and 3a of the Agricultural Land Classification.” (NPPF, Annex 2)*

In addition:

- 2) *“Plans should: distinguish between the hierarchy of international, national and locally designated sites; allocate land with the least environmental or amenity value, where consistent with other policies in this Framework (Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality); take a strategic approach to maintaining and enhancing networks of habitats and green infrastructure; and plan for the enhancement of natural capital at a catchment or landscape scale across local authority boundaries.”(NPPF, paragraph 188)*

Furthermore, the NPPF states that new development should be planned for in ways that:

- a. *avoid increased vulnerability to the range of impacts arising from climate change. When new development is brought forward in areas which are vulnerable, care should be taken to ensure that risks can be managed through suitable adaptation measures, including through incorporating green infrastructure and sustainable drainage systems; and (NPPF, paragraph 164a)*
- b. *help to reduce greenhouse gas emissions, such as through its location, orientation, and design. Any local requirements for the sustainability of buildings in pans should reflect the Government’s policy for national technical standards.” (NPPF, paragraph 164b)*

Note that footnote 65 of the NPPF states that:

“Where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land

¹¹ Communities and Local Government, National Planning Policy Framework (NPPF), February 2025



should be preferred to those of a higher quality.”

2.4 Regional and Local Planning Policy

The site falls under the jurisdiction of Horsham District Council. The Horsham District Planning Framework¹² was adopted by Horsham District Council in November 2015, relevant policies include the following:

- **Policy 1 Strategic Policy: Sustainable Development.** “When considering development proposals, the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework. It will always work pro-actively with applicants jointly to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social, and environmental conditions in the area.”

In addition,

- **Policy 3 Strategic Policy: Development Hierarchy** Development will be permitted within towns and villages which have defined built-up areas. Any infilling and redevelopment will be required to demonstrate that it is of an appropriate nature and scale to maintain characteristics and function of the settlement in accordance with the settlement hierarchy below:
 - Main Town
 - Small Towns and Larger Villages – Southwater
- **Policy 4 Strategic Policy: Settlement Expansion.** The growth of settlements across the District will continue to be supported in order to meet identified local housing, employment, and community needs. Outside built-up area boundaries, the expansion of settlements will be supported where;
 1. The site is allocated in the Local Plan or in a Neighbourhood Plan and adjoins an existing settlement edge.
- **Policy 15 Strategic Policy: Housing Provision.** Provision is made for the development of at least 16,000 homes and associated infrastructure within the period 2011-2031, at an average of 800 homes per annum. This figure will be achieved by:
 1. Housing completions for the period 2011 – 2015.
 2. Homes that are already permitted or agreed for release.
 3. Strategic Sites: a. At least 2,500 homes at Land North of Horsham b. Around 600 homes at Land West of Southwater c. Around 150 homes at Land South of Billingshurst.
 4. The provision of at least 1500 homes throughout the district in accordance with the settlement hierarchy, allocated through Neighbourhood Planning.
 5. 750 windfall units.
- **Policy 25 Strategic Policy: The Natural Environment and Landscape Character.** The Natural Environment and landscape character of the District, including the landscape, landform, and development pattern, together with protected landscapes and habitats will be protected against inappropriate development. The Council will support development proposals which:

¹² Horsham District Council (2015). Horsham District Planning Framework (excluding South Downs National Park. available online: https://www.horsham.gov.uk/__data/assets/pdf_file/0016/60190/Horsham-District-Planning-Framework-November-2015.pdf [Accessed January 2022].



1. Protects, conserves, and enhances the landscape and townscape character, taking into account areas identified as being of landscape importance, the individual settlement characteristics, and maintains settlement separation.
2. Maintain and enhances the Green Infrastructure Network and addresses any identified deficiencies in the District.
3. Maintains and enhances the existing network of geological sites and biodiversity, including safeguarding existing designated sites and species, and ensures no net loss of wider biodiversity and provides net gains in biodiversity where possible.
4. Conserve and where possible enhance the setting of the South Downs National Park

Also:

- **Policy 35 Strategic Policy: Climate Change** Development will be supported where it makes a clear contribution to mitigating and adapting to the impacts of climate change and to meeting the district's carbon reduction targets as set out in the Council's Acting Together on Climate Change Strategy, 2009.
- Development must be designed so that it can adapt to the impacts of climate change, reducing vulnerability, particularly in terms of flood risk, water supply and changes to the district's landscape. Developments should adapt to climate change using the following measures:
 1. Provision of appropriate flood storage capacity in new building development.
 2. Use of green infrastructure and dual use SuDS to help absorb heat, reduce surface water runoff, provide flood storage capacity, and assist habitat migration.
 3. Use of measures which promote the conservation of water and/or grey water recycling; and
 4. Use of site layout, design measures and construction techniques that provide resilience to climate change (opportunities for natural ventilation and solar gain). If it is not possible to incorporate the adaption and mitigation measures proposed, an explanation should be provided as to why this is the case.
- **Policy 38 Strategic Policy: Flooding**
 1. Development proposals will follow a sequential approach to flood risk management, giving priority to development sites with the lowest risk of flooding and making required development safe without increasing flood risk elsewhere. Development proposals will;
 - a. take a sequential approach to ensure most vulnerable uses are placed in the lowest risk areas.
 - b. avoid the functional floodplain (Flood zone 3b) except for water-compatible uses and essential infrastructure.
 - c. only be acceptable in Flood Zone 2 and 3 following completion of a sequential test and exceptions test if necessary.
 - d. require a site-specific Flood Risk Assessments for all developments over 1 hectare in Flood Zone 1 and all proposals in Flood Zone 2 and 3.
 2. Comply with the tests and recommendations set out in the Horsham District Strategic Flood Risk Assessment (SFRA).
 3. Where there is the potential to increase flood risk, proposals must incorporate the use of sustainable drainage systems (SuDS) where technically feasible, or incorporate water management measures which reduce the risk of flooding and ensure flood risk is not increased elsewhere.



4. Consider the vulnerability and importance of local ecological resources such as water quality and biodiversity when determining the suitability of SuDS. New development should undertake more detailed assessments to consider the most appropriate SuDS methods for each site. Consideration should also be given to amenity value and green infrastructure.
5. Utilise drainage techniques that mimic natural drainage patterns and manage surface water as close to its source as possible will be required where technically feasible.
6. Be in accordance with the objective of the Water Framework Directive and accord with the findings of the Gatwick Sub Region Water Cycle Study in order to maintain water quality and water availability in rivers and wetlands and wastewater treatment requirements.

The Council is preparing a new Local Plan, however, the publication of the Regulation 19 version of the Plan for consultation has been put on hold due to ongoing issues with water neutrality and the Government's proposed changes to the NPPF.

The Regulation 18 consultation version of the Local Plan is a material consideration in the determining of planning applications, however, it can only be attributed limited weight at this stage. The evidence base documents which are part of this process are also material considerations.

We have consulted the Regulation 18 consultation¹³ of the Horsham District Local Plan comments, which do not identify agricultural land as being a barrier to development on this site. The Regulation 19¹⁴ draft document (withdrawn) does not provide any additional relevant policies with respect to agricultural land. Relevant policies that provide guidance for developers are detailed below.

Neighbourhood plans¹⁵ provide no additional relevant policies with respect to agricultural land.

To summarise the NPPF in terms of development of agricultural land; the NPPF states the need of planning policy to take into account the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland.

It describes "best and most versatile agricultural land" as being Land in grades 1, 2 and 3a of the Agricultural Land Classification.

It also states that where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality.

Figure 1 below shows the Site in context with the Horsham District Local plan. Figure 2 shows the site in relation to other planned areas of development in the local area.

¹³ Horsham District Council (2021). Horsham Local Plan (Regulation 18 comments).

¹⁴ Horsham District Council (2021). Horsham Local Plan (Regulation 19 version) (withdrawn).

¹⁵ Southwater Neighbourhood Development Plan (2019-2031) Submission Version

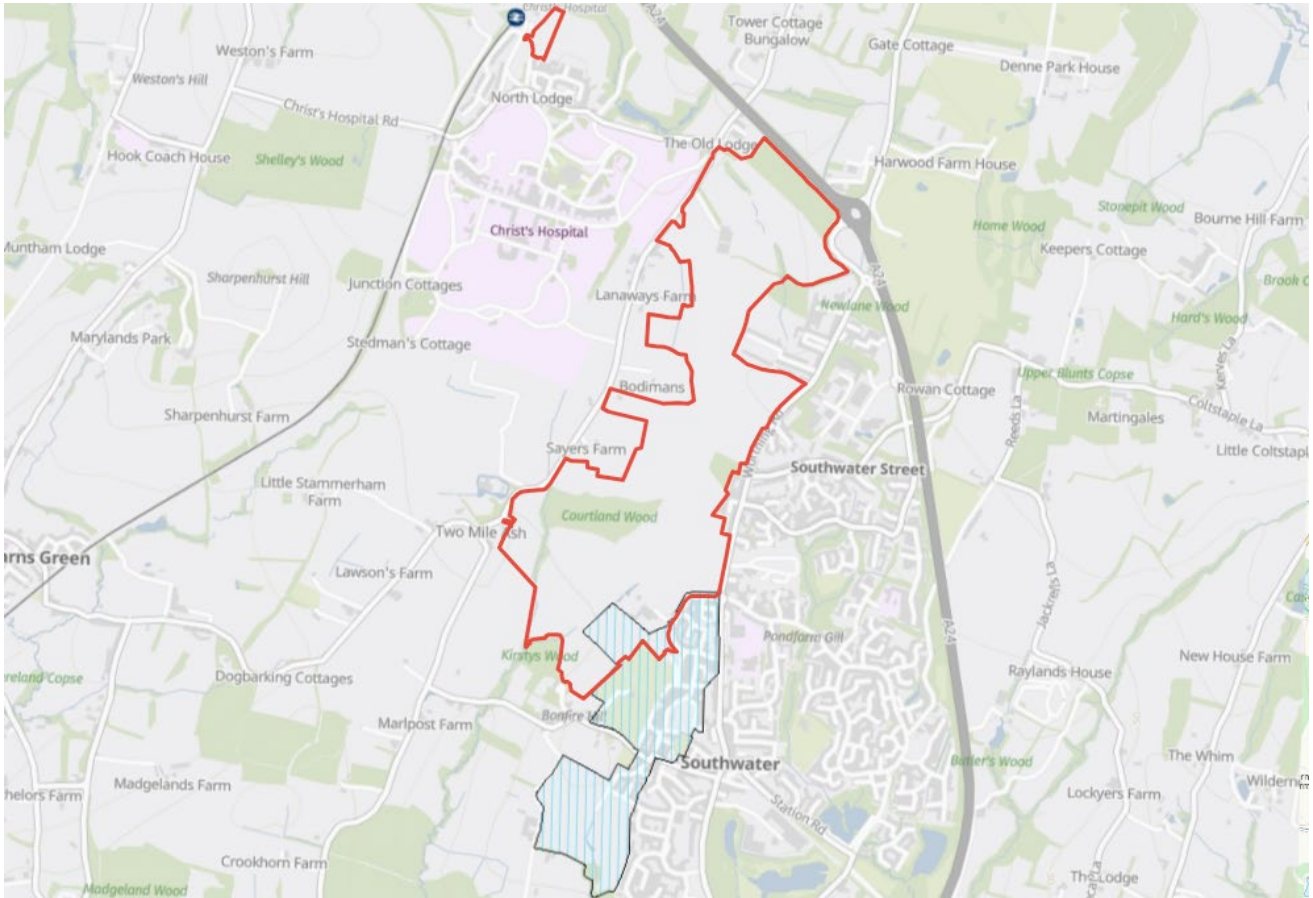


Figure 1 – Extract from Horsham District Council Local Plan Mapping¹⁶ (2022 site boundary)

The Horsham District Draft Local Plan 2023-2040 is yet to be adopted; however, it identifies the land as a potential strategic site (Policy HA3).

¹⁶<https://horsham.maps.arcgis.com/apps/webappviewer/index.html?id=f8cab77b5b72485abe9b30d4349c0047>
Accessed 16/03/2022

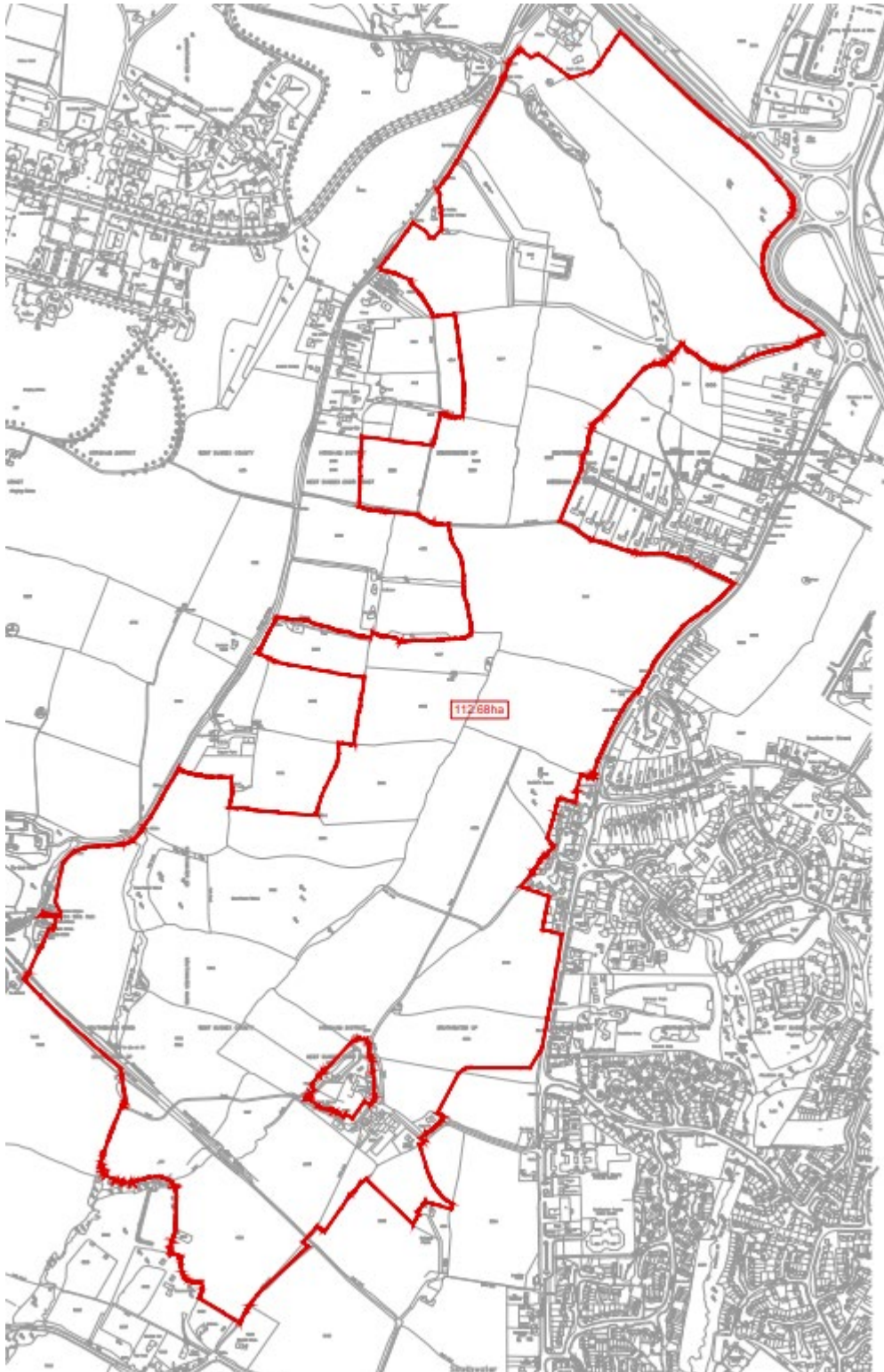


Figure 2a – Updated Site Boundary (January 2026) – Main Site

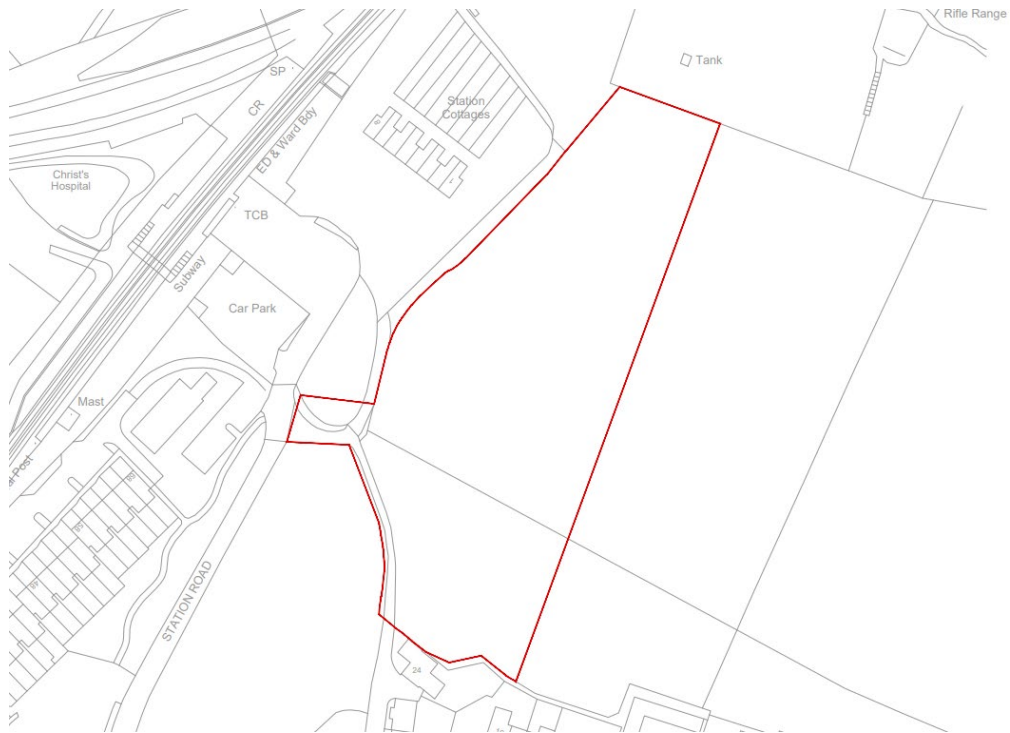


Figure 3b – Updated Site Boundary (January 2026) – North Site

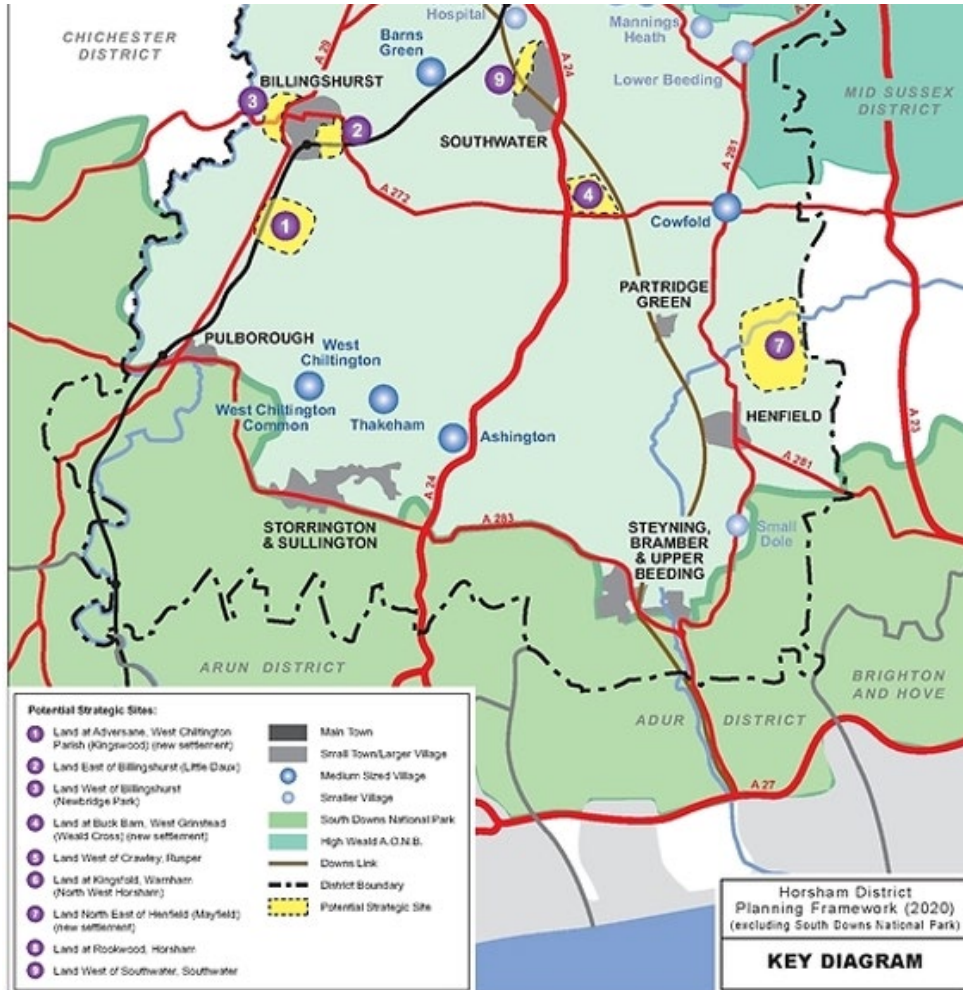


Figure 4 – Extract from Horsham District Council Draft Local Plan Mapping¹⁷

Figure 2 identifies potential site allocations set out in Reg 18. Reg 19 will set out preferred sites when published.

Policies of note in the withdrawn draft plan include,

Strategic Policy 1 - Sustainable Development

When considering development proposals, the Council will take a positive approach that reflects the presumption in favour of sustainable development contained in the National Planning Policy Framework. It will always work pro-actively with applicants to find solutions which mean that proposals can be approved wherever possible, and to secure development that improves the economic, social, and environmental conditions in the area.

Planning applications that accord with the policies in the Local Plan (and where relevant, with policies in neighbourhood plans) will be approved without delay, unless material considerations indicate otherwise.

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<https://strategicplanning.horsham.gov.uk/LocalPlanReview/viewCompoundDoc?docid=10336756&partid=10336948&sessionid=&voteid=&clientuid=> Accessed 17/06/22



Where there are no policies relevant to the application, or relevant policies are out of date at the time of making the decision, then the Council will grant permission, unless material considerations indicate otherwise - taking into account whether:

- Any adverse impacts of granting permission would significantly and demonstrably outweigh the benefits, when assessed against the policies in the National Planning Policy Framework taken as a whole; or
- Specific policies in that Framework indicate that development should be restricted

Policy 25 - Strategic Policy: Environmental Protection

The high quality of the District's environment will be protected through the planning process and the provision of local guidance documents. Taking into account any relevant Planning Guidance Documents, developments will be expected to minimise exposure to, and the emission of, pollutants including noise, odour, vibration, air and light pollution arising from all stages of development. Development proposals must ensure that they:

1. Address land contamination by promoting the appropriate re-use of sites and requiring the delivery of appropriate remediation. Proposals where contamination is known or suspected, or the site is within the vicinity of contaminated land, must be accompanied by a Land Contamination Assessment;
2. Are appropriate to their location, taking account of ground conditions and land instability;
3. Maintain or improve the environmental quality of any watercourses, groundwater and drinking water supplies, and prevent contaminated run-off to surface water sewers;
4. Minimise the impact of lighting on neighbouring uses and the wider landscape, including potential glare and spillage. Proposals where illumination is to be installed must be accompanied by a Lighting Assessment;
5. Demonstrate that users of residential and other noise sensitive development will not be exposed to unacceptable noise disturbance from existing or future users. Development proposals which are known or suspected to be noise generators, or to be sensitive to noise from nearby sites, must be accompanied by a Noise Assessment;
6. Minimise the air pollution and greenhouse gas emissions in order to protect human health and the environment;
7. Contribute to the implementation of local Air Quality Action Plans and do not conflict with its objectives;
8. Maintain or reduce the number of people exposed to poor air quality including odour. Consideration should be given to development that will result in new public exposure, particularly where vulnerable people (e.g. the elderly, care homes or schools) would be exposed to the areas of poor air quality; and
9. Ensure that the cumulative impact of all relevant committed developments is appropriately assessed.

Strategic Policy 28: Countryside Protection

1. Outside built-up area boundaries and unclassified settlements, the rural character and undeveloped nature of the countryside will be protected against inappropriate development. Any proposal must be essential to and justify its countryside location, and must meet one of the following criteria:
 1. Support the needs of agriculture or forestry;
 2. Enable the extraction of minerals or the disposal of waste;
 3. Provide for quiet informal recreational use; or
 4. Enable the sustainable development of rural areas.
2. In addition, all proposals must be appropriately integrated within the landscape and be of a scale appropriate to its countryside character and location. Development will be considered acceptable where it does not lead, either individually or cumulatively, to a significant increase in the overall level



of activity in the countryside, and protects, conserves, and seeks to enhance, the key features and characteristics of the landscape character area in which it is located, including;

1. The development pattern of the area, its historical and ecological qualities, tranquillity and sensitivity to change;
2. The pattern of woodlands, fields, hedgerows, trees, waterbodies and other features; and
3. The landform of the area; and
4. Where relevant, the designated South Downs National Park 'International Dark Sky Reserve' (IDSR).

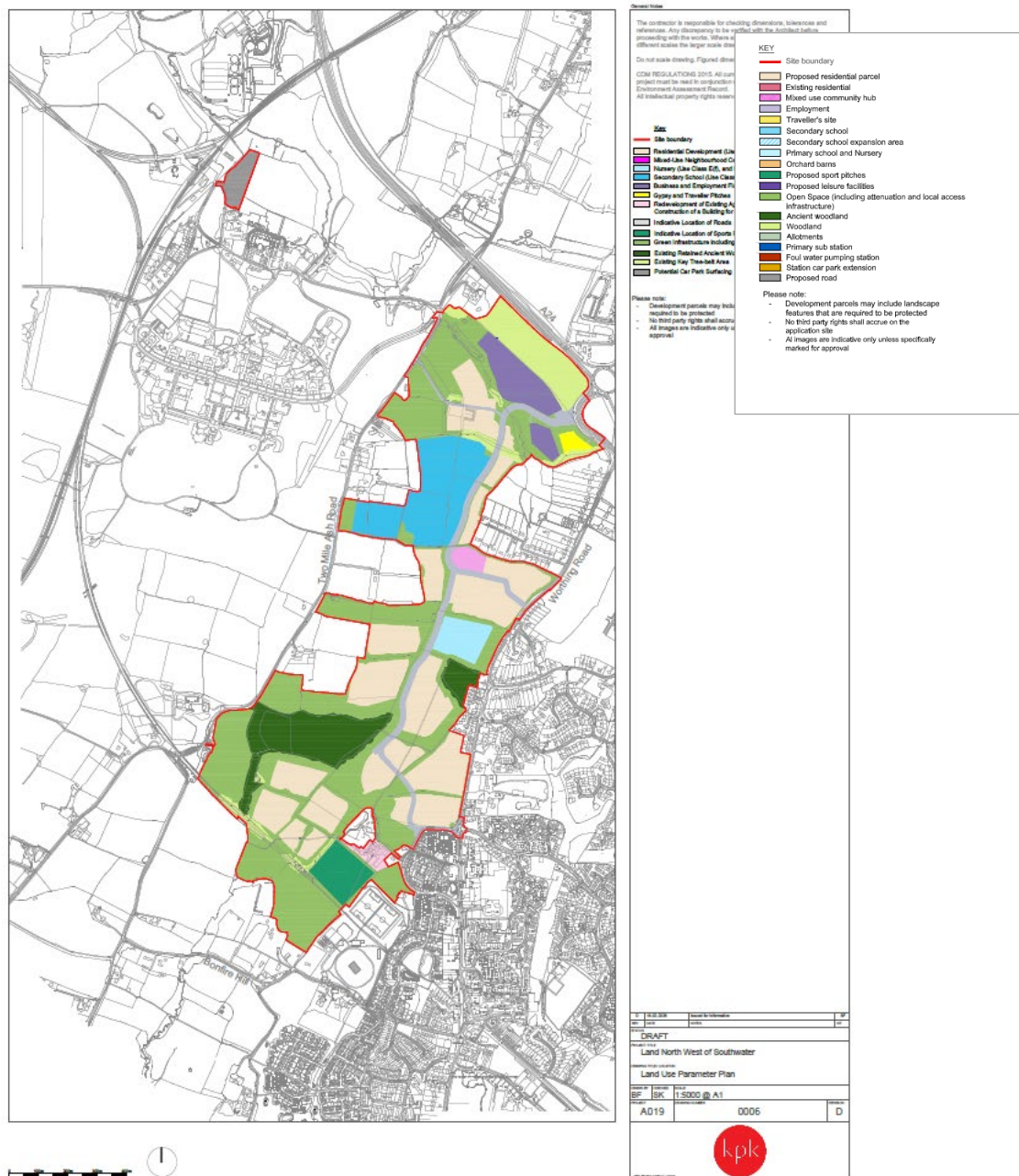


Figure 5 - Extract from BA9817_3009_proposed land use.



2.5 Best Practice Guidelines

Natural England published “Developing farmland: regulations on land use”¹⁸ in September 2012 and the Natural England Technical Information Note, TIN049, “Agricultural Land Classification: protecting the best and most versatile agricultural land”¹⁹, also published in September 2012.

Within TIN049, it states that the MAFF document, “Agricultural Land Classification of England and Wales”²⁰ published in October 1988 should be followed when deciding on the correct classification for a particular piece of agricultural land.

For identifying the classification of a piece of agricultural land, TIN049 also refers to the Natural England website, which contains Pre-1988 and Post 1988 ALC data.²¹

It should be noted that these classifications are based on general attributes of the type of land and anticipated conditions and do not consider any local factors that may improve or reduce the grading of a particular site.

Finally, Natural England published ‘guide to assessing development proposals on agricultural land’²² updated in February 2021 again aims to protect the best and most versatile agricultural land, as well as manage soils in a sustainable way.

3.0 SITE DETAILS AND BASELINE CONDITIONS

Based on a site walkover, superficial hand pits and window sample boreholes, the following sections summarise the factors likely to impact the whole application Site.

3.1 Site Description

MAIN SITE

Following a walkover of the Site (In 2022) it was found that the Main Site comprised an irregular shaped series of agricultural fields which were generally flat and level with minor undulations. The Main Site was approximately 139.65Hectares in area and centred at NG ref 515444, 127534.

Numerous semi-mature and mature trees were present on-site, predominantly contained within Smith’s Copse, located in the east of the Main Site, Courtland Wood in the centre of the Main Site and in the north of the Main Site, immediately south of the A24.

Many immature and mature trees were also observed within the hedgerows separating fields.

¹⁸ Natural England (2012) Developing farmland: regulations on land use, planning applications for new buildings on agricultural land or change of use for existing farmland or buildings.

¹⁹ Natural England (2012) Technical Information Note, TIN049, Agricultural Land Classification: protecting the best and most versatile agricultural land

²⁰ MAFF (1988) Agricultural Land Classification of England and Wales

²¹ Natural England Website, accessed 17/02/2026 <http://www.natureonthemap.naturalengland.org.uk/>

²² Natural England (2021) Guide to assessing development proposals on agricultural land



The land was largely laid to grass in the southern portion of the Main Site, with various crops in the northernmost portion of Main Site.

Several surface water features were present on-site. A small pond was present in the south-eastern corner. Several drainage ditches were also present, adjacent to hedgerows on the perimeter of numerous fields. Standing surface water was observed in the southern and northern areas of the Main Site.

A public bridleway (ref. 1662) intersected the centre of the Main Site running east west, from Worthing Road to Two Mile Ash Road. North of the public bridleway a surface drainage channel was present, feeding a culvert which ran under Worthing Road.

Below this a public footpath (ref. 1662) also intersected the centre of the Main Site running east west, from Worthing Road, just to the north of Smith's Copse to Two Mile Ash Road, to the north of Sayers Farm.

The public bridleway known as the Downs Link (ref. 3568) runs from south of the Bax Castle on Tow Mile Ash Road, south east, intersecting a footpath, detailed below, (ref. 1655) to the west of college farm, where it eventually joins Worthing Road.

A public footpath was present in the south of the Main Site, leading from Two Mile Ash Road, running east west, passing through Kirstys Wood (ref. 1653), before following the south-eastern Main Site boundary (ref. 1655) and passing to the east of Great House Farm (ref. 1656). North of Great House Farm and south of Courtland Wood the footpath (ref. 1656) splits into two. One path passed to the south of Courtland Wood (ref. 1658) and the second path (ref. 1656) continued north to the south of Smith's Copse with access onto Worthing Road before trending west to Two Mile Ash Road (ref. 1660).

The northern most portion of the Main Site was bound by the A24 and A24 access road (northern most part of the Worthing Road), which was partly located on an embankment.

NORTH SITE

It was found, during the walkover, that the North Site was located immediately opposite the car park of Christ Hospital railway station. The North Site comprised a roughly rectangular grassed area of land measuring approximately 1.35 Hectares and centred at NG Ref 514883,129152.

The North Site sloped gently down from the south-east, generally towards the north-west.

Numerous semi-mature and mature trees were present on-site, predominantly contained along the northern, western, and southern boundary. Two trees were also present in the centre of the North Site.

The northern boundary comprised the southern extent of Sparrow Copse, a non-coniferous woodland which sloped down steeply away from the North Site towards a surface water feature associated with the River Arun running through its centre.

The eastern boundary comprised as open grassed field with several mature trees, whilst the southern boundary comprised residential properties with Bluecoat Pond Road beyond.

The western boundary comprised Station Cottages, a terrace of residential properties, and Christ's Hospital Station car park with access onto Station Road.



A public footpath (ref 1628_3) ran across the centre of the site in a south east direction and a public footpath ran along the north western edge of the site (ref 1631), from Station Road before turning in a north western direction across the northern part of Christs Hospital station car park.

3.3 Current Use

MAIN SITE

The Main Site was made up of arable crops in the north and grass in the south observed during the site visit (2022).

NORTH SITE

The North Site is currently made up of a grassed field observed during the site visit (2022)

3.4 Geology

According to published information the anticipated geological succession beneath the Site was indicated to comprise the Horsham Stone Member or Weald Clay, see figure 4 below.

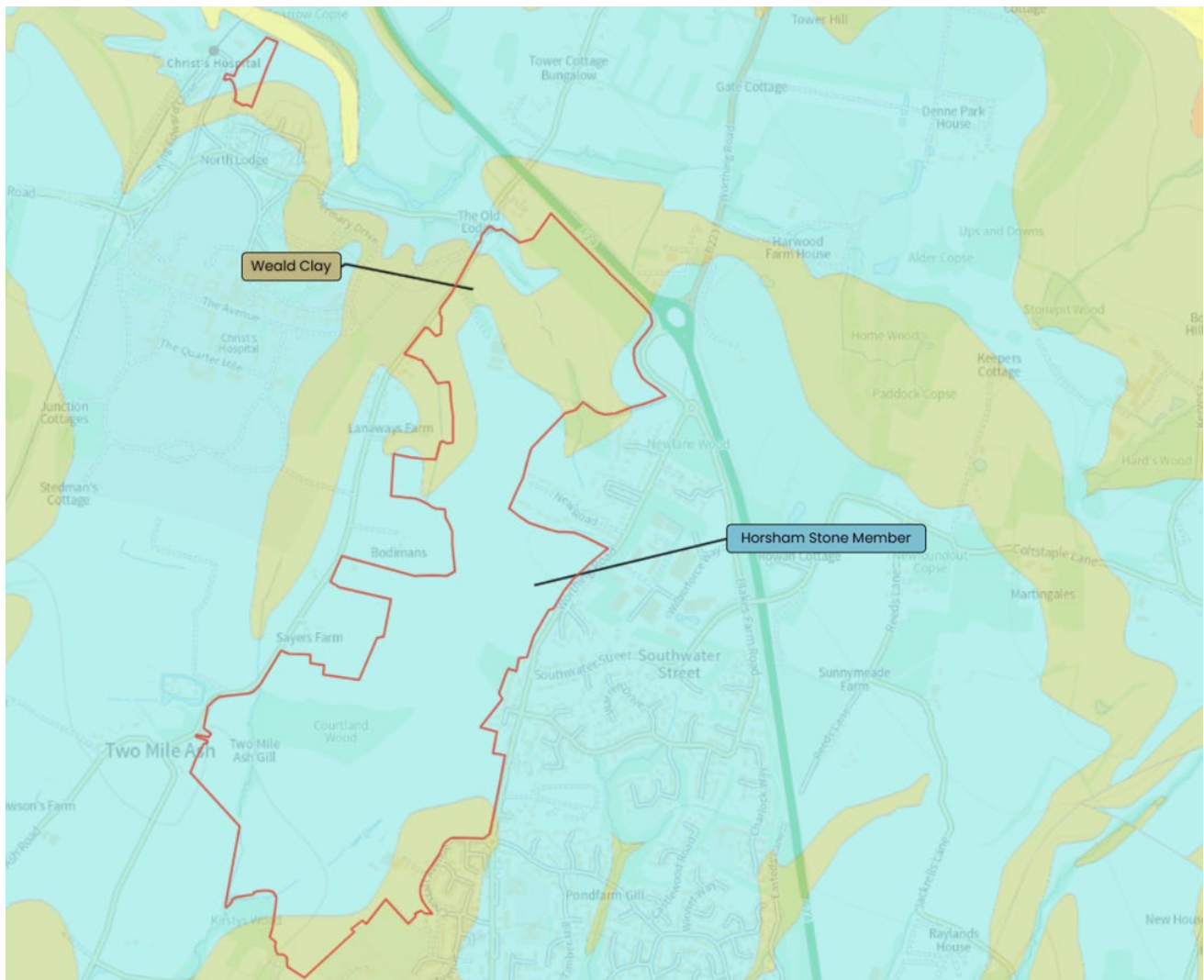


Figure 6 – Local Geology at the Site - source British Geological Survey¹⁷

The Horsham Stone Member comprises sandstone, calcareous, generally fine-grained, micaceous, locally well laminated, pale grey to greenish/olive grey. Contains clayey partings and lignite fragments and rootlet traces. The Horsham Stone frequently shows internal slumping and deformation within the formation.

The Weald Clay Formation comprises dark grey thinly bedded mudstones (shales) and mudstones with subordinate siltstones, fine- to medium-grained sandstones, including calcareous sandstone, shelly limestones, and clay ironstones.

The topsoil was classified as **WICKHAM 5** in the majority, slowly permeable seasonally waterlogged fine loamy over clayey, fine silty over clayey and clayey soils locally reddish. The major land use on this association is defined as dairying on short term grassland. Some cereals, some fruit and deciduous woodland. **WICKHAM 1** was found in the south of Site, slowly permeable seasonally waterlogged fine silty over clayey, fine loamy over clayey and clayey soils. The major land use on this association is defined as dairying on short term grassland, much deciduous woodland, some cereals, some fruit and deciduous woodland. Available data from soil scape suggests that the Site would expect the top 0.7m of soil in the majority of the application Site to be 'impeded drainage,' and in the main slightly

acid but base rich loamy and clayey²³.



Figure 7 – Soilscape Map¹⁷

A preliminary intrusive investigation was undertaken during the site walkover consisting of thirty-five hand dug trial holes to record superficial ground conditions and to collect samples for laboratory testing. One hand pit refused due to the hardness of the clays (HP15).

The intrusive investigation encountered the same superficial geological conditions across the Site, with Weald Clay found below the Topsoil. Standing water was observed locally across the Site (see figure 6 below).

Falling head tests were carried out across the Site in additional window sample boreholes. These confirmed poor infiltration within the weald clay. Five infiltration tests were carried out across the Site, with two tests being unable to produce an infiltration rate due to the lack in fall in head. The remaining tests gave results between $2.47 \times 10^{-8} \text{m/s}$ and $8.61 \times 10^{-8} \text{m/s}$, confirming the “slowly permeable” nature of the soils.

Across the whole of the application Site, the ground conditions could be described as very clayey.

A general summary of the ground conditions encountered on-site are presented in Table 1 below, with the location plan and soil classification test results presented in Appendix A.

Top (m bgl)	Base (m bgl)	Description
0.00	0.10 – 0.30	TOPSOIL: Light brown slightly gravelly clayey SILT to clayey SILT with abundant

¹⁷Source: Landis Website, accessed 17/02/2026 <http://www.landis.org.uk/soilscape/>



		rootlets
0.10-0.30	0.70+	WEALD CLAY: Firm to stiff orangish brown slightly gravelly sandy silty CLAY. Gravel is composed of dark brown sub-angular ferruginous sandstone, siltstone, and sandstone to very stiff desiccated silty CLAY. Occasional dark brown and orange ferruginous staining on planal surfaces.

Table 1 Summary of encountered ground conditions

In terms of the Agricultural Land Assessment, the presence of standing water, coupled with soil texture and structure are limiting factors on the grading of the soil.



Figure 8 – Standing water in the South of the Site

The initial intrusive investigation also considered soil composition and likely Topsoil classification in the context of BS3882:2015. With regards to nutrient content, the results mostly closely conformed to low fertility Topsoil in the south and in a band across the centre, with multipurpose Topsoil found in the north and in a band across the lower centre. The soils’ grading was assessed to be a ‘silty clay loam’ (ZCL) or ‘silty clay’ (CL) based on the grading ratios of sand; silt and clay fractions, which became a ‘clay’ with depth (based on field observations).

3.5 Flood Risk and Groundwater Protection

MAIN SITE

The Main Site was not mapped as being located in a flood risk area, being outside both Flood Zone 2 and 3, as shown in Figure 7 below.



Figure 9 – Flooding from rivers and seas map for the area surrounding the application site²⁴

Furthermore, the majority of the Main Site is considered to be at very low risk of surface water flooding, with the areas of the Main Site identified as being at risk from surface water flooding, (in a 1 in 30-year return period with a 0.3m - 1.0m maximum modelled depth), with any flooding generally associated with the four identified surface water features on-site, as shown in Figure 8 below.

