



Oaklands College & Land south of Sandpit Lane, St Albans

Agricultural Land Survey
and Impact Assessment

October 2025





Agricultural Land Classification:

Oaklands, St Albans, Hertfordshire

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REFERENCES

1 INTRODUCTION

1.1 Background

- 1.1.1 Taylor Wimpey commissioned this report to determine the quality of agricultural land which is subject of a Hybrid Planning Application which seeks to bring forward a new mixed-use development for education facilities at Oaklands College and new residential dwellings, extra care units, new local centre, community floorspace and provision of land for a primary school at Oaklands College on land located south of Sandpit Lane, St Albans, as shown in **Figure 1**. The approximate centre of the Study Area is located at British National Grid (BNG) reference TL179082. Sandpit Lane encloses the Study Area to the north, Oaklands Lane to the east, urban development, schools (i.e., Beaumont School and Oakwood Primary School), and woodland (i.e., Home Wood) to the west, and Hatfield Road (A1057) to the south. The Study Area includes buildings and roads associated with Oaklands College, as well as an equestrian centre located to the north of the college. The assessment was made following the Agricultural Land Classification (ALC) system for England and Wales (see 'Methodology' below).
- 1.1.2 The former Ministry of Agriculture, Fisheries, and Food (MAFF)¹ has carried out a Post 1988 ALC survey of a large proportion of the Study Area, i.e., approximately 30.8ha, in the northeast, centre, and south, i.e., Agricultural Land Classification and Statement of Physical Characteristics: Oaklands College, St Alban Hertfordshire, in November 1997 (MAFF Reference EL18/2539; ALCC06497), given as **Appendix 1** (see Section 4.2 of this report also). To complement the MAFF Post 1988 ALC grading of land in the Study Area, an additional ALC survey was conducted in June 2025, as described in the remainder of this report.

1.2 Competency

- 1.2.1 The work has been carried out by a Chartered Scientist (CSci), who is a Fellow (F.I. Soil Sci) of the British Society of Soil Science (BSSS). The soil surveyor meets the requirements of the BSSS Professional Competency Standard (PCS) scheme for ALC (see BSSS PCS Document 2 '*Agricultural Land Classification of England and Wales*'²). The BSSS PCS scheme is endorsed, amongst others, by the Department for Environment, Food and Rural Affairs (Defra), Natural England, the Science Council, and the Institute of Environmental Assessment and Management (IEMA).

1.3 Methodology

- 1.3.1 This assessment is based upon the findings of a study of published information on climate, geology and soil in combination with a soil investigation carried out in accordance with the Ministry of Agriculture, Fisheries and Food (MAFF) '*Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land*', October, 1988 (henceforth referred to as the 'the ALC Guidelines')³.