²⁴Source Gov.uk, Flood map for planning access 17/02/2026 <https://flood-map-for-planning.service.gov.uk/>

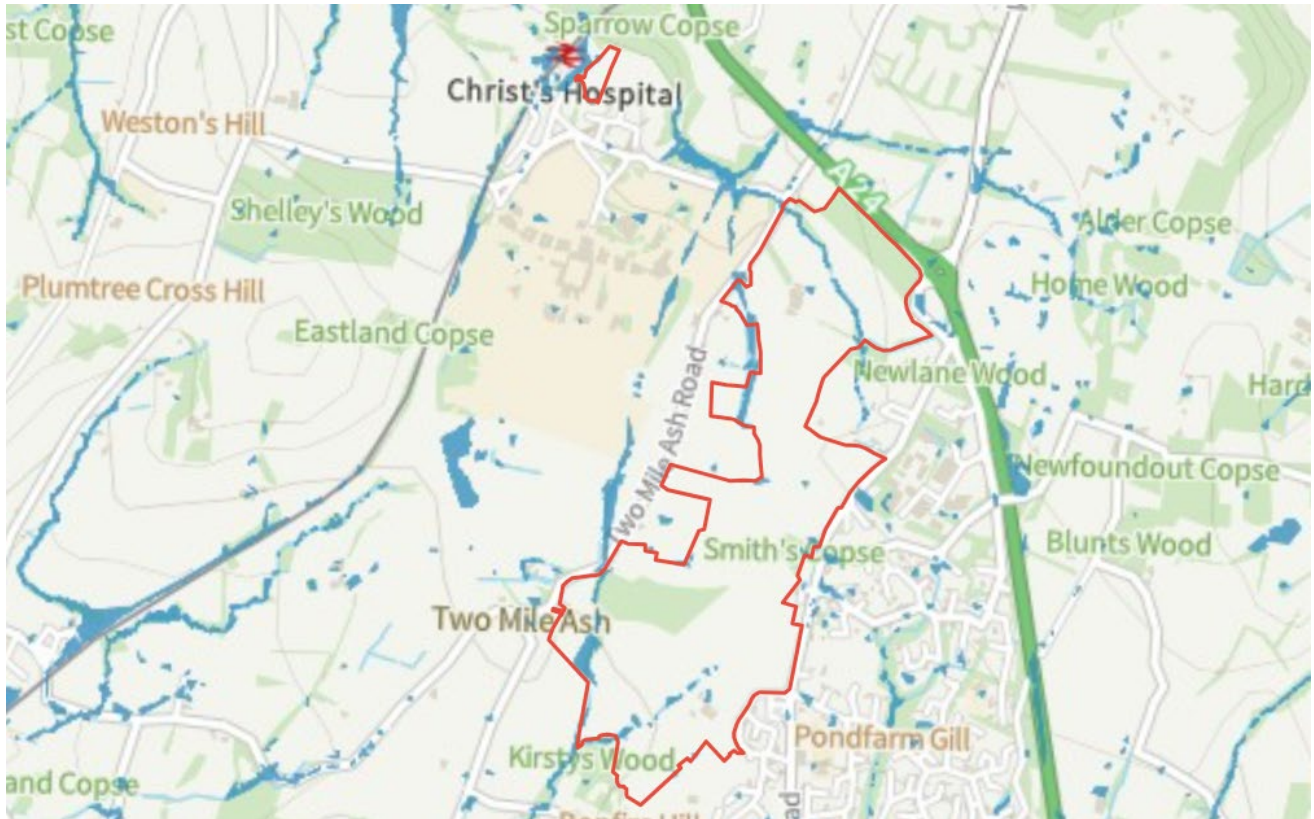


Figure 10– Flooding risk from surface water map for the area surrounding the site²⁵

NORTH SITE

The North Site is not in a flood risk area, being outside both Flood Zone 2 and 3, as shown in Figure 9 below.

²⁵ Source Gov.uk, Learn more about flood risk, accessed 17/02/2026 <https://flood-warning-information.service.gov.uk/long-term-flood-risk/map>



Figure 11 – Flooding from rivers and seas map for the area surrounding the application site²⁶

Furthermore, the North Site is considered to be at very low risk of surface water flooding as shown in Figure 10 below.



Figure 12– Flooding risk from surface water map for the area surrounding the North Site²⁷

Standing water was identified across the Main Site of the application site, no standing surface water was identified across the North Site during the site walkover.

²⁶ Source Gov.uk, Flood map for planning access 17/02/2026 <https://flood-map-for-planning.service.gov.uk/>

²⁷ Source Gov.uk, Learn more about flood risk, accessed 17/02/2026 <https://flood-warning-information.service.gov.uk/long-term-flood-risk/map>



During the site walkover three drains were identified running roughly west to east across the Main Site with a stream running just north of the boundary of the North Site.

Groundwater flooding happens when water levels in the ground rise above the surface. It is common after long periods of constant heavy rainfall and likely in low lying areas, those with natural springs and where more permeable strata are present under the ground (which acts like a sponge to store water).

In 2010, Horsham District Council’s Strategic Flood Risk Assessment²⁸ had analysed existing data and concluded that three of the strategic sites, Faygate, West of Southwater and Adversane / North Heath, are located entirely within Flood Zone 1 – Low Probability flood risk. At a neighbouring site, West of Southwater, groundwater vulnerability was assessed to be minor – low. Given the similarities in geological and hydrogeological conditions between this site and that site, it is likely that this site will also be at a low risk of groundwater vulnerability.

Rainfall records suggest that over the last few years, levels of rainfall have been generally lower than normal, but with higher amplitude rainfall peaks, see figure 11 below. Given the extent of surface water present during the site walkover, the flooding observed in the site walkover is likely due to the clay content of the topsoil making the ground conditions less free draining. Surface water drainage will need to be considered as part of any land use strategy.

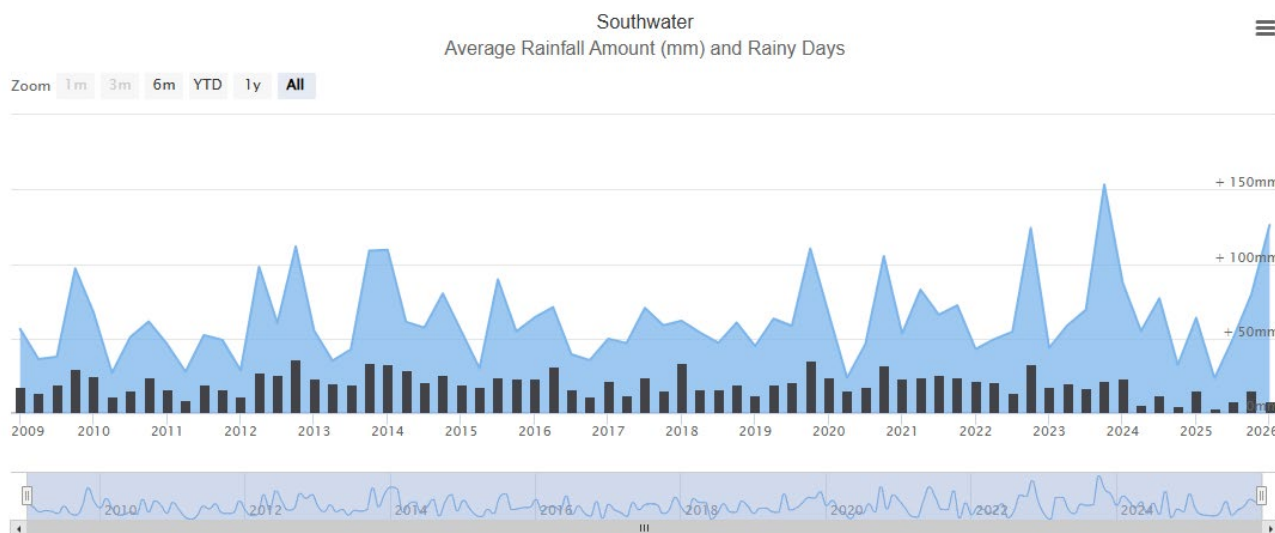


Figure 13 - Rainfall levels for the Southwater area 2009-2026²⁹

3.6 Climate

The data available shows that the local climate within the Southwater area is temperate and would not be a limiting factor for agricultural land usage. Figure 12 shows the annual averages for temperature and precipitation between the years 2021 and 2022.

²⁸ Horsham District Council, Strategic Flood Risk Assessment, Final Report – Revised 2010 written by Scott Wilson. https://www.horsham.gov.uk/__data/assets/pdf_file/0011/66755/2010-Strategic-Flood-Risk-Assessment.pdf, accessed 17/02/2026.

²⁹ World Weather Online Accessed 17/02/26 <https://www.worldweatheronline.com/southwater-weather-averages/west-sussex/gb.aspx>

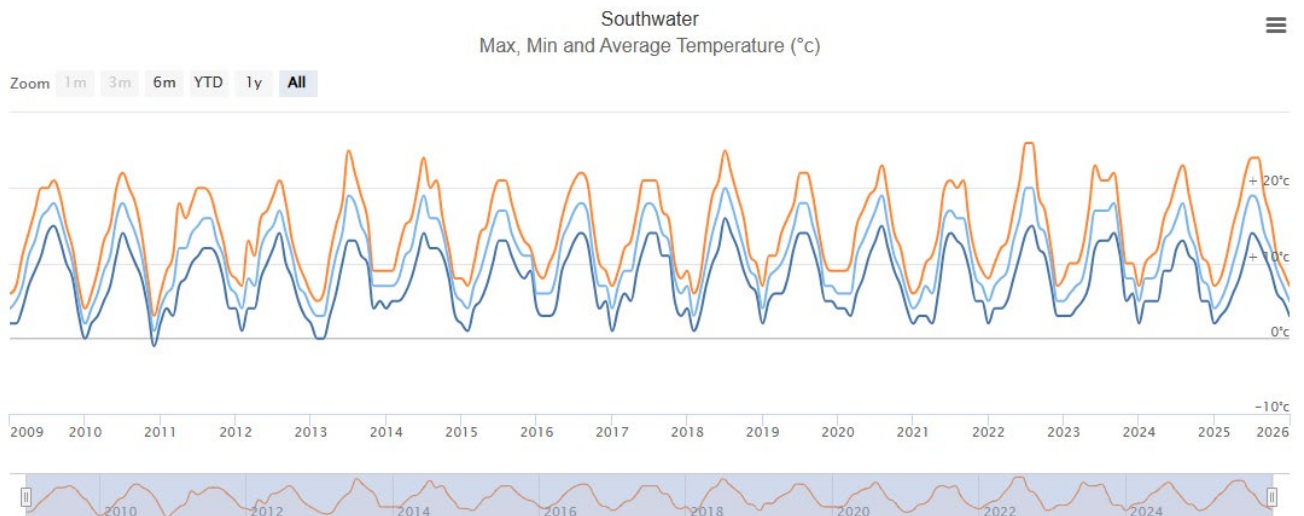


Figure 14 – Temperature and average precipitation profiles for the area between 2024 and 2026³⁰

3.7 Habitat Potential

A search of available data revealed that parts of the application Site were a priority habitat for deciduous woodland. These areas would be retained under the proposed masterplan, as shown in Figure 3.

³⁰World Weather Online Accessed 17/02/26
<https://www.worldweatheronline.com/southwater-weather-averages/west-sussex/gb.aspx>

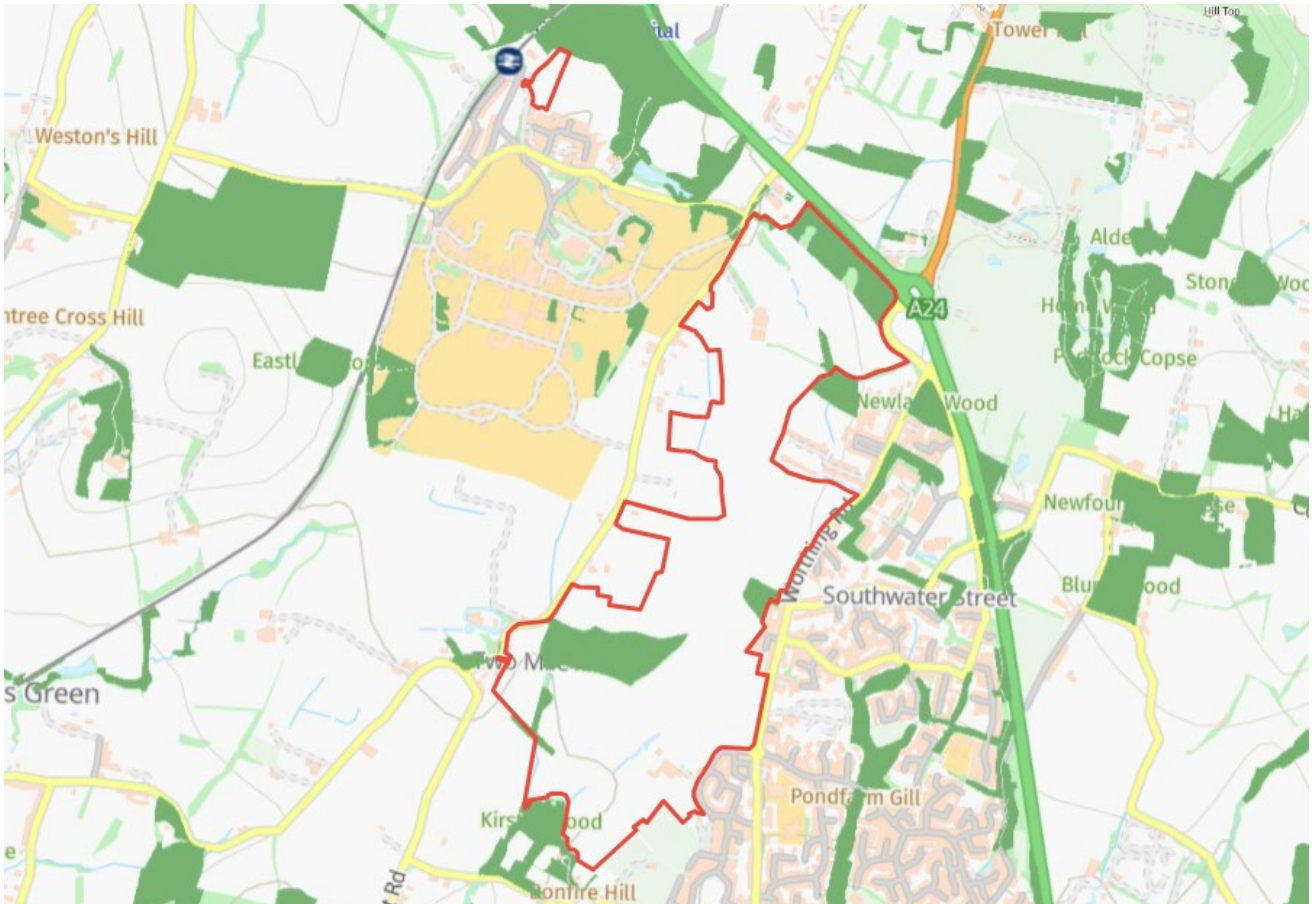


Figure 15 – Priority Habitat (Deciduous Woodland) Opportunity for the site³¹

3.8 Agricultural Land Classification (ALC)

The ALC system classifies land into five grades, with Grade 3 subdivided into Subgrades 3a and 3b. The best and most versatile land is defined as Grades 1, 2 and 3a by policy guidance (see Annex 2 of NPPF). This is the land which is most flexible, productive, and efficient in response to inputs, and which can best deliver future crops for food and non-food uses such as biomass, fibres and pharmaceuticals. Current estimates are that Grades 1 and 2 together form about 21% of all farmlands in England; Subgrade 3a also covers about 21%.

The ALC system is used by Natural England and others to give advice to planning authorities, developers and the public if development is proposed on agricultural land or other greenfield sites that could potentially grow crops. The Town and Country Planning (Development Management Procedure) (England) Order 2010 (as amended) refers to the best and most versatile land policy in requiring statutory consultations with Natural England.

Pre-1988 Classification

During the 1960's and 1970's MAFF (Ministry of Agriculture, Fisheries and Food) produced a series of maps to show the provisional ALC grade of agricultural land over the whole of England and Wales at a scale of 1:250,000. These provisional ALC maps are suitable for strategic land use planning only, i.e., they are appropriate for land areas

³¹ Defra Magic Maps accessed 17/02/2026

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greater than 80Ha [NOTE: The Site extends to approximately 126.83Ha and 1.34Ha]. These maps were produced before the current land grading system was adopted and cannot be relied upon to provide a definitive ALC grading for the Site, neither do they differentiate between the different Sub-grades 3a and 3b.

According to the data available from these maps, the agricultural land on the application Site is classified as “Grade 3” – Good to moderate quality or “Grade 4” poor quality (see Figure 10). It should be noted that the majority of agricultural land surrounding the application site is also classed as Grade 3 and 4. However, it should be noted that this map is only indicative of the ALC grade at a local level as it assesses land at an 80Ha granularity.

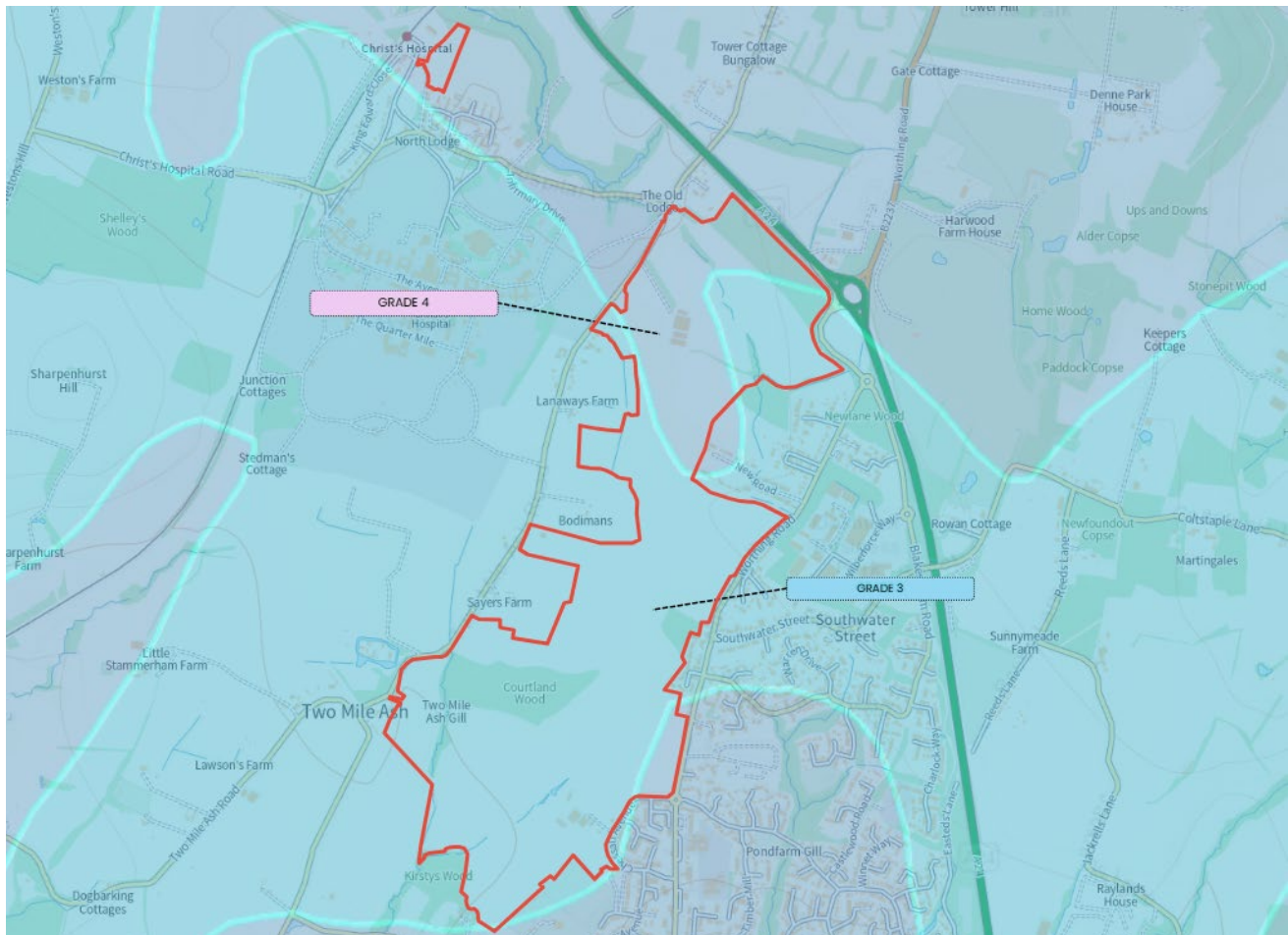


Figure 16 –Pre-1988 ALC information³²

Post 1988 Classification

The Post-1988 Classification is the latest, most up to date ALC data, utilising the new data from individual sites surveyed in more detail by MAFF (including subdivisions of Grade 3 Land) between 1989 and 1999. Individual sites were mapped at varying scales and level of detail from 1:5,000 to 1:50,000 (typically 1:10,000). Unfortunately, the Main Site has not been included in this survey, however the North Site has been classified as “Grade 3b” moderate

³²Source: <https://naturalengland-defra.opendata.arcgis.com/datasets/provisional-agricultural-land-classification-alc-england/explore?location=51.007900%2C-0.324972%2C12.91> accessed 17/02/2026

quality.

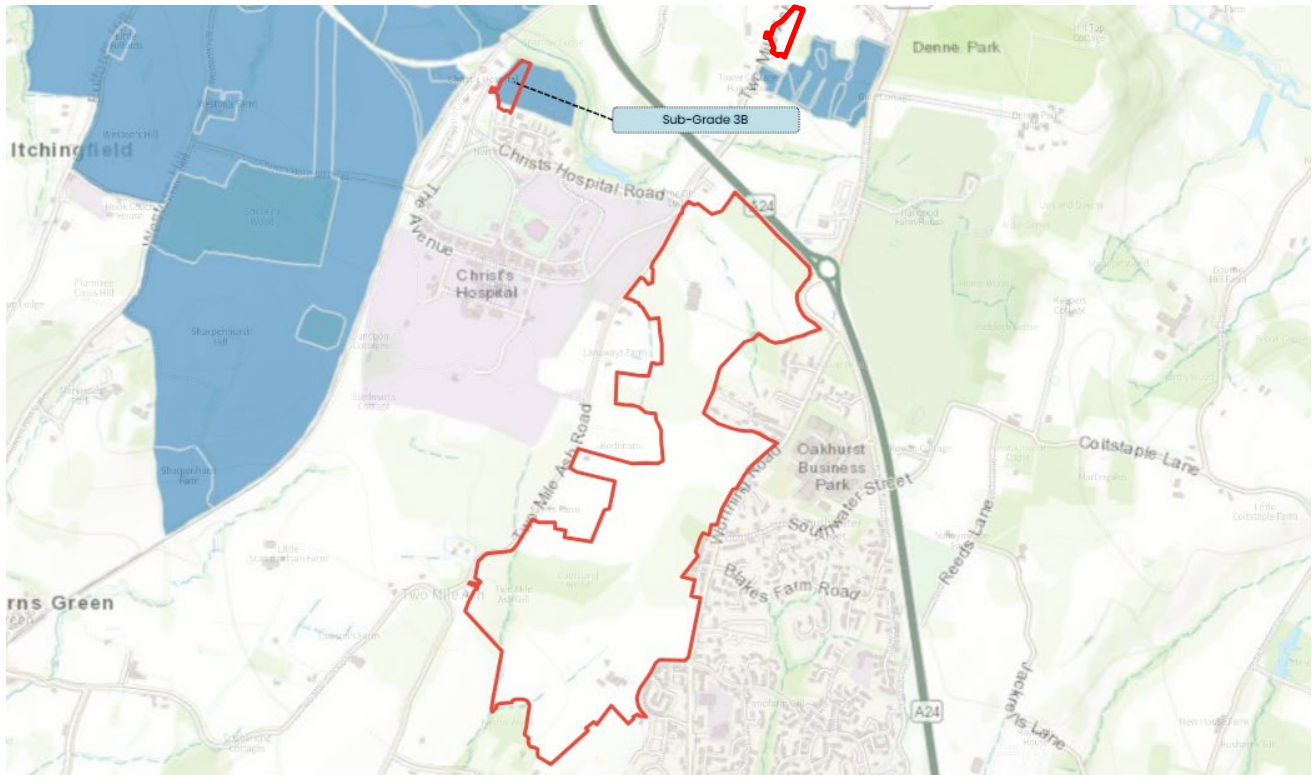


Figure 17 – North Site Post-1988 ALC information³³

3.9 Agri-Environmental Scheme Data

Analysis of available data revealed that parts of the application Site area were covered by an Agri-environment stewardship scheme, showing as middle tier. Courtland Wood has Forestry and Woodland grant scheme 1 and 3. No other land-based schemes were identified (see Figure 16). The Site and surrounding land are part of the Southeast Region Theme Area. Courtland Wood is to be retained in the development proposals.

³³Source: <https://naturalengland-defra.opendata.arcgis.com/datasets/provisional-agricultural-land-classification-alc-england/explore?location=51.007900%2C-0.324972%2C12.91> accessed 17/02/2026

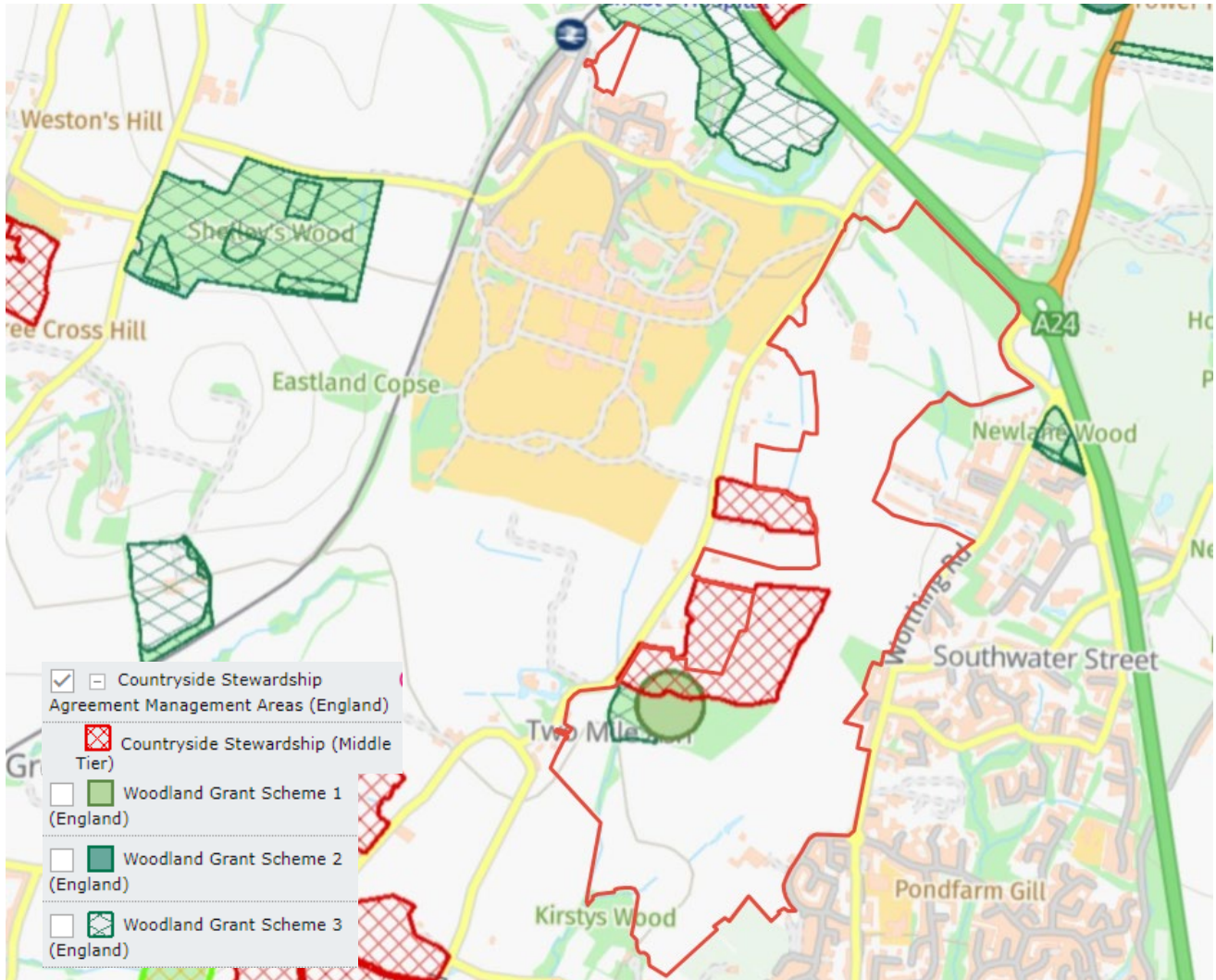


Figure 18 – Agri-Environmental Schemes in the area²⁴

3.10 NSRI Soils Site Report

A Soils Site Report was commissioned from NSRI as part of the ALA. A copy of the report is presented in Appendix B and a summary of key findings is presented in Table 2 below. The NSRI report covers the 4kmx4km grid square within which the application Site is located.

Assessment Element	Comment
Soil association	(N Main Site and North Site) Wickham 1 (711e) - Slowly permeable seasonally waterlogged fine silty over clayey, fine loamy over clayey and clayey soils. (S Main Site) Wickham 5 (711i) - Slowly permeable seasonally waterlogged fine loamy over clayey, fine silty over clayey and clayey soils locally reddish.
Hydrology of soil type	Slowly permeable, seasonally waterlogged soils over impermeable clay substrates with no storage capacity.
Ground movement potential (Shrinkability)	High - The Weald Clay has been shown to be of Medium to high volume change potential at shallow depth as detailed in the Preliminary Ground Appraisal Report (GE20620/GAR/JUN22, dated 26 th June 2022), this is not considered a major



Assessment Element	Comment
	limiting factor to the viability of the land for agricultural purposes.
Flood vulnerability	Minor risk
Risk of corrosion of ferrous iron	Highly aggressive
Pesticide leaching risk	Low - Lq Impermeable soils over soft substrates of low or negligible storage capacity that sometimes conceal groundwater bearing rocks at depth.
Pesticide run-off risk	Very high – S1 very high run-off potential.
Hydrogeological rock type	10 very soft massive clays.
Groundwater protection policy	Low - Soils in which pollutants are unlikely to penetrate the soil layer either because water movement is largely horizontal or because they have a large ability to attenuate diffuse source pollutants.
Soil parent material	(N Main Site and North Site) Drift over Cretaceous clay and sandstone (S Main Site) Drift over Cretaceous clay or mudstone
Expected crop and land use	(N Main Site and North Site) Dairying on short term grassland; some cereals; some fruit in West Sussex; deciduous woodland. (S Main Site) Dairying on short term grassland winter cereals; much deciduous woodland in the High Weald of Kent and Sussex.
Natural soil fertility	Moderate
Simple soil texture	Loamy
Typical habitat	Seasonally wet pastures and woodlands.

Table 2 - Summary of NSRI Soils Site Report findings

4.0 ANALYSIS OF CONDITIONS

4.1 Methodology

As previously discussed in Section 2.5, best practice dictates that the MAFF document, “Agricultural Land Classification of England and Wales”¹⁴ published in October 1988 should be followed when deciding on the correct classification for a particular piece of agricultural land. With the classification of the land being limited by the factor with the lowest grade. As described in the Agricultural Land Classification¹⁴, the main physical factors influencing agricultural land quality are:

- 3) Climate,
- 4) Site, and
- 5) Soil.

4.2 Climatic Factors

Main Site

The ALC Climatic data³⁴ estimates the Annual Accumulated Rainfall (AAR) to be 811mm/year and the Medium

³⁴ Climatological Data for Agricultural Land Classification, January 1989

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Accumulated Temperature (AT0) to be 1491day degree Celsius.

North Site

The ALC Climatic data³⁵ estimates the Annual Accumulated Rainfall (AAR) to be 791mm/year and the Medium Accumulated Temperature (AT0) to be 1489day degree Celsius.

Figure 1 of the Agricultural Land Classification¹⁴ indicates that there are no climate limitations to agricultural land quality at the Site. On this measure the overall climatic grade for the application Site equates to Grade 1, shown on Figure 16 (only Main Site plotted for clarity due to scale).

This is based on data collected in 1989. Climates have since changed, however even if this is adjusted for that, no climate limitation to agricultural land quality would be present at the Site.

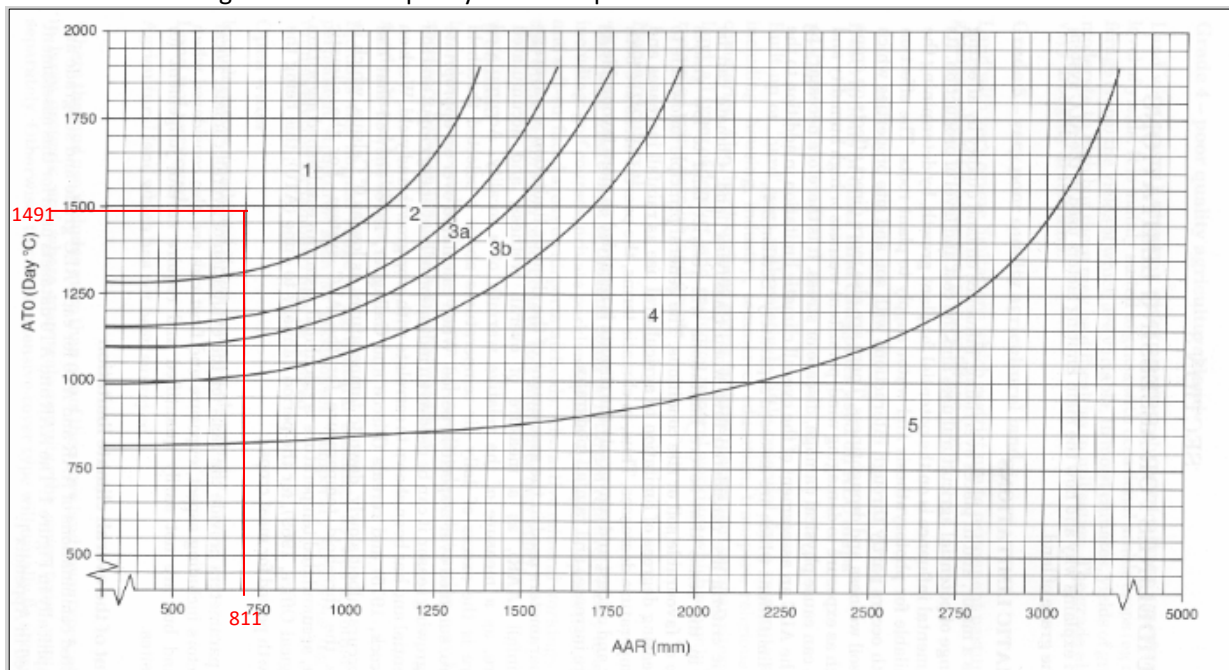


Figure 19 - Climatic data plotted on the Agricultural Land Classification Tables

4.3 Site Factors

The Agricultural Land Classification¹⁵ states that the Site related limiting factors for land quality are:

- Gradient – the gradient should be less than 7°;
- Microrelief – complex change in slope angle over short distances;
- Flood Risk – is the site susceptible to flooding?

MAIN SITE

The Main Site is generally flat and level but undulating and hummocky in places with no gradient greater than 7°

³⁵ Climatological Data for Agricultural Land Classification, January 1989

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(with the exception of the embankment up to the A24 in the far north of the Main Site, which is not currently agricultural land or included for development on the master plan). The Main Site shows no complex change over short distances. Although the Main Site is not in a flood risk area, standing surface water was highlighted during the walk over survey. This was highlighted by the soil type which provides impeded drainage within the top 0.7m.

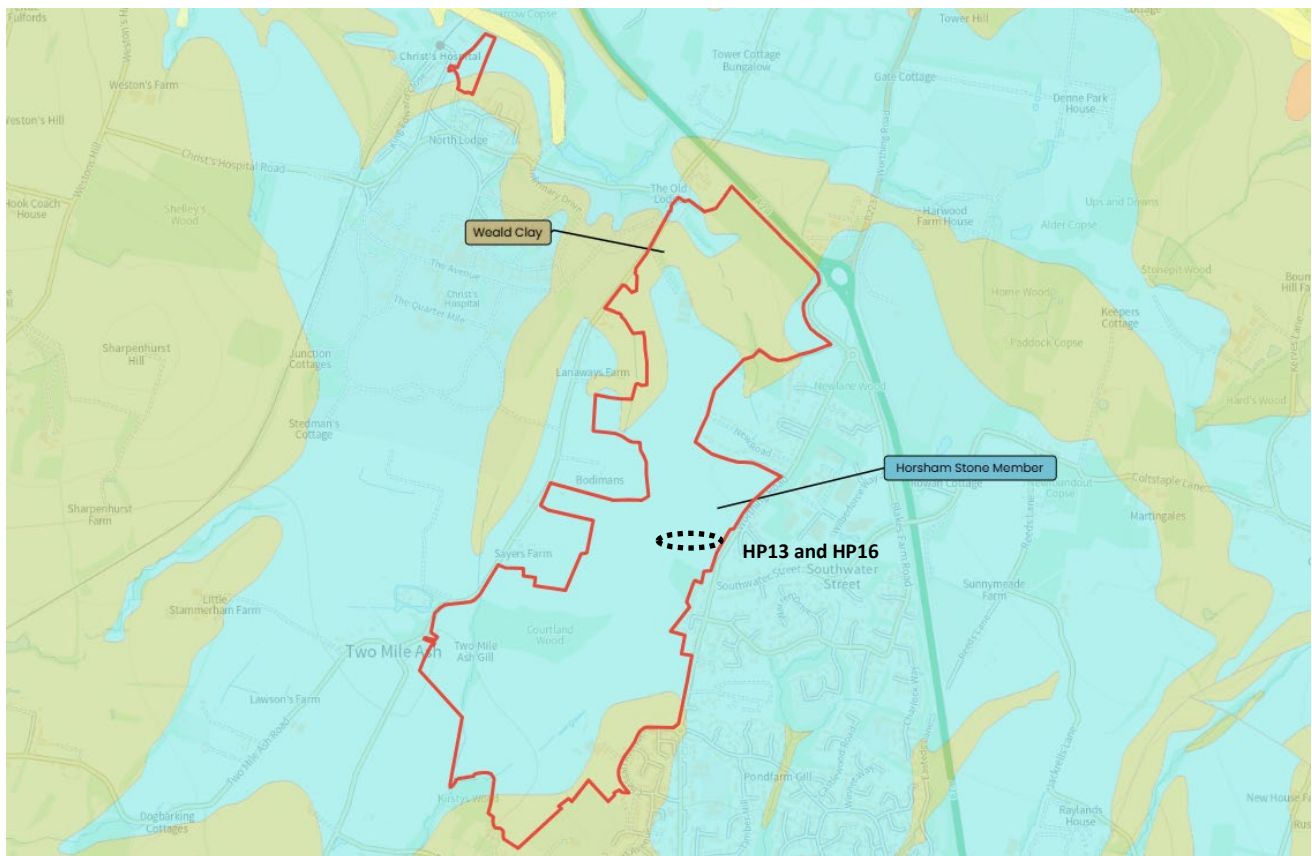
Standing surface water was present frequently and for long periods, the grading would be limited to 4 by these site factors. Elsewhere there would be no other limiting site factors.

NORTH SITE

The North Site is gently sloping with no gradient greater than 7°. The North Site shows no complex change over short distances. The North Site is not in a flood risk area, and no surface water was observed during the site walk over. There are no limiting site factors.

4.4 Soil Factors

Based on the hand pits undertaken across the Site the depth of the Topsoil was typically between 10 and 20 cms in depth. In 3 No. locations (HP13 and 16) out of the 35 No. hand pits dug, depth of the Topsoil was 30cms. HP13 and 16 were close together to the west of Nethernton Close.



(NB HP31 is now located outside the updated site boundary)

Figure 20 - Location of HP13, 16 and 31

Topsoil is an important factor in determining the available water capacity of a soil. Shallowness affects cropping in



other ways, notably by influencing the range and type of cultivations which can be carried out but also by restricting nutrient uptake, root growth and, in the case of fruit trees, root anchorage.

Based on the findings of the report and based on the ALC gradings, the majority of the Site would be classified as Grade 3b or 4, apart from the two isolated areas identified in Figure 18 which would be classified as Grade 3a (see figure 19).

Grade/ Subgrade	Depth limits (cm)
1	60
2	45
3a	30
3b	20
4	15
5	<15

Figure 21 – ALC Soil grade according to Soil Depth

The Soilscape classification indicated that the application Site in its majority was ‘slowly draining’ soils. Thirty five samples of topsoil were submitted for laboratory analysis. Testing of the topsoil recovered from the Site indicated the soil (<2mm particle size range) to comprise a silty clay loam (ZCL) or in places silty clay loam (ZCL). Intrusive investigation indicated the underlying natural subsoils and superficial deposits to become more clayey and these could be described as a clay (C). The soils’ grading was assessed to be a ‘silty loam’ (ZL) or ‘silty clay loam’ (ZCL) in places, based on the grading ratios of sand, silt and clay fractions.

Main Site

The field capacity days (FCD) are 170, based on the ALC Climatic data³⁶ estimates. The soil profiles comprise generally stone free silty loam (ZL) and in places medium silty clay loams (MZCL) or heavy silty clay loams (HZCL). The clay subsoil is slowly permeable which significantly impedes drainage and causes a soil wetness limitation consistent with wetness class IV.

North Site

The field capacity days (FCD) are 165, based on the ALC Climatic data estimates. The soil profiles comprise stone free silty loams (ZL). The clay subsoil is slowly permeable which significantly impedes drainage and causes a soil wetness limitation consistent with wetness class IV.

Based on Table 6 of the Agricultural Land Classification¹⁴, shown in figure 20, this would limit the quality of the soil to no better than Sub-grade 3b for the Main Site and North Site.

³⁶ Climatological Data for Agricultural Land Classification, January 1989



Wetness Class	Texture ¹ of the top 25 cm	Field Capacity Days				
		<126	126-150	151-175	176-225	>225
I	S ² LS ³ SL SZL	1	1	1	1	2
	ZL MZCL MCL SCL	1	1	1	2	3a
	HZCL HCL	2	2	2	3a	3b
	SC ZC C	3a(2)	3a(2)	3a	3b	3b
II	S ² LS ³ SL SZL	1	1	1	2	3a
	ZL MZCL MCL SCL	2	2	2	3a	3b
	HZCL HCL	3a(2)	3a(2)	3a	3a	3b
	SC ZC C	3a(2)	3b(3a)	3b	3b	3b
III	S ² LS SL SZL	2	2	2	3a	3b
	ZL MZCL MCL SCL	3a(2)	3a(2)	3a	3a	3b
	HZCL HCL	3b(3a)	3b(3a)	3b	3b	4
	SC ZC C	3b(3a)	3b(3a)	3b	4	4
IV	S ² LS SL SZL	3a	3a	3a	3b	3b
	ZL MZCL MCL SCL	3b	3b	3b	3b	3b
	HZCL HCL	3b	3b	3b	4	4
	SC ZC C	3b	3b	3b	4	5
V	S LS SL SZL	4	4	4	4	4
	ZL MZCL MCL SCL	4	4	4	4	4
	HZCL HCL	4	4	4	4	4
	SC ZC C	4	4	4	5	5
Soils in Wetness Class VI - Grade 5						

Figure 22 – ALC Table 6, Grade according to soil wetness - mineral soils

The chemical testing of the Site would not limit the quality of the soil to less than Grade 1.

4.5 Conclusion

MAIN SITE

Analysis of available data revealed that the Main Site was partially covered by an Agri-environment scheme, a Forestry and Woodland Scheme covers the woodland on site which is also considered a priority landscape and is to be retained within the development proposal.

From MAFF mapping it was anticipated that the Main Site would be classified as Grade 3 or Grade 4. However, whilst this system classifies some of the land as Grade 3, it does not segregate into grade 3a or 3b and the granularity of the system is unable to take account of smaller scale local variables, which would change the land classification of individual parcels of land.

Whilst the climatic factors and chemical testing on the Main Site are not considered to limit land-quality to less than Grade 1, the wetness class would limit the quality of the soil to Sub-grade 3b. Standing surface water was present frequently and for long periods, the grading would be limited to sub-grade 3b by these site factors.

Based on topsoil depth, the majority of the Main Site would be limited to a classification of sub-grade 3b or grade 4, apart from two isolated areas which would be classified as Grade 3a (identified on Figure 18).



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NORTH SITE

Analysis of available data revealed that the North Site was not covered by any Agri-environment, Forestry and Woodland or Other Land Based Schemes.

Neither the North Site, nor its surrounding areas were considered to be a priority habitat.

From MAFF mapping it was anticipated that the North Site would be classified as Sub-grade 3b.

Whilst the climatic factors and chemical testing on the North Site are not considered to limit land-quality to less than Grade 1, the wetness class would limit the quality of the soil to Sub-grade 3b.

Based on topsoil depth, the majority of the North Site would be limited to a classification of Sub-grade 3b or Grade 4 in the southernmost part of the site.



APPENDIX A

Exploratory hole location plans and soil classification test results



NB/Locations HP07, HP10-11, HP15, HP24, HP28, HP30-31 & WS15 now fall outside the proposed site boundary.



Project Id: GE20620 GI
Project Title: North west Southwater
Location: Southwater Berkeley Homes (Southern Ltd)
Client: Berkeley Strategic Land Ltd

Title: Site Plan
Scale: 1:4500
Engineer: VB/GE
Contractor: GESL

Legend Key

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



Project Title: Northwest Southwater
Location : Southwater
Project No. : GE20620 GI
Client : Berkeley Strategic Land Ltd

Title : Figure 2 - Exploratory Hole Location Plan
Scale: 1:1500
Engineer: VB/GE



Geo-Environmental

- Legend Key
- ▣ Locations By Type - TP
 - ◆ Locations By Type - WLS





APPENDIX B

National Soil Resources Institute (2022) Soils Site Report for location

515234E, 127730N, 4kmx 4km, National Soil Resources Institute, Cranfield

University.





Soil Site Report

Extended Soil Report

North west Southwater

Easting: 515234

Northing: 127730

Site Area: 4km x 4km

Prepared for: Veronica Bennett, Geo-Environmental Services Limited

Date: 21 Mar 2022



Citation

Citations to this report should be made as follows:

National Soil Resources Institute (2022) Soils Site Report for location 515234E, 127730N, 4km x 4km, National Soil Resources Institute, Cranfield University. Accessed via:
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About this report

This Soil Site Report identifies and describes the properties and capacities of the soil at your specified location as recorded in the National Soil Map for England and Wales. It has been produced by Cranfield University's [National Soil Resources Institute](#).

The National Soil Map represents the most accurate and comprehensive source of information about the soil at the national coverage in England and Wales. It maps the distribution of soil mapping units (termed soil associations) which are defined in terms of the main soil types (or soil series) that were recorded for each soil association during field soil survey. Each soil association is named after its principal soil series and these bear the location name from where they were first described (e.g. Windsor). Each of these soil associations have differing environmental characteristics (physical, chemical and biological) and it is by mapping these properties that the range of thematic maps in this report have been produced.

Soil types and properties vary locally, as well as at the landscape scale. It is not possible to identify precisely the soil conditions at a specific location without first making a site visit. We have therefore provided you with information about the range of soil types we have identified at and around your selected location. Schematic diagrams are also provided to aid accurate identification of the soil series at your site.

Whilst an eight-figure national grid reference should be accurate to within 100m, a single rural Postcode can cover a relatively large geographical area. Postcodes can therefore be a less precise basis for specifying a location. The maps indicate the bounded area the reports relate to.

Your Site Soil Report will enable you to:

- identify the soils most likely to be present at and immediately around your specified location;
- understand the patterns of soil variation around your location and how these correlate with changes in landscape;
- identify the nature and properties of each soil type present within the area;
- understand the relevant capacities and limitations of each of the soils and how these might impact on a range of factors such as surface water quality.

Provided that this Site Soil Report is not modified in any way, you may reproduce it for a third-party.

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1. Soil Thematic Maps

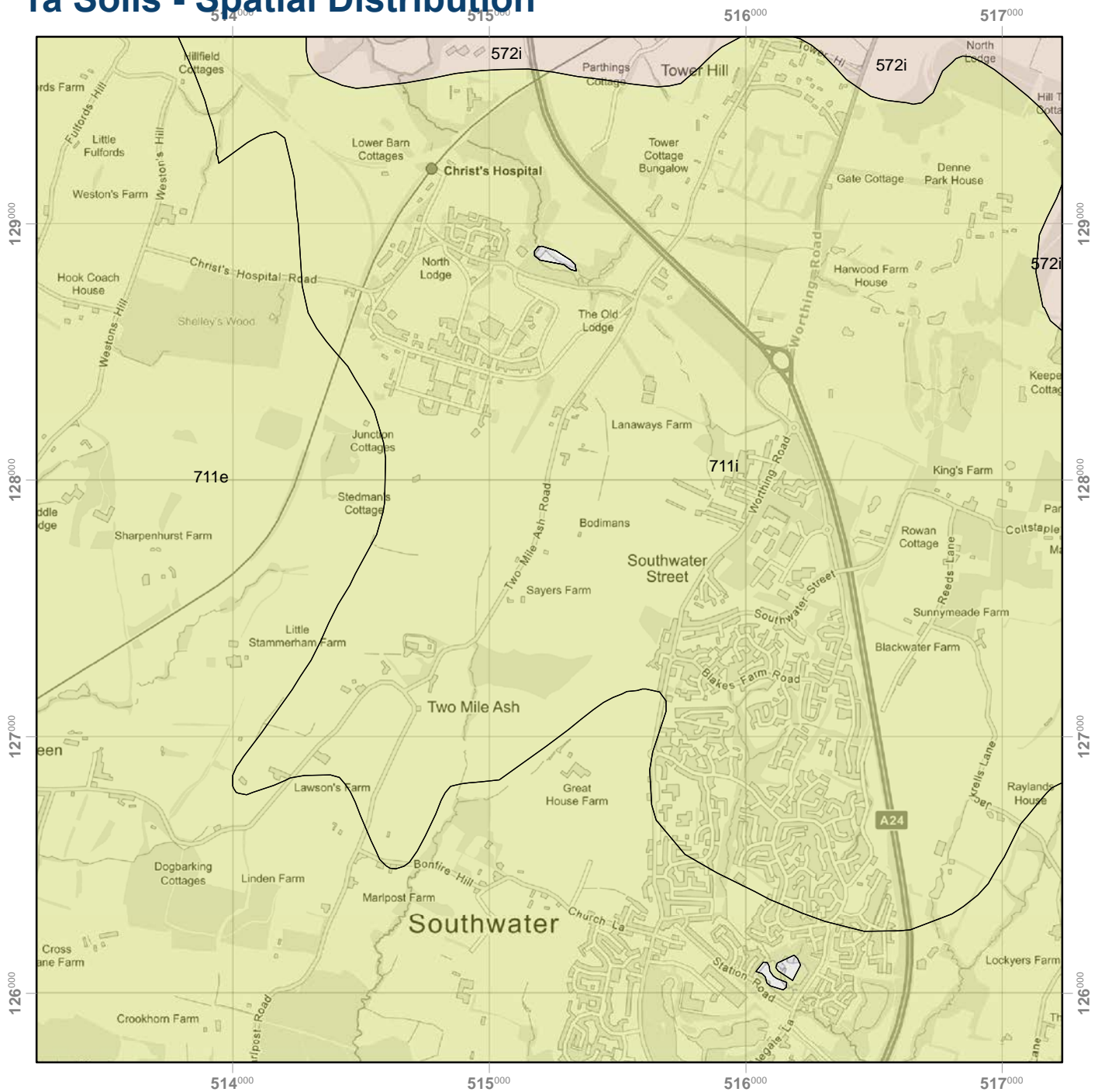
This section contains a series of maps of the area surrounding your selected location, presenting a number of themes relating to the characteristics of the soils. These provide an overview of the nature and condition of the local soil conditions. It is these conditions that may be used to infer the response of an area to certain events (with the soil as a receptor), such as pollution contamination from a chemical spill, or an inappropriate pesticide application and the likelihood of these materials passing through the soil to groundwater. Other assessments provide an insight into the way a location may impact, by corrosive attack or ground movement, upon structures or assets within the ground, for example building or engineering foundations or pipes and street furniture.

Soil is a dynamic environment with many intersecting processes, chemical, physical and biological at play. Even soils 'sealed' over by concrete and bitumen are not completely dormant. The way soils respond to events and actions can vary considerably according to the properties of the soil as well as other related factors such as land-use, vegetation, topography and climate. There are many threats facing our national soil resource today and importance should be given to identifying the best measures aimed towards soil protection, ensuring the usage of soils in the most sustainable way. This report is therefore a useful snapshot of the soil properties for your given area, providing a summary of a broad range of ground conditions



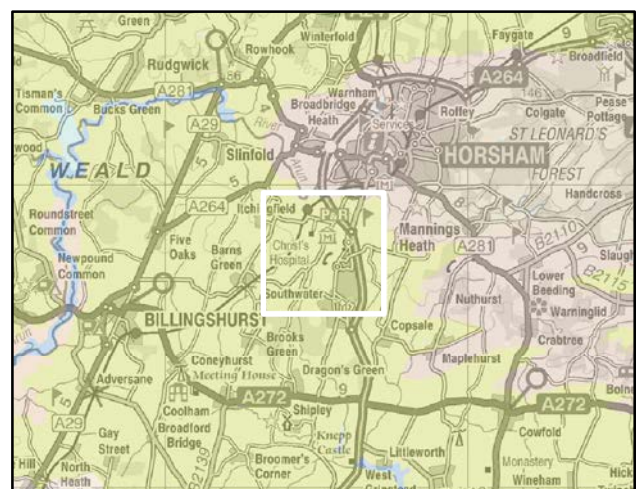
Figure 1: Location of study area

1a Soils - Spatial Distribution






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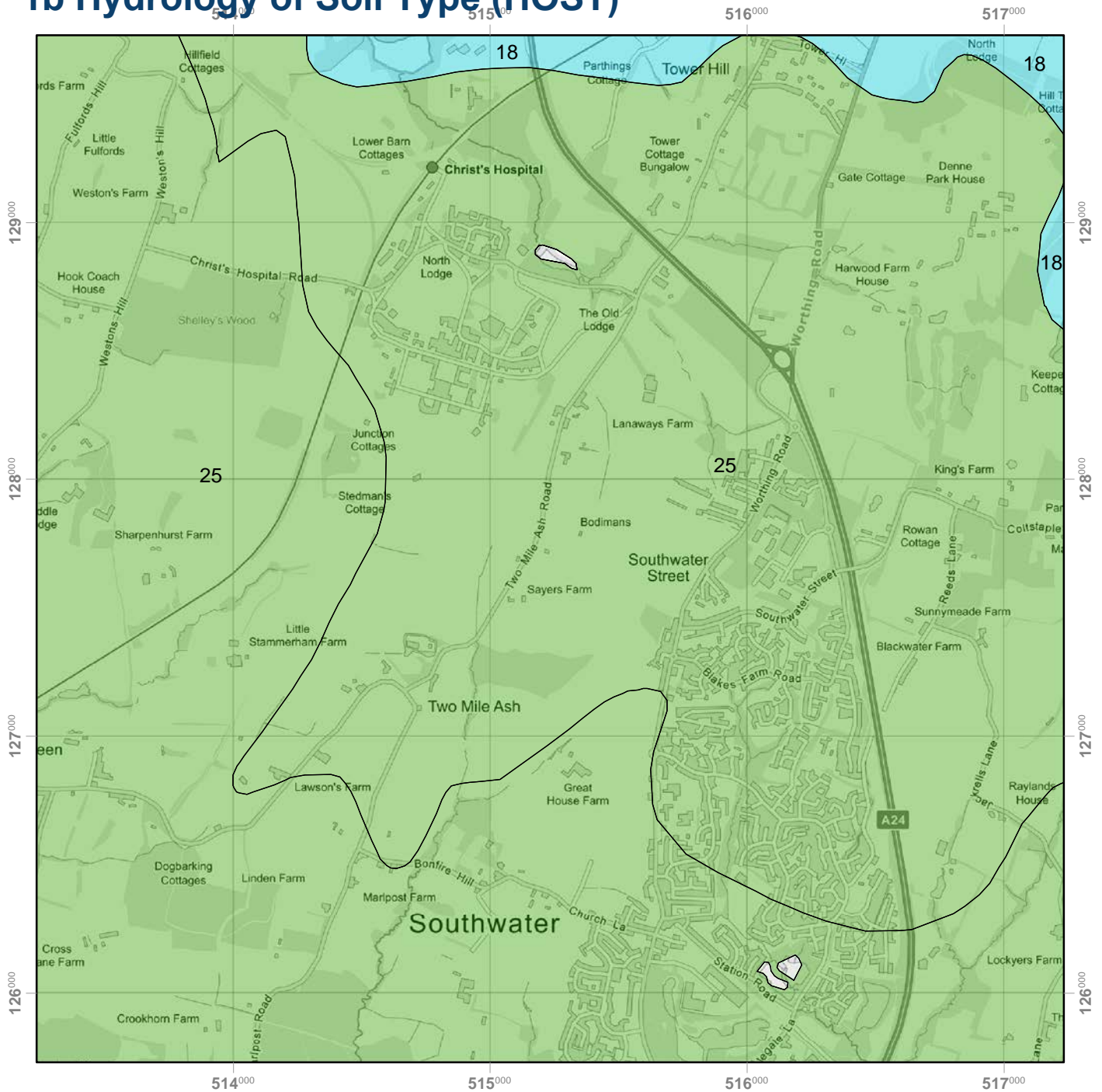
Soils - Spatial Distribution Key

-  572i CURTISDEN
Silty soils over siltstone with slowly permeable subsoils and slight seasonal waterlogging.
-  711e WICKHAM 1
Slowly permeable seasonally waterlogged fine silty over clayey, fine loamy over clayey and clayey soils.
-  711i WICKHAM 5
Slowly permeable seasonally waterlogged fine loamy over clayey, fine silty over clayey and clayey soils locally reddish.

SOIL ASSOCIATION DESCRIPTION

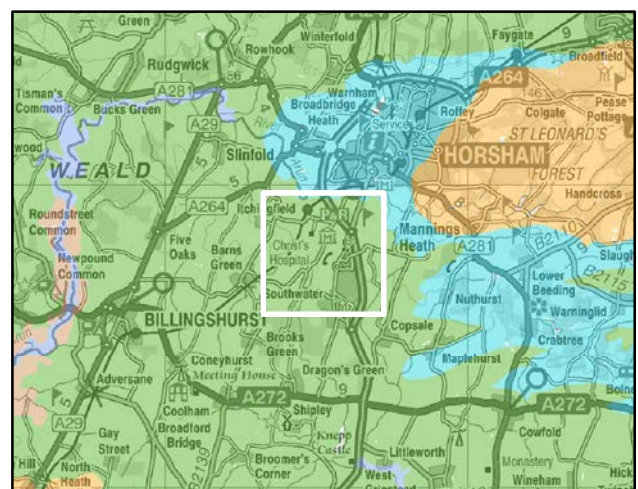
Soil associations represent a group of soil series (soil types) which are typically found occurring together, associated in the landscape (Avery, 1973; 1980; Clayden and Hollis, 1984). Soil associations may occur in many geographical locations around the country where the environmental conditions are comparable. For each of these soil associations, a collection of soil types (or soil series) are recorded together with their approximate proportions within the association. Soil associations have codes as well as textual names, thus code '554a' refers to the 'Frilford' association. Where a code is prefixed with 'U', the area is predominantly urbanised (e.g. 'U571v'). The soil associations for your location, as mapped above, are described in more detail in Section 2: Soil Association Descriptions.

1b Hydrology of Soil Type (HOST)





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Hydrology of Soil Type (HOST) Key

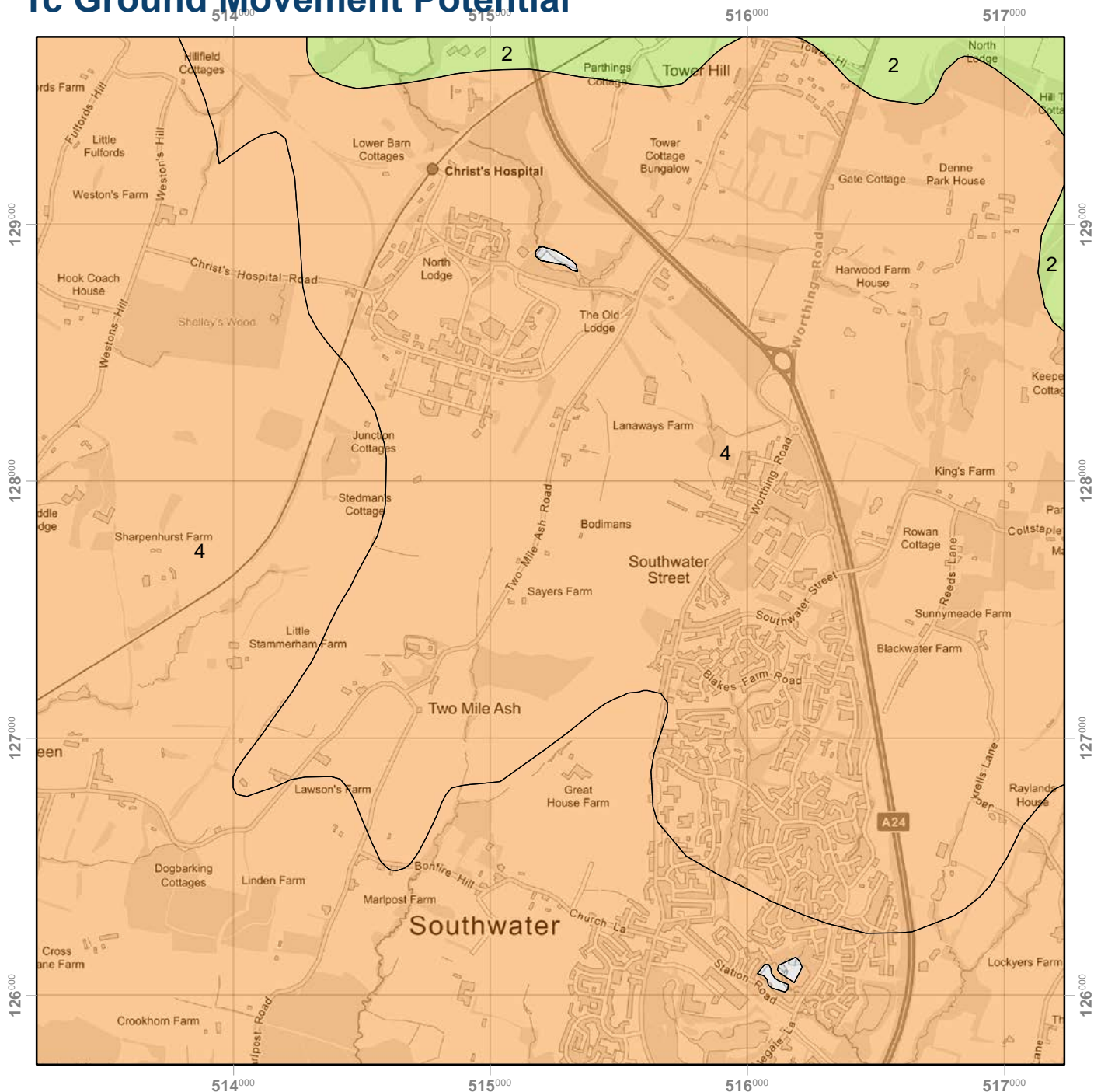
-  18 Slowly permeable soils with slight seasonal waterlogging and moderate storage capacity over slowly permeable substrates with negligible storage

-  25 Slowly permeable, seasonally waterlogged soils over impermeable clay substrates with no storage capacity

HOST CLASS DESCRIPTION

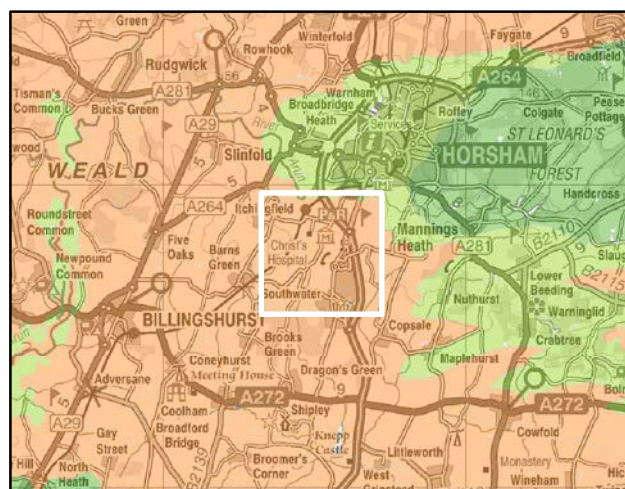
The Hydrology of Soil Types (HOST) classification describes the dominant pathways of water movement through the soil and, where appropriate, the underlying substrate. Eleven drainage models are defined according to the permeability of the soil and its substrate and the depth to a groundwater table, where one is present (Boorman et al, 1995). These are further subdivided into 29 HOST classes to which all soil series have been assigned. These classes identify the way soil water flows are partitioned, with water passing over, laterally through, or vertically down the soil column. Analysis of the river hydrograph and the extent of soil series for several hundred gauged catchments allowed mean values for catchment hydrological variables to be identified for each HOST class. The HOST classification is widely used to predict river flows and the frequency and severity of flood events and also to model the behaviour of diffuse pollutants (Hollis et al, 1995).

1c Ground Movement Potential




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Ground Movement Potential Key

 2 Low

 4 High

* If a High class is starred, a Very High ground movement potential is likely to be achieved if these soils are drained to an effective depth of at least two metres.

GROUND MOVEMENT POTENTIAL DESCRIPTION

Clay-related ground movement is the most widespread cause of foundation failure in the UK and is linked to seasonal swelling and shrinkage of the clay. The content of clay within the soils of your selected area has therefore a direct bearing upon the likelihood of ground movement.

Among the inorganic particles that constitute the solid component of any soil, clay particles are the smallest and defined as being less than 0.002 mm - equivalent spherical diameter (esd) in size. Clay particles occur in most kinds of soil but they only begin to exert a predominant influence on the behaviour of the whole soil where there is more than 35 per cent (by weight) of clay-sized material present.

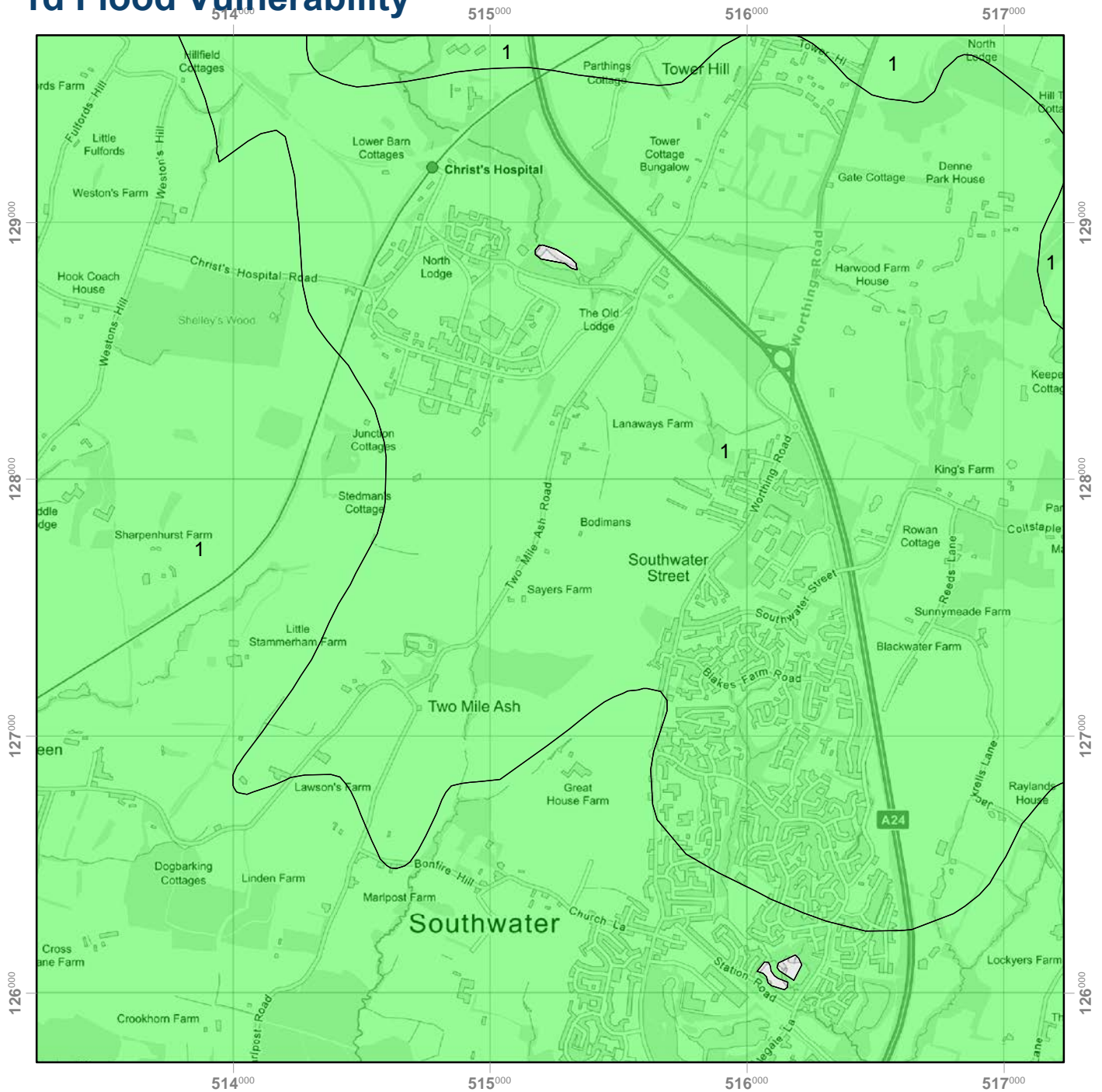
Because clay particles are very small and commonly platy in shape they have an immense surface area onto which water can be attracted, relative to the total volume of the soil material. In addition to surface attraction or inter-crystalline absorption of water, some clay minerals, those with three layers of atoms (most other kinds of clay have only two layers of atoms) are able to absorb and hold additional water between these layers. It is these types of clay mineral, which are widespread in British soils and commonly known as smectites that have the greatest capacity to shrink and swell.

In a natural undisturbed condition, the moisture content of deep subsoil clay does not change greatly through the year and consequently there are no changes in volume leading to shrinkage and swelling. However, when clays are exposed at or near the ground surface and especially when vegetation is rooting in them seasonal moisture and volume changes can be dramatic. Plants and trees transpire moisture from the soil to support their growth and transfer necessary nutrients into their structures. Surface evaporation also takes place from soil and plant structures, and the combination of evaporation from surfaces and transpiration by plants and trees is termed evapotranspiration. Thus, the layer of soil material down to 2m depth into which plants will root is critical when assessing the vulnerability of land to subsidence.

Whenever soil moisture is continuously being replenished by rainfall, the soil moisture reserves will be unaffected by the removal of moisture by plants as there is no net loss. However, in many parts of Britain, particularly in the south and east, summer rainfall is small and is exceeded by evapotranspiration. Water reserves are then not sufficiently replenished by rainfall and so a soil moisture deficit develops. The water removed from a clayey soil by evapotranspiration leads to a reduction in soil volume and the consequent shrinkage causes stress in the soil materials leading in turn to stress on building foundations that are resting in the soil (Hallett, et al, 1994).

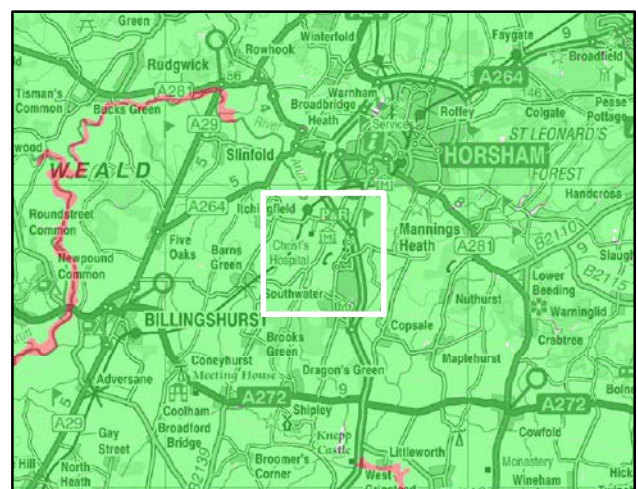
The foundations themselves may then move and thus cause damage to building structures. This problem can be exacerbated by the fact that the soil beneath the structure may not dry out uniformly, so that any lateral pressure exerted on the building foundation is made effectively greater. This assessment identifies the likelihood of soil conditions being prone to ground movement given these other factors.

1d Flood Vulnerability



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Flood Vulnerability Key

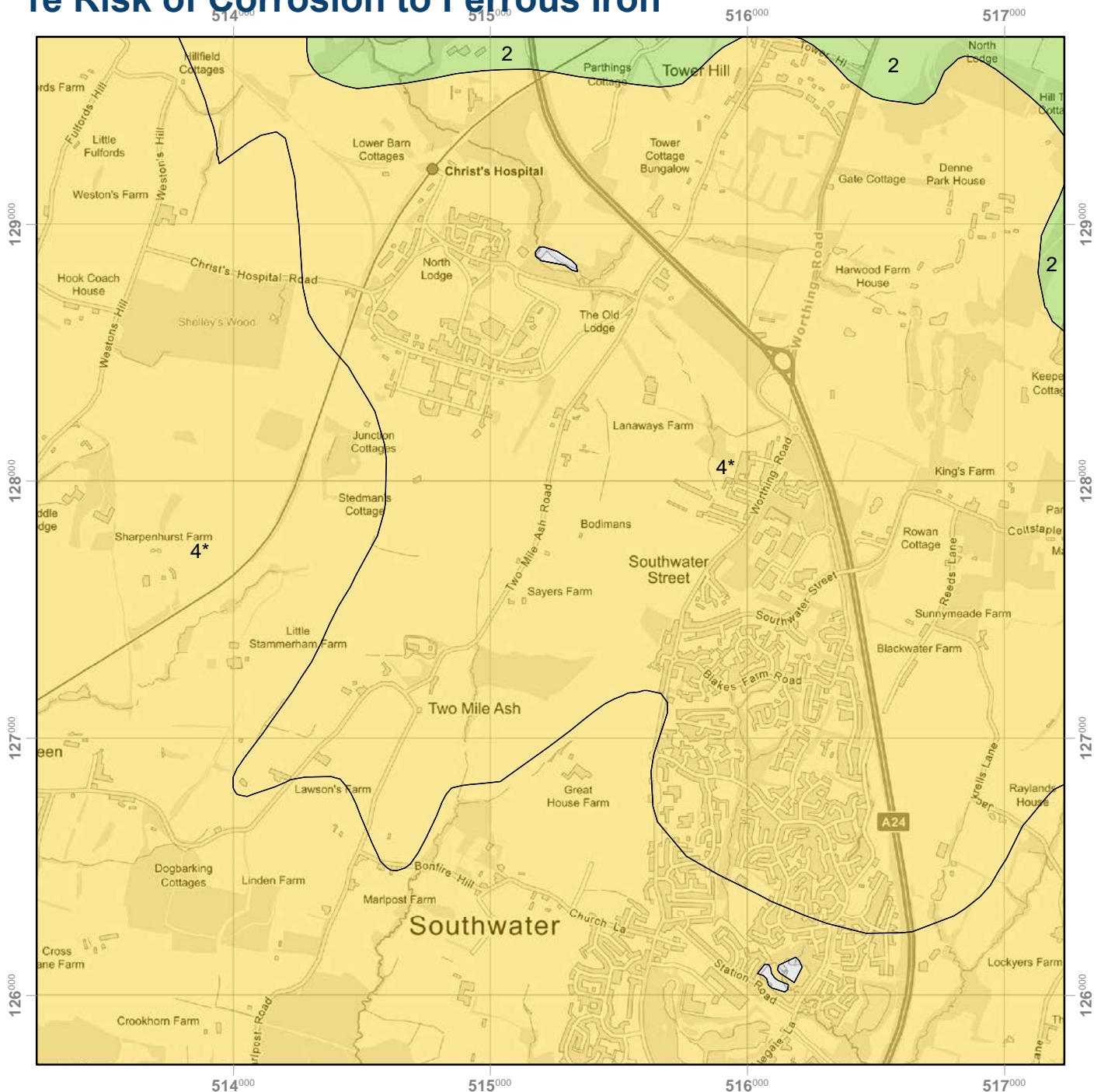
 1 Minor risk

FLOOD VULNERABILITY DESCRIPTION

The inundation of properties by flood water can occur in a number of circumstances. Surface run-off can collect on low-lying land from upslope following heavy rainfall. More commonly rivers, lakes and/or the sea extend beyond their normal limits as a result of prolonged or intense rainfall, unusually high tides and/or extreme wind events. Water damage to properties and their contents is compounded by the deposition of sediment suspended in the flood waters. The spatial distribution of such waterborne sediment (or alluvium as defined in soil science) is one basis upon which land that has been subject to historical flooding can be mapped, and this forms a basis for present-day flooding risk assessment.

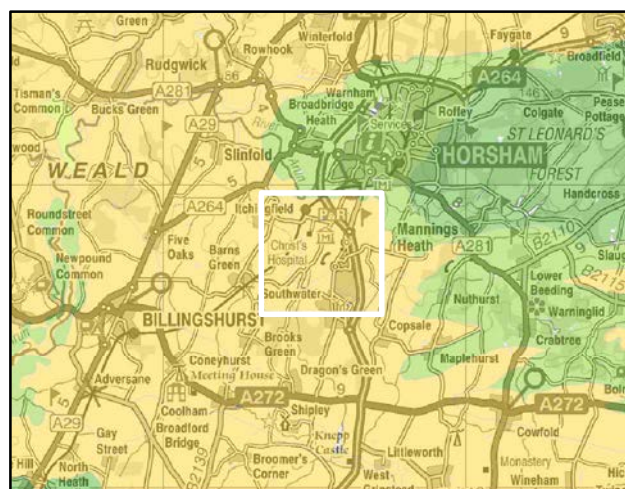
Both riverine and marine alluvium are identified as distinct soil parent materials within the British soil classifications. Combining soil map units that are dominated by soil series developed in alluvium across Great Britain identifies most of the land that is vulnerable to flooding. This assessment does not account for man-made flood defence measures, showing instead the areas where once water has stood.

1e Risk of Corrosion to Ferrous Iron




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Risk of Corrosion to Ferrous Iron Key

 2 Slightly Aggressive

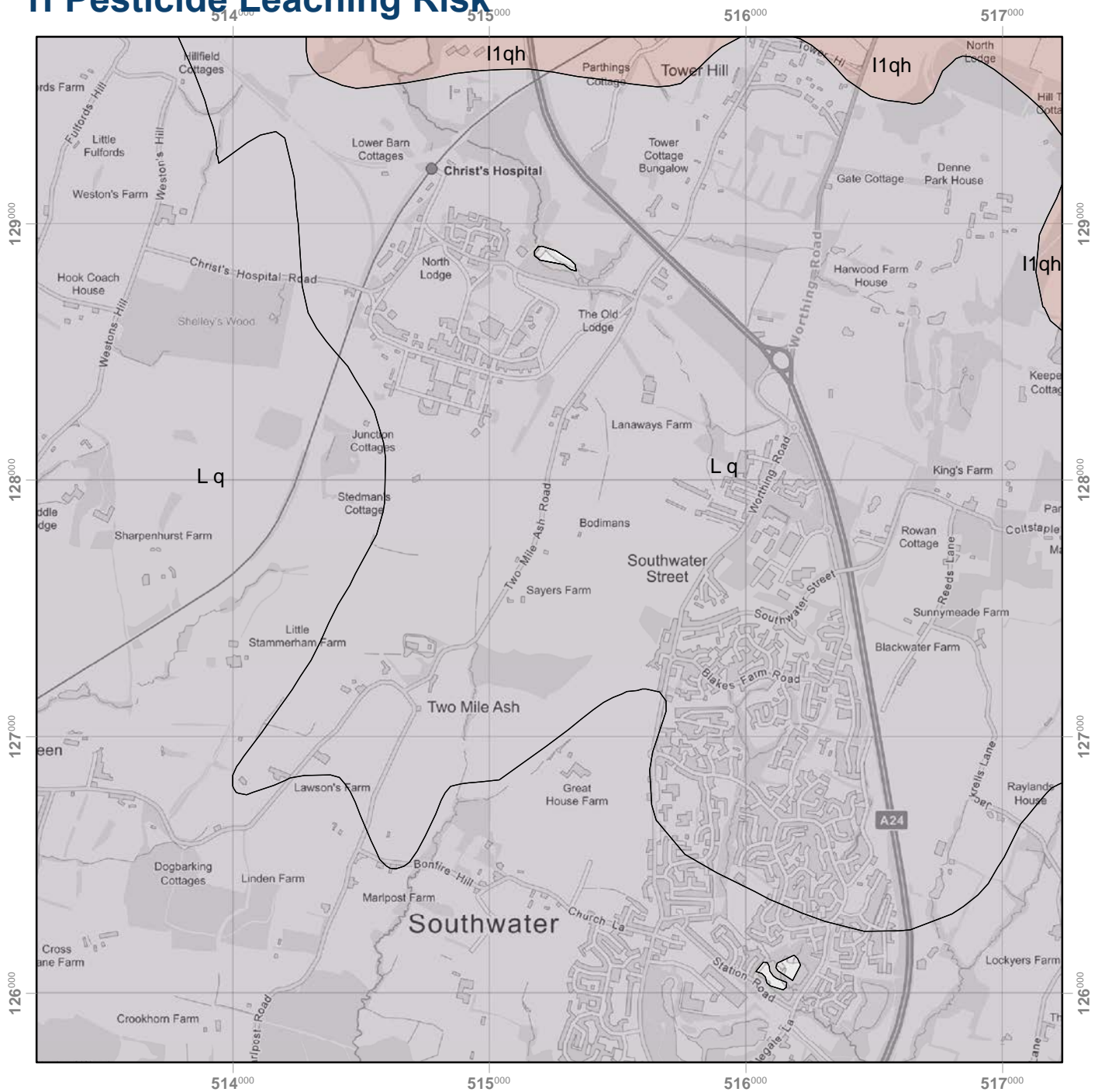
 4 Highly Aggressive

* If a class is starred, it is assumed that there are moderate amounts of sulphate in the soil. If there is abundant sulphate present, the soil may be one class more aggressive. Conversely, if there is very little sulphate, the soil may be one class less aggressive to buried ferrous iron.

RISK OF CORROSION TO FERROUS IRON DESCRIPTION

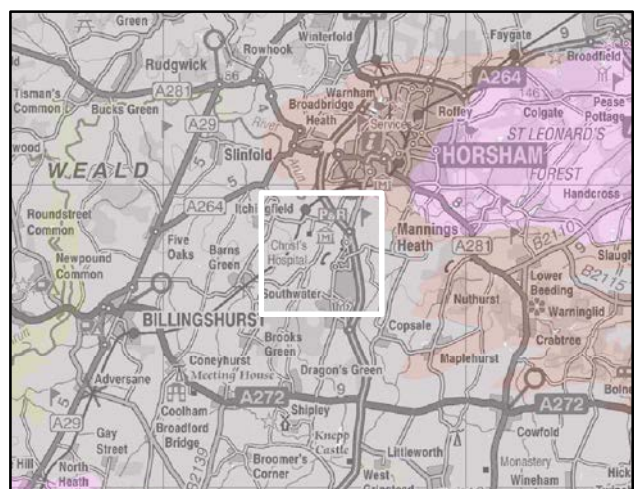
Buried iron pipes and other infrastructure corrode at rates that are influenced by soil conditions (Jarvis and Hedges, 1994). Soil acidity, sulphide content, aeration and wetness all influence the corrosivity of the soil. These factors are used to map 5 major classes of relative corrosivity.

1f Pesticide Leaching Risk



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Pesticide Leaching Risk Key



I1qh Slowly permeable soils with relatively high storage capacity over soft substrates of low or negligible storage capacity that sometimes conceal groundwater bearing rocks at depth



L q Impermeable soils over soft substrates of low or negligible storage capacity that sometimes conceal groundwater bearing rocks at depth

PESTICIDE LEACHING CLASS DESCRIPTION

The natural permeability and water regime of soils are influential in determining the fate and behaviour of pesticides applied to the crop and soil surface (Hollis et al, 1995). A system of vulnerability assessment was devised as part of the national system for Policy and Practice for the Protection of Groundwater. This divided soils into three primary vulnerability classes.