- 1.3.2 The ALC system provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use. The ALC system divides agricultural land into five grades (Grade 1 'Excellent' to Grade 5 'Very Poor'), with Grade 3 subdivided into Subgrade 3a 'Good' and Subgrade 3b 'Moderate'. Agricultural land classified as Grade 1, 2, and Subgrade 3a falls in the 'best and most versatile' category in Paragraphs 187 and 188 (and Footnote 65) of the National Planning Policy Framework (NPPF) revised on the 12th of December 2024. Further details of the ALC system and national planning policy implications are set out in Natural England's 'Guide to assessing development proposals on agricultural land' online⁴.
- 1.3.3 A detailed soil survey and ALC of approximately 20.9 hectares (ha) of agricultural land within the Study Area that is not covered by the MAFF Post-1988 ALC (see **Appendix 1** and Section 4.2 of this report) survey was conducted on the 25th of June 2025. The ALC survey involved examining the soil's physical properties at a density of approximately one auger bore per hectare. The soil profile was examined at each sample location to a maximum depth of approximately 1.2 m by hand using a 5cm diameter Dutch (Edleman) soil auger. One soil pit, i.e., Pit 1, near auger bore 4, was excavated by hand with a spade to examine specific soil physical properties, such as stone content and the structural condition of the subsoil, more closely. The locations of the auger bores and the soil pits are shown in **Figure 1**. A log of the soil profiles recorded at each auger bore location within the Study Area is given in **Appendix 2**, and a detailed description of the soil pit is provided in **Appendix 3**.
- 1.3.4 The auger-bore locations were located using a hand-held Garmin E-Trec Geographic Information System (GIS) to enable the sample locations to be relocated for verification, if necessary. Where auger locations on a 100 m grid pattern fall on headland, tramlines, or within 3 m of a hedgerow or tree, they were relocated on agricultural land close by, i.e., to avoid compacted ground or land affected by tree roots, etc.
- 1.3.5 The soil profile at each sample location was described using the 'Soil Survey Field Handbook: Describing and Sampling Soil Profiles' (Ed. J.M. Hodgson, Cranfield University, 1997). Each soil profile was ascribed an Agricultural Land Classification (ALC) grade following the MAFF ALC Guidelines.
- 1.3.6 The texture of the topsoil and subsoil was determined on site by hand-texturing following Natural England's best practice guidance⁵. To validate the hand-texturing, a topsoil sample was collected at three auger bore locations, i.e., 4, 13, and 18, as shown in **Figure 1**. The samples were sent to an accredited laboratory for particle size analysis, i.e., the proportions of sand, silt, and clay. This is to determine the definitive texture class of the topsoil and especially to differentiate medium clay loams (i.e., <27% clay) from heavy clay loams (27% to 35% clay). A test report outlining the laboratory's findings on topsoil texture analysis is provided in **Appendix 4**.

1.4 Structure of the Remainder of this Report

- 1.4.1 The remainder of this report is structured as follows:

- Section 2 – Planning Policy Framework
- Section 3 – Agricultural Land Classification;
 - Climate;
 - Site (Gradient, Micro-relief, Risk of Flooding);
 - Soil (Geology, Soil Properties);
 - Interactive Limitations (Soil Droughtiness, Soil Wetness);
 - ALC Grading within the Study Area.
- Section 4 - ALC in the Study Area in a Wider Geographical Context;
- Section 5 – Summary and Conclusions

2 NATIONAL PLANNING POLICY FRAMEWORK AND RELEVANT GUIDANCE

2.1 Background

2.1.1 This section of the report sets out the national and local planning framework to assess the opportunities and constraints to development at the Site in agricultural land quality terms.

2.2 National Planning Policy Framework (NPPF) December 2024

2.2.1 National planning policy guidance on development involving agricultural land is set out in National Planning Policy Framework (NPPF), revised on the 12th of December 2024. The NPPF aims to provide a simplified planning framework that sets out the Government's economic, environmental, and social planning policies for England. The NPPF includes policy guidance on *'Conserving and Enhancing the Natural Environment'* (Section 15). Paragraphs 187 and 188 (and Footnote 65) are relevant to this assessment of agricultural land quality and soil, as follows:

'187...Planning policies and decisions should contribute to and enhance the natural and local environment by:

a) 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);

b) 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;...'

2.2.2 Paragraph 188 of the NPPF (2024) states that *'188. 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 Framework⁶⁵...'*. Footnote number 65 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.'*

2.3 Soil Functions and Soil Health

2.3.1 Aims and objectives for safeguarding and, where possible, improving soil health are set out in the Government's *'Safeguarding our soils: A strategy for England'*⁶. The Soil Strategy for England, which builds on Defra's *'Soil Action Plan for England (2004-2006)*, sets out an ambitious vision to protect and improve soil to meet an increased global demand for food and to help combat the adverse effects of climate change.

2.3.2 The Soil Strategy for England states that *'...soil is a fundamental and essentially non-renewable natural resource, providing the essential link between the components that make up our*

environment. Soils vary hugely from region to region and even from field to field. They all perform a number of valuable functions⁷ or ecosystem services for society’.