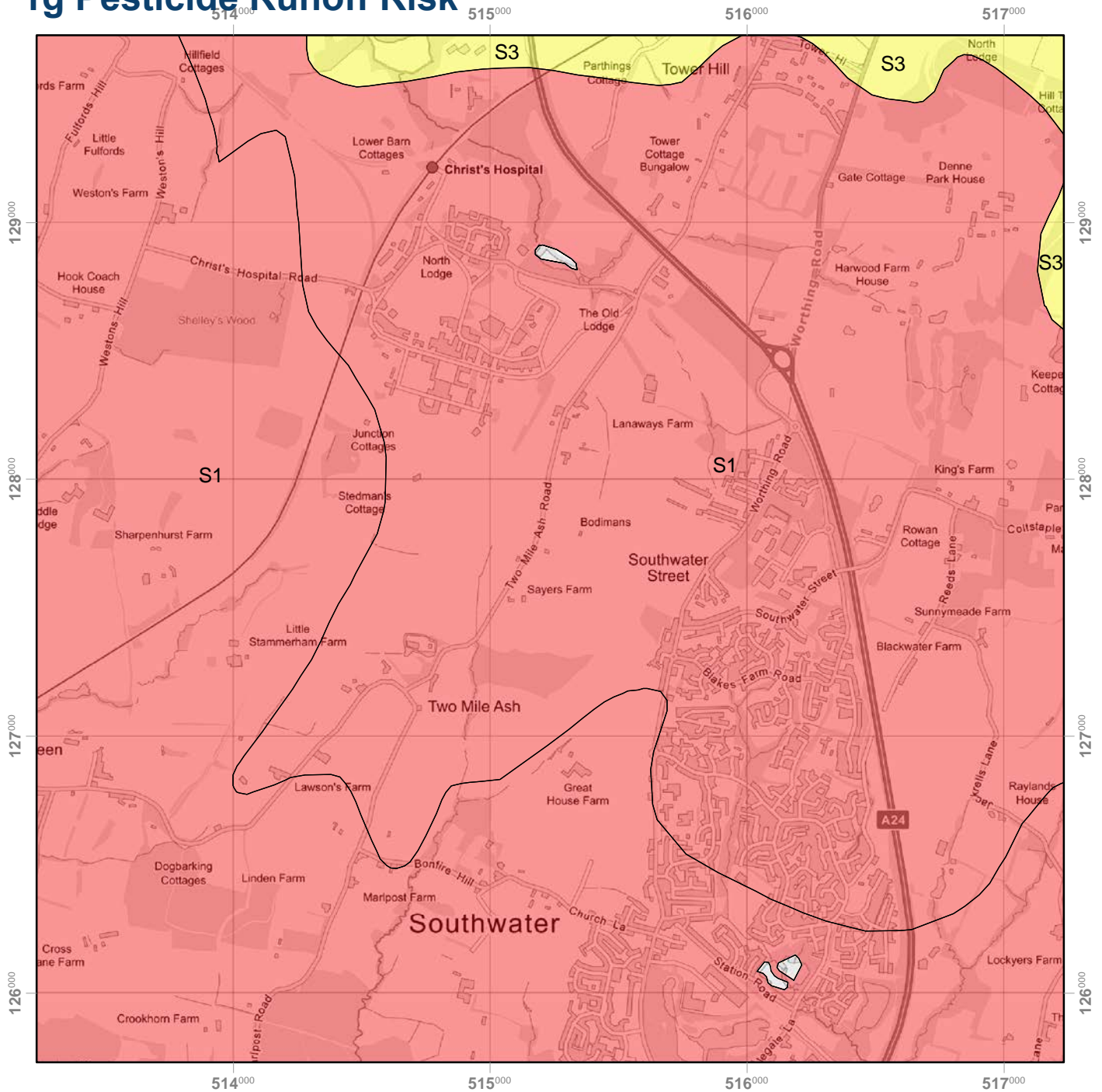
H - Soils of high leaching capacity with little ability to attenuate non-adsorbed pesticide leaching which leave underlying groundwater vulnerable to pesticide contamination.

I - Soils of intermediate leaching capacity with a moderate ability to attenuate pesticide leaching.

L - Soils of low leaching capacity through which pesticides are unlikely to leach.

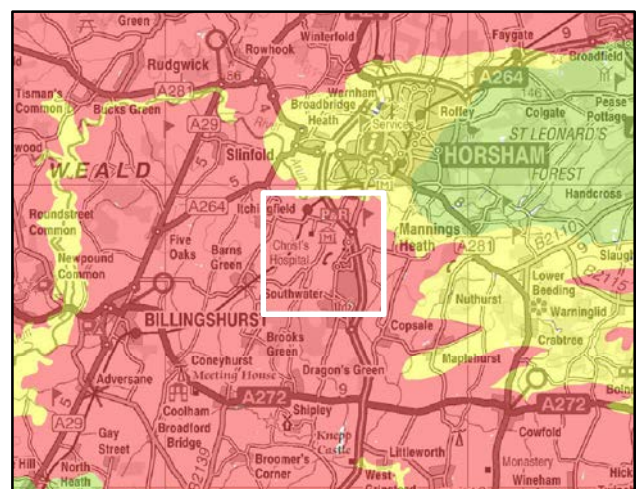
The primary classes have been further subdivided into nearly forty subclasses. These subclasses, with their descriptions, are mapped above. These classes do not account for differences in land cultivation, which can also have a significant impact on pesticide behaviour.

1g Pesticide Runoff Risk





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Pesticide Runoff Risk Key

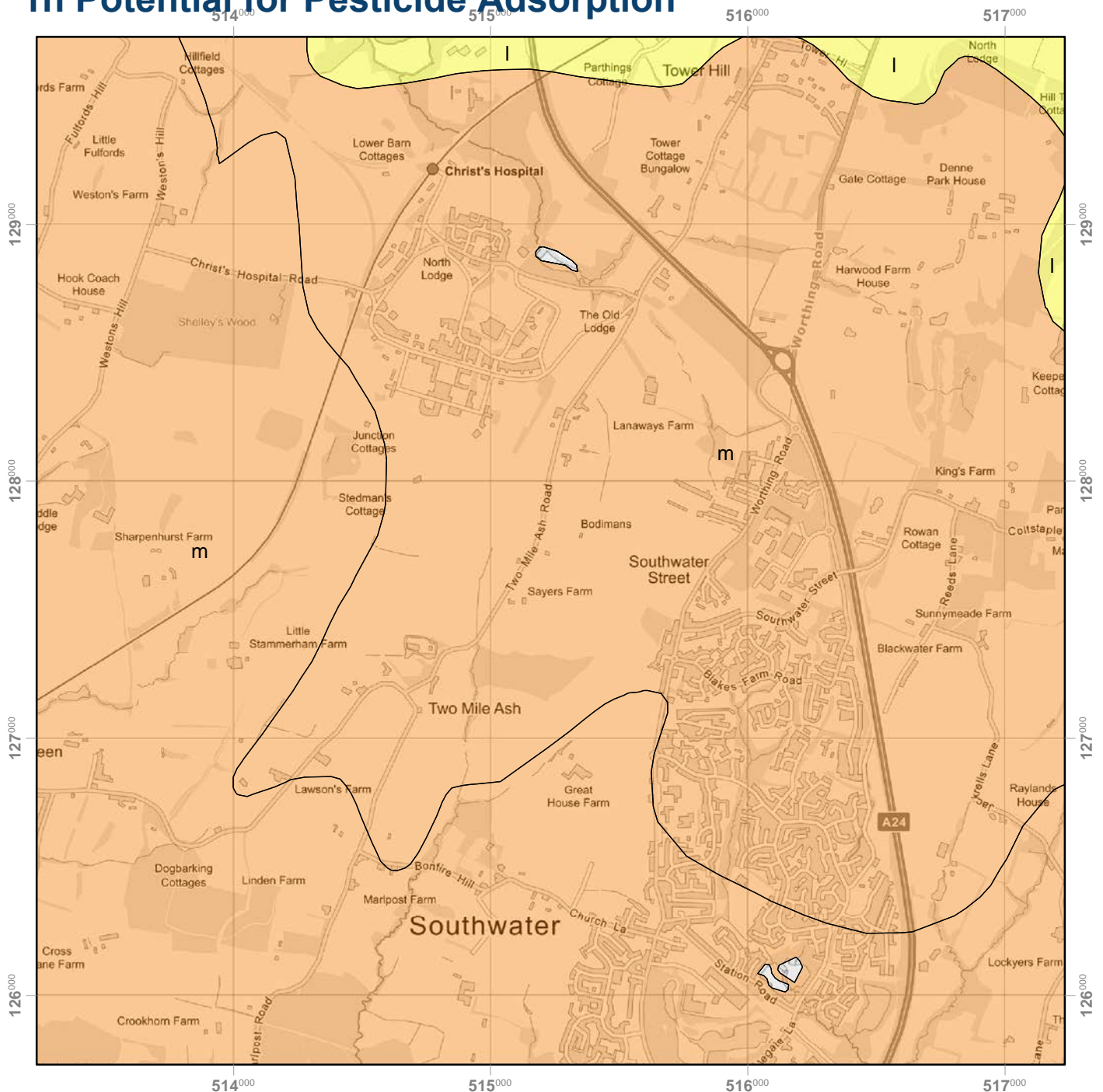
 S1 Very high run-off potential.

 S3 Moderate run-off potential.

PESTICIDE RUNOFF RISK DESCRIPTION

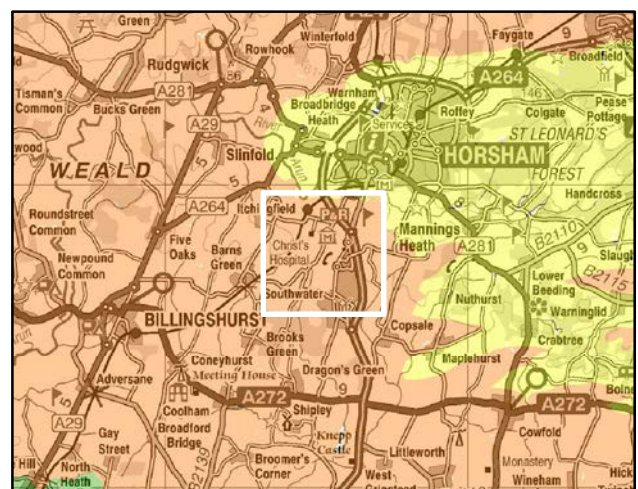
The physical properties and natural water regime of soils influence the speed and extent of lateral water movement over and through the soil at different depths (Hollis et al, 1995). As a result, soils can be classed according to the potential for pesticide run-off. Five runoff potential classes are identified for mineral soils and a further two for peat soils.

1h Potential for Pesticide Adsorption



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Potential for Pesticide Adsorption Key



l Low adsorption potential.

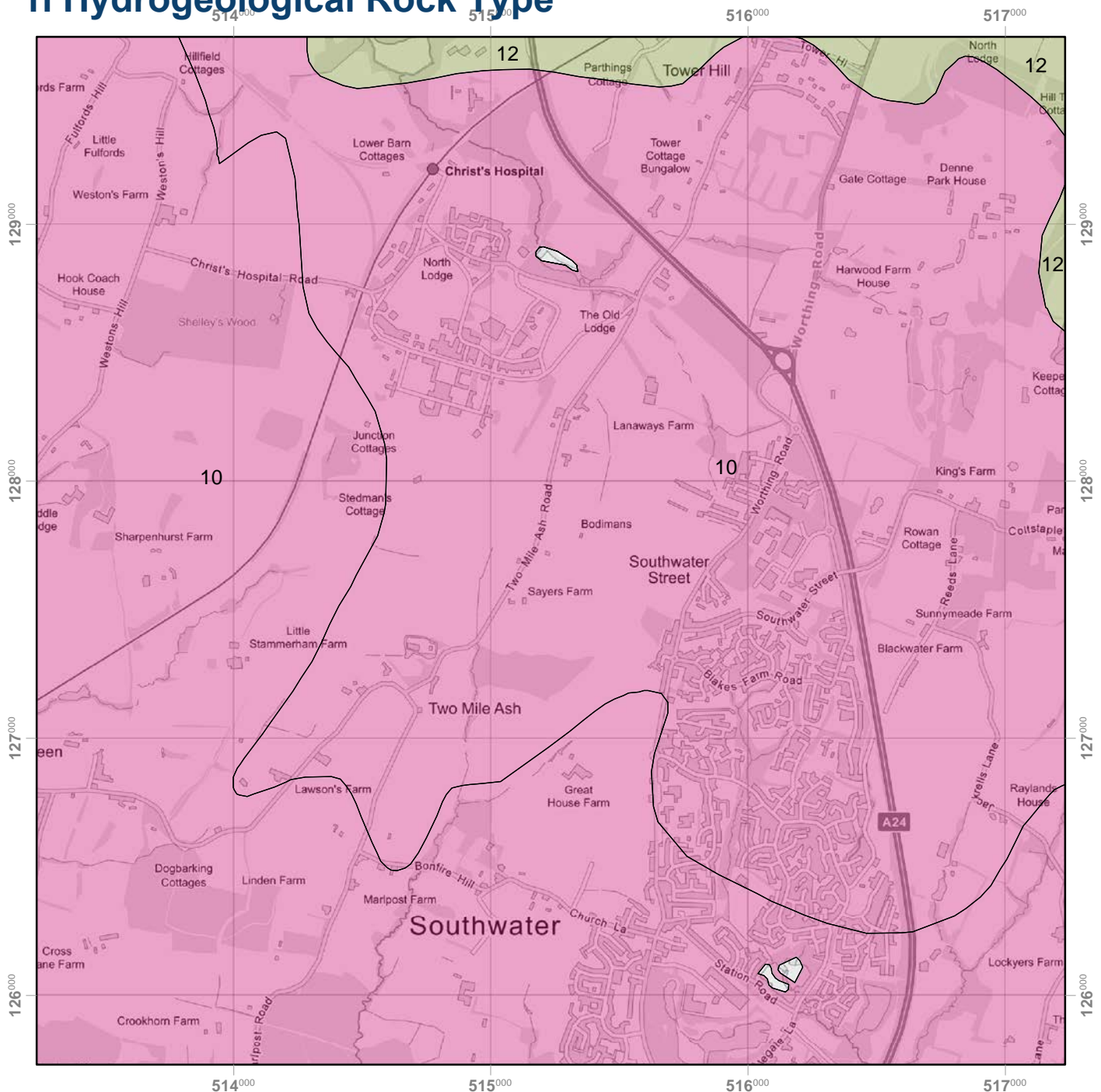


m Moderate adsorption potential.

POTENTIAL FOR PESTICIDE ADSORPTION DESCRIPTION

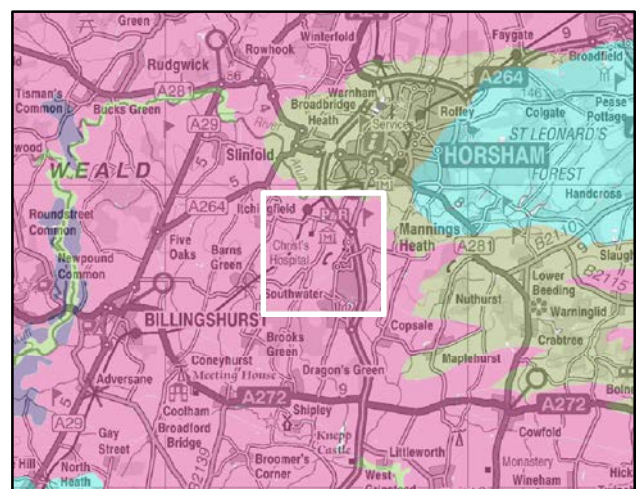
The physical properties and natural water regime of soils influence the speed and extent of lateral water movement over and through the soil at different depths (Hollis et al, 1995). The mineral soil classes are further subdivided according to their potential for pesticide adsorption.

1i Hydrogeological Rock Type



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Hydrogeological Rock Type Key



10 very soft massive clays

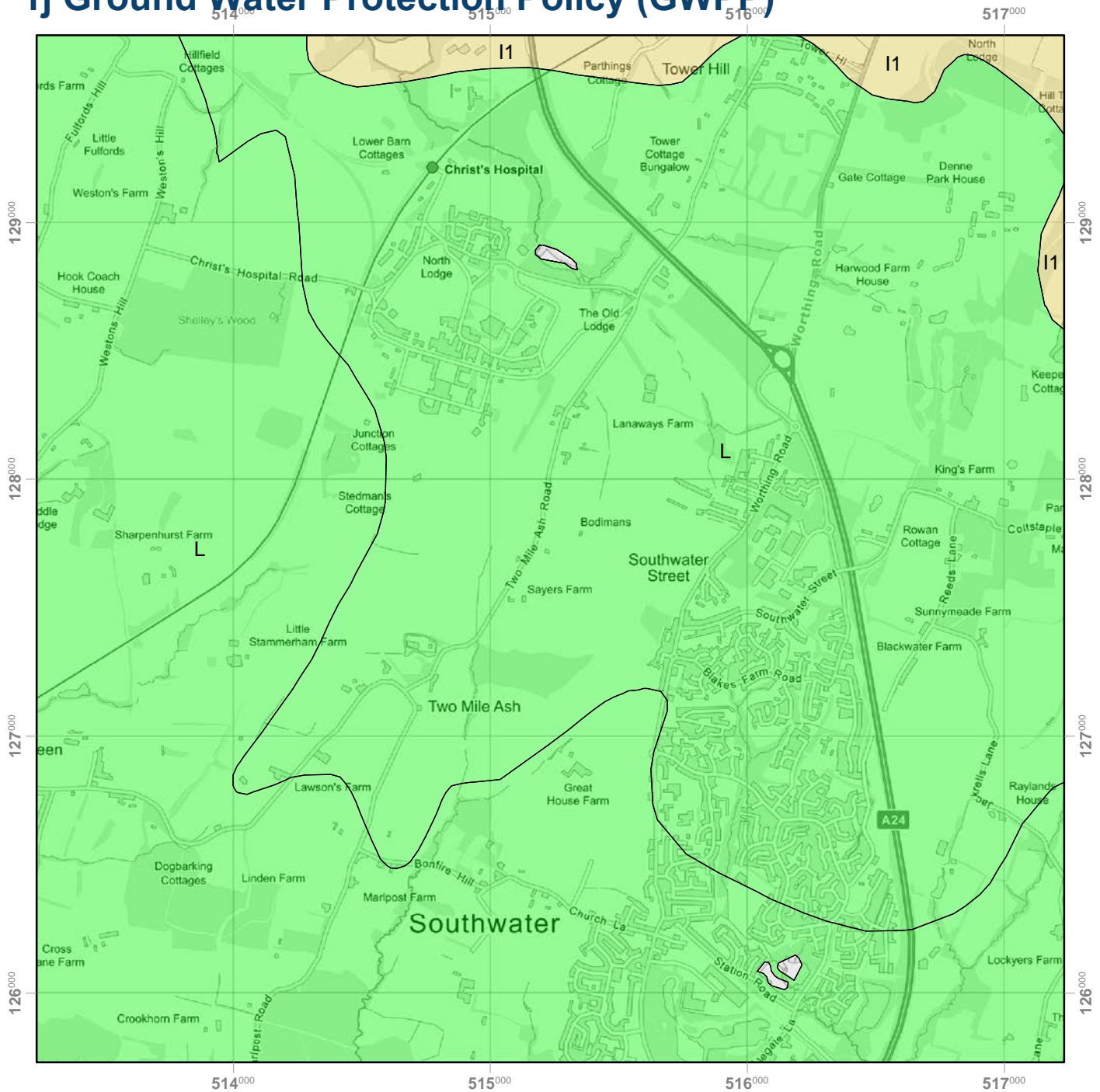


12 very soft bedded loams, clays and sands with subordinate harder sandstones

HYDROGEOLOGICAL ROCK TYPE DESCRIPTION

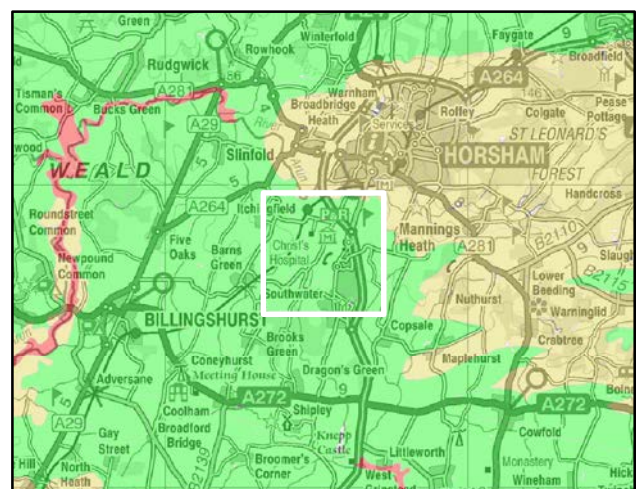
The hydrogeological classification of the soil parent materials provides a framework for distinguishing between soil substrates according to their general permeability and whether they are likely to overlie an aquifer. Every soil series has been assigned one of the 32 substrate classes and each of these is characterised according to its permeability (being characterised as permeable, slowly permeable or impermeable). For further information, see Boorman et al (1995).

1j Ground Water Protection Policy (GWPP)





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Ground Water Protection Policy (GWPP) Key

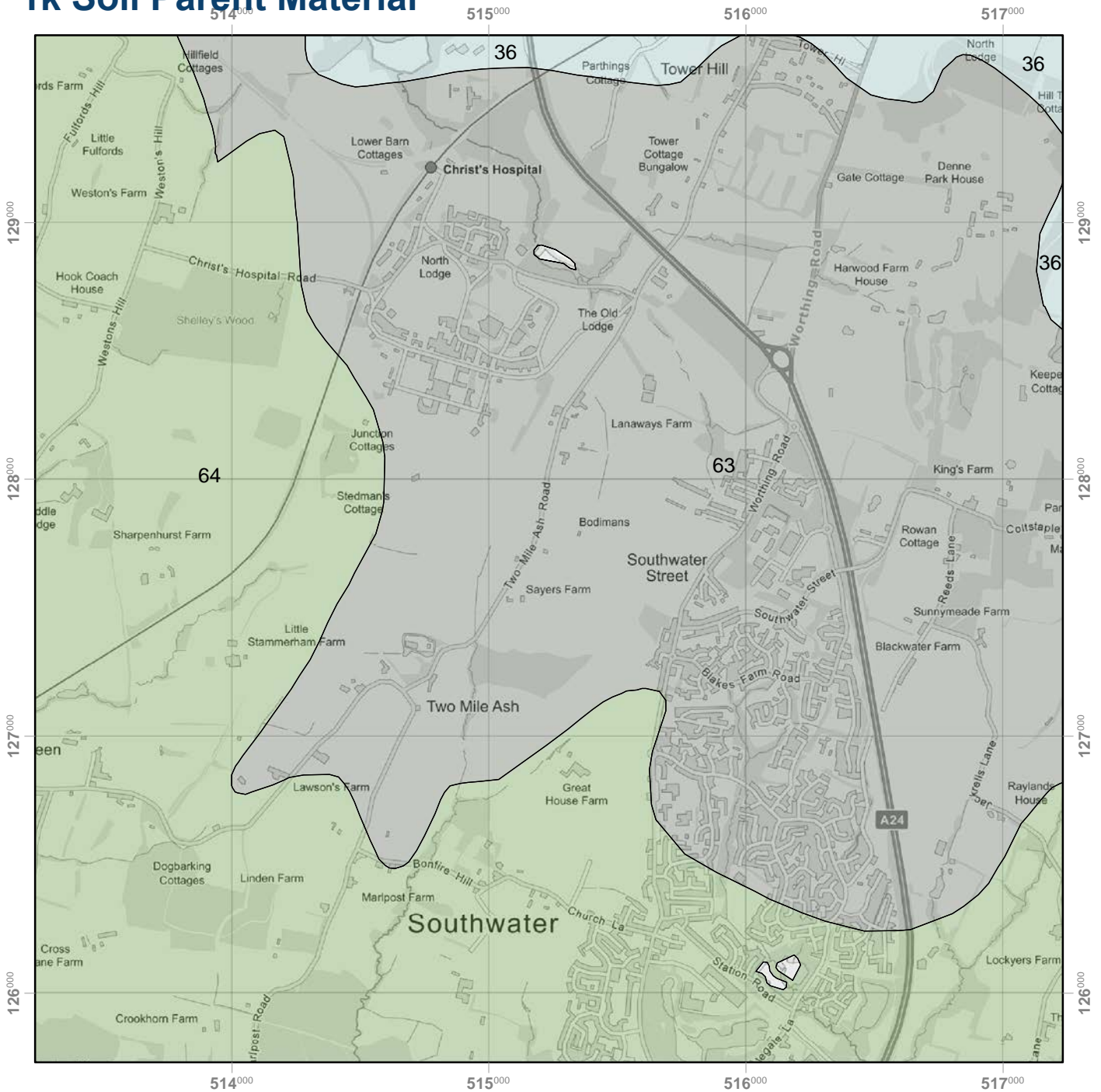
-  I1 Soils of intermediate leaching potential which have a moderate ability to attenuate a wide range of diffuse source pollutants but in which it is possible that some non-adsorbed diffuse source pollutants and liquid discharges could penetrate the soil layer

-  L Soils in which pollutants are unlikely to penetrate the soil layer either because water movement is largely horizontal or because they have a large ability to attenuate diffuse source pollutants

GWPP LEACHING CLASS DESCRIPTION

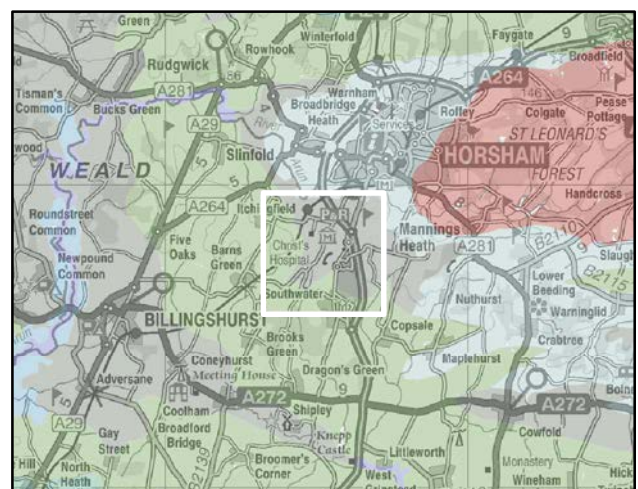
The Ground Water Protection Policy classes describe the leaching potential of pollutants through the soil (Hollis, 1991; Palmer et al, 1995). The likelihood of pollutants reaching ground water is described. Different classes of pollutants are described, including liquid discharges adsorbed and non-adsorbed pollutants.

1k Soil Parent Material




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Soil Parent Material Key

 36 Cretaceous and Jurassic siltstone and sandstone

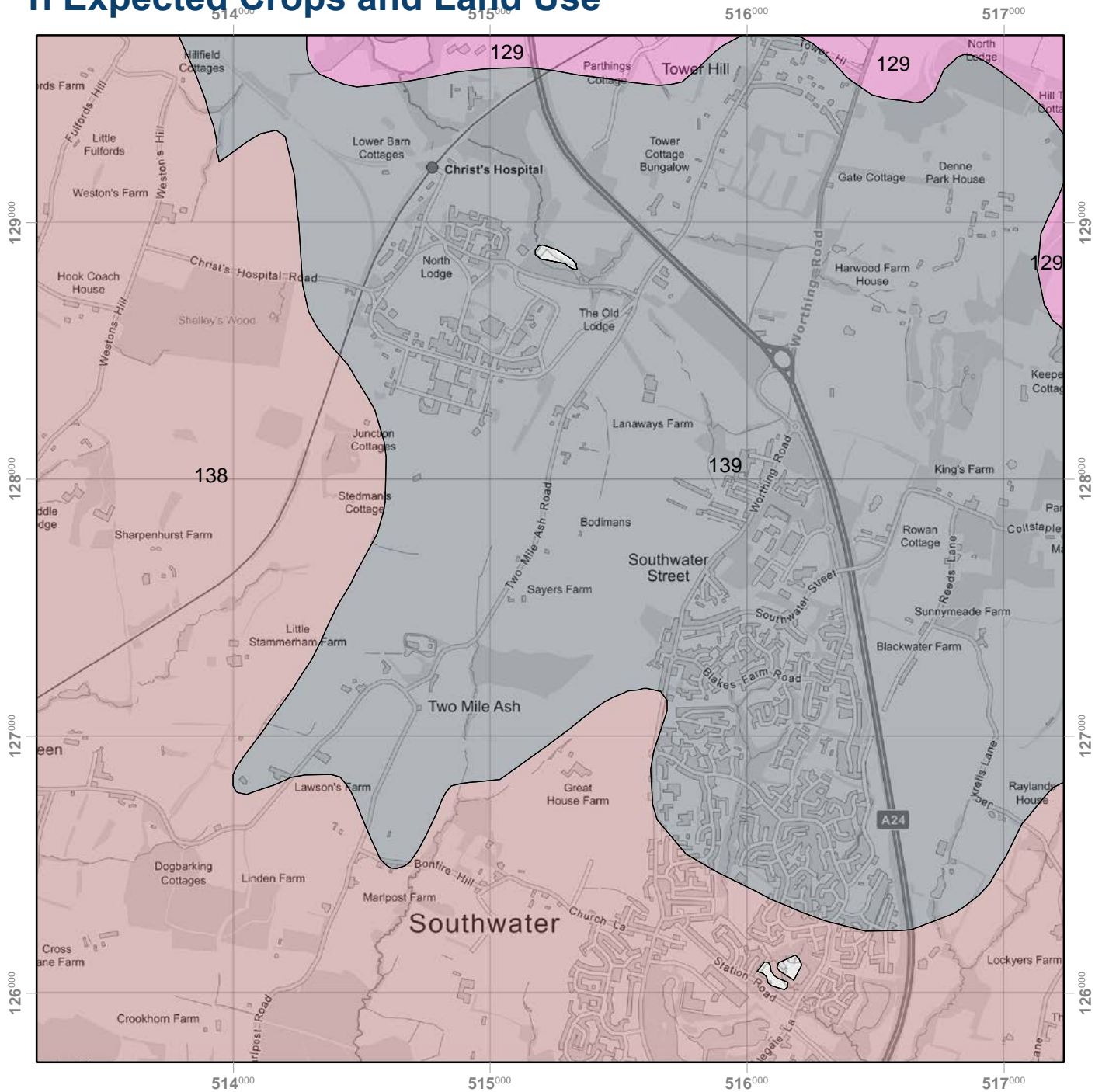
 63 Drift over Cretaceous clay and sandstone

 64 Drift over Cretaceous clay or mudstone

SOIL PARENT MATERIAL DESCRIPTION

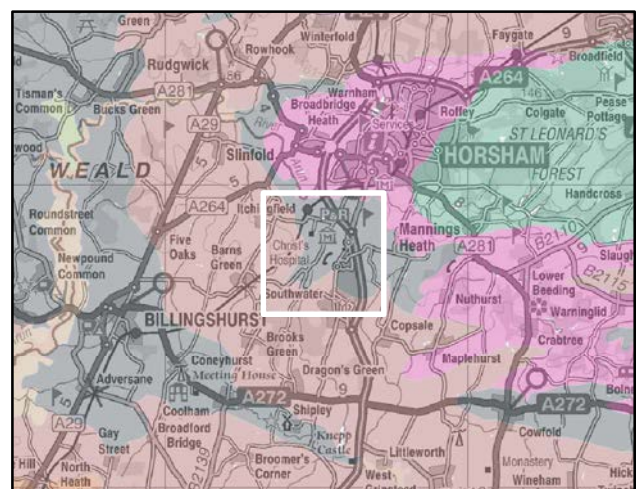
Along with the effects of climate, relief, organisms and time, the underlying geology or 'parent material' has a very strong influence on the development of the soils of England and Wales. Through weathering, rocks contribute inorganic mineral grains to the soils and thus exhibit control on the soil texture. During the course of the creation of the national soil map, soil surveyors noted the parent material underlying each soil in England and Wales. It is these general descriptions of the regional geology which is provided in this map.

11 Expected Crops and Land Use






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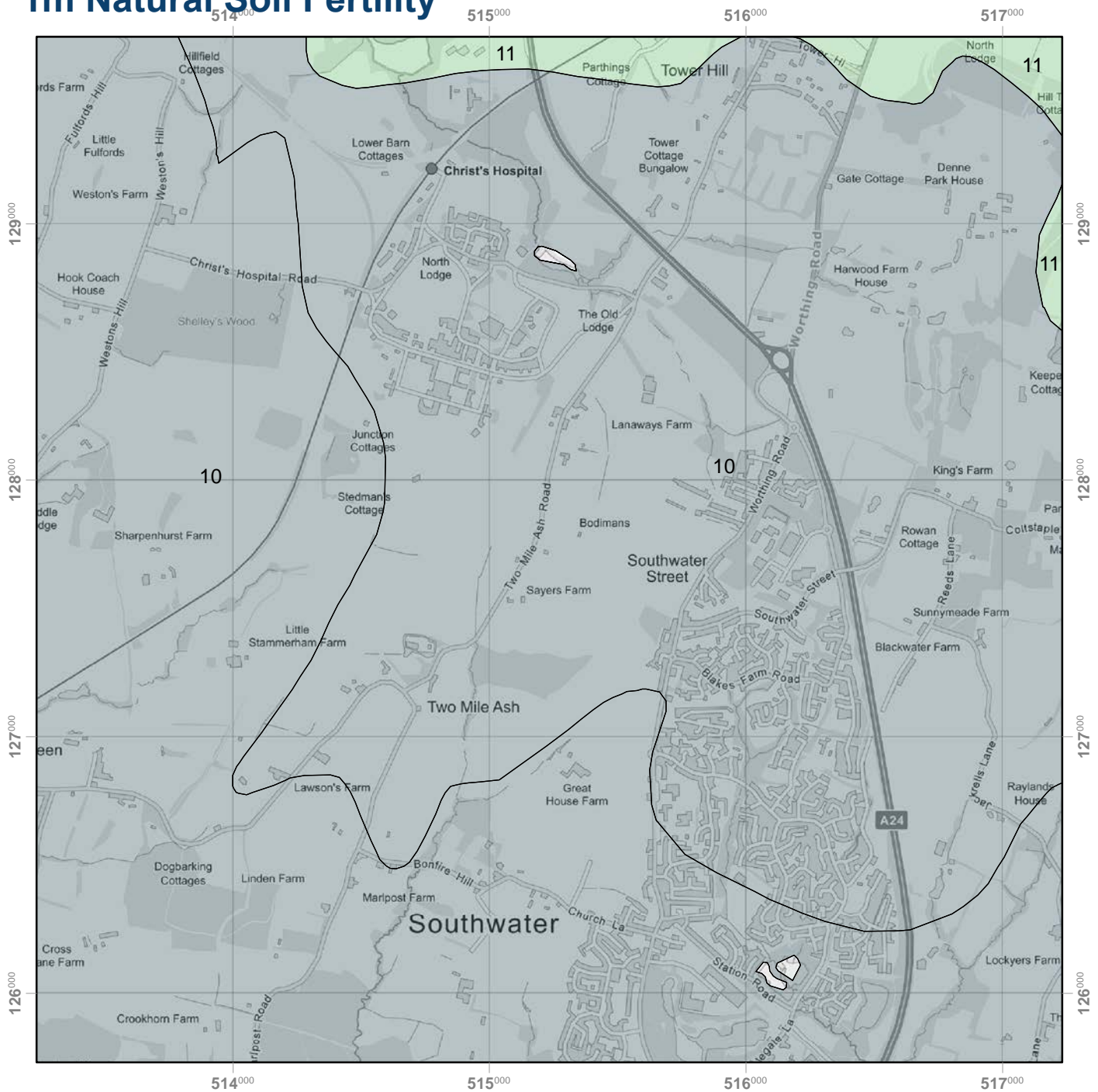
Expected Crops and Land Use Key

-  129 Dairying on permanent and short term grassland; cereals, potatoes, field vegetables and fruit where drier; woodland on slopes.
-  138 Dairying on short term grassland winter cereals; much deciduous woodland in the High Weald of Kent and Sussex.
-  139 Dairying on short term grassland. some cereals; some fruit in West Sussex; deciduous woodland.

EXPECTED CROPS AND LAND USE DESCRIPTION

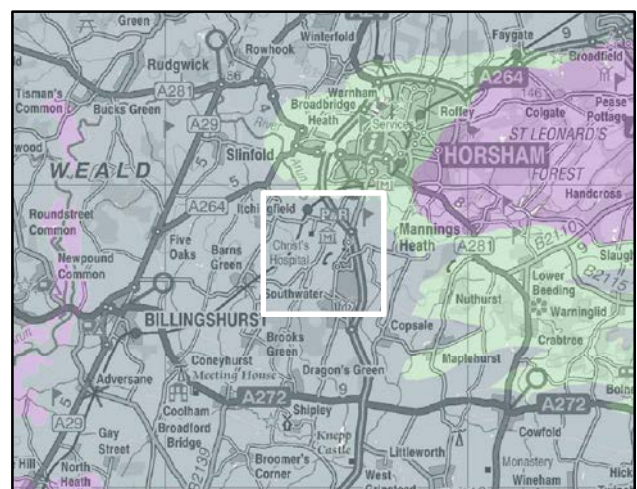
Individual soils are commonly associated with particular forms of land cover and land use. Whilst the soil surveyors were mapping the whole of England and Wales, they took careful note of the range of use to which the land was being put. This map shows the most common forms of land use found on each soil unit.

1m Natural Soil Fertility



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Natural Soil Fertility Key



10 Moderate

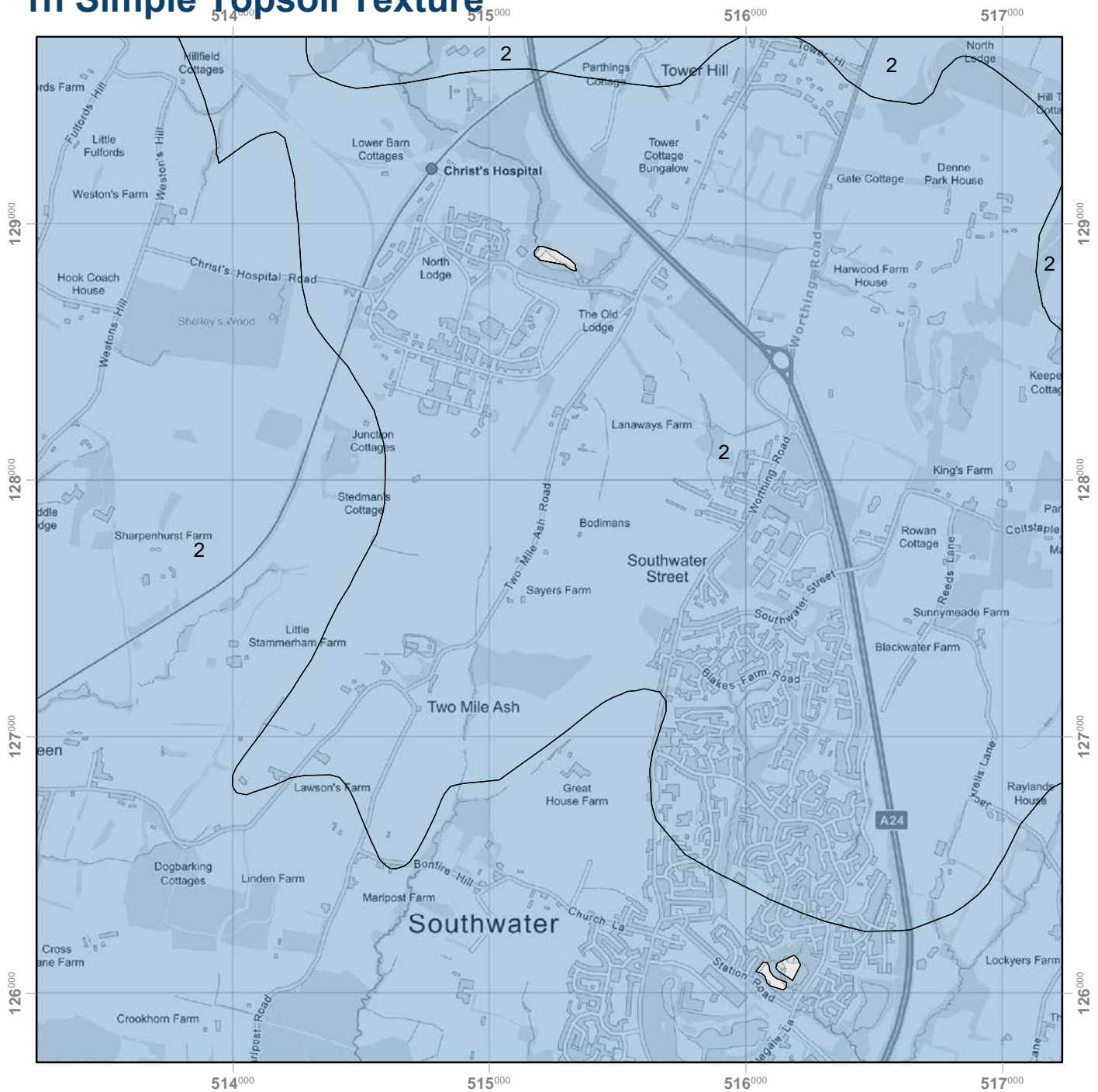


11 Moderate to high

NATURAL SOIL FERTILITY DESCRIPTION

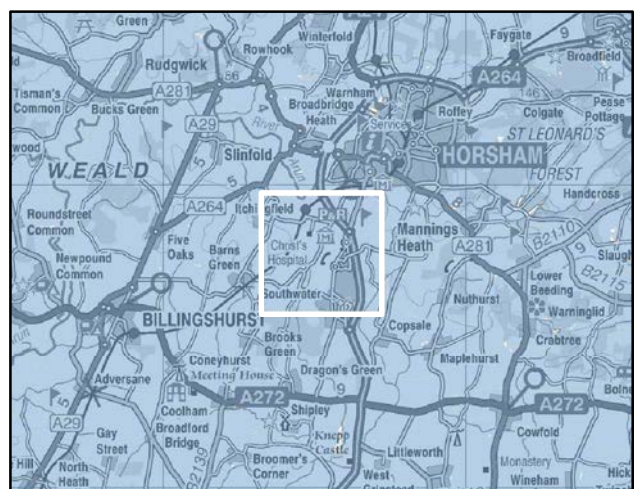
Soil fertility can be greatly altered by land management especially through the application of manures, lime and mineral fertilisers. What is shown in this map, however, is the likely natural fertility of each soil type. Soils that are very acid have low numbers of soil-living organisms and support heathland and acid woodland habitats. These are shown as of very low natural fertility. Soils identified as of low natural fertility are usually acid in reaction and are associated with a wide range of habitat types. The moderate class contains neutral to slightly acid soils, again with a wide range of potential habitats. Soil of high natural fertility are both naturally productive and able to support the base-rich pastures and woodlands that are now rarely encountered. Lime-rich soils contain chalk and limestone in excess, and are associated with downland, herb-rich pastures and chalk and limestone woodlands.

1n Simple Topsoil Texture




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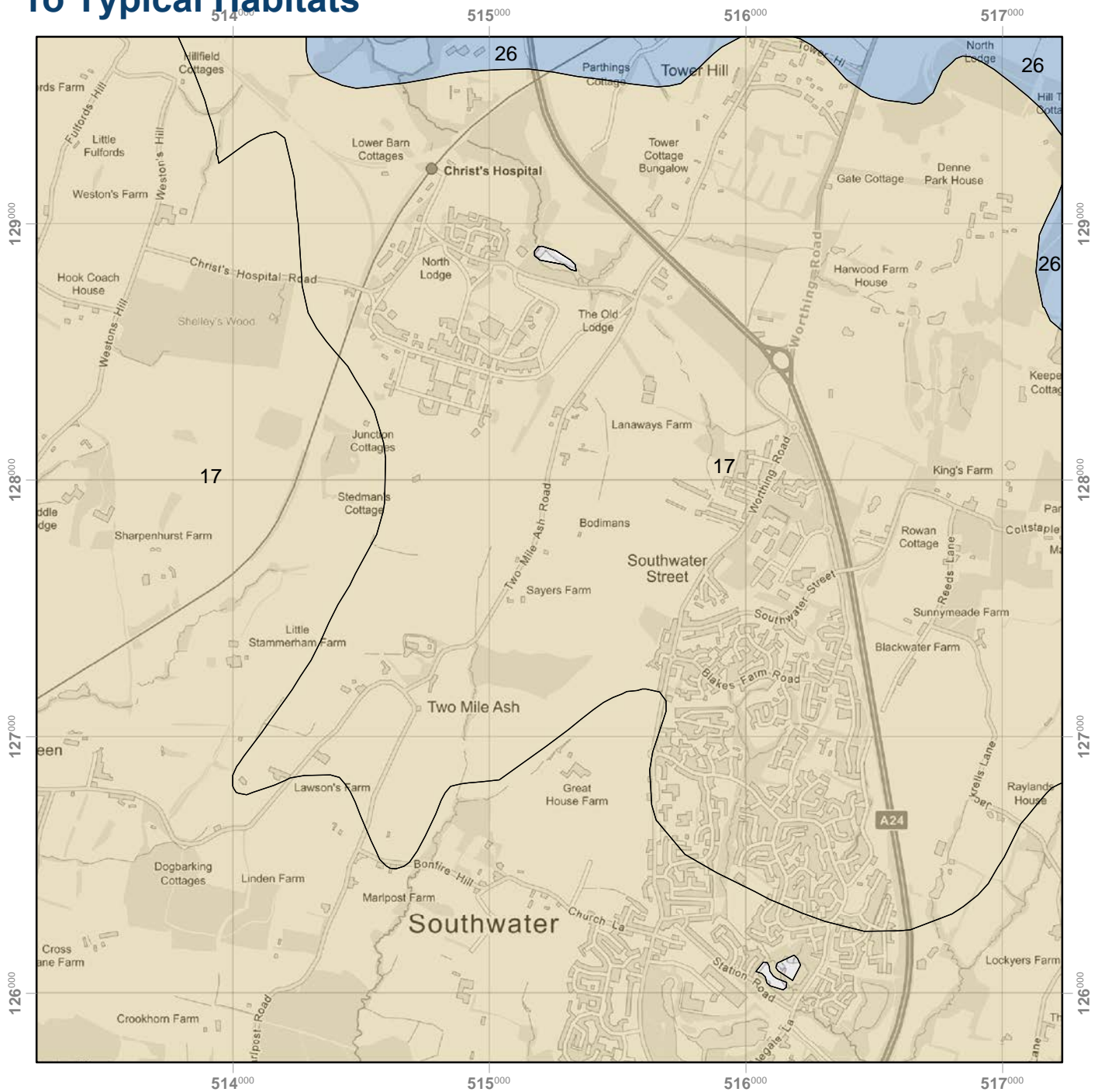
Simple Topsoil Texture Key

 2 Loamy

SIMPLE TOPSOIL TEXTURE DESCRIPTION

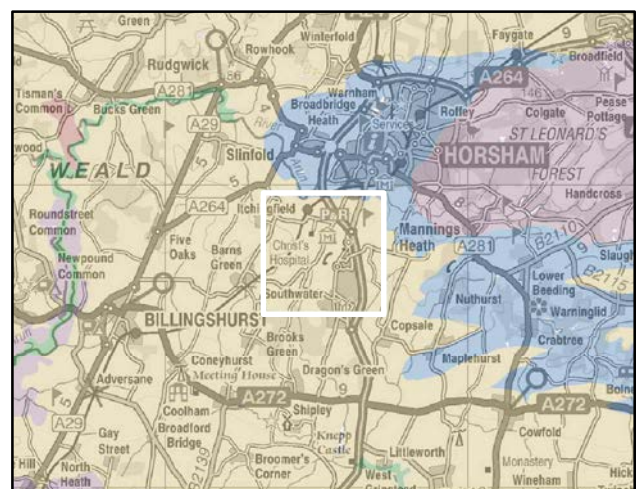
Soil texture is a term used in soil science to describe the physical composition of the soil in terms of the size of mineral particles in the soil. Specifically, we are concerned with the relative proportions of sand, silt and clay. Soil texture can vary between each soil layer or horizon as one moves down the profile. This map indicates the soil texture group of the upper 30 cm of the soil. `Light? soils have more sand grains and are described as sandy, while `heavy? soils have few sand grains but a lot of extremely small particles and are described as clayey. Loamy soils have a mix of sand, silt and clay-sized particles and are intermediate in character. Soils with a surface layer that is dominantly organic are described as Peaty. A good understanding of soil texture can enable better land management.

1o Typical Habitats





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Typical Habitats Key

 17 Seasonally wet pastures and woodlands




 26 Wide range of pasture and woodland types

TYPICAL HABITATS DESCRIPTION

There is a close relationship between vegetation and the underlying soil. Information about the types of broad habitat associated with each soil type is provided in this map. Soil fertility, pH, drainage and texture are important factors in determining the types of habitats which can be established. Elevation above sea level and sometimes even the aspect, the orientation of a hillslope, can affect the species present. This map does not take into account the recent land management, but provides the likely natural habitats assuming good management has been carried out.

2. Soil Association Descriptions

The following pages describe the following soil map units, (soil associations), in more detail.

-  CURTISDEN 572i
Silty soils over siltstone with slowly permeable subsoils and slight seasonal waterlogging.
-  WICKHAM 1 711e
Slowly permeable seasonally waterlogged fine silty over clayey, fine loamy over clayey and clayey soils.
-  WICKHAM 5 711i
Slowly permeable seasonally waterlogged fine loamy over clayey, fine silty over clayey and clayey soils locally reddish.

The soil associations are described in terms of their texture and drainage properties and potential risks may be identified. The distribution of the soils across England and Wales are provided. Further to this, properties of each association's component soil series are described in relation to each other. Lastly, schematic diagrams of each component series are provided for greater understanding and in-field verification purposes.

CURTISDEN (572i)

Silty soils over siltstone with slowly permeable subsoils and slight seasonal waterlogging.

a. General Description

Silty soils over siltstone with slowly permeable subsoils and slight seasonal waterlogging. Some similar well drained soils. Some well drained coarse loamy soils over sandstone.

The major landuse on this association is defined as Dairying on permanent and short term grassland; cereals, potatoes, field vegetables and fruit where drier; woodland on slopes.

b. Distribution (England and Wales)

The CURTISDEN association covers 1581 km² of England and Wales which accounts for 1.05% of the landmass. The distribution of this association is shown in figure 2. Note that the yellow shading represents a buffer to highlight the location of very small areas of the association.

c. Comprising Soil Series

Multiple soil series comprise a soil association. The soil series of the CURTISDEN association are outlined in Table 1 below. In some cases other minor soil series are present at a particular site, and these have been grouped together under the heading 'OTHER'. We have endeavoured to present the likelihood of a minor, unnamed soil series occurring in your site in Table 1.

Schematic diagrams of the vertical soil profile of the major constituent soil series are provided in Section D to allow easier identification of the particular soil series at your site.

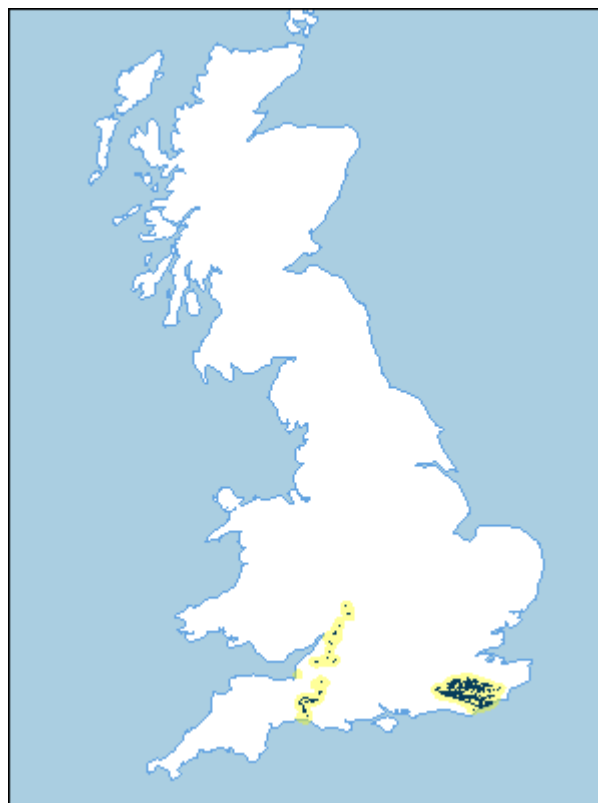


Figure 2: Association Distribution

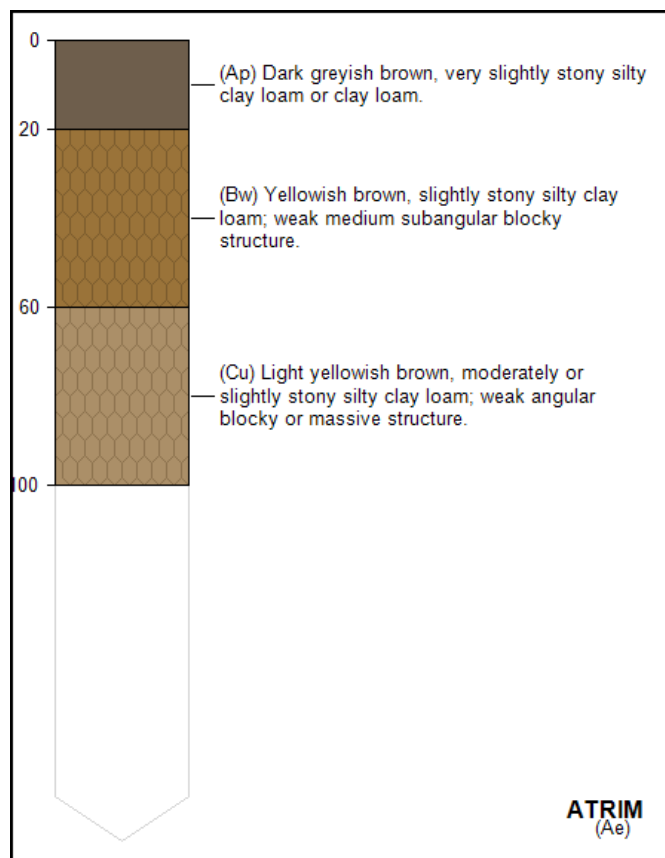
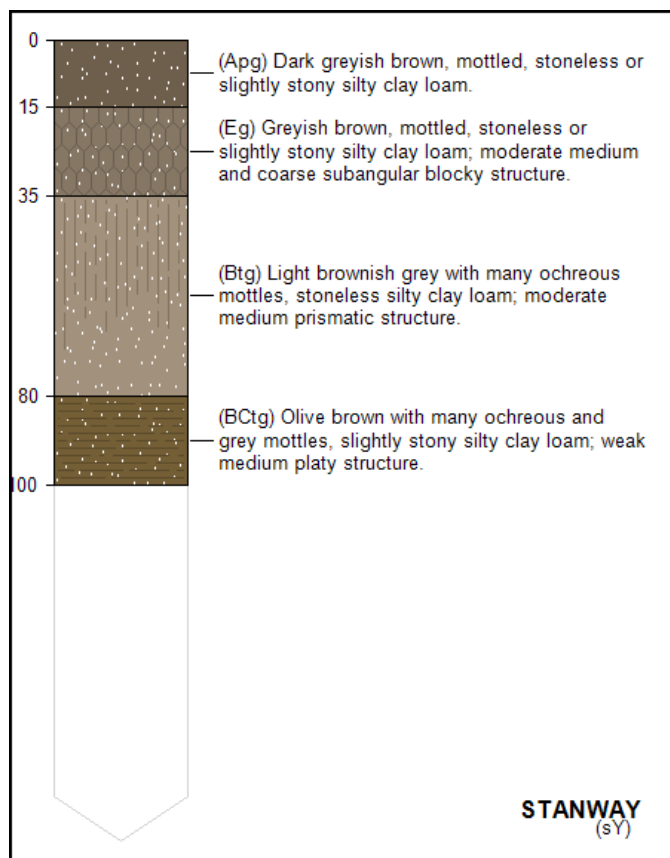
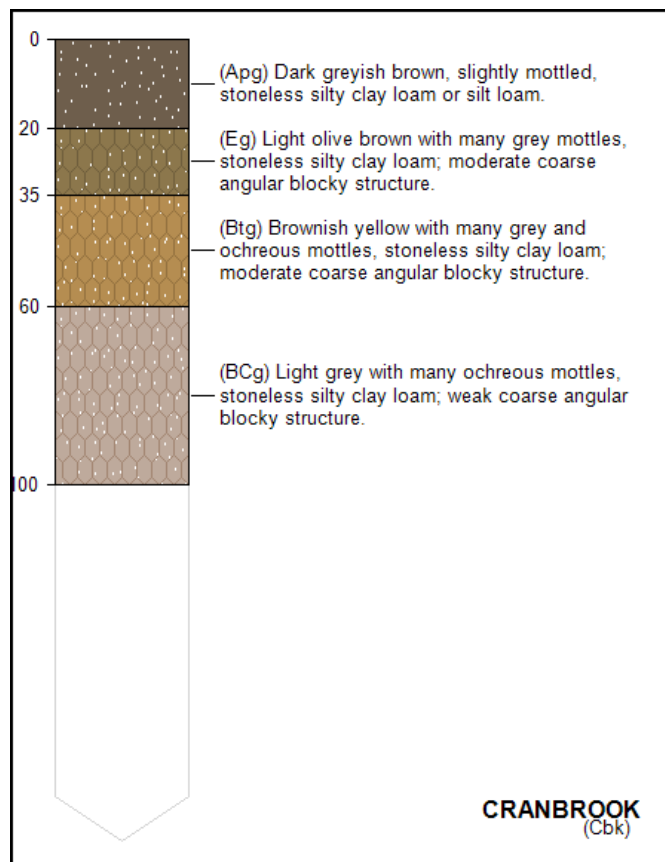
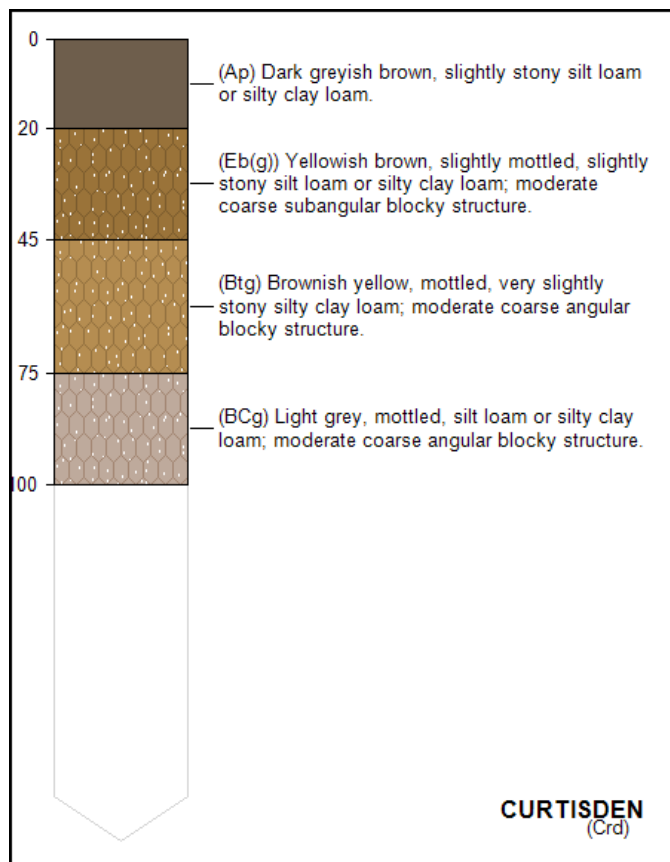
Table 1: The component soil series of the CURTISDEN soil association. Because absolute proportions of the comprising series in this association vary from location to location, the national proportions are provided.

Soil Series	Description	Area %
CURTISDEN (Crd)	silty material passing to loam with interbedded sandstone	40%
CRANBROOK (Cbk)	silty material passing to loam with interbedded sandstone	10%
STANWAY (sY)	medium silty material passing to soft shale or siltstone	10%
ATRIM (Ae)	medium silty material passing to loam or soft siltstone	7%
BEARSTED (BE)	light loamy material passing to sand or soft sandstone	7%
OTHER	other minor soils	26%

CURTISDEN (572i)

Silty soils over siltstone with slowly permeable subsoils and slight seasonal waterlogging.

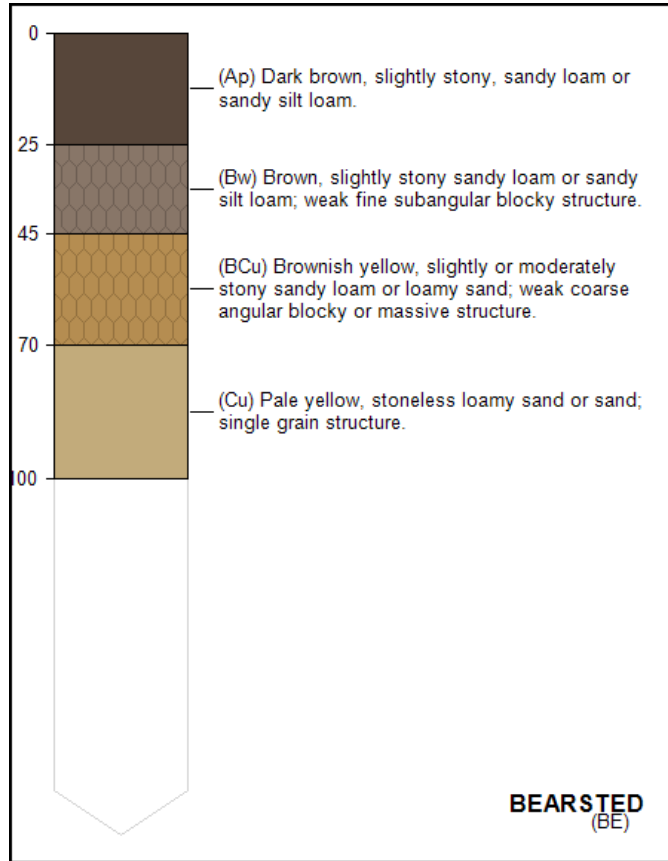
d. CURTISDEN Component Series Profiles



CURTISDEN (572i)

Silty soils over siltstone with slowly permeable subsoils and slight seasonal waterlogging.

d. CURTISDEN Component Series Profiles continued



WICKHAM 1 (711e)

Slowly permeable seasonally waterlogged fine silty over clayey, fine loamy over clayey and clayey soils.

a. General Description

Slowly permeable seasonally waterlogged fine silty over clayey, fine loamy over clayey and clayey soils.

The major landuse on this association is defined as Dairying on short term grassland winter cereals; much deciduous woodland in the High Weald of Kent and Sussex.

b. Distribution (England and Wales)

The WICKHAM 1 association covers 1593 km² of England and Wales which accounts for 1.05% of the landmass. The distribution of this association is shown in figure 3. Note that the yellow shading represents a buffer to highlight the location of very small areas of the association.

c. Comprising Soil Series

Multiple soil series comprise a soil association. The soil series of the WICKHAM 1 association are outlined in Table 1 below. In some cases other minor soil series are present at a particular site, and these have been grouped together under the heading 'OTHER'. We have endeavoured to present the likelihood of a minor, unnamed soil series occurring in your site in Table 2.

Schematic diagrams of the vertical soil profile of the major constituent soil series are provided in Section D to allow easier identification of the particular soil series at your site.

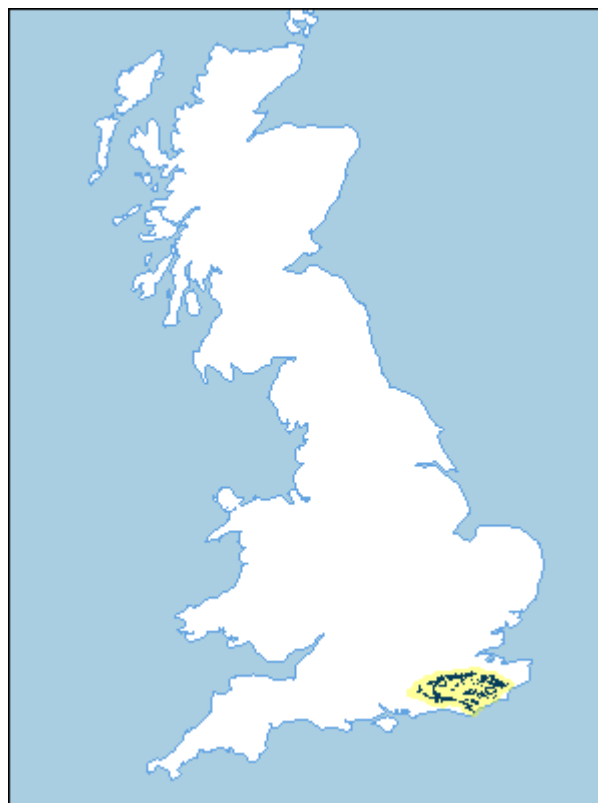


Figure 3: Association Distribution

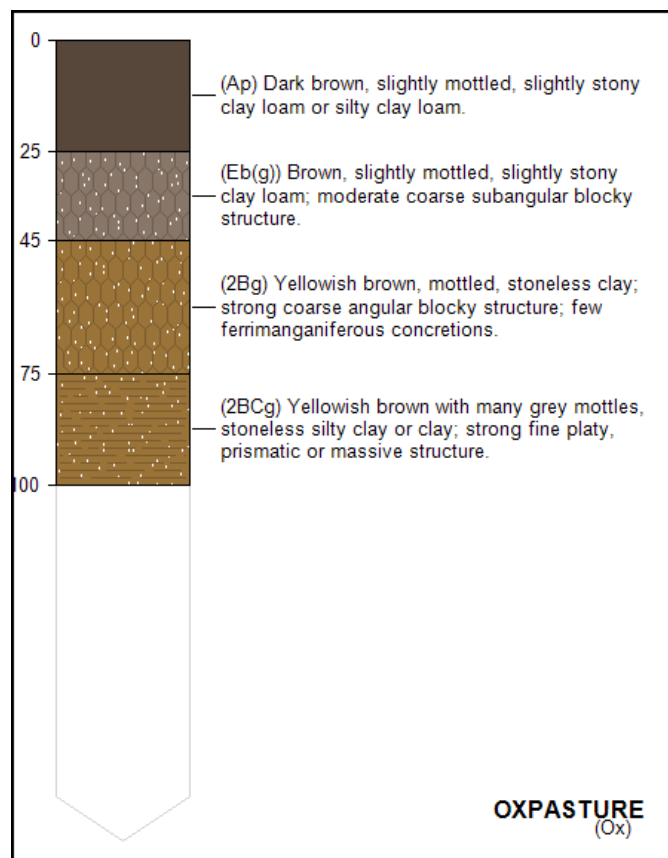
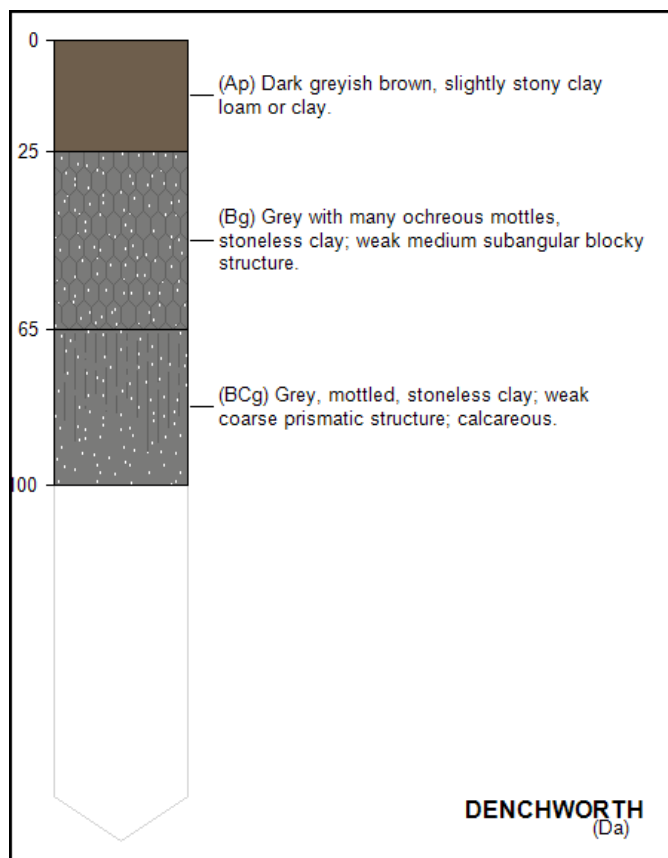
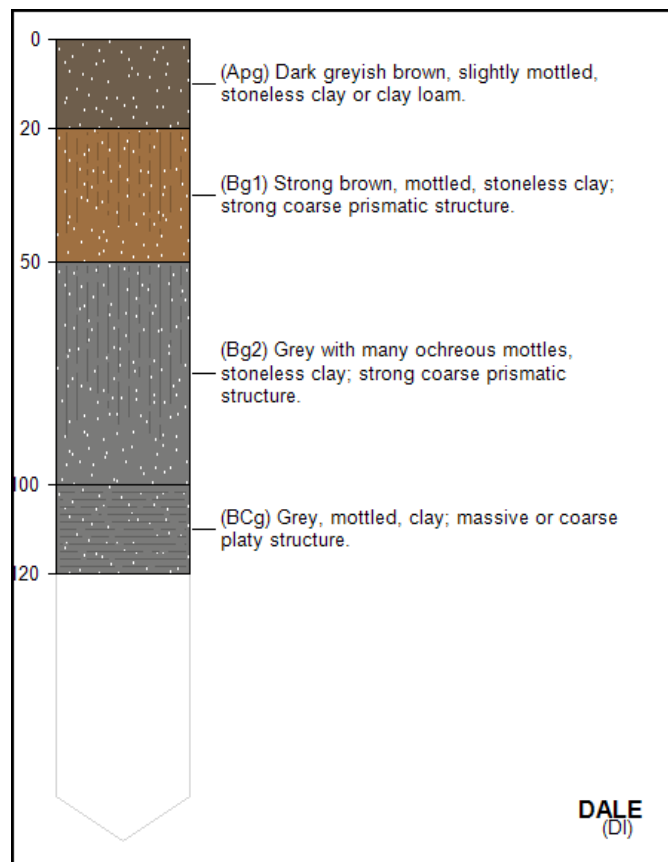
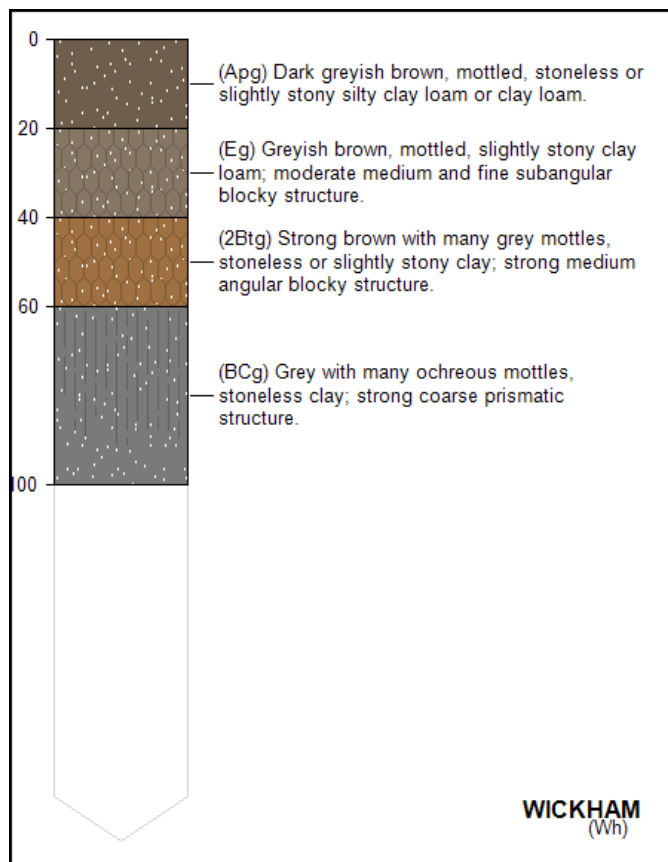
Table 2: The component soil series of the WICKHAM 1 soil association. Because absolute proportions of the comprising series in this association vary from location to location, the national proportions are provided.

Soil Series	Description	Area %
WICKHAM (Wh)	medium loamy or medium silty drift over clayey material passing to clay or soft mudstone	45%
DALE (DI)	clayey material passing to clay or soft mudstone	15%
DENCHWORTH (Da)	swelling clayey material passing to clay or soft mudstone	15%
XPASTURE (Ox)	medium loamy or medium silty drift over clayey material passing to clay or soft mudstone	10%
OTHER	other minor soils	15%

WICKHAM 1 (711e)

Slowly permeable seasonally waterlogged fine silty over clayey, fine loamy over clayey and clayey soils.

d. WICKHAM 1 Component Series Profiles



WICKHAM 5 (711i)

Slowly permeable seasonally waterlogged fine loamy over clayey, fine silty over clayey and clayey soils locally reddish.

a. General Description

Slowly permeable seasonally waterlogged fine loamy over clayey, fine silty over clayey and clayey soils locally reddish. Some coarse loamy soils with slowly permeable subsoils and slight seasonal waterlogging over sandstone.

The major landuse on this association is defined as Dairying on short term grassland. some cereals; some fruit in West Sussex; deciduous woodland.

b. Distribution (England and Wales)

The WICKHAM 5 association covers 234 km² of England and Wales which accounts for 0.16% of the landmass. The distribution of this association is shown in figure 4. Note that the yellow shading represents a buffer to highlight the location of very small areas of the association.

c. Comprising Soil Series

Multiple soil series comprise a soil association. The soil series of the WICKHAM 5 association are outlined in Table 1 below. In some cases other minor soil series are present at a particular site, and these have been grouped together under the heading 'OTHER'. We have endeavoured to present the likelihood of a minor, unnamed soil series occurring in your site in Table 3.

Schematic diagrams of the vertical soil profile of the major constituent soil series are provided in Section D to allow easier identification of the particular soil series at your site.

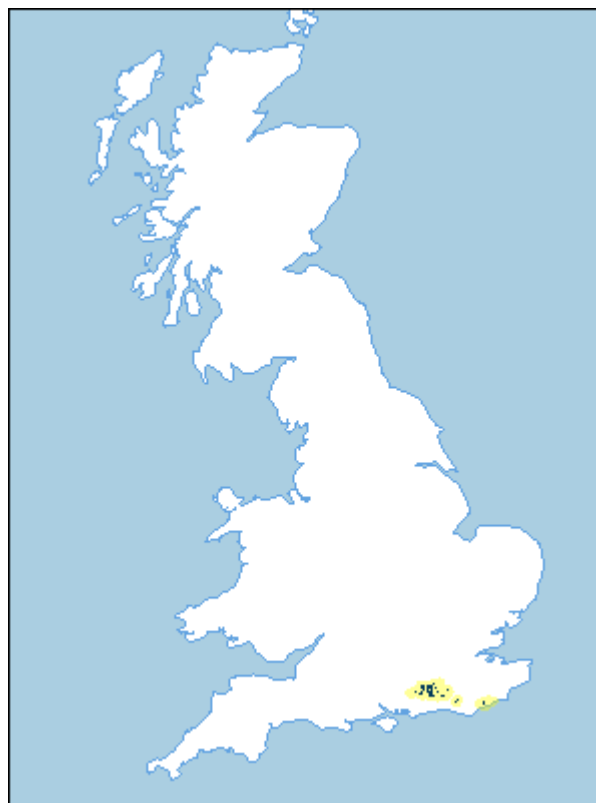


Figure 4: Association Distribution

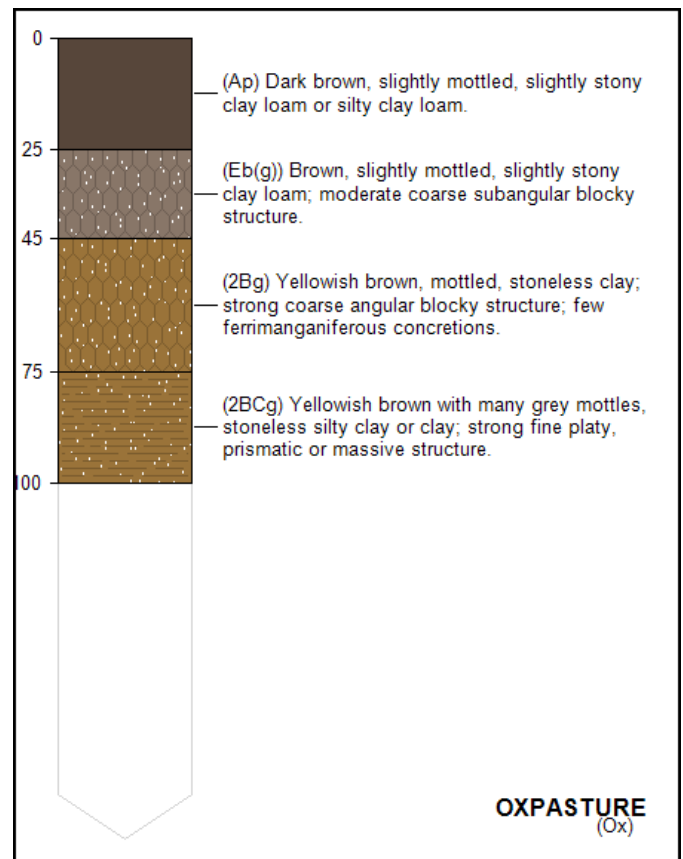
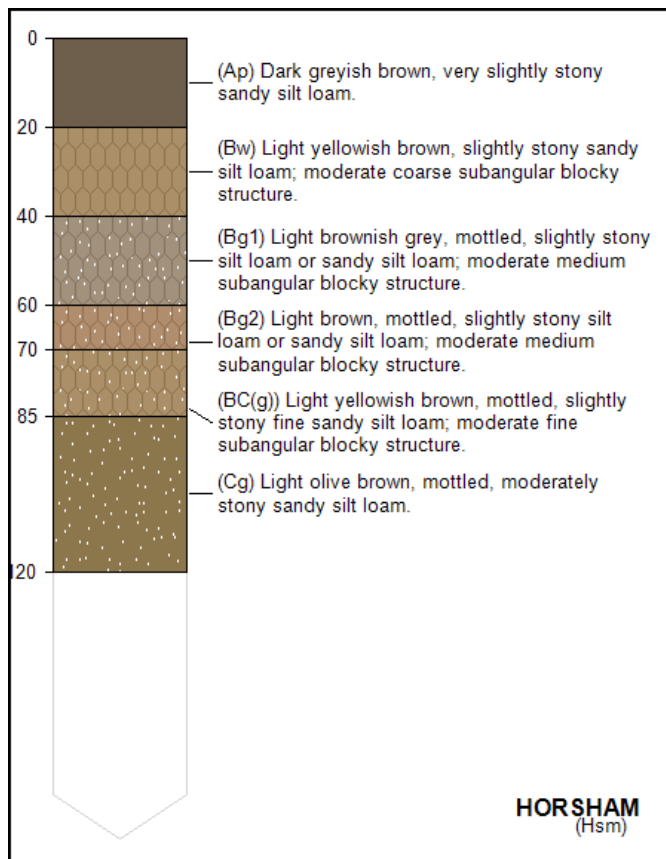
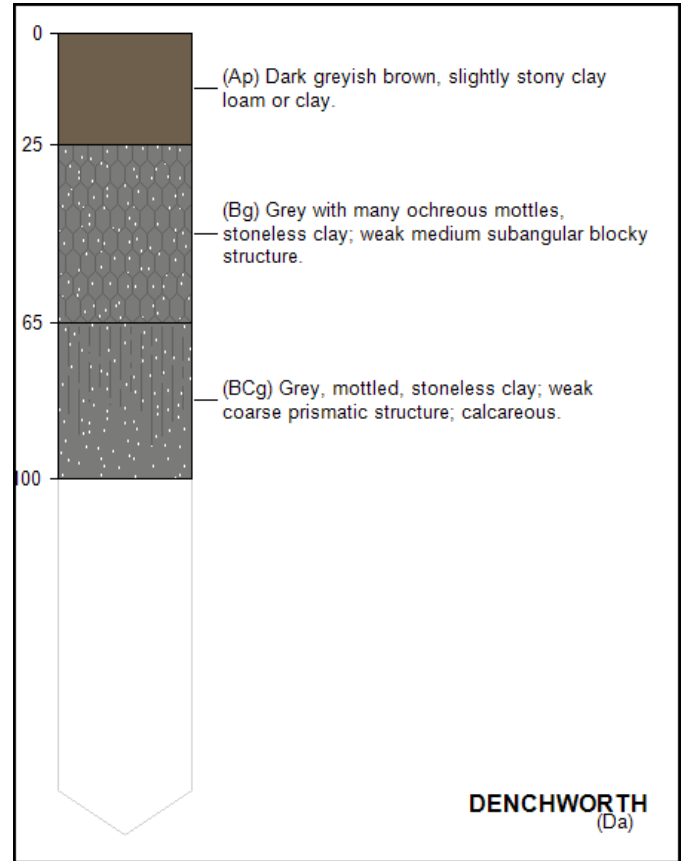
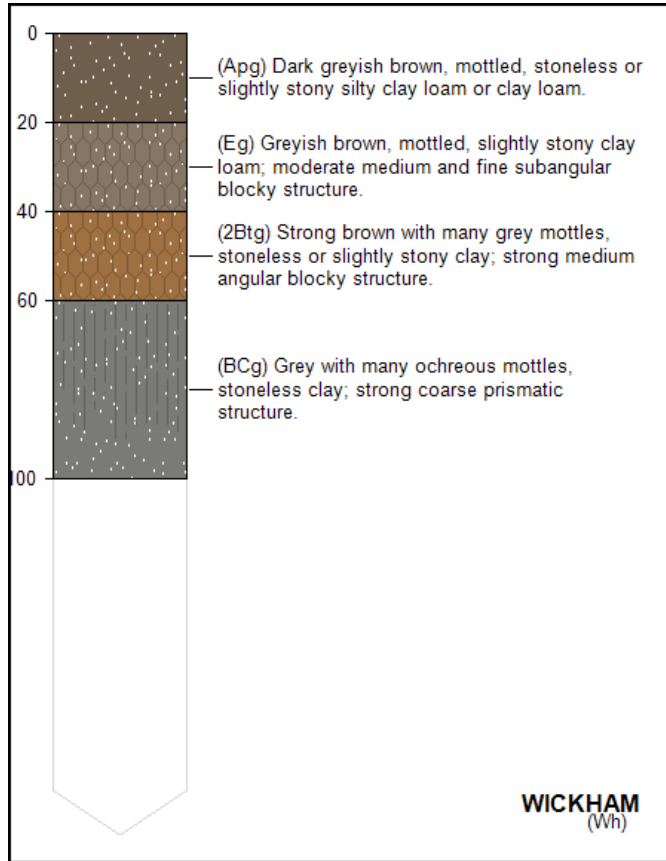
Table 3: The component soil series of the WICKHAM 5 soil association. Because absolute proportions of the comprising series in this association vary from location to location, the national proportions are provided.

Soil Series	Description	Area %
WICKHAM (Wh)	medium loamy or medium silty drift over clayey material passing to clay or soft mudstone	35%
DENCHWORTH (Da)	swelling clayey material passing to clay or soft mudstone	12%
HORSHAM (Hsm)	light loamy material passing to loam with interbedded sandstone	10%
XPASTURE (Ox)	medium loamy or medium silty drift over clayey material passing to clay or soft mudstone	10%
SPETCHLEY (Sy)	reddish clayey material passing to clay or soft mudstone	10%
OTHER	other minor soils	23%

WICKHAM 5 (711i)

Slowly permeable seasonally waterlogged fine loamy over clayey, fine silty over clayey and clayey soils locally reddish.

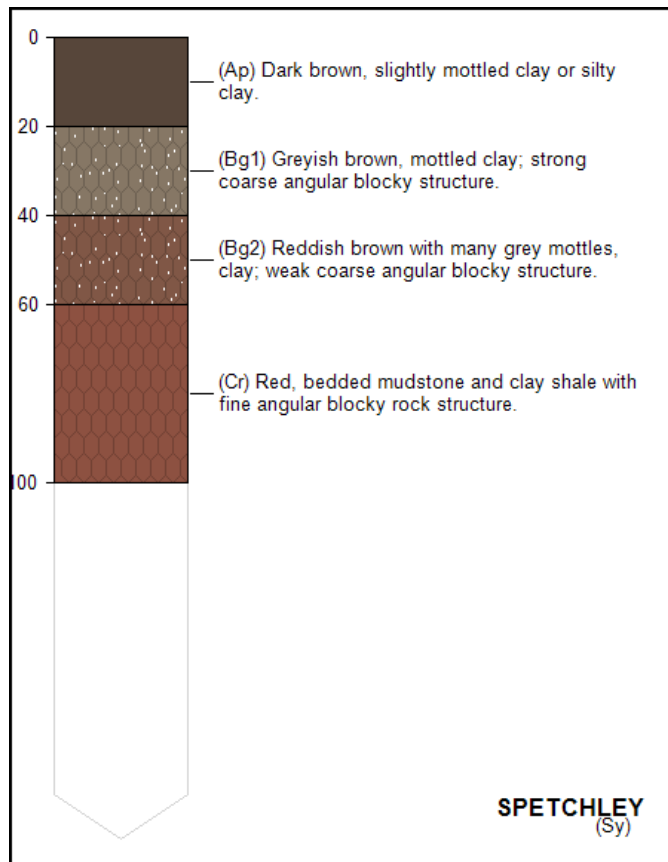
d. WICKHAM 5 Component Series Profiles



WICKHAM 5 (711i)

Slowly permeable seasonally waterlogged fine loamy over clayey, fine silty over clayey and clayey soils locally reddish.

d. WICKHAM 5 Component Series Profiles continued



3. Soil Series Properties

The following pages describe the following soil series in more detail:

ATRIM (Ae)	medium silty material passing to loam or soft siltstone
BEARSTED (BE)	light loamy material passing to sand or soft sandstone
CRANBROOK (Cbk)	silty material passing to loam with interbedded sandstone
CURTISDEN (Crd)	silty material passing to loam with interbedded sandstone
DALE (DI)	clayey material passing to clay or soft mudstone
DENCHWORTH (Da)	swelling clayey material passing to clay or soft mudstone
HORSHAM (Hsm)	light loamy material passing to loam with interbedded sandstone
OXPASTURE (Ox)	medium loamy or medium silty drift over clayey material passing to clay or soft mudstone
SPETCHLEY (Sy)	reddish clayey material passing to clay or soft mudstone
STANWAY (sY)	medium silty material passing to soft shale or siltstone
WICKHAM (Wh)	medium loamy or medium silty drift over clayey material passing to clay or soft mudstone

SOIL PROPERTY DEFINITIONS

The following terms are used in the report.

DROCK (Depth to rock (cm))

Depth (cm) to rock. 999 implies no rock

DGLEY (Depth to gleying (cm))

Depth to gleyed horizon (cm). 999 implies NO gleyed horizon present.