2.3.3 The main soil functions are:

- Food and other biomass production;
- Environmental Interaction: storage (including carbon sequestration), filtering, and transformation;
- Biological habitat and gene pool;
- Source of raw materials;
- Physical and cultural heritage; and
- Platform for man-made structures: buildings, highways.

2.3.4 The vision of the Soil Strategy for England has been developed in the Government’s 25-Year Plan for the Environment⁸. Soil is recognised as an important national resource, and the Plan states that:

‘We will ensure that resources from nature, such as food, fish and timber, are used more sustainably and efficiently. We will do this (in part) by:

....improving our approach to soil management: by 2030 we want all of England’s soils to be managed sustainably, and we will use natural capital thinking to develop appropriate soil metrics and management approaches...’

2.3.5 The maintenance and improvement of soil health is, therefore, a material consideration when deciding if development is appropriate on agricultural land. Soil health can be defined as a soil’s ability to function and sustain plants, animals, and humans as part of the ecosystem.

2.4 Best Practice Guidance

2.4.1 This assessment of agricultural land and soil has drawn on best practice guidance set out in the key documents below:

- The Institute of Civil Engineering (ICE) provides guidance on assessing agricultural land quality and soil in the *‘Environmental Impact Assessment Handbook: A practical guide for planners, developers and communities’*⁹.
- The Institute of Environmental Assessment and Management (IEMA) has produced a *‘New Perspective on Land and Soil in Environmental Assessment’*¹⁰, encouraging a new approach to assessing soil functions, ecosystem services and natural capital provided by land and soils.
- The Department for Environment, Food and Rural Affairs (Defra) has published *‘Safeguarding our Soils – A Strategy for England’* (24th September 2009)¹¹. The Soil

Strategy was published in tandem with a ‘*Code of Practice for the Sustainable Use of Soils on Construction Sites*’¹². The Soil Strategy for England, which builds on Defra’s ‘*Soil Action Plan for England (2004-2006)*’, sets out an ambitious vision to protect and improve soil to meet an increased global demand for food and to help combat the adverse effects of climate change.

- This project also follows best practice published by the British Society of Soil Science on ‘Benefitting from Soil Management in Development and Construction.’
- Best practice will also be followed for soil handling published by the Institute of Quarrying (2021) ‘*Good Practice for Handling Soils in Mineral Workings*’ (Sheets A to E are mainly relevant to this assessment)¹³.
- This assessment also considers recent guidance produced by the Soils in Planning Construction Task Force (Lancaster University *et al*) regarding ‘*Building on soil sustainability: Principles for soils in planning and construction*’ (September 2022)¹⁴. This report contains guidance for local authorities, contractors, clients, developers, and design teams on managing soil in construction and planning. This guidance for conserving soil resources on-site follows the principles of sustainable development and the circular economy (defined as ‘*The circular economy is a model of production and consumption, which involves sharing, leasing, reusing, repairing, refurbishing and recycling existing materials and products as long as possible. In this way, the **life cycle of products is extended**. In practice, it implies **reducing waste** to a minimum. When a product ends its life, its materials are kept within the economy wherever possible. These can be productively used repeatedly, thereby **creating further value***’¹⁵.

3 AGRICULTURAL LAND CLASSIFICATION

3.1 Background

3.1.1 This section of the report sets out the Agricultural Land Classification (ALC) findings of the additional ACL survey conducted in June 2025. It is based on a desktop study of relevant published information on climate, topography, geology, and soil in conjunction with a soil survey. As described in the ALC Guidelines, the main physical factors influencing agricultural land quality are:

- climate;
- site;
- soil; and
- interactive limitations.

3.1.2 These factors are considered in turn below.

3.2 Climate

3.2.1 Interpolated climate data relevant to the determination of the Agricultural Land Classification (ALC) grade of land at the Site is given in Table 3.1 below.