DIMP_DP (Depth to slowly permeable layer (downward percolation) (cm))

Depth (cm) to slowly permeable layer, i.e. in which effectively there is no downward percolation of water - 999 implies NO slowly permeable layer

DIMP_UD (Depth to slowly permeable layer (upward diffusion) (cm))

Depth (cm) to slowly permeable layer - upward diffusion, i.e. in which effectively there is no upward movement of water - 999 implies NO slowly permeable layer

IAC_DP (Integrated air capacity (IAC) (mm))

Integrated air capacity (downward percolation), a measurement of the volume of air in moist soils (0.05 bar suction) integrated from the surface to either an impermeable horizon, bedrock or 1m whichever is the shallowest, used for estimating the water storage potential of a soil

SPR (Standard percentage runoff (SPR) (%))

Standard Percentage Run-off. Dimensionless variable (range 0 to 100 %) that represents the percentage of rainfall that causes the short-term increase in flow at the catchment outlet seen after the storm event

BFI (Base flow index (BFI) (0 to 1))

Baseflow index. Dimensionless variable (range 0 to 1) that expresses the fraction of the average flow volume (in a river), represented by the contribution from groundwater storage

AWC (Available water (AWC) (mm))

Available water to 1m for a specific soil type, water available between suctions 5 and 1500kPa

AP_GRASS (Available water for grass (mm))

Available water (AP) in the profile for grass (mm); water available between suctions 5 and 1500 kPa

AP_CEREAL (Available water for cereal (mm))

Available water (AP) in the profile for cereals (mm); water available between suctions 5 and 1500 kPa

AP_SB (Available water for sugar (mm))

Available water (AP) in the profile for sugar beet (mm); water available between suctions 5 and 1500 kPa

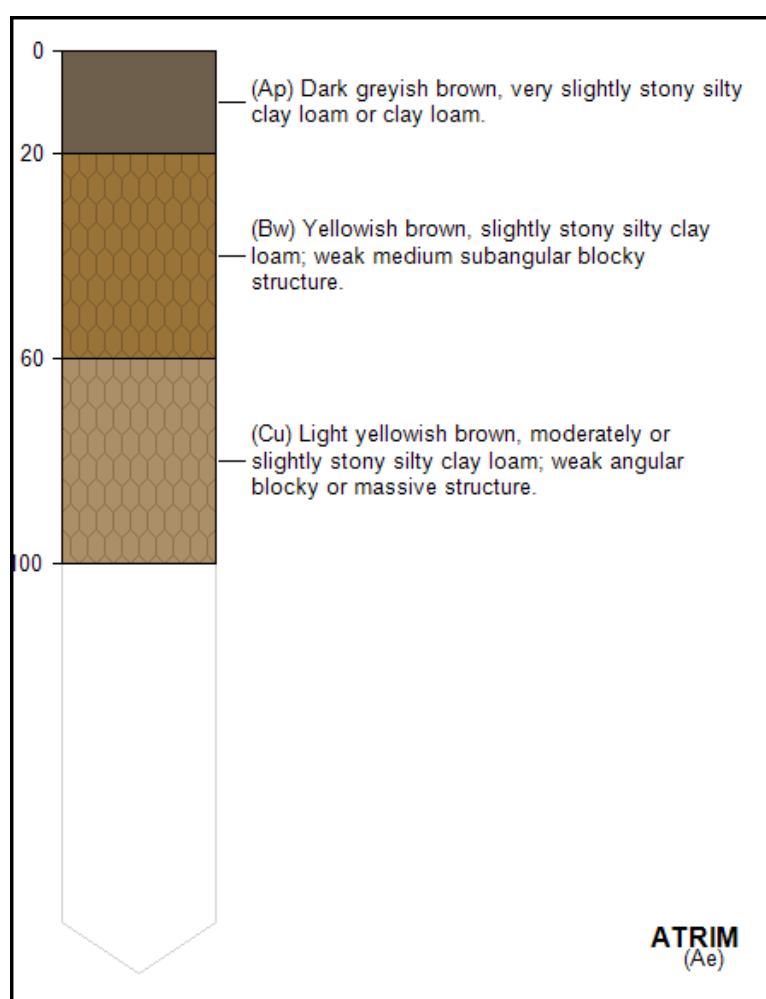
AP_POT (Available water for potatoes (mm))

Available water (AP) in the profile for potatoes (mm); water available between suctions 5 and 1500 kPa

5.41 ATRIM (Ae) (28)

Major soil group:	05 brown soils	With dominantly brownish or reddish subsoils and no prominent mottling or greyish colours (gleying) above 40 cm depth. They are developed mainly on permeable materials at elevations below about 300 m.O.D. Most are in agricultural use.
Soil group:	4 brown earths	Non-alluvial, with non-calcareous loamy or clayey subsoils without significant clay enrichment.
Soil Subgroup:	1 typical brown earths	(unmottled)
Soil Series:	Atrim series	medium silty material passing to loam or soft siltstone

Property	Value
Depth to rock (cm)	90
Depth to gleying (cm)	n/a*
Depth to slowly permeable layer (downward percolation) (cm)	n/a*
Depth to slowly permeable layer (upward diffusion) (cm)	n/a*
Integrated air capacity (IAC) (mm)	123
Standard percentage runoff (SPR) (%)	22
Base flow index (BFI) (0 to 1)	0.78
Available water (AWC) (mm)	180
Available water for grass (mm)	165
Available water for cereal (mm)	175
Available water for sugar (mm)	210
Available water for potatoes (mm)	135

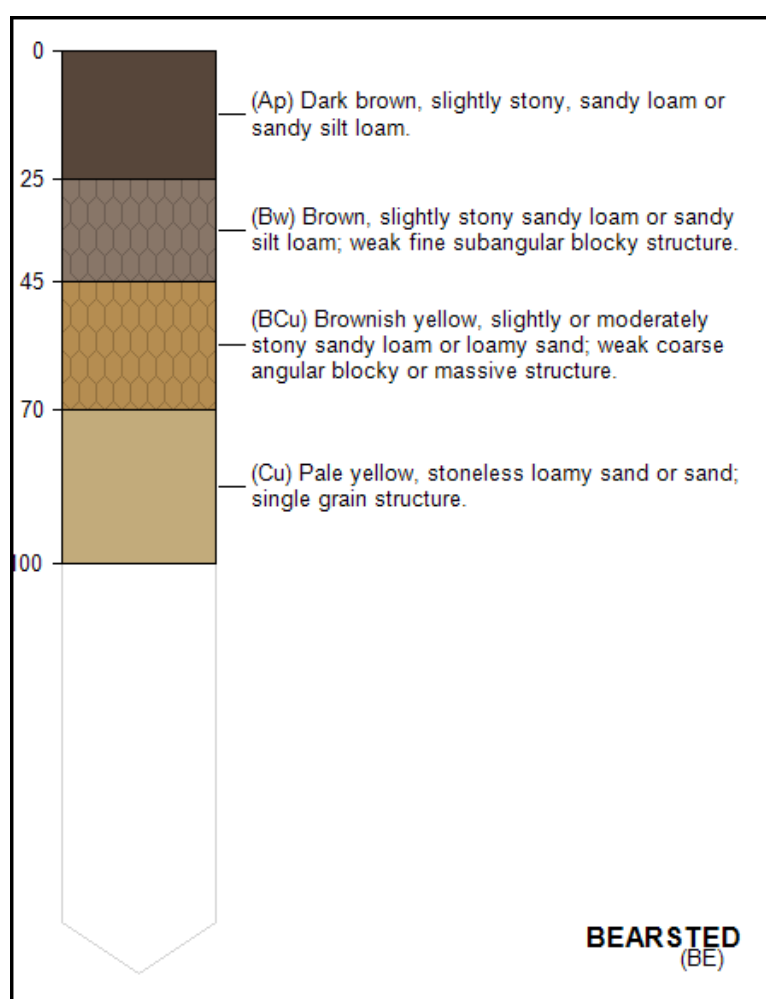


* not present within 150cm

5.41 BEARSTED (BE) (160)

Major soil group:	05 brown soils	With dominantly brownish or reddish subsoils and no prominent mottling or greyish colours (gleying) above 40 cm depth. They are developed mainly on permeable materials at elevations below about 300 m.O.D. Most are in agricultural use.
Soil group:	4 brown earths	Non-alluvial, with non-calcareous loamy or clayey subsoils without significant clay enrichment.
Soil Subgroup:	1 typical brown earths	(unmottled)
Soil Series:	Bearsted series	light loamy material passing to sand or soft sandstone

Property	Value
Depth to rock (cm)	90
Depth to gleying (cm)	n/a*
Depth to slowly permeable layer (downward percolation) (cm)	n/a*
Depth to slowly permeable layer (upward diffusion) (cm)	n/a*
Integrated air capacity (IAC) (mm)	155
Standard percentage runoff (SPR) (%)	12
Base flow index (BFI) (0 to 1)	0.88
Available water (AWC) (mm)	190
Available water for grass (mm)	170
Available water for cereal (mm)	170
Available water for sugar (mm)	205
Available water for potatoes (mm)	135

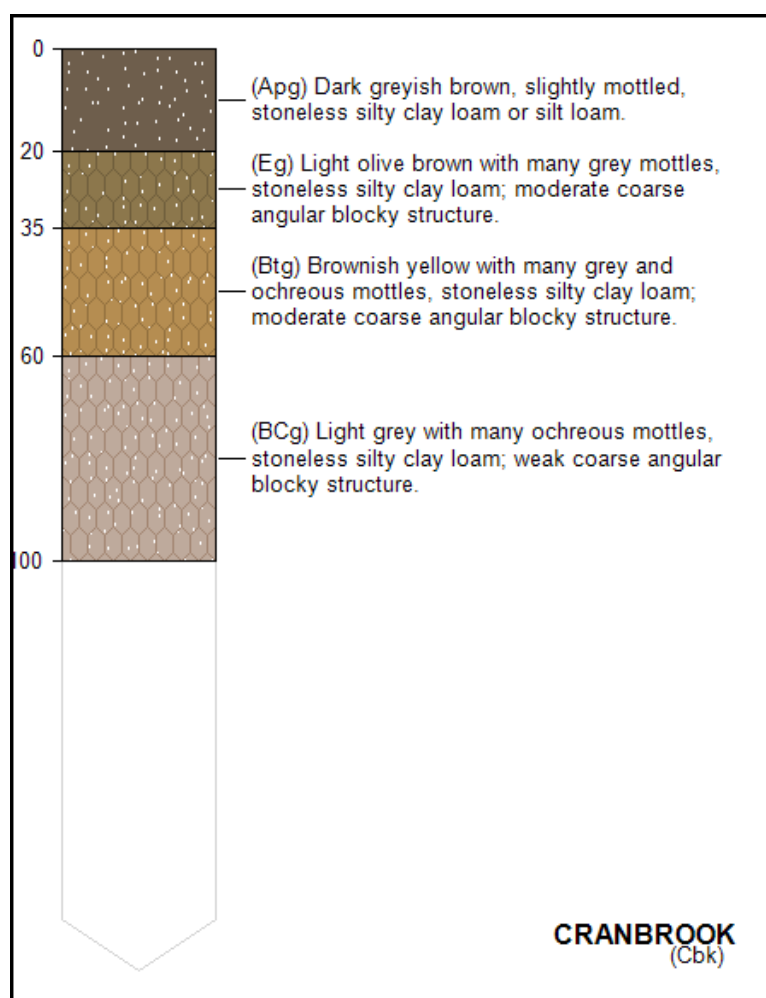


* not present within 150cm

7.11 CRANBROOK (Cbk) (275)

Major soil group:	07 surface-water gley soils	Seasonally waterlogged slowly permeable soils, formed above 3 m O.D. and prominently mottled above 40 cm depth. They have no relatively permeable material starting within and extending below 1 m of the surface.
Soil group:	1 stagnogley soils	With a distinct topsoil. They are found mainly in lowland Britain.
Soil Subgroup:	1 typical stagnogley soils	(with ordinary clay enriched subsoil)
Soil Series:	Cranbrook series	silty material passing to loam with interbedded sandstone

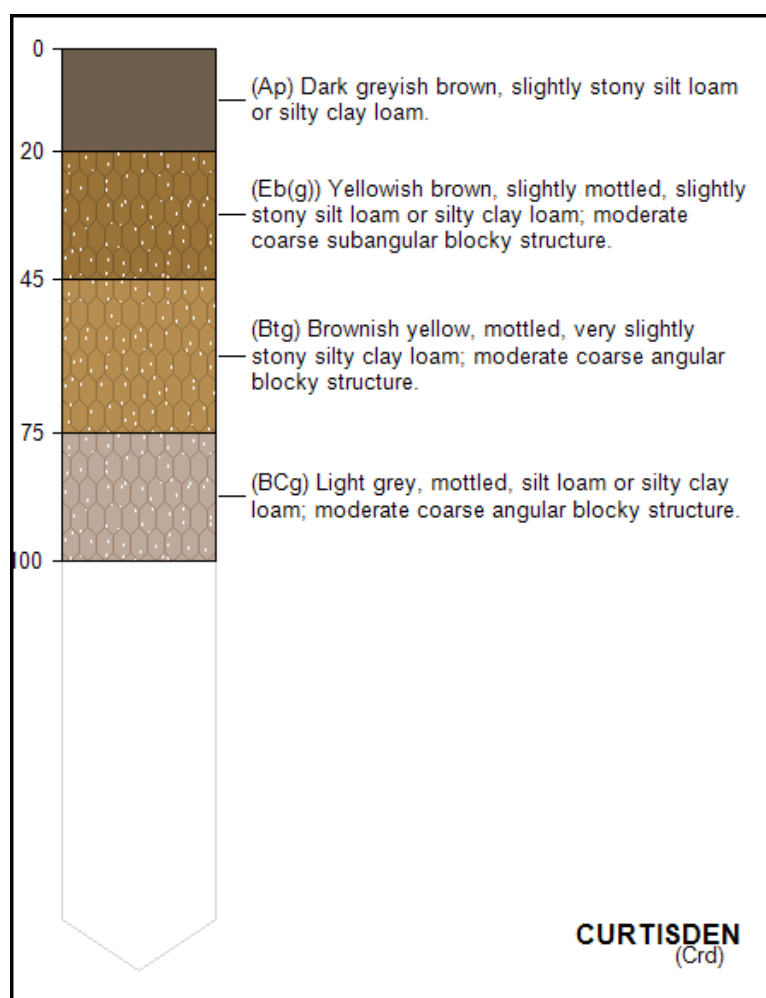
Property	Value
Depth to rock (cm)	100
Depth to gleying (cm)	30
Depth to slowly permeable layer (downward percolation) (cm)	33
Depth to slowly permeable layer (upward diffusion) (cm)	33
Integrated air capacity (IAC) (mm)	96
Standard percentage runoff (SPR) (%)	40
Base flow index (BFI) (0 to 1)	0.31
Available water (AWC) (mm)	160
Available water for grass (mm)	145
Available water for cereal (mm)	155
Available water for sugar (mm)	200
Available water for potatoes (mm)	110



5.72 CURTISDEN (Crd) (276)

Major soil group:	05 brown soils	With dominantly brownish or reddish subsoils and no prominent mottling or greyish colours (gleying) above 40 cm depth. They are developed mainly on permeable materials at elevations below about 300 m.O.D. Most are in agricultural use.
Soil group:	7 argillic brown earths	Loamy or clayey with an ordinary clay-enriched subsoil.
Soil Subgroup:	2 stagnogleyic argillic brown earths	(faintly mottled with slowly permeable subsoil)
Soil Series:	Curtisden series	silty material passing to loam with interbedded sandstone

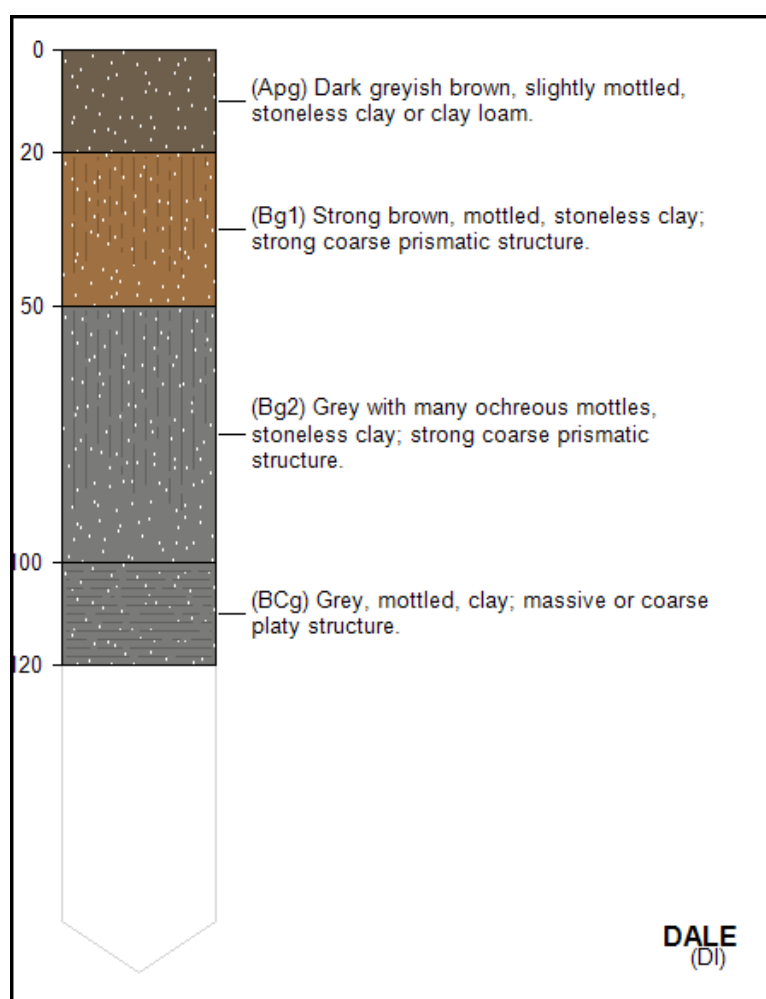
Property	Value
Depth to rock (cm)	70
Depth to gleying (cm)	50
Depth to slowly permeable layer (downward percolation) (cm)	36
Depth to slowly permeable layer (upward diffusion) (cm)	36
Integrated air capacity (IAC) (mm)	81
Standard percentage runoff (SPR) (%)	47
Base flow index (BFI) (0 to 1)	0.52
Available water (AWC) (mm)	175
Available water for grass (mm)	160
Available water for cereal (mm)	155
Available water for sugar (mm)	180
Available water for potatoes (mm)	135



7.12 DALE (DI) (300)

Major soil group:	07 surface-water gley soils	Seasonally waterlogged slowly permeable soils, formed above 3 m O.D. and prominently mottled above 40 cm depth. They have no relatively permeable material starting within and extending below 1 m of the surface.
Soil group:	1 stagnogley soils	With a distinct topsoil. They are found mainly in lowland Britain.
Soil Subgroup:	2 pelo-stagnogley soils	(clayey)
Soil Series:	Dale series	clayey material passing to clay or soft mudstone

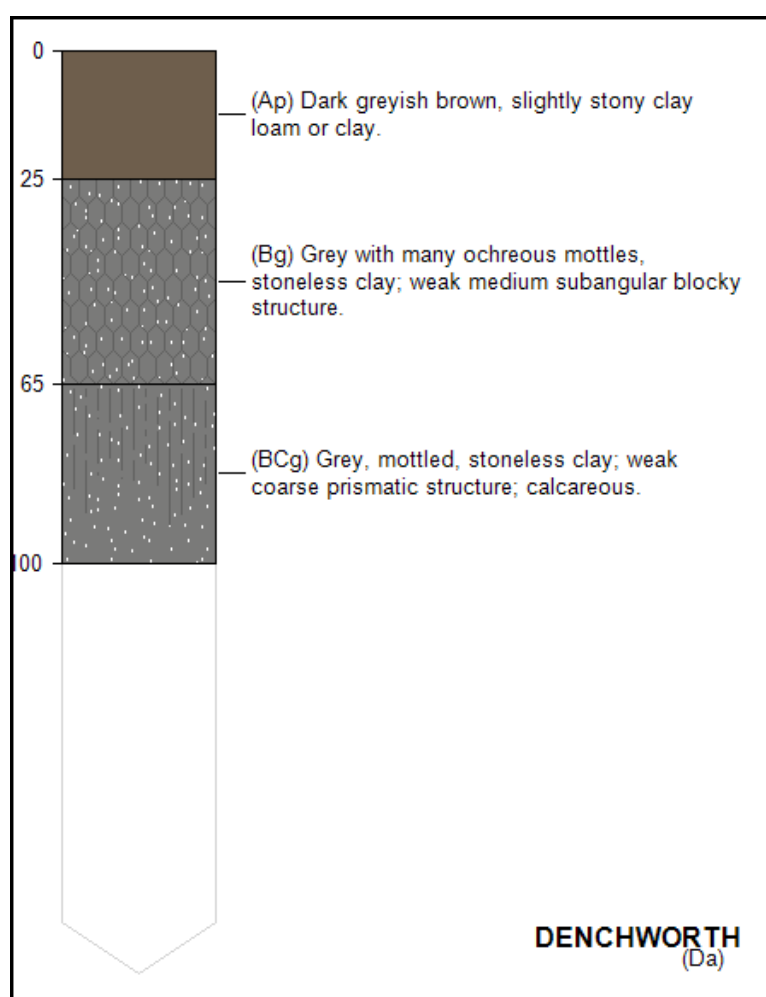
Property	Value
Depth to rock (cm)	100
Depth to gleying (cm)	25
Depth to slowly permeable layer (downward percolation) (cm)	26
Depth to slowly permeable layer (upward diffusion) (cm)	26
Integrated air capacity (IAC) (mm)	50
Standard percentage runoff (SPR) (%)	40
Base flow index (BFI) (0 to 1)	0.31
Available water (AWC) (mm)	155
Available water for grass (mm)	130
Available water for cereal (mm)	130
Available water for sugar (mm)	165
Available water for potatoes (mm)	115



7.12 DENCHWORTH (Da) (306)

Major soil group:	07 surface-water gley soils	Seasonally waterlogged slowly permeable soils, formed above 3 m O.D. and prominently mottled above 40 cm depth. They have no relatively permeable material starting within and extending below 1 m of the surface.
Soil group:	1 stagnogley soils	With a distinct topsoil. They are found mainly in lowland Britain.
Soil Subgroup:	2 pelo-stagnogley soils	(clayey)
Soil Series:	Denchworth series	swelling clayey material passing to clay or soft mudstone

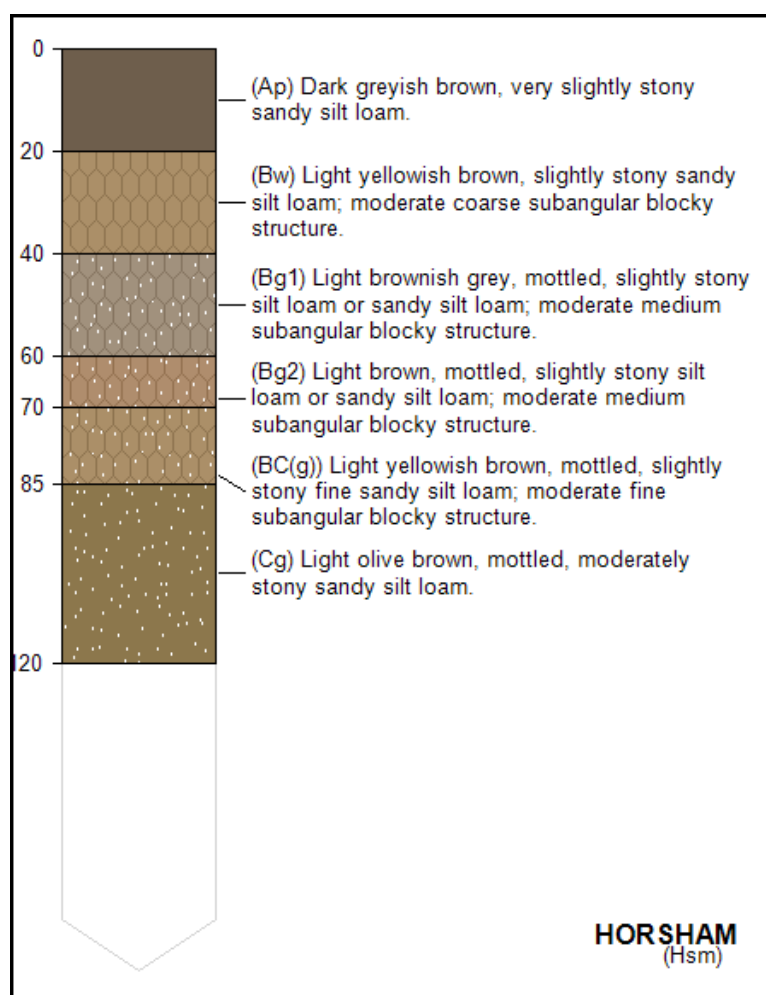
Property	Value
Depth to rock (cm)	100
Depth to gleying (cm)	25
Depth to slowly permeable layer (downward percolation) (cm)	27
Depth to slowly permeable layer (upward diffusion) (cm)	27
Integrated air capacity (IAC) (mm)	51
Standard percentage runoff (SPR) (%)	50
Base flow index (BFI) (0 to 1)	0.17
Available water (AWC) (mm)	160
Available water for grass (mm)	140
Available water for cereal (mm)	135
Available water for sugar (mm)	170
Available water for potatoes (mm)	115



5.42 HORSHAM (Hsm) (782)

Major soil group:	05 brown soils	With dominantly brownish or reddish subsoils and no prominent mottling or greyish colours (gleying) above 40 cm depth. They are developed mainly on permeable materials at elevations below about 300 m.O.D. Most are in agricultural use.
Soil group:	4 brown earths	Non-alluvial, with non-calcareous loamy or clayey subsoils without significant clay enrichment.
Soil Subgroup:	2 stagnogleyic brown earths	(faintly mottled with slowly permeable subsoil)
Soil Series:	Horsham series	light loamy material passing to loam with interbedded sandstone

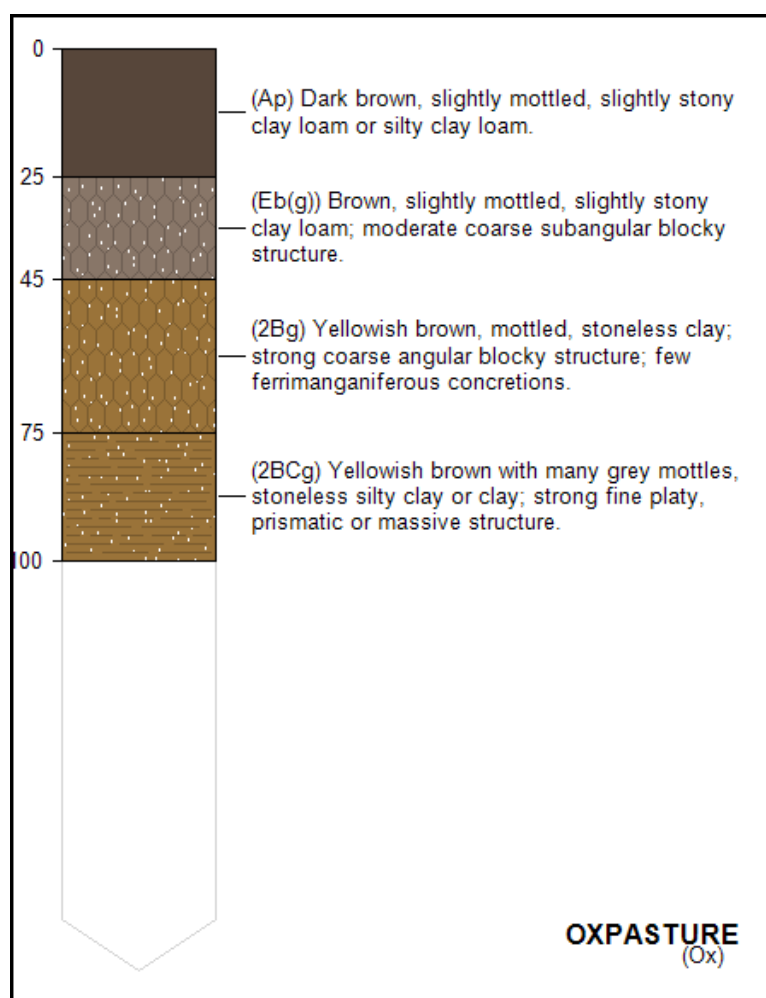
Property	Value
Depth to rock (cm)	90
Depth to gleying (cm)	50
Depth to slowly permeable layer (downward percolation) (cm)	70
Depth to slowly permeable layer (upward diffusion) (cm)	70
Integrated air capacity (IAC) (mm)	82
Standard percentage runoff (SPR) (%)	47
Base flow index (BFI) (0 to 1)	0.52
Available water (AWC) (mm)	145
Available water for grass (mm)	140
Available water for cereal (mm)	165
Available water for sugar (mm)	200
Available water for potatoes (mm)	100



5.72 OXPASTURE (Ox) (1412)

Major soil group:	05 brown soils	With dominantly brownish or reddish subsoils and no prominent mottling or greyish colours (gleying) above 40 cm depth. They are developed mainly on permeable materials at elevations below about 300 m.O.D. Most are in agricultural use.
Soil group:	7 argillic brown earths	Loamy or clayey with an ordinary clay-enriched subsoil.
Soil Subgroup:	2 stagnogleyic argillic brown earths	(faintly mottled with slowly permeable subsoil)
Soil Series:	Oxpasture series	medium loamy or medium silty drift over clayey material passing to clay or soft mudstone

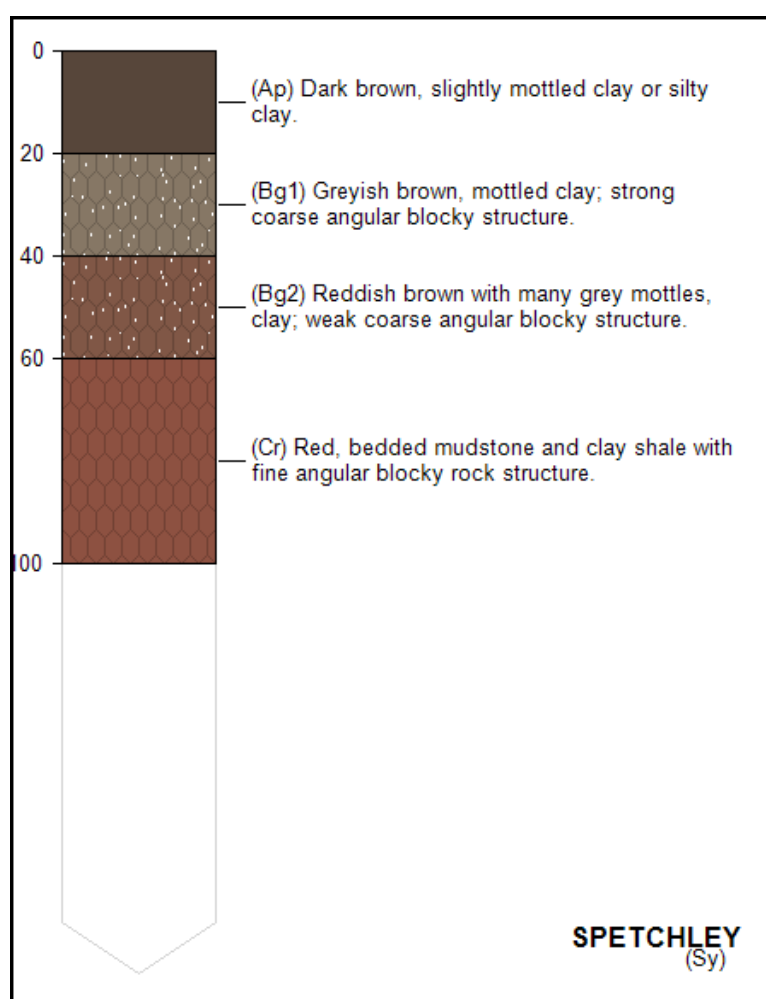
Property	Value
Depth to rock (cm)	100
Depth to gleying (cm)	60
Depth to slowly permeable layer (downward percolation) (cm)	43
Depth to slowly permeable layer (upward diffusion) (cm)	43
Integrated air capacity (IAC) (mm)	80
Standard percentage runoff (SPR) (%)	47
Base flow index (BFI) (0 to 1)	0.52
Available water (AWC) (mm)	145
Available water for grass (mm)	130
Available water for cereal (mm)	130
Available water for sugar (mm)	165
Available water for potatoes (mm)	105



7.12 SPETCHLEY (Sy) (1839)

Major soil group:	07 surface-water gley soils	Seasonally waterlogged slowly permeable soils, formed above 3 m O.D. and prominently mottled above 40 cm depth. They have no relatively permeable material starting within and extending below 1 m of the surface.
Soil group:	1 stagnogley soils	With a distinct topsoil. They are found mainly in lowland Britain.
Soil Subgroup:	2 pelo-stagnogley soils	(clayey)
Soil Series:	Spetchley series	reddish clayey material passing to clay or soft mudstone

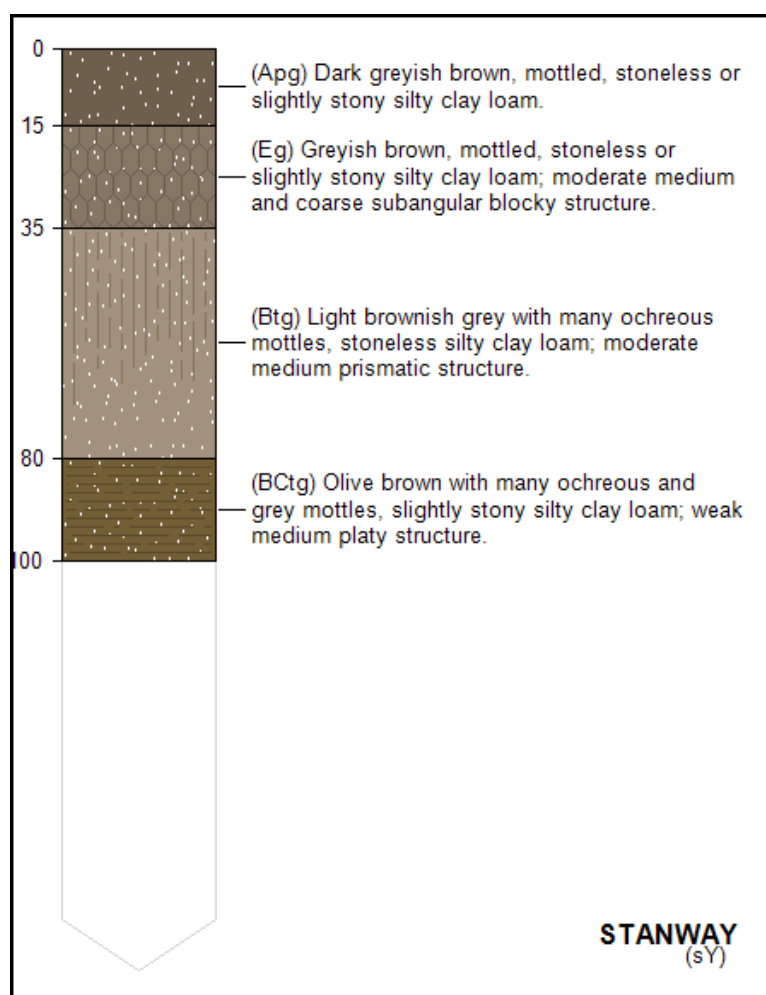
Property	Value
Depth to rock (cm)	100
Depth to gleying (cm)	25
Depth to slowly permeable layer (downward percolation) (cm)	24
Depth to slowly permeable layer (upward diffusion) (cm)	24
Integrated air capacity (IAC) (mm)	72
Standard percentage runoff (SPR) (%)	40
Base flow index (BFI) (0 to 1)	0.31
Available water (AWC) (mm)	145
Available water for grass (mm)	125
Available water for cereal (mm)	120
Available water for sugar (mm)	155
Available water for potatoes (mm)	105



7.11 STANWAY (sY) (1843)

Major soil group:	07 surface-water gley soils	Seasonally waterlogged slowly permeable soils, formed above 3 m O.D. and prominently mottled above 40 cm depth. They have no relatively permeable material starting within and extending below 1 m of the surface.
Soil group:	1 stagnogley soils	With a distinct topsoil. They are found mainly in lowland Britain.
Soil Subgroup:	1 typical stagnogley soils	(with ordinary clay enriched subsoil)
Soil Series:	Stanway series	medium silty material passing to soft shale or siltstone

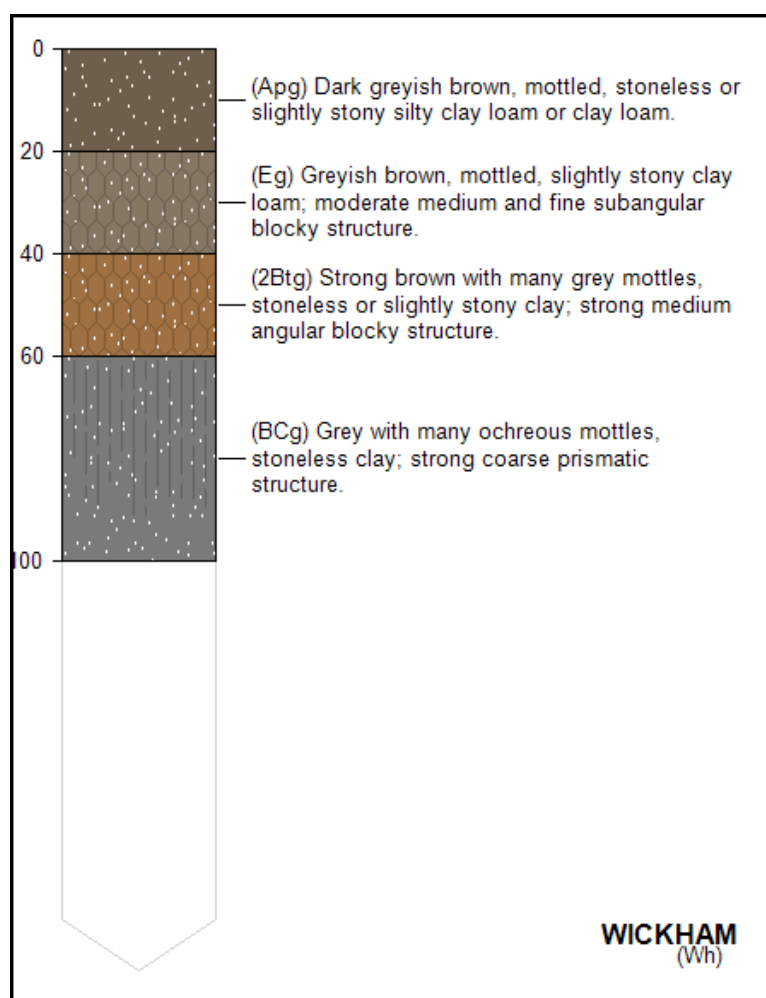
Property	Value
Depth to rock (cm)	100
Depth to gleying (cm)	30
Depth to slowly permeable layer (downward percolation) (cm)	40
Depth to slowly permeable layer (upward diffusion) (cm)	40
Integrated air capacity (IAC) (mm)	71
Standard percentage runoff (SPR) (%)	40
Base flow index (BFI) (0 to 1)	0.31
Available water (AWC) (mm)	150
Available water for grass (mm)	135
Available water for cereal (mm)	135
Available water for sugar (mm)	165
Available water for potatoes (mm)	115



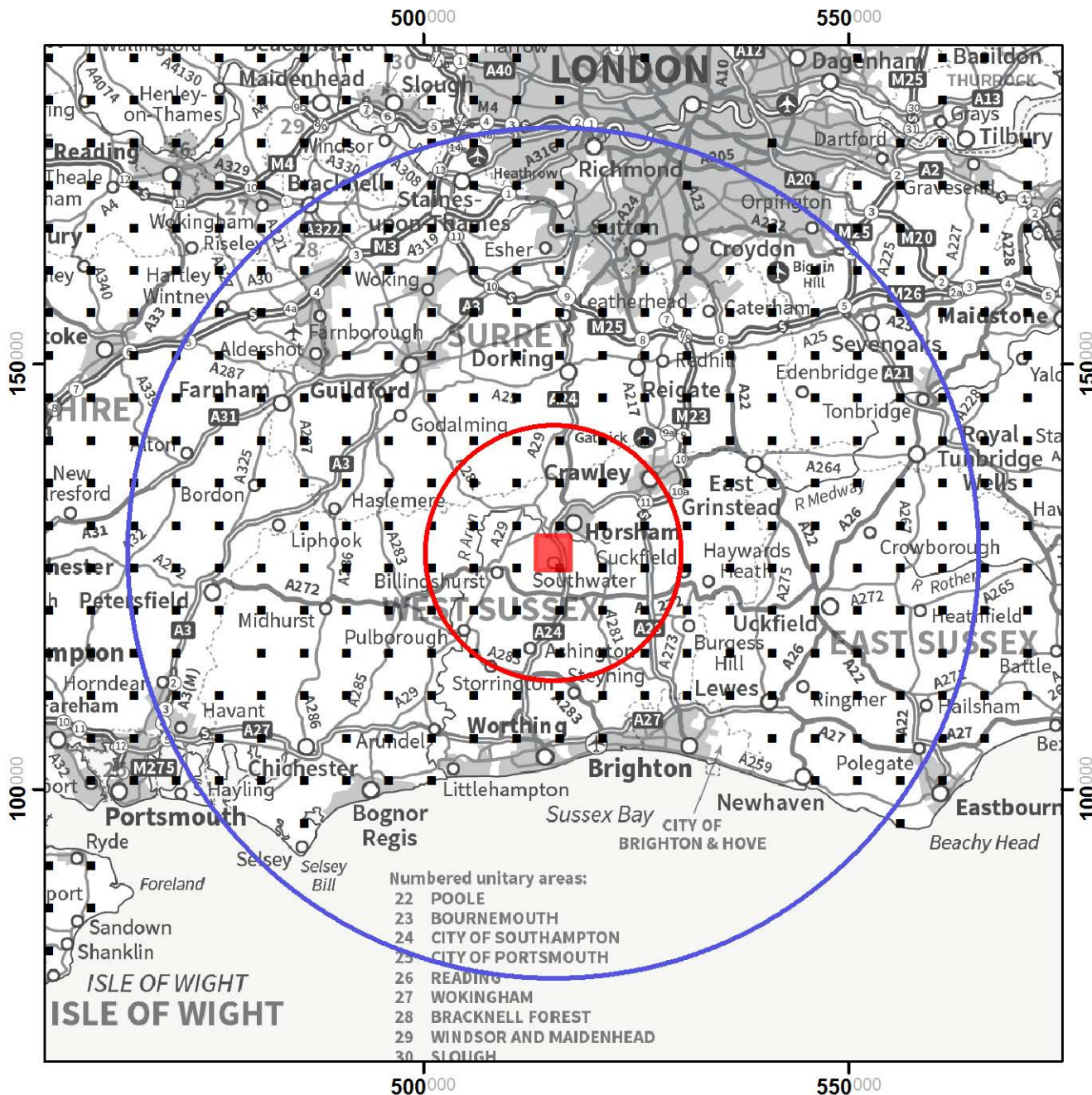
7.11 WICKHAM (Wh) (2227)

Major soil group:	07 surface-water gley soils	Seasonally waterlogged slowly permeable soils, formed above 3 m O.D. and prominently mottled above 40 cm depth. They have no relatively permeable material starting within and extending below 1 m of the surface.
Soil group:	1 stagnogley soils	With a distinct topsoil. They are found mainly in lowland Britain.
Soil Subgroup:	1 typical stagnogley soils	(with ordinary clay enriched subsoil)
Soil Series:	Wickham series	medium loamy or medium silty drift over clayey material passing to clay or soft mudstone

Property	Value
Depth to rock (cm)	100
Depth to gleying (cm)	25
Depth to slowly permeable layer (downward percolation) (cm)	38
Depth to slowly permeable layer (upward diffusion) (cm)	38
Integrated air capacity (IAC) (mm)	69
Standard percentage runoff (SPR) (%)	50
Base flow index (BFI) (0 to 1)	0.17
Available water (AWC) (mm)	145
Available water for grass (mm)	130
Available water for cereal (mm)	130
Available water for sugar (mm)	165
Available water for potatoes (mm)	105



4. Topsoil Element Background Levels



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Topsoil Element Background Levels Key

- Report area
- 15 km radius - local area
- 50 km radius - regional area
- NSI sample points

TOPSOIL ELEMENT BACKGROUND LEVELS DESCRIPTION

The National Soil Inventory (NSI) covers England and Wales on a 5 km grid and provides detailed information for each intersect of the grid. Collectively NSI data are statistically representative of England and Wales soils. The original sampling was undertaken around 1980 and there were partial resamplings in the mid-1990s. The most up-to-date data is presented here.

Analysis of the NSI samples provides detailed measurements of over 20 elements from the soils, in addition to pH. This data is summarised over three areas to provide you with an understanding of how your site, and your data for it, sits within the local, regional and national context.

Where available, the soil element levels are compared with the Soil Guideline Values and where a soil sample we have analysed has been found in excess of the SGV guidelines for "residential with plant uptake" land, this is displayed in red in the tables which follow.

SGV levels are provided for the following elements: lead, selenium, nickel, mercury, chromium, cadmium and arsenic.

In the following pages, a number of analyses of the topsoil are provided. The majority of analyses have been performed on the full compliment of sample points, however, in some areas, for some elements, only a few samples were analysed as part of subsequent programmes. In order to present the full suite of possible datasets, and accurately convey the validity of the data, the number of actual measured samples is stated for each analysis. Care should be taken where the number of samples is disproportionately low.

a. Analysis Within a 15km Radius (28 Sample Points)

ANALYSES	SAMPLES	MEAN	MIN	MAX	ST.DEV
pH (PH)	28	6.0	3.6	8.0	1.1
Carbon (CARBON)	28	3.0	1.3	15.0	2.6
Aluminium (AL_ACID)	28	30231.1	491.0	47909.0	10234.5
Arsenic (AS_ACID)	14	3.4	0.0	5.2	1.5
Barium (BA_ACID)	28	149.6	11.0	237.0	50.0
Calcium (CA_ACID)	28	2376.1	138.0	6425.0	1551.6
Cadmium (CD_ACID)	28	0.7	0.1	1.2	0.4
Cadmium (Extractable) (CD_EDTA)	28	0.2	0.0	0.3	0.1
Cobalt (CO_ACID)	28	14.9	0.2	29.0	7.9
Cobalt (Extractable) (CO_EDTA)	28	2.0	0.0	4.8	1.2
Chromium (CR_ACID)	28	39.7	0.6	56.1	12.0
Copper (CU_ACID)	28	14.5	1.2	23.1	5.5
Copper (Extractable) (CU_EDTA)	28	3.9	0.3	8.9	1.7
Fluoride (F_ACID)	22	40.1	20.5	135.6	23.6
Iron (FE_ACID)	28	31329.8	606.0	56395.0	11356.5
Mercury (HG_ACID)	6	0.0	0.0	0.0	0.0
Potassium (K_ACID)	28	4658.2	83.0	7078.0	1779.6
Potassium (Extractable) (K_NITRATE)	28	115.2	22.0	230.0	53.9
Magnesium (MG_ACID)	28	1637.8	68.0	2813.0	607.7
Magnesium (Extractable) (MG_NITRATE)	28	107.5	16.0	318.0	62.1
Manganese (MN_ACID)	28	1630.0	7.0	4392.0	1131.9
Manganese (Extractable) (MN_EDTA)	28	368.4	1.0	859.0	235.6
Molybdenum (MO_ACID)	24	0.5	0.0	2.0	0.4
Sodium (NA_ACID)	28	270.4	46.0	436.0	94.5
Nickel (NI_ACID)	28	21.3	0.8	43.7	10.5
Nickel (Extractable) (NI_EDTA)	28	1.4	0.1	3.2	0.8
Phosphorus (P_ACID)	28	544.7	44.0	910.0	195.4
Phosphorus (Extractable) (P_OLSEN)	28	13.6	2.0	34.0	8.6
Lead (PB_ACID)	28	42.0	6.0	150.0	25.5
Lead (Extractable) (PB_EDTA)	28	12.3	4.2	54.2	9.8
Selenium (SE_ACID)	14	0.3	0.0	0.6	0.2
Strontium (SR_ACID)	28	26.4	2.0	52.0	12.3
Vanadium (V_ACID)	24	37.5	2.0	61.7	16.0
Zinc (ZN_ACID)	28	75.0	6.0	225.0	38.8
Zinc (Extractable) (ZN_EDTA)	28	6.2	1.2	68.7	12.4

for units, see Analyses Denitions (p60)

b. Analysis Within a 50km Radius (239 Sample Points)

ANALYSES	SAMPLES	MEAN	MIN	MAX	ST.DEV
pH (PH)	239	6.0	3.4	8.5	1.3
Carbon (CARBON)	239	3.5	0.4	17.3	2.4
Aluminium (AL_ACID)	239	23600.6	491.0	56625.0	12010.9
Arsenic (AS_ACID)	77	3.1	0.0	9.2	1.7
Barium (BA_ACID)	239	107.8	11.0	507.0	58.2
Calcium (CA_ACID)	239	21006.2	83.0	308325.0	54983.4
Cadmium (CD_ACID)	239	0.7	0.0	3.0	0.6
Cadmium (Extractable) (CD_EDTA)	239	0.3	0.0	2.0	0.2
Cobalt (CO_ACID)	239	11.2	0.2	38.6	7.3
Cobalt (Extractable) (CO_EDTA)	239	1.4	0.0	9.3	1.4
Chromium (CR_ACID)	239	35.0	0.6	89.2	14.5
Copper (CU_ACID)	239	15.4	1.2	74.5	10.0
Copper (Extractable) (CU_EDTA)	239	4.6	0.3	37.8	4.7
Fluoride (F_ACID)	148	45.3	0.0	254.0	45.6
Iron (FE_ACID)	239	24097.8	606.0	62875.0	11087.6
Mercury (HG_ACID)	48	0.0	0.0	0.2	0.0
Potassium (K_ACID)	239	3778.3	60.0	9372.0	1953.9
Potassium (Extractable) (K_NITRATE)	236	161.2	22.0	895.0	119.5
Magnesium (MG_ACID)	239	2088.8	41.0	7035.0	1247.2
Magnesium (Extractable) (MG_NITRATE)	236	113.0	12.0	1241.0	123.0
Manganese (MN_ACID)	239	968.0	7.0	4470.0	880.7
Manganese (Extractable) (MN_EDTA)	239	210.1	1.0	1534.0	211.6
Molybdenum (MO_ACID)	222	0.7	0.0	34.7	2.4
Sodium (NA_ACID)	239	261.3	31.0	5415.0	412.1
Nickel (NI_ACID)	239	20.0	0.8	64.6	12.1
Nickel (Extractable) (NI_EDTA)	239	1.4	0.1	8.2	1.2
Phosphorus (P_ACID)	239	669.5	41.0	2101.0	371.8
Phosphorus (Extractable) (P_OLSEN)	236	26.9	2.0	210.0	26.3
Lead (PB_ACID)	239	48.9	5.0	807.0	61.2
Lead (Extractable) (PB_EDTA)	239	19.6	1.4	274.4	29.4
Selenium (SE_ACID)	77	0.3	0.0	1.6	0.3
Strontium (SR_ACID)	239	51.5	1.0	427.0	77.3
Vanadium (V_ACID)	220	36.0	0.0	117.3	20.0
Zinc (ZN_ACID)	239	73.3	6.0	312.0	43.7
Zinc (Extractable) (ZN_EDTA)	239	8.8	0.7	113.7	14.1

for units, see Analyses Denitions (p60)

c. National Analysis (5686 Sample Points)

ANALYSES	SAMPLES	MEAN	MIN	MAX	ST.DEV
pH (PH)	5630	6.0	3.1	9.2	1.3
Carbon (CARBON)	5672	6.1	0.1	61.5	8.9
Aluminium (AL_ACID)	5677	26775.3	491.0	79355.0	12772.2
Arsenic (AS_ACID)	2729	4.6	0.0	110.0	5.7
Barium (BA_ACID)	5677	150.0	7.0	3840.0	159.5
Calcium (CA_ACID)	5677	13768.7	0.0	339630.0	37785.0
Cadmium (CD_ACID)	5677	0.7	0.0	40.9	1.0
Cadmium (Extractable) (CD_EDTA)	5655	0.5	0.0	85.0	3.0
Cobalt (CO_ACID)	5677	10.6	0.0	567.0	13.7
Cobalt (Extractable) (CO_EDTA)	5655	1.1	0.0	26.5	1.2
Chromium (CR_ACID)	5677	38.9	0.0	2339.8	43.7
Copper (CU_ACID)	5677	22.6	0.0	1507.7	36.8
Copper (Extractable) (CU_EDTA)	5655	6.4	0.3	431.4	11.1
Fluoride (F_ACID)	3320	58.5	0.0	6307.9	186.2
Iron (FE_ACID)	5677	28147.8	395.0	264405.0	16510.5
Mercury (HG_ACID)	2159	0.1	0.0	2.4	0.2
Potassium (K_ACID)	5677	4727.7	60.0	23905.0	2700.2
Potassium (Extractable) (K_NITRATE)	5609	182.0	6.0	2776.0	151.6
Magnesium (MG_ACID)	5677	3648.1	0.0	62690.0	3284.1
Magnesium (Extractable) (MG_NITRATE)	5609	146.0	1.0	1601.0	147.5
Manganese (MN_ACID)	5677	777.0	3.0	42603.0	1068.8
Manganese (Extractable) (MN_EDTA)	5654	159.4	0.0	3108.0	188.6
Molybdenum (MO_ACID)	4417	0.9	0.0	56.3	2.0
Sodium (NA_ACID)	5677	323.3	17.0	25152.0	572.3
Nickel (NI_ACID)	5677	25.4	0.0	1350.2	29.2
Nickel (Extractable) (NI_EDTA)	5655	1.6	0.1	73.2	2.0
Phosphorus (P_ACID)	5677	792.1	41.0	6273.0	433.9
Phosphorus (Extractable) (P_OLSEN)	5604	27.4	0.0	534.0	25.5
Lead (PB_ACID)	5677	73.3	0.0	17365.0	280.6
Lead (Extractable) (PB_EDTA)	5655	27.8	1.2	6056.5	119.7
Selenium (SE_ACID)	2729	0.6	0.0	22.8	0.8
Strontium (SR_ACID)	5677	42.3	0.0	1445.0	67.8
Vanadium (V_ACID)	4428	41.0	0.0	854.4	33.9
Zinc (ZN_ACID)	5677	90.2	0.0	3648.0	104.4
Zinc (Extractable) (ZN_EDTA)	5655	9.6	0.5	712.0	24.6

for units, see Analyses Denitions (p60)

SOIL GUIDELINE VALUES (SGV)

Defra and the Environment Agency have produced soil guideline values (SGVs) as an aid to preliminary assessment of potential risk to human health from land that may be contaminated. SGVs represent 'intervention values', which, if exceeded, act as indicators of potential unacceptable risk to humans, so that more detailed risk assessment is needed.

The SGVs were derived using the Contaminated Land Exposure Assessment (CLEA) model for four land uses:

1. residential (with plant uptake / vegetable growing)
2. residential (without vegetable growing)
3. allotments
4. commercial / industrial

SGVs are only designed to indicate whether further site-specific investigation is needed. Where a soil guideline value is exceeded, it does not mean that there is necessarily a chronic or acute risk to human health.

The values presented in this report represent those from a number of sample points (given in the "Samples" column in each table) providing local, regional and national background levels. Figures which appear in red indicate that a bulked sample from 20m surrounding a sample point, has at a past date, exceeded the SGV for the 'residential with plant uptake' land use.

It is always advisable to perform site specific investigations.

More details on all the SGVs can be found on the Environment Agency Website.

All units are mg/kg which is equivalent to parts per million (ppm)

SUBSTANCE	RESIDENTIAL WITH PLANT UPTAKE	RESIDENTIAL WITHOUT PLANT UPTAKE	ALLOTMENTS	COMMERCIAL /INDUSTRIAL
LEAD	450	450	450	750
SELENIUM	35	260	35	8000
NICKEL	50	75	50	5000
MERCURY	8	15	8	450
CHROMIUM	130	200	130	5000
CADMIUM (pH 6)	1	30	1	1400
CADMIUM (pH 7)	2	30	2	1400
CADMIUM (pH 8)	8	30	8	1400
ARSENIC	20	20	20	500

ANALYSES DEFINITIONS

PH (pH)

pH of soil measure after shaking 10ml of soil for 15 minutes with 25ml of water

CARBON (Carbon)

Organic Carbon (% by wt) measured either by loss-on-ignition for soils estimated to contain more than about 20% organic carbon or by dichromate digestion.

AL_ACID (Aluminium)

Total Aluminium concentration (mg/kg) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) in an aqua regia digest

AS_ACID (Arsenic)

Total Arsenic concentration (mg/kg) determined by Hydride Atomic Absorption Spectrometry (AAS), extracted into hydrochloric acid after digestion with nitric acid and ashing with magnesium nitrate

BA_ACID (Barium)

Total Barium concentration (mg/kg) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) in an aqua regia digest

CA_ACID (Calcium)

Total Calcium concentration (mg/kg) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) in an aqua regia digest

CD_ACID (Cadmium)

Total Cadmium concentration (mg/kg) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) in an aqua regia digest

CD_EDTA (Cadmium Extractable)

Extractable Cadmium concentration (mg/l) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) after shaking 10ml of soil with 50ml of 0.05M EDTA at pH 7.0 for 1h at 20 deg. C and then filtering

CO_ACID (Cobalt)

Total Cobalt concentration (mg/kg) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) in an aqua regia digest

CO_EDTA (Cobalt Extractable)

Extractable Cobalt concentration (mg/l) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) after shaking 10ml of soil with 50ml of 0.05M EDTA at pH 7.0 for 1h at 20 deg. C and then filtering

CR_ACID (Chromium)

Total Chromium concentration (mg/kg) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) in an aqua regia digest

CU_ACID (Copper)

Total Copper concentration (mg/kg) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) in an aqua regia digest

CU_EDTA (Copper Extractable)

Extractable Copper concentration (mg/l) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) after shaking 10ml of soil with 50ml of 0.05M EDTA at pH 7.0 for 1h at 20 deg. C and then filtering

ANALYSES DEFINITIONS continued

F_ACID (Flouride)

Flouride extracted with 1mol / l sulphuric acid and determined by Ion Selective Electrode (ISE)

FE_ACID (Iron)

Total Iron concentration (mg/kg) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) in an aqua regia digest

HG_ACID (Mercury)

Total Mercury concentration (mg/kg) determined by Hydride Atomic Absorption Spectrometry (AAS), digested in a nitric/sulphuric acid mixture

K_ACID (Potassium)

Total Potassium concentration (mg/kg) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) in an aqua regia digest

K_NITRATE (Potassium Extractable)

Extractable Potassium concentration (mg/l) determined by shaking 10ml of air dry soil with 50ml of 1.0M ammonium nitrate for 30mins, filtering and then measuring the concentration by flame photometry

MG_ACID (Magnesium)

Total Magnesium concentration (mg/kg) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) in an aqua regia digest

MG_NITRATE (Magnesium Extractable)

Extractable Magnesium concentration (mg/l) determined by shaking 10ml of air dry soil with 50ml of 1.0M ammonium nitrate for 30mins, filtering and then measuring the concentration by flame photometry

MN_ACID (Manganese)

Total Manganese concentration (mg/kg) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) in an aqua regia digest

MN_EDTA (Manganese Extractable)

Extractable Manganese concentration (mg/l) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) after shaking 10ml of soil with 50ml of 0.05M EDTA at pH 7.0 for 1h at 20 deg. C and then filtering

MO_ACID (Molybdenum)

Total Molybdenum concentration (mg/kg) determined by Atomic Adsorption Spectrometry (AAS) in an aqua regia digest

MO_EDTA (Molybdenum Extractable)

Extractable Molybdenum concentration (mg/l) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) after shaking 10ml of soil with 50ml of 0.05M EDTA at pH 7.0 for 1h at 20 deg. C and then filtering

NA_ACID (Sodium)

Total Sodium concentration (mg/kg) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) in an aqua regia digest

NI_ACID (Nickel)

Total Nickel concentration (mg/kg) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) in an aqua regia digest

ANALYSES DEFINITIONS continued

NI_EDTA (Nickel Extractable)

Extractable Nickel concentration (mg/l) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) after shaking 10ml of soil with 50ml of 0.05M EDTA at pH 7.0 for 1h at 20 deg. C and then filtering

P_ACID (Phosphorus)

Total Phosphorus concentration (mg/kg) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) in an aqua regia digest

P_OLSON (Phosphorous Extractable)

Extractable Phosphorus concentration (mg/l) determined by shaking 5ml of air dry soil with 100ml of 0.5M sodium bicarbonate for 30mins at 20 deg.C, filtering and then measuring the absorbance at 880 nm colorimetrically with acid ammonium molybdate solution

PB_ACID (Lead)

Total Lead concentration (mg/kg) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) in an aqua regia digest

PB_EDTA (Lead Extractable)

Extractable Lead concentration (mg/l) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) after shaking 10ml of soil with 50ml of 0.05M EDTA at pH 7.0 for 1h at 20 deg. C and then filtering

SE_ACID (Selenium)

Total Selenium concentration (mg/kg) determined by Hydride Atomic Absorption Spectrometry (AAS), extracted into hydrochloric acid after digestion with nitric acid and ashing with magnesium nitrate

SR_ACID (Strontium)

Total Strontium concentration (mg/kg) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) in an aqua regia digest

V_ACID (Vanadium)

Total Vanadium concentration (mg/kg) determined by Atomic Adsorption Spectrometry (AAS) in an aqua regia digest

ZN_ACID (Zinc)

Total Zinc concentration (mg/kg) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) in an aqua regia digest

ZN_EDTA (Zinc Extractable)

Extractable Zinc concentration (mg/l) determined by Inductively Coupled Plasma Emission Spectrometry (ICP) after shaking 10ml of soil with 50ml of 0.05M EDTA at pH 7.0 for 1h at 20 deg. C and then filtering

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For a list of further reading visit: www.landis.org.uk/sitereporter/FURTHER_READING.pdf

GIS Datasets:

The GIS data used in the creation of this report is available to lease for use in projects. To learn more about, or acquire the GIS datasets used in the creation of this report, please contact the National Soil Resources Institute:

nsridata@cranfield.ac.uk

+44 (0) 1234 75 2992

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Bedfordshire

MK43 0AL

United Kingdom

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APPENDIX C

Laboratory Test Results

**NB/Locations HP07, HP10-11, HP15, HP24, HP28, HP30-31 & WS15 now fall outside the
proposed site boundary.**

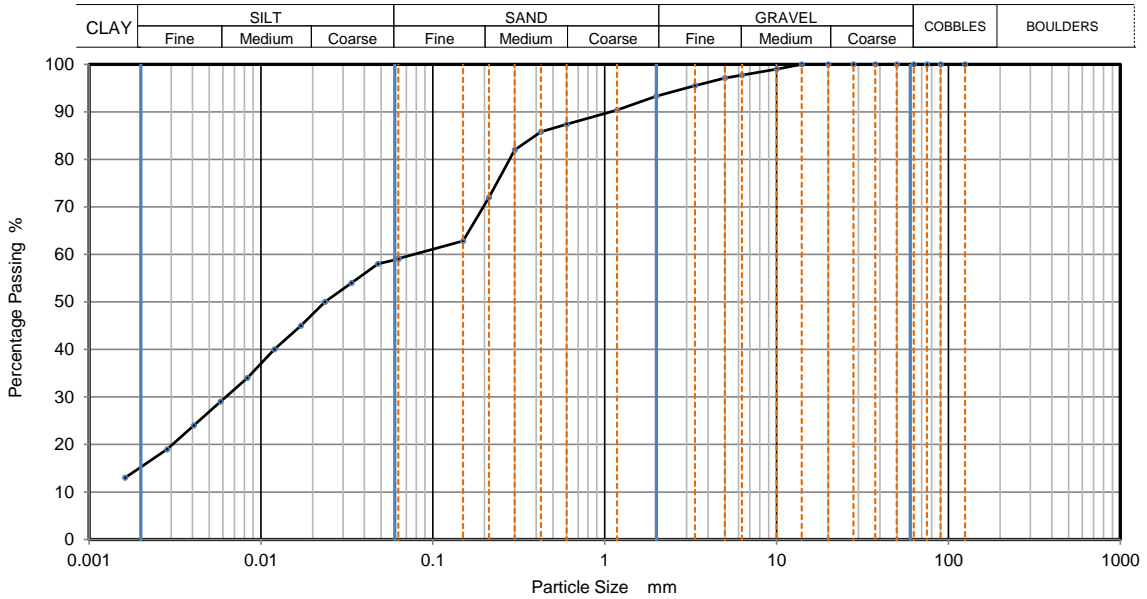




PARTICLE SIZE DISTRIBUTION

		Job Ref	31866
		Borehole/Pit No.	HP04
Site Name	22-40573	Sample No.	278995
Project No.	22-40573	Client	ELAB
Soil Description	Brown slightly gravelly slightly sandy clayey SILT with occasional rootlets (gravel is fm and sub-angular)	Depth Top	0.20 m
		Depth Base	- m
		Sample Type	D
		Samples received	17/05/2022
		Schedules received	17/05/2022
Test Method	BS1377:Part 2: 1990, clause 9.0	Project started	18/05/2022
		Date tested	13/06/2022

These results only apply to the items tested



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	59
90	100	0.0480	58
75	100	0.0337	54
63	100	0.0236	50
50	100	0.0171	45
37.5	100	0.0119	40
28	100	0.0083	34
20	100	0.0058	29
14	100	0.0041	24
10	99	0.0028	19
6.3	98	0.0016	13
5	97		
3.35	96		
2	93		
1.18	90		
0.6	87	Particle density (assumed)	
0.425	86	2.70	Mg/m3
0.3	82		
0.212	72		
0.15	63		
0.063	59		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	6.7
Sand	34.2
Silt	43.7
Clay	15.4

Grading Analysis		
D100	mm	
D60	mm	0.0782
D30	mm	0.00622
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Date Sampled - 12/05/2022

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	Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)		MSF-5-R3



TOPSOIL

Particle Size Distribution

BS3882:2015

Job No. 31866	Project Name 22-40573	Programme	
		Samples received	17/05/2022
Project No. 22-40573	Client ELAB	Schedule received	17/05/2022
		Project started	18/05/2022
		Testing Started	13/06/2022

Borehole No.	HP04	Sample Type	D
Depth (m)	0.20	Sample No.	278995

Results

Maximum Coarse Fragment Content

Stones 2-20mm	6.70	%
Stones 20-50mm	0.00	%
Stones >50mm	0.00	%

<2mm Fraction

Sand	36.66	%
Silt	46.84	%
Clay	16.51	%

Tests other than those summarised in this report have been carried out by others

Full grading analysis is attached overleaf

Sheet 2 of 2

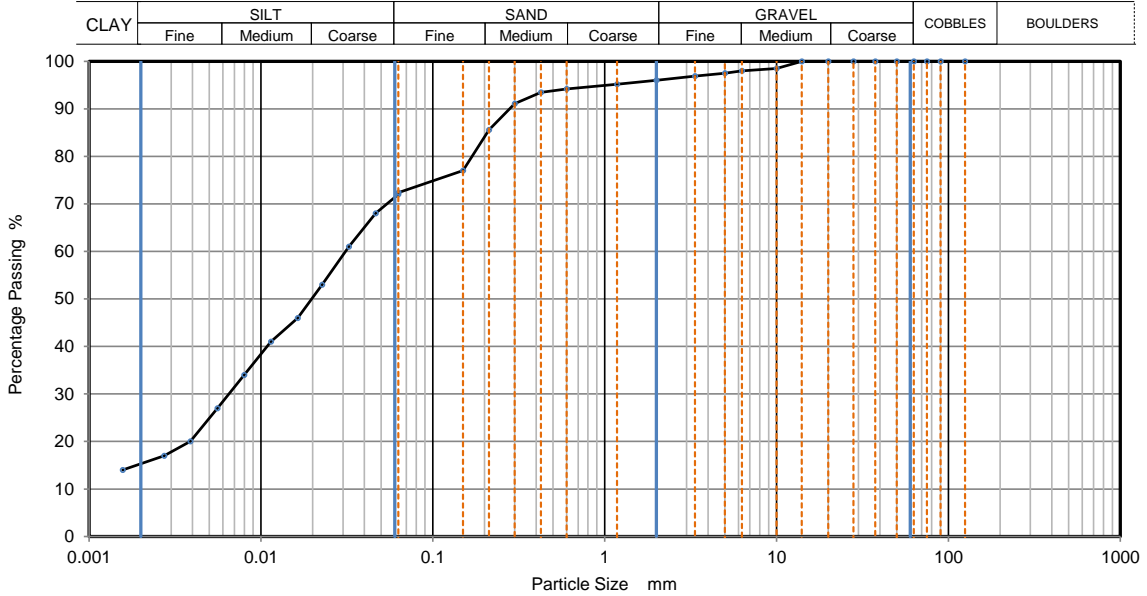
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PARTICLE SIZE DISTRIBUTION

		Job Ref	31866
		Borehole/Pit No.	HP10
Site Name	22-40573	Sample No.	278996
Project No.	22-40573	Client	ELAB
Soil Description	Brown slightly gravelly slightly sandy clayey SILT with occasional rootlets (gravel is fm and sub-angular)	Depth Top	0.20 m
		Depth Base	- m
		Sample Type	D
		Samples received	17/05/2022
		Schedules received	17/05/2022
Test Method	BS1377:Part 2: 1990, clause 9.0	Project started	18/05/2022
		Date tested	14/06/2022

These results only apply to the items tested



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0629	72
90	100	0.0464	68
75	100	0.0325	61
63	100	0.0226	53
50	100	0.0163	46
37.5	100	0.0114	41
28	100	0.0080	34
20	100	0.0056	27
14	100	0.0039	20
10	99	0.0027	17
6.3	98	0.0016	14
5	98		
3.35	97		
2	96		
1.18	95		
0.6	94	Particle density (assumed)	
0.425	94	2.70	Mg/m3
0.3	91		
0.212	86		
0.15	77		
0.063	72		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	4.0
Sand	23.6
Silt	57.3
Clay	15.1

Grading Analysis		
D100	mm	
D60	mm	0.031
D30	mm	0.00657
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
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Initials: J.P

Date: 20/06/2022

2519

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

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TOPSOIL

Particle Size Distribution

BS3882:2015

Job No. 31866	Project Name 22-40573	Programme	
		Samples received	17/05/2022
Project No. 22-40573	Client ELAB	Schedule received	17/05/2022
		Project started	18/05/2022
		Testing Started	13/06/2022

Borehole No.	HP10	Sample Type	D
Depth (m)	0.20	Sample No.	278996

Results

Maximum Coarse Fragment Content

Stones 2-20mm	4.00	%
Stones 20-50mm	0.00	%
Stones >50mm	0.00	%

<2mm Fraction

Sand	24.58	%
Silt	59.69	%
Clay	15.73	%

Tests other than those summarised in this report have been carried out by others

Full grading analysis is attached overleaf

Sheet 2 of 2

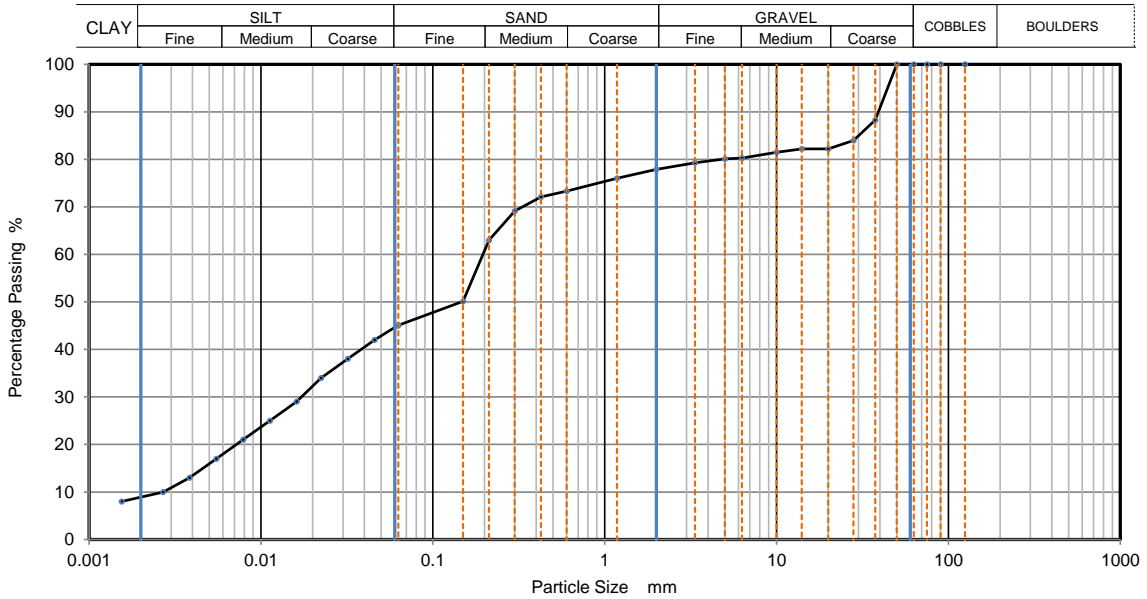
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PARTICLE SIZE DISTRIBUTION

		Job Ref	31866
		Borehole/Pit No.	HP11
Site Name	22-40573	Sample No.	278997
Project No.	22-40573	Client	ELAB
Soil Description	Brown slightly gravelly slightly sandy clayey SILT with occasional rootlets (gravel is fmc and sub-angular)	Depth Top	0.20 m
		Depth Base	- m
		Sample Type	D
		Samples received	17/05/2022
Test Method	BS1377:Part 2: 1990, clause 9.0	Schedules received	17/05/2022
		Project started	18/05/2022
		Date tested	13/06/2022

These results only apply to the items tested



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0621	45
90	100	0.0458	42
75	100	0.0320	38
63	100	0.0224	34
50	100	0.0162	29
37.5	88	0.0113	25
28	84	0.0079	21
20	82	0.0055	17
14	82	0.0038	13
10	82	0.0027	10
6.3	80	0.0015	8
5	80		
3.35	79		
2	78		
1.18	76		
0.6	73	Particle density (assumed)	
0.425	72	2.70	Mg/m3
0.3	69		
0.212	63		
0.15	50		
0.063	45		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	22.1
Sand	32.8
Silt	36.0
Clay	9.1

Grading Analysis		
D100	mm	
D60	mm	0.196
D30	mm	0.0169
D10	mm	0.00252
Uniformity Coefficient		78
Curvature Coefficient		0.58

Remarks
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	MSF-5-R3	



TOPSOIL

Particle Size Distribution

BS3882:2015

Job No. 31866	Project Name 22-40573	Programme	
		Samples received	17/05/2022
Project No. 22-40573	Client ELAB	Schedule received	17/05/2022
		Project started	18/05/2022
		Testing Started	13/06/2022

Borehole No.	HP11	Sample Type	D
Depth (m)	0.20	Sample No.	278997

Results

Maximum Coarse Fragment Content

Stones 2-20mm	4.30	%
Stones 20-50mm	17.80	%
Stones >50mm	0.00	%

<2mm Fraction

Sand	42.11	%
Silt	46.21	%
Clay	11.68	%

Tests other than those summarised in this report have been carried out by others

Full grading analysis is attached overleaf

Sheet 2 of 2

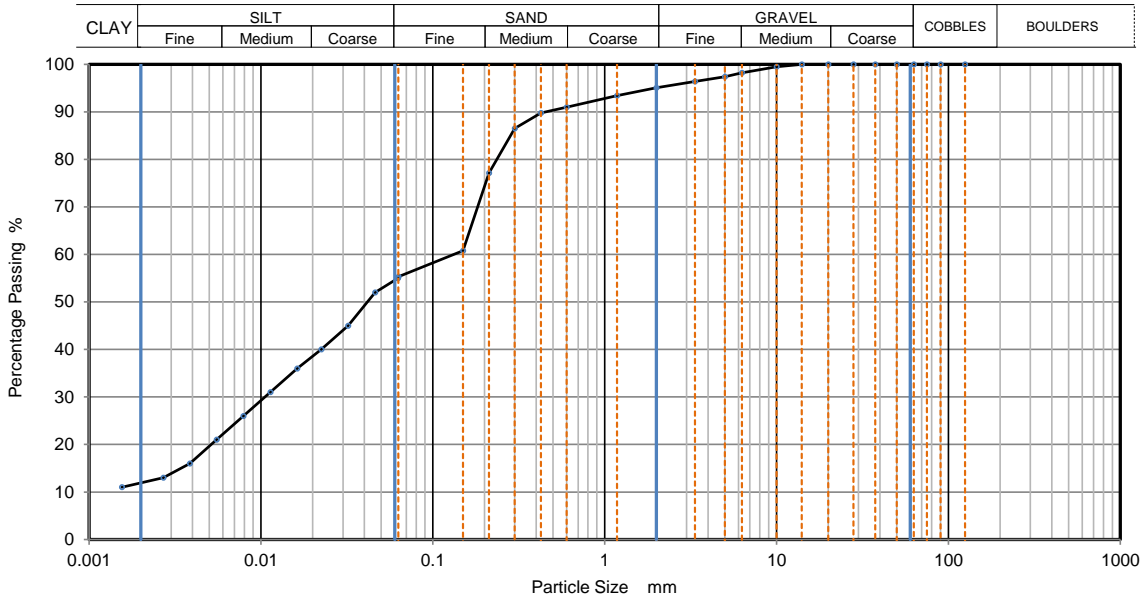
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PARTICLE SIZE DISTRIBUTION

		Job Ref	31866
		Borehole/Pit No.	HP14
Site Name	22-40573	Sample No.	278998
Project No.	22-40573	Client	ELAB
Soil Description	Brown slightly gravelly sandy clayey SILT with occasional rootlets (gravel is fm and sub-angular)	Depth Top	0.20 m
		Depth Base	- m
		Sample Type	D
		Samples received	17/05/2022
		Schedules received	17/05/2022
Test Method	BS1377:Part 2: 1990, clause 9.0	Project started	18/05/2022
		Date tested	13/06/2022

These results only apply to the items tested



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0626	55
90	100	0.0462	52
75	100	0.0322	45
63	100	0.0225	40
50	100	0.0162	36
37.5	100	0.0113	31
28	100	0.0079	26
20	100	0.0055	21
14	100	0.0039	16
10	100	0.0027	13
6.3	98	0.0016	11
5	97		
3.35	96		
2	95		
1.18	93		
0.6	91	Particle density (assumed)	
0.425	90	2.70	Mg/m3
0.3	87		
0.212	77		
0.15	61		
0.063	55		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	4.9
Sand	39.8
Silt	43.6
Clay	11.7

Grading Analysis		
D100	mm	
D60	mm	0.131
D30	mm	0.0108
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
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Initials: J.P

Date: 20/06/2022

2519

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

MSF-5-R3



TOPSOIL

Particle Size Distribution

BS3882:2015

Job No. 31866	Project Name 22-40573	Programme	
		Samples received	17/05/2022
Project No. 22-40573	Client ELAB	Schedule received	17/05/2022
		Project started	18/05/2022
		Testing Started	13/06/2022

Borehole No.	HP14	Sample Type	D
Depth (m)	0.20	Sample No.	278998

Results

Maximum Coarse Fragment Content

Stones 2-20mm	4.90	%
Stones 20-50mm	0.00	%
Stones >50mm	0.00	%

<2mm Fraction

Sand	41.85	%
Silt	45.85	%
Clay	12.30	%

Tests other than those summarised in this report have been carried out by others

Full grading analysis is attached overleaf

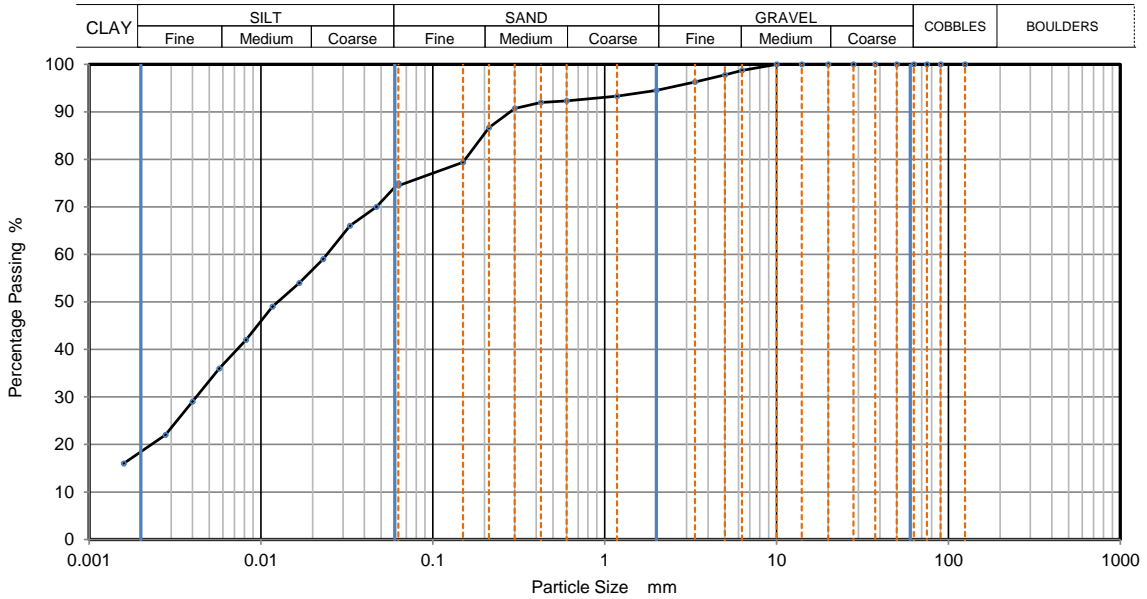
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PARTICLE SIZE DISTRIBUTION

		Job Ref	31866
		Borehole/Pit No.	HP15
Site Name	22-40573	Sample No.	278999
Project No.	22-40573	Client	ELAB
Soil Description	Brown slightly gravelly slightly sandy clayey SILT with occasional rootlets (gravel is fm and sub-angular)	Depth Top	0.20 m
		Depth Base	- m
		Sample Type	D
		Samples received	17/05/2022
		Schedules received	17/05/2022
Test Method	BS1377:Part 2: 1990, clause 9.0	Project started	18/05/2022
These results only apply to the items tested		Date tested	14/06/2022



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	75
90	100	0.0469	70
75	100	0.0329	66
63	100	0.0230	59
50	100	0.0167	54
37.5	100	0.0117	49
28	100	0.0082	42
20	100	0.0057	36
14	100	0.0040	29
10	100	0.0028	22
6.3	99	0.0016	16
5	98		
3.35	96		
2	95		
1.18	93		
0.6	92	Particle density (assumed)	
0.425	92	2.70	Mg/m3
0.3	91		
0.212	87		
0.15	79		
0.063	75		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	5.5
Sand	20.0
Silt	55.7
Clay	18.8

Grading Analysis		
D100	mm	
D60	mm	0.0238
D30	mm	0.00415
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
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	Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)		MSF-5-R3



TOPSOIL

Particle Size Distribution

BS3882:2015

Job No. 31866	Project Name 22-40573	Programme	
		Samples received	17/05/2022
Project No. 22-40573	Client ELAB	Schedule received	17/05/2022
		Project started	18/05/2022
		Testing Started	13/06/2022

Borehole No.	HP15	Sample Type	D
Depth (m)	0.20	Sample No.	278999

Results

Maximum Coarse Fragment Content

Stones 2-20mm	5.50	%
Stones 20-50mm	0.00	%
Stones >50mm	0.00	%

<2mm Fraction

Sand	21.16	%
Silt	58.94	%
Clay	19.89	%

Tests other than those summarised in this report have been carried out by others

Full grading analysis is attached overleaf

Sheet 2 of 2

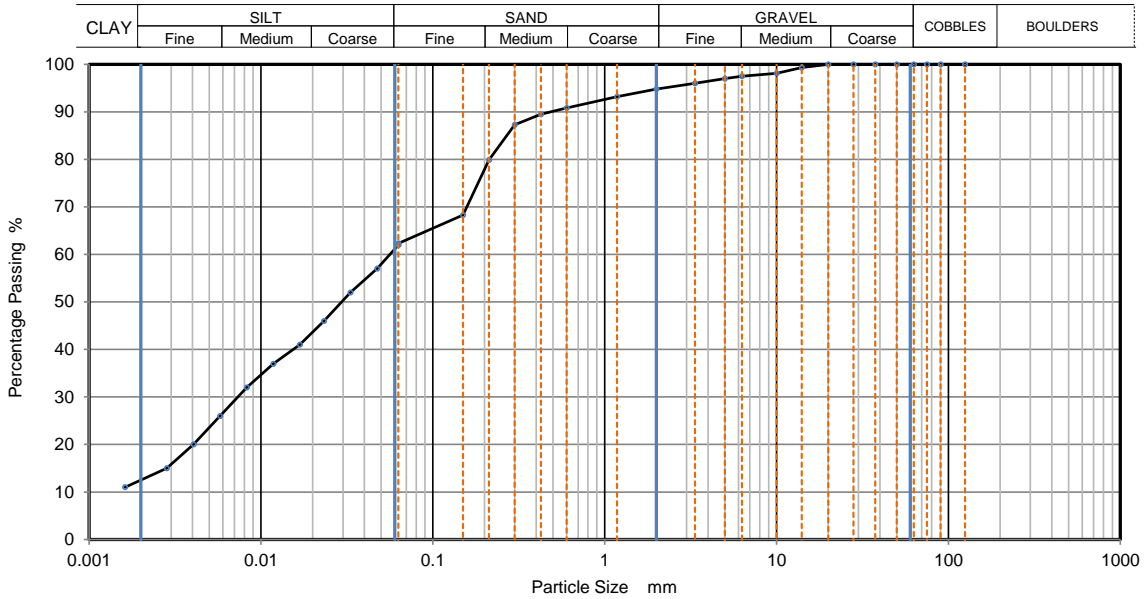
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PARTICLE SIZE DISTRIBUTION