Climate Parameter	Grid Ref: TL179 082
Average Altitude (m)	89
Average Annual Rainfall (mm)	670
Accumulated Temperature above 0°C (January – June) ¹⁶	1396
Field Capacity Days (FCD)	138
Moisture Deficit (mm) Wheat	108
Moisture Deficit (mm) Potatoes	101
Grade According to Climate	1

3.2.2 Regarding Figure 1 ‘Grade according to climate’ on page 6 of the ALC Guidelines, there is no overall climatic limitation to the quality of agricultural land at the Site. This means that agricultural land at the Site could be graded as Grade 1 in overall climatic terms, without any other limiting factor, i.e., site, soil, and/or interactive limitations.

- 3.2.3 Agricultural land in the Study Area is predicted to be at field capacity (i.e., the amount of soil moisture or water content held in the soil after excess water has drained away) for 138 Field Capacity Days (FCD) per year, mainly over the late autumn, winter, and early spring. The combination of topsoil texture, drainage status (Wetness Class) of the profile, and the number of FCD affects the degree to which agricultural land is limited by soil wetness. The climate at the Site falls in the 126-150 category (regarding Table 6 of the ALC Guidelines), as described in more detail under '*interactive limitations*' below.

3.3 Site

As described in the introduction, the Study Area is located at Oaklands college, to the east of St Albans, Hertfordshire, as shown in **Figure 1**. The approximate centre of the Study Area is located at British National Grid (BNG) reference TL179082. Sandpit Lane encloses the Study Area to the north, Oaklands Lane to the east, urban development, schools (i.e., Beaumont School and Oakwood Primary School), and woodland (i.e., Home Wood) to the west, and Hatfield Road (A1057) to the south. The Study Area includes buildings and roads associated with Oaklands College, as well as an equestrian centre located to the north of the college.

- 3.3.1 Regarding the ALC Guidelines, agricultural land quality can be limited by one or more of three main site factors as follows:

- gradient;
- micro-relief (i.e., complex change in slope angle over short distances); and
- risk of flooding.

I. Gradient and Micro-Relief

- 3.3.2 The Study Area is located on a gentle, northeast-facing slope at approximately 91 metres (m) above Ordnance Datum (AOD) at the highest point near auger bore 20 and approximately 80mAOD at the lowest elevation near auger bore 5. The quality of agricultural land is not limited by gradient (i.e., less than 7°, as per Table 1 of the ALC Guidelines). The quality of agricultural land in the Study Area is not limited by micro-relief, i.e., complex changes in slope angle and direction that occur over short distances.

II. Risk of Flooding

- 3.3.3 From the Government Flood Map for Planning website¹⁷, the Study Area is in Flood Zone 1 at a low risk of flooding. The MAFF ALC Guidelines (1988) take account of the frequency, duration, and timing of flooding in the summer and winter (re Table 2 '*Grade according to flood risk in summer*' and/or Table 3 '*Grade according to flood risk in winter*'). There is no evidence (i.e., data for frequency, duration, and timing of flood events) that the grade of agricultural land at the Site is limited by flooding during the summer or winter following the criteria in the ALC Guidelines.

3.4 Soil

I. Geology/Soil Parent Material

- 3.4.1 British Geological Survey (BGS) information online¹⁸ has been used to identify the Bedrock underlying the Site and any Superficial (Drift) Deposits over the Bedrock. This information helps to determine the parent material in which the soil has formed.
- 3.4.2 The BGS information shows the Study Area is mainly underlain by chalk of the Lewes Nodular Formation and Seaford Chalk Formation. The site is covered by superficial deposits described as diamicton Till of the Lowestoft Formation, with some sand and gravel of the Kesgrave Catchment Subgroup present in the north.

II. Published Information on Soil

- 3.4.3 The National Soil Map¹⁹ reports that most of the agricultural land in the Study Area is predominantly covered by soils in the Hornbeam 3 Association, with some soils in the Charity 2 Association present in the northeast. As described by the Soil Survey of England and Wales (SSEW)²⁰, the soils in the Hornbeam 3 association are fine loamy over clayey with slowly permeable subsoils; they suffer from some seasonal waterlogging. About a third of the soils belong to Hornbeam series, stagnogleyic paleo-argillic brown earths, with red mottled, deeply weathered subsoils, but there are also some similar soils, lacking reddish mottles, belonging to the Kearby series. Locally soils with calcareous subsoils within 80 cm depth occur. These include Ashley series, stagnogleyic argillic brown earths, covering about a fifth of the land and Faulkbourne series, argillic pelosols, which is clayey throughout and has a well-structured chalky subsoil. Oak series also occur and these paleo-argillic stagnogley soils, are similar to Hornbeam in texture and degree of weathering. They occupy flat plateau sites and, showing greater mottling, remain waterlogged for longer periods in winter. Local accumulations of thick aeolian silty drift give Hook series. Thinner deposits carry Batcombe soils, similar to Hornbeam series but with fine silty horizons overlying clayey subsoils. Most of the soils have a slowly permeable clayey subsoil and suffer some degree of waterlogging (Wetness Class II to III). They respond well to drainage which is usually necessary for continuous arable use. Oak soils are wetter (Wetness Class III or IV) and less easily improved.
- 3.4.4 The SSEW describe how the Charity 2 Association occurs in valleys in chalk country where the hilltops are capped by Plateau Drift. The association frequently occupies the whole of narrow dry valleys but in broad valleys it is found on lower slopes, and where there are streams it flanks their narrow floodplains. The soils are developed in flinty and chalky Head derived from Plateau Drift and the Chalk. The main soils are brown, well drained and fine silty. Charity soils, deep typical argillic brown earths in flinty drift are usually non-calcareous, whereas the similar Garston soils have chalk at moderate depth. Coombe soils are typical brown calcareous earths in chalky drift and Panholes soils are similar but with chalk at moderate depth. Andover soils are shallow silty brown rendzinas over chalk. The Head in which the main soils are formed

varies in thickness; it is thickest in valley bottoms, along lower slopes and on upper valley sides just below the Plateau Drift. It is in these sites that Charity soils occur chiefly. Garston soils are found where the flinty silty Head thins on valley sides. Coombe or Panholes soils are present on lower slopes and on valley sides, depending on the thickness of chalky Head over chalk, whereas Andover soils are confined to the steep valley sides where the Head is thin or absent. Local patches of Frilsham and Soham soils reflect the presence of fine loamy, rather than silty, material in the adjacent Plateau Drift. The soils are permeable and well drained (Wetness Class I). Excess winter rain drains easily into the soil on level to moderately sloping ground, but some run-off takes place on steeper slopes.

III. Soil Survey

- 3.4.5 A log of the soil profiles recorded in the Study Area (see **Figure 1**) is given in **Appendix 2**. A description of Soil Pit 1 is given in **Appendix 3**. The detailed soil survey determined two main soil types. The first type consists of a brown (Munsell colour 10YR4/3), slightly stony medium clay loam or heavy clay loam topsoil over yellowish brown (10YR5/4) heavy silty clay loam upper subsoil, over strong brown (7.5YR5/6) clay subsoil. The soil profiles are gleyed in the top 40cm and they are slowly permeable and seasonally waterlogged (Wetness Class III).
- 3.4.6 The second type consists of a dark brown (Munsell colour 10YR3/3) medium clay loam topsoil over a brown (10YR4/3) medium clay loam upper subsoil, which in turn is over a yellowish brown (10YR5/4) heavy silty clay loam subsoil. The soil profiles gleyed in the top 40cm but do not contain a slowly permeable layer and have been placed in Wetness Class II.

Topsoil Particle Size Analysis

- 3.4.7 As described under '*Methodology*' earlier, to validate soil texture recorded on site, a topsoil sample was collected at auger bore locations 4, 13, and 18, as shown in **Figure 1**. Based on the British Standard Institution particle size grades, the topsoil samples were sent to an accredited laboratory for particle size (texture) analysis. The certificate of analysis is given in **Appendix 4**. The findings of the topsoil texture analysis are shown in Table 3.2 below:

Topsoil Sample Location (See Fig. 1)	% sand 0.063-2.0 mm	% silt 0.002- 0.063 mm	% clay <0.002 mm	ALC Soil Texture Class
4	33	49	18	Medium Clay Loam
13	37	42	21	Medium Clay Loam
18	31	42	27	Heavy Clay Loam

3.5 Interactive Limitations

- 3.5.1 From the published MAFF ALC information above, it has been determined that the quality of agricultural land within the Study Area is limited by soil wetness, and soil droughtiness, as described below.

I. Soil Wetness

3.5.2 From the ALC Guidelines, a soil wetness limitation exists where *'the soil water regime adversely affects plant growth or imposes restrictions on cultivations or grazing by livestock'*. Agricultural land quality at the Site is limited by soil wetness according to the combination of (i) number of Field Capacity Days (FCD), (ii) topsoil texture, and (iii) soil wetness class, as set out in Table 3.3 below (based on Table 6 *'Grade According to Soil Wetness – Mineral Soils'* in the ALC Guidelines):

Table 3.3: ALC Grade According to Soil Wetness		
Wetness Class	Texture of the Top 25 cm	126-150 Field Capacity Days
I	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam	1
	Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam*	1
	Heavy Clay Loam**	2
	Sandy Clay/Silty Clay/Clay	3a(2)
II	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam	1
	Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam*	2
	Heavy Clay Loam**	3a(2)
	Sandy Clay/Silty Clay/Clay	3b(3a)
III	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam	2
	Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam*	3a(2)
	Heavy Clay Loam**	3b(3a)
	Sandy Clay/Silty Clay/Clay	3b(3a)
IV	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam	3a
	Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam*	3b
	Heavy Clay Loam**	3b
	Sandy Clay/Silty Clay/Clay	3b
Key * <27% clay; and ** >27% clay		

3.5.3 In a climate area with 138 Field Capacity Days (FCD), soil profiles that are slightly seasonally waterlogged in Wetness Class II are limited by soil wetness to Grade 2 where the topsoil is medium clay loam. Profiles that are seasonally waterlogged (i.e., Wetness Class III) with a medium clay loam topsoil are limited by soil wetness to Subgrade 3a. Profiles that are seasonally waterlogged (i.e., Wetness Class III) with a heavy clay loam topsoil are limited by soil wetness to Subgrade 3b.

II. Soil Droughtiness

3.5.4 From the ALC Guidelines, a soil droughtiness limitation exists *'in areas with relatively low rainfall or high evapotranspiration, or where the soil holds only small reserves of moisture available to plant roots.'* The ALC grade according to soil droughtiness is shown in Table 3.4

below (based on Table 8 'Grade According to Droughtiness' in the ALC Guidelines). To be eligible for Grades 1 to 3b, the moisture balances (MBs) must be equal to or exceed the stated minimum values for both wheat and potatoes. If the MB for either crop is less (i.e., more negative) than that shown for Subgrade 3b, the soil is Grade 4 on droughtiness):

Table 3.4: ALC Grade According to Droughtiness (re Table 8 of the MAFF ALC Guidelines)

Grade/Subgrade	Moisture Balance (MB) Limits (mm)	
	Wheat	Potatoes
1	+30	+10
2	+5	-10
3a	-20	-30
3b	-50	-55
4	<-50	<-55

3.5.5 As shown in **Appendix 2**, it has been calculated that soil profiles across the Study Area have a moisture balance (MB) value of between 5mm and 30mm for wheat, and occasionally -10mm and 10mm for potatoes, which limits them to Grade 2 due to soil droughtiness.

3.6 ALC Grading at the Site

3.5.1 As described above, the former MAFF has surveyed approximately 30.8 ha of agricultural land within the Study Area, as given in **Appendix 1** (see Section 4.2 also).

3.5.2 To complement the MAFF Post 1988 ALC information and cover the remainder of the agricultural land in the Study Area an additional ALC survey of approximately 20.9ha of agricultural land was conducted in June 2025. It was determined that agricultural land quality is limited by soil wetness and/or soil droughtiness to Grade 2, and by soil wetness to Subgrade 3a, and Subgrade 3b.

3.5.3 The remainder of the Study Area that is not covered by the MAFF Post 1988 ALC survey also includes approximately 18.7ha of land classified as 'other/non-agricultural land', comprising buildings and roads at Oaklands College, an equestrian centre, and parcels of woodland.

3.5.4 The area (ha) in each ALC grade in the Study Area has been measured from (i) the MAFF Post 1988 ALC survey (i.e., ALCC06497 given in **Appendix 1**, and Section 4.2), and (ii) from the ALC map of the additional survey conducted in June 2025 given in **Figure 2**. A composite ALC map, combining the MAFF Post 1988 ALC, and the additional ALC in the remainder of the Application Area, is given in **Figure 3**.

3.5.5 The area (ha) of land in each ALC grade and the proportion (i.e., % of the Study Area) are given in Table 3.4.

Table 3.4: Agricultural Land Classification – Oaklands, St Albans, Hertfordshire				
ALC Grade	Study Area (Ha) covered by the MAFF Post 1988 ALC (ALCC06497) given in Appendix 1	Area (%) of remainder of agricultural land in the Study Area surveyed in June 2025	Total Area (Ha)	Total Area (%)
Grade 1 (Excellent)	0	0	0	0
Grade 2 (Very Good)	14.7	1.5	16.2	23.0
Subgrade 3a (Good)	6.3	10	16.3	23.2
Subgrade 3b (Moderate)	7.9	9.4	17.3	24.6
Grade 4 (Poor)	0	0	0	0.0
Grade 5 (Very Poor)	0	0	0	0
Other Land / Non-agricultural	1.9	18.7	20.6	29.3
Total	30.8	39.6	70.4	100

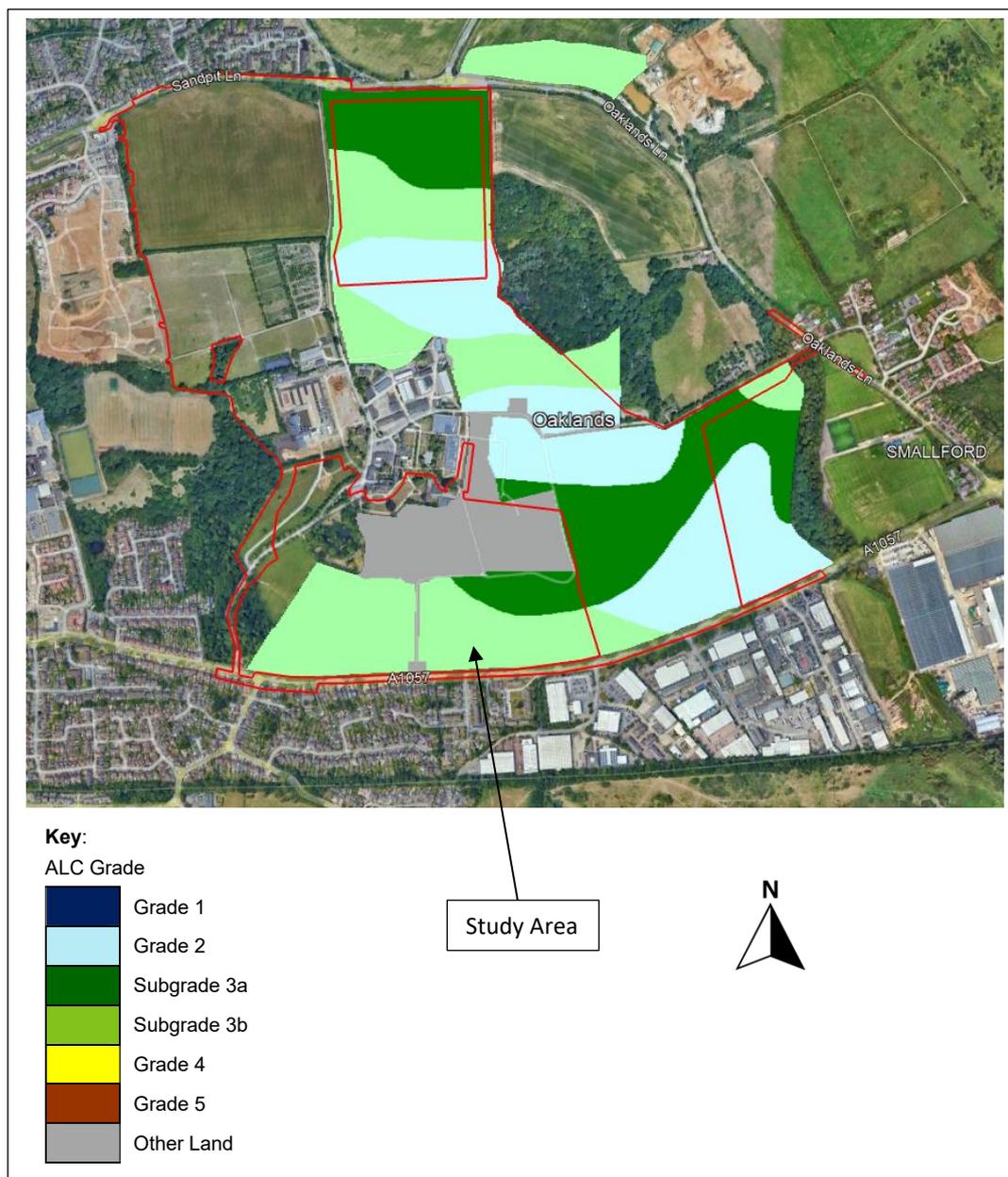
4 ALC AT THE SITE IN A WIDER GEOGRAPHICAL CONTEXT

4.1 Introduction

4.1.1 This section aims to examine agricultural land quality in the Study Area in a wider geographical context.

4.2 Post-1988 ALC Information

4.2.1 The former MAFF has carried a Post-1988 ALC survey of agricultural land in the northeastern, central and southern parts of the Study Area, as shown on an extract from the Post-1988 Agricultural Land Classification map online²¹ below (see **Appendix 1** also).



4.2.2 As shown above, MAFF Post-1988 ALC surveys have determined a mixture of Grade 2, Subgrade 3a, and Subgrade 3b, with some 'other/non-agricultural land' within the Study Area.

5 SUMMARY AND CONCLUSIONS

- 5.1.1 Taylor Wimpey commissioned this report to determine the quality of agricultural land which is subject of a Hybrid Planning Application which seeks to bring forward a new mixed-use development for education facilities at Oaklands College and new residential dwellings, extra care units, new local centre, community floorspace and provision of land for a primary school at Oaklands College on land located south of Sandpit Lane, St Albans, as shown in **Figure 1**. The approximate centre of the Study Area is located at British National Grid (BNG) reference TL179082. Sandpit Lane encloses the Study Area to the north, Oaklands Lane to the east, urban development, schools (i.e., Beaumont School and Oakwood Primary School), and woodland (i.e., Home Wood) to the west, and Hatfield Road (A1057) to the south. The Study Area includes buildings and roads associated with Oaklands College, as well as an equestrian centre located to the north of the college. The assessment was made following the Agricultural Land Classification (ALC) system for England and Wales.
- 5.1.2 The former Ministry of Agriculture, Fisheries, and Food (MAFF)²² has carried out a Post 1988 ALC survey of a large proportion of the Study Area, i.e., approximately 30.8ha, in the northeast, centre, and south, i.e., Agricultural Land Classification and Statement of Physical Characteristics: Oaklands College, St Alban Hertfordshire, in November 1997 (MAFF Reference EL18/2539; ALCC06497), given as **Appendix 1** (see Section 4.2 of this report also). To