		Job Ref	31866
		Borehole/Pit No.	HP17
Site Name	22-40573	Sample No.	279000
Project No.	22-40573	Client	ELAB
Soil Description	Brown slightly gravelly slightly sandy clayey SILT with occasional rootlets (gravel is fm and sub-angular)	Depth Top	0.20 m
		Depth Base	- m
		Sample Type	D
		Samples received	17/05/2022
		Schedules received	17/05/2022
Test Method	BS1377:Part 2: 1990, clause 9.0	Project started	18/05/2022
		Date tested	14/06/2022

These results only apply to the items tested



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	62
90	100	0.0474	57
75	100	0.0332	52
63	100	0.0233	46
50	100	0.0168	41
37.5	100	0.0118	37
28	100	0.0083	32
20	100	0.0058	26
14	99	0.0040	20
10	98	0.0028	15
6.3	98	0.0016	11
5	97		
3.35	96		
2	95		
1.18	93		
0.6	91	Particle density (assumed)	
0.425	90	2.70	Mg/m3
0.3	87		
0.212	80		
0.15	68		
0.063	62		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	5.2
Sand	32.5
Silt	49.6
Clay	12.7

Grading Analysis		
D100	mm	
D60	mm	0.0554
D30	mm	0.00722
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
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Tel: 01923 711288

Checked and Approved

Initials: J.P

Date: 20/06/2022

2519

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

MSF-5-R3



TOPSOIL

Particle Size Distribution

BS3882:2015

Job No. 31866	Project Name 22-40573	Programme	
		Samples received	17/05/2022
Project No. 22-40573	Client ELAB	Schedule received	17/05/2022
		Project started	18/05/2022
		Testing Started	13/06/2022

Borehole No.	HP17	Sample Type	D
Depth (m)	0.20	Sample No.	279000

Results

Maximum Coarse Fragment Content

Stones 2-20mm	5.20	%
Stones 20-50mm	0.00	%
Stones >50mm	0.00	%

<2mm Fraction

Sand	34.28	%
Silt	52.32	%
Clay	13.40	%

Tests other than those summarised in this report have been carried out by others

Full grading analysis is attached overleaf

Sheet 2 of 2

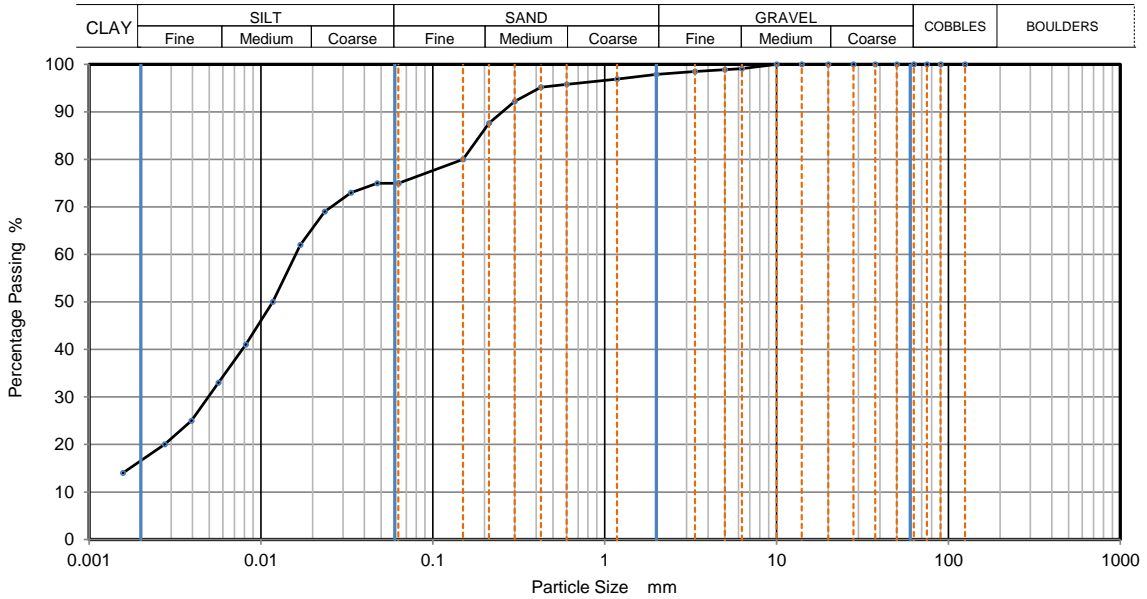
<p>K4 SOILS LABORATORY Unit 8 Olds Close Olds Approach Watford Herts WD18 9RU Tel: 01923 711 288</p> <p>Email: james@K4soils.com</p>	<p>Checked and Approved</p> <p>Initials J.P</p> <p>Date: 20/06/2022</p>
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PARTICLE SIZE DISTRIBUTION

		Job Ref	31866
		Borehole/Pit No.	HP19
Site Name	22-40573	Sample No.	279001
Project No.	22-40573	Client	ELAB
Soil Description	Brown slightly gravelly slightly sandy clayey SILT with occasional rootlets (gravel is fm and sub-angular)	Depth Top	0.20 m
		Depth Base	- m
		Sample Type	D
		Samples received	17/05/2022
		Schedules received	17/05/2022
Test Method	BS1377:Part 2: 1990, clause 9.0	Project started	18/05/2022
		Date tested	14/06/2022

These results only apply to the items tested



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	75
90	100	0.0475	75
75	100	0.0334	73
63	100	0.0235	69
50	100	0.0170	62
37.5	100	0.0117	50
28	100	0.0081	41
20	100	0.0057	33
14	100	0.0039	25
10	100	0.0028	20
6.3	99	0.0016	14
5	99		
3.35	99		
2	98		
1.18	97		
0.6	96	Particle density (assumed)	
0.425	95	2.70	Mg/m3
0.3	92		
0.212	88		
0.15	80		
0.063	75		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	2.1
Sand	22.8
Silt	58.5
Clay	16.6

Grading Analysis		
D100	mm	
D60	mm	0.0158
D30	mm	0.00495
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with BS1377 unless noted below

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	Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)		MSF-5-R3



TOPSOIL

Particle Size Distribution

BS3882:2015

Job No. 31866	Project Name 22-40573	Programme	
		Samples received	17/05/2022
Project No. 22-40573	Client ELAB	Schedule received	17/05/2022
		Project started	18/05/2022
		Testing Started	13/06/2022

Borehole No.	HP19	Sample Type	D
Depth (m)	0.20	Sample No.	279001

Results

Maximum Coarse Fragment Content

Stones 2-20mm	2.10	%
Stones 20-50mm	0.00	%
Stones >50mm	0.00	%

<2mm Fraction

Sand	23.29	%
Silt	59.75	%
Clay	16.96	%

Tests other than those summarised in this report have been carried out by others

Full grading analysis is attached overleaf

Sheet 2 of 2

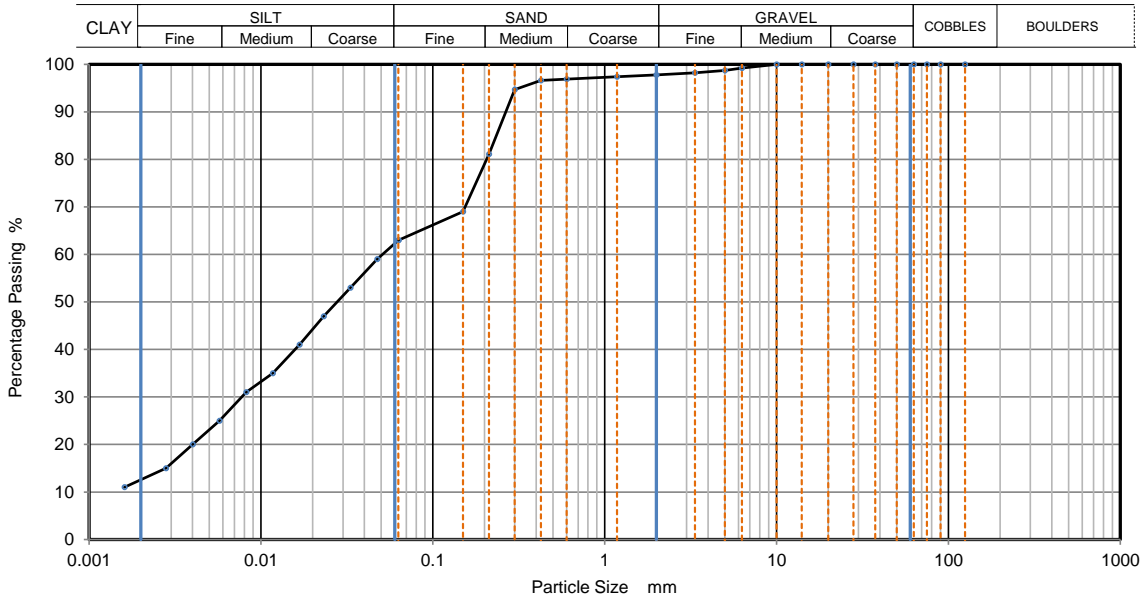
<p>K4 SOILS LABORATORY Unit 8 Olds Close Olds Approach Watford Herts WD18 9RU Tel: 01923 711 288 Email: james@K4soils.com</p>	<p>Checked and Approved Initials J.P Date: 20/06/2022</p>
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PARTICLE SIZE DISTRIBUTION

		Job Ref	31866
		Borehole/Pit No.	HP20
Site Name	22-40573	Sample No.	279002
Project No.	22-40573	Client	ELAB
Soil Description	Brown slightly gravelly slightly sandy clayey SILT with occasional rootlets (gravel is fm and sub-angular)	Depth Top	0.20 m
		Depth Base	- m
		Sample Type	D
		Samples received	17/05/2022
		Schedules received	17/05/2022
Test Method	BS1377:Part 2: 1990, clause 9.0	Project started	18/05/2022
		Date tested	14/06/2022

These results only apply to the items tested



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	63
90	100	0.0474	59
75	100	0.0332	53
63	100	0.0232	47
50	100	0.0167	41
37.5	100	0.0117	35
28	100	0.0082	31
20	100	0.0057	25
14	100	0.0040	20
10	100	0.0028	15
6.3	99	0.0016	11
5	99		
3.35	98		
2	98		
1.18	97		
0.6	97	Particle density (assumed)	
0.425	97	2.70	Mg/m3
0.3	95		
0.212	81		
0.15	69		
0.063	63		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	2.2
Sand	34.8
Silt	50.6
Clay	12.4

Grading Analysis		
D100	mm	
D60	mm	0.0519
D30	mm	0.00778
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Date Sampled - 12/05/2022

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	Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)		MSF-5-R3



TOPSOIL

Particle Size Distribution

BS3882:2015

Job No. 31866	Project Name 22-40573	Programme	
		Samples received	17/05/2022
Project No. 22-40573	Client ELAB	Schedule received	17/05/2022
		Project started	18/05/2022
		Testing Started	13/06/2022

Borehole No.	HP20	Sample Type	D
Depth (m)	0.20	Sample No.	279002

Results

Maximum Coarse Fragment Content

Stones 2-20mm	2.20	%
Stones 20-50mm	0.00	%
Stones >50mm	0.00	%

<2mm Fraction

Sand	35.58	%
Silt	51.74	%
Clay	12.68	%

Tests other than those summarised in this report have been carried out by others

Full grading analysis is attached overleaf

Sheet 2 of 2

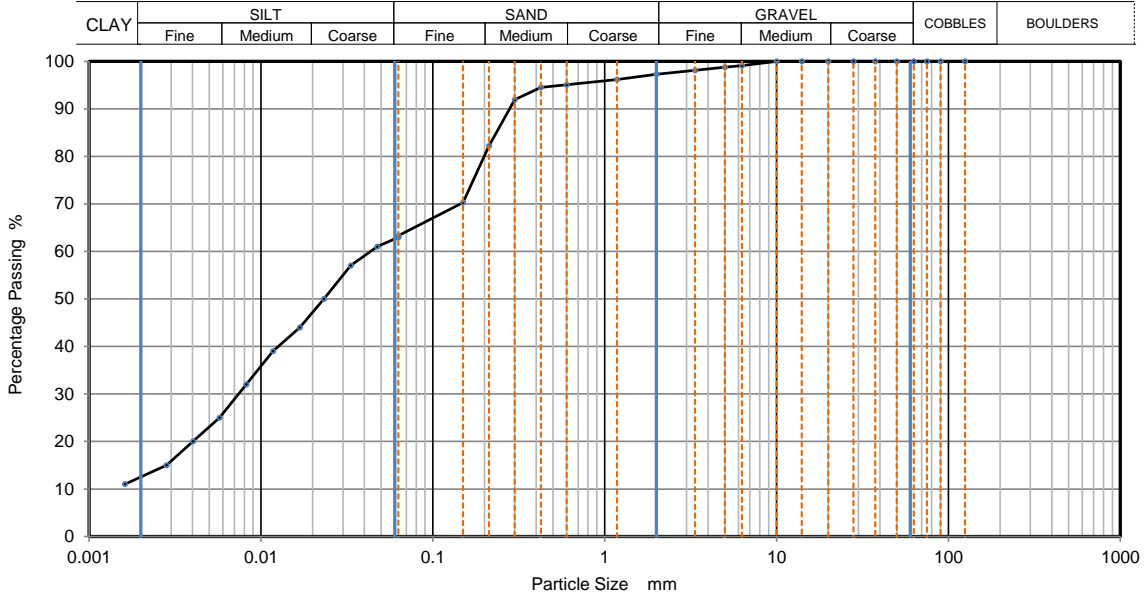
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PARTICLE SIZE DISTRIBUTION

		Job Ref	31866
		Borehole/Pit No.	HP24
Site Name	22-40573	Sample No.	279006
Project No.	22-40573	Client	ELAB
Soil Description	Brown slightly gravelly slightly sandy clayey SILT with occasional rootlets (gravel is fm and sub-angular)	Depth Top	0.10 m
		Depth Base	- m
		Sample Type	D
		Samples received	17/05/2022
		Schedules received	17/05/2022
Test Method	BS1377:Part 2: 1990, clause 9.0	Project started	18/05/2022
		Date tested	14/06/2022

These results only apply to the items tested



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	63
90	100	0.0474	61
75	100	0.0333	57
63	100	0.0233	50
50	100	0.0168	44
37.5	100	0.0118	39
28	100	0.0082	32
20	100	0.0057	25
14	100	0.0040	20
10	100	0.0028	15
6.3	99	0.0016	11
5	99		
3.35	98		
2	97		
1.18	96		
0.6	95	Particle density (assumed)	
0.425	95	2.70	Mg/m3
0.3	92		
0.212	82		
0.15	70		
0.063	63		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	2.7
Sand	33.9
Silt	50.6
Clay	12.8

Grading Analysis		
D100	mm	
D60	mm	0.0436
D30	mm	0.00744
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Date Sampled - 11/05/2022

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Checked and Approved

Initials: J.P

Date: 20/06/2022

2519

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

MSF-5-R3



TOPSOIL

Particle Size Distribution

BS3882:2015

Job No. 31866	Project Name 22-40573	Programme	
		Samples received	17/05/2022
Project No. 22-40573	Client ELAB	Schedule received	17/05/2022
		Project started	18/05/2022
		Testing Started	13/06/2022

Borehole No.	HP24	Sample Type	D
Depth (m)	0.10	Sample No.	279006

Results

Maximum Coarse Fragment Content

Stones 2-20mm	2.70	%
Stones 20-50mm	0.00	%
Stones >50mm	0.00	%

<2mm Fraction

Sand	34.84	%
Silt	52.00	%
Clay	13.16	%

Tests other than those summarised in this report have been carried out by others

Full grading analysis is attached overleaf

Sheet 2 of 2

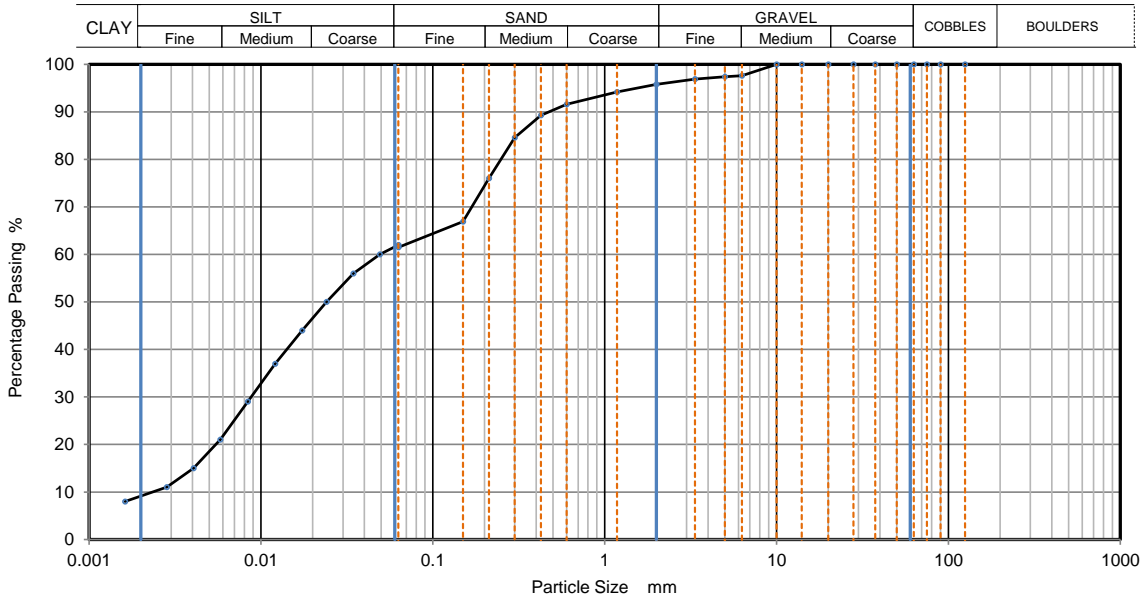
<p>K4 SOILS LABORATORY Unit 8 Olds Close Olds Approach Watford Herts WD18 9RU Tel: 01923 711 288 Email: james@K4soils.com</p>	<p>Checked and Approved Initials J.P Date: 20/06/2022</p>
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PARTICLE SIZE DISTRIBUTION

		Job Ref	31866
		Borehole/Pit No.	HP26
Site Name	22-40573	Sample No.	279008
Project No.	22-40573	Client	ELAB
Soil Description	Brown slightly gravelly slightly sandy clayey SILT with occasional rootlets (gravel is fm and sub-angular)	Depth Top	0.10 m
		Depth Base	- m
		Sample Type	D
		Samples received	17/05/2022
		Schedules received	17/05/2022
Test Method	BS1377:Part 2: 1990, clause 9.0	Project started	18/05/2022
		Date tested	13/06/2022

These results only apply to the items tested



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	62
90	100	0.0492	60
75	100	0.0345	56
63	100	0.0241	50
50	100	0.0174	44
37.5	100	0.0121	37
28	100	0.0084	29
20	100	0.0058	21
14	100	0.0040	15
10	100	0.0028	11
6.3	98	0.0016	8
5	97		
3.35	97		
2	96		
1.18	94		
0.6	92	Particle density (assumed)	
0.425	89	2.70	Mg/m3
0.3	85		
0.212	76		
0.15	67		
0.063	62		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	4.2
Sand	34.4
Silt	52.1
Clay	9.3

Grading Analysis		
D100	mm	
D60	mm	0.052
D30	mm	0.00865
D10	mm	0.00227
Uniformity Coefficient		23
Curvature Coefficient		0.63

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Date Sampled - 11/05/2022

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	Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)		MSF-5-R3



TOPSOIL

Particle Size Distribution

BS3882:2015

Job No. 31866	Project Name 22-40573	Programme	
		Samples received	17/05/2022
Project No. 22-40573	Client ELAB	Schedule received	17/05/2022
		Project started	18/05/2022
		Testing Started	13/06/2022

Borehole No.	HP26	Sample Type	D
Depth (m)	0.10	Sample No.	279008

Results

Maximum Coarse Fragment Content

Stones 2-20mm	4.20	%
Stones 20-50mm	0.00	%
Stones >50mm	0.00	%

<2mm Fraction

Sand	35.91	%
Silt	54.38	%
Clay	9.71	%

Tests other than those summarised in this report have been carried out by others

Full grading analysis is attached overleaf

Sheet 2 of 2

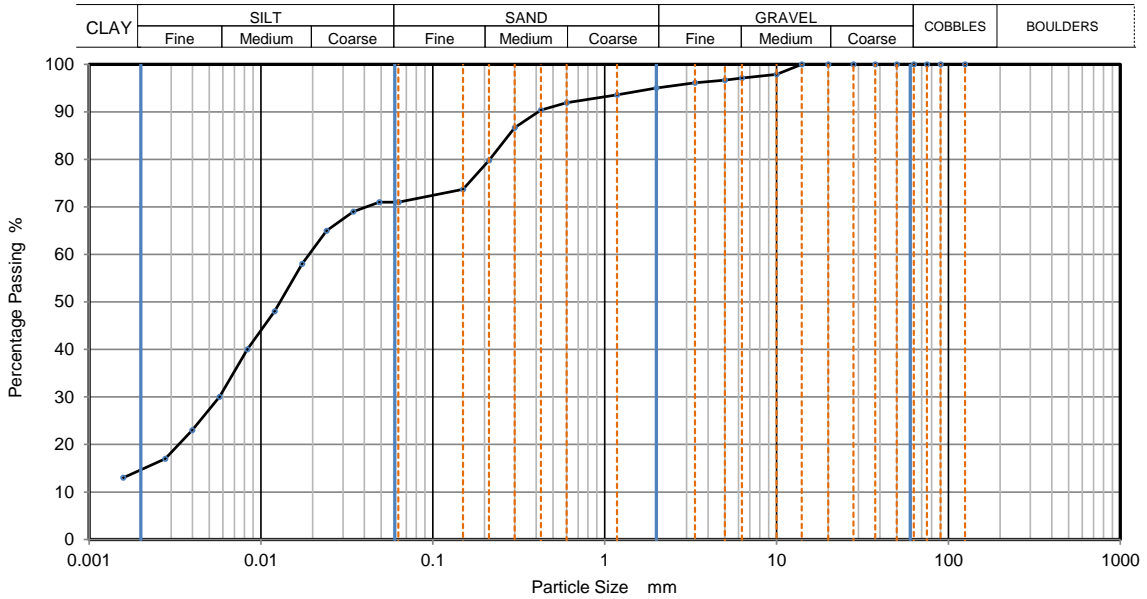
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PARTICLE SIZE DISTRIBUTION

		Job Ref	31866
		Borehole/Pit No.	HP27
Site Name	22-40573	Sample No.	279010
Project No.	22-40573	Client	ELAB
Soil Description	Brown slightly gravelly slightly sandy clayey SILT with occasional rootlets (gravel is fm and sub-angular)	Depth Top	0.10 m
		Depth Base	- m
		Sample Type	D
		Samples received	17/05/2022
		Schedules received	17/05/2022
Test Method	BS1377:Part 2: 1990, clause 9.0	Project started	18/05/2022
		Date tested	13/06/2022

These results only apply to the items tested



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	71
90	100	0.0488	71
75	100	0.0344	69
63	100	0.0241	65
50	100	0.0173	58
37.5	100	0.0120	48
28	100	0.0083	40
20	100	0.0057	30
14	100	0.0040	23
10	98	0.0028	17
6.3	97	0.0016	13
5	97		
3.35	96		
2	95		
1.18	94		
0.6	92	Particle density (assumed)	
0.425	90	2.70	Mg/m3
0.3	87		
0.212	80		
0.15	74		
0.063	71		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	5.0
Sand	24.1
Silt	56.2
Clay	14.7

Grading Analysis		
D100	mm	
D60	mm	0.0192
D30	mm	0.0056
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Date Sampled - 10/05/2022

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	Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)		MSF-5-R3



TOPSOIL

Particle Size Distribution

BS3882:2015

Job No. 31866	Project Name 22-40573	Programme	
		Samples received	17/05/2022
Project No. 22-40573	Client ELAB	Schedule received	17/05/2022
		Project started	18/05/2022
		Testing Started	13/06/2022

Borehole No.	HP27	Sample Type	D
Depth (m)	0.10	Sample No.	279010

Results

Maximum Coarse Fragment Content

Stones 2-20mm	5.00	%
Stones 20-50mm	0.00	%
Stones >50mm	0.00	%

<2mm Fraction

Sand	25.37	%
Silt	59.16	%
Clay	15.47	%

Tests other than those summarised in this report have been carried out by others

Full grading analysis is attached overleaf

Sheet 2 of 2

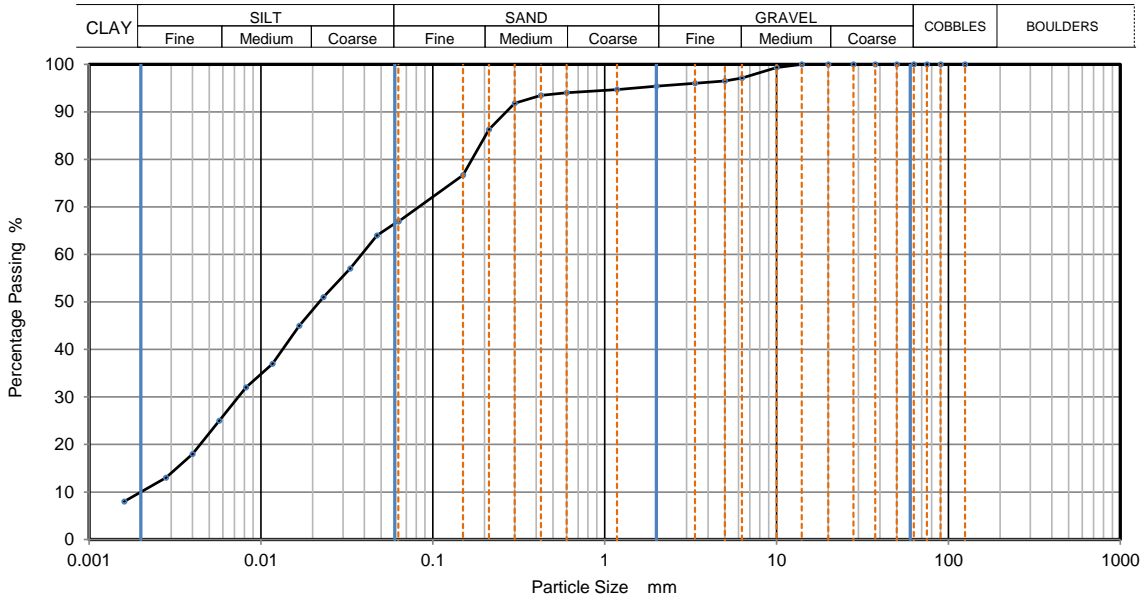
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PARTICLE SIZE DISTRIBUTION

		Job Ref	31866
		Borehole/Pit No.	HP28
Site Name	22-40573	Sample No.	279011
Project No.	22-40573	Client	ELAB
Soil Description	Brown slightly gravelly slightly sandy clayey SILT with occasional rootlets (gravel is fm and sub-angular)	Depth Top	0.20 m
		Depth Base	- m
		Sample Type	D
		Samples received	17/05/2022
		Schedules received	17/05/2022
Test Method	BS1377:Part 2: 1990, clause 9.0	Project started	18/05/2022
		Date tested	14/06/2022

These results only apply to the items tested



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	67
90	100	0.0472	64
75	100	0.0330	57
63	100	0.0231	51
50	100	0.0167	45
37.5	100	0.0117	37
28	100	0.0082	32
20	100	0.0057	25
14	100	0.0040	18
10	99	0.0028	13
6.3	97	0.0016	8
5	97		
3.35	96		
2	95		
1.18	95		
0.6	94	Particle density (assumed)	
0.425	94	2.70	Mg/m3
0.3	92		
0.212	86		
0.15	77		
0.063	67		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	4.6
Sand	28.5
Silt	57.1
Clay	9.8

Grading Analysis		
D100	mm	
D60	mm	0.0381
D30	mm	0.00726
D10	mm	0.00204
Uniformity Coefficient		19
Curvature Coefficient		0.68

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Date Sampled - 10/05/2022

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Checked and Approved

Initials: J.P

Date: 20/06/2022

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

MSF-5-R3



TOPSOIL

Particle Size Distribution

BS3882:2015

Job No. 31866	Project Name 22-40573	Programme	
		Samples received	17/05/2022
Project No. 22-40573	Client ELAB	Schedule received	17/05/2022
		Project started	18/05/2022
		Testing Started	13/06/2022

Borehole No.	HP28	Sample Type	D
Depth (m)	0.20	Sample No.	279011

Results

Maximum Coarse Fragment Content

Stones 2-20mm	4.60	%
Stones 20-50mm	0.00	%
Stones >50mm	0.00	%

<2mm Fraction

Sand	29.87	%
Silt	59.85	%
Clay	10.27	%

Tests other than those summarised in this report have been carried out by others

Full grading analysis is attached overleaf

Sheet 2 of 2

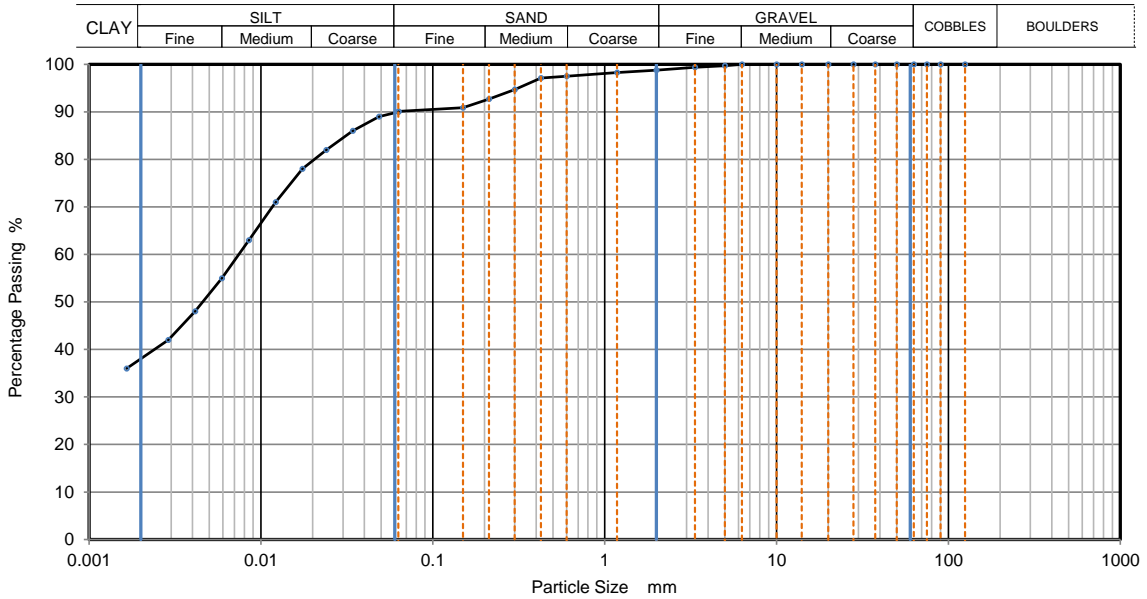
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PARTICLE SIZE DISTRIBUTION

		Job Ref	31866
		Borehole/Pit No.	HP29
Site Name	22-40573	Sample No.	279012
Project No.	22-40573	Client	ELAB
Soil Description	Brown slightly gravelly slightly sandy clayey SILT with occasional rootlets (gravel is fine and sub-angular)	Depth Top	0.10 m
		Depth Base	- m
		Sample Type	D
		Samples received	17/05/2022
		Schedules received	17/05/2022
Test Method	BS1377:Part 2: 1990, clause 9.0	Project started	18/05/2022
		Date tested	14/06/2022

These results only apply to the items tested



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	90
90	100	0.0486	89
75	100	0.0342	86
63	100	0.0240	82
50	100	0.0174	78
37.5	100	0.0122	71
28	100	0.0085	63
20	100	0.0059	55
14	100	0.0041	48
10	100	0.0029	42
6.3	100	0.0017	36
5	100		
3.35	99		
2	99		
1.18	98		
0.6	98	Particle density (assumed)	
0.425	97	2.70	Mg/m3
0.3	95		
0.212	93		
0.15	91		
0.063	90		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	1.2
Sand	8.8
Silt	51.8
Clay	38.2

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

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Date Sampled - 11/05/2022

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	Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)		MSF-5-R3



TOPSOIL

Particle Size Distribution

BS3882:2015

Job No. 31866	Project Name 22-40573	Programme	
		Samples received	17/05/2022
Project No. 22-40573	Client ELAB	Schedule received	17/05/2022
		Project started	18/05/2022
		Testing Started	13/06/2022

Borehole No.	HP29	Sample Type	D
Depth (m)	0.10	Sample No.	279012

Results

Maximum Coarse Fragment Content

Stones 2-20mm	1.20	%
Stones 20-50mm	0.00	%
Stones >50mm	0.00	%

<2mm Fraction

Sand	8.91	%
Silt	52.43	%
Clay	38.66	%

Tests other than those summarised in this report have been carried out by others

Full grading analysis is attached overleaf

Sheet 2 of 2

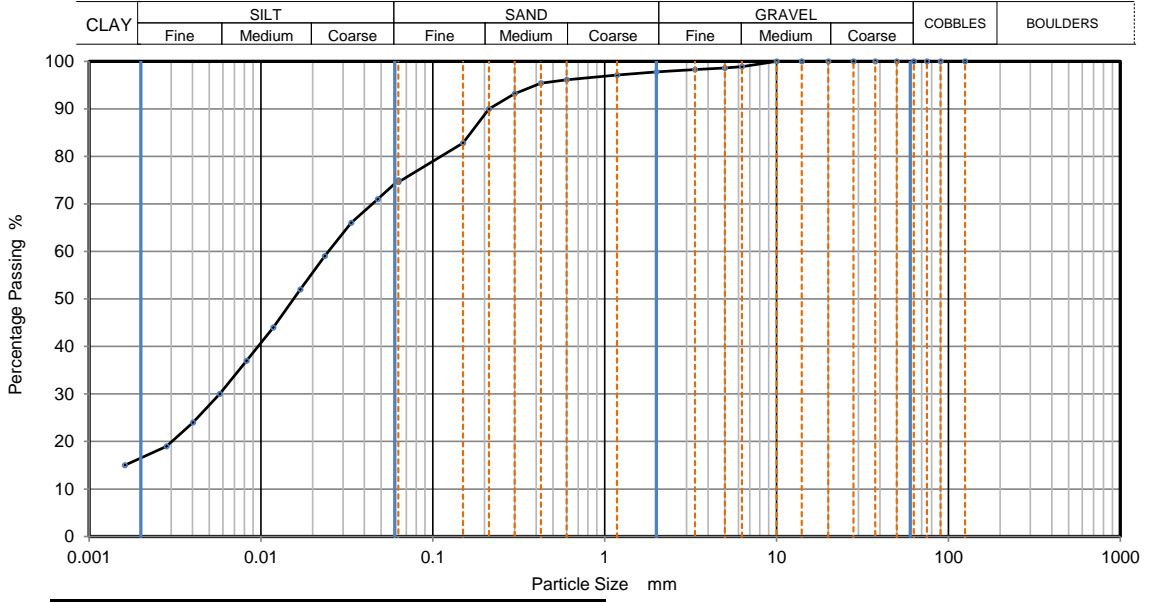
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PARTICLE SIZE DISTRIBUTION

		Job Ref	31866		
		Borehole/Pit No.	HP30		
Site Name	22-40573		Sample No.	279013	
Project No.	22-40573	Client	ELAB	Depth Top	0.00 m
Soil Description	Brown slightly gravelly slightly sandy clayey SILT with occasional rootlets (gravel is fm and sub-angular)			Depth Base	- m
				Sample Type	D
				Samples received	17/05/2022
				Schedules received	17/05/2022
Test Method	BS1377:Part 2: 1990, clause 9.0		Project started	18/05/2022	
				Date tested	14/06/2022

These results only apply to the items tested



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	75
90	100	0.0478	71
75	100	0.0335	66
63	100	0.0235	59
50	100	0.0169	52
37.5	100	0.0118	44
28	100	0.0082	37
20	100	0.0058	30
14	100	0.0040	24
10	100	0.0028	19
6.3	99	0.0016	15
5	99		
3.35	98		
2	98		
1.18	97		
0.6	96	Particle density (assumed)	
0.425	95	2.70	Mg/m3
0.3	93		
0.212	90		
0.15	83		
0.063	75		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	2.2
Sand	23.2
Silt	58.4
Clay	16.2

Grading Analysis		
D100	mm	
D60	mm	0.0247
D30	mm	0.0057
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with BS1377 unless noted below
Date Sampled - 10/05/2022

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	Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)	
	MSF-5-R3	



TOPSOIL

Particle Size Distribution

BS3882:2015

Job No. 31866	Project Name 22-40573	Programme	
		Samples received	17/05/2022
Project No. 22-40573	Client ELAB	Schedule received	17/05/2022
		Project started	18/05/2022
		Testing Started	13/06/2022

Borehole No.	HP30	Sample Type	D
Depth (m)	0.00	Sample No.	279013

Results

Maximum Coarse Fragment Content

Stones 2-20mm	2.20	%
Stones 20-50mm	0.00	%
Stones >50mm	0.00	%

<2mm Fraction

Sand	23.72	%
Silt	59.71	%
Clay	16.56	%

Tests other than those summarised in this report have been carried out by others

Full grading analysis is attached overleaf

Sheet 2 of 2

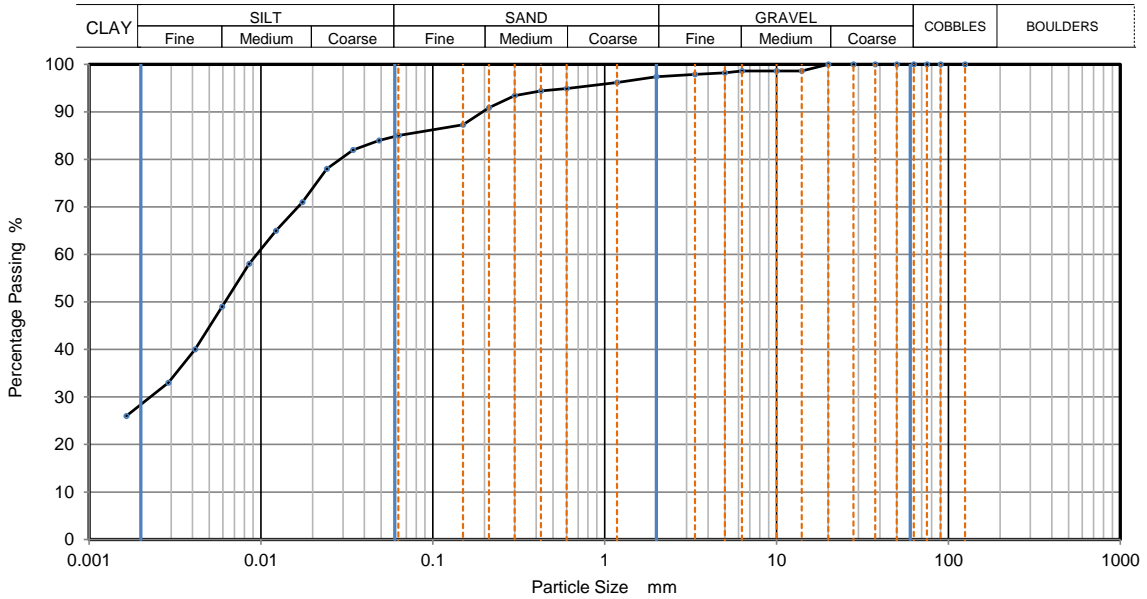
<p>K4 SOILS LABORATORY Unit 8 Olds Close Olds Approach Watford Herts WD18 9RU Tel: 01923 711 288</p> <p>Email: james@K4soils.com</p>	<p>Checked and Approved</p> <p>Initials J.P</p> <p>Date: 20/06/2022</p>
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PARTICLE SIZE DISTRIBUTION

		Job Ref	31866
		Borehole/Pit No.	HP31
Site Name	22-40573	Sample No.	279014
Project No.	22-40573	Client	ELAB
Soil Description	Light brown slightly gravelly slightly sandy clayey SILT with occasional rootlets (gravel is fm and sub-angular)	Depth Top	0.10 m
		Depth Base	- m
		Sample Type	D
		Samples received	17/05/2022
		Schedules received	17/05/2022
Test Method	BS1377:Part 2: 1990, clause 9.0	Project started	18/05/2022
		Date tested	14/06/2022

These results only apply to the items tested



Sieving		Sedimentation	
Particle Size mm	% Passing	Particle Size mm	% Passing
125	100	0.0630	85
90	100	0.0487	84
75	100	0.0343	82
63	100	0.0241	78
50	100	0.0174	71
37.5	100	0.0122	65
28	100	0.0085	58
20	100	0.0059	49
14	99	0.0041	40
10	99	0.0029	33
6.3	99	0.0016	26
5	98		
3.35	98		
2	97		
1.18	96		
0.6	95	Particle density (assumed)	
0.425	94	2.70	Mg/m3
0.3	93		
0.212	91		
0.15	87		
0.063	85		

Sample Proportions	% dry mass
Very coarse	0.0
Gravel	2.6
Sand	12.4
Silt	56.6
Clay	28.4

Grading Analysis		
D100	mm	
D60	mm	0.00955
D30	mm	0.00225
D10	mm	
Uniformity Coefficient		
Curvature Coefficient		

Remarks
Preparation and testing in accordance with BS1377 unless noted below

Date Sampled - 10/05/2022

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 UKAS TESTING 2519	K4 Soils Laboratory Unit 8, Olds Close, Watford, Herts, WD18 9RU Email: james@k4soils.com Tel: 01923 711288	Checked and Approved Initials: J.P Date: 20/06/2022	
	Approved Signatories: K.Phaure (Tech.Mgr) J.Phaure (Lab.Mgr)		MSF-5-R3



TOPSOIL

Particle Size Distribution

BS3882:2015

Job No. 31866	Project Name 22-40573	Programme	
		Samples received	17/05/2022
Project No. 22-40573	Client ELAB	Schedule received	17/05/2022
		Project started	18/05/2022
		Testing Started	13/06/2022

Borehole No.	HP31	Sample Type	D
Depth (m)	0.10	Sample No.	279014

Results

Maximum Coarse Fragment Content

Stones 2-20mm	2.60	%
Stones 20-50mm	0.00	%
Stones >50mm	0.00	%

<2mm Fraction

Sand	12.73	%
Silt	58.11	%
Clay	29.16	%

Tests other than those summarised in this report have been carried out by others

Full grading analysis is attached overleaf

Sheet 2 of 2

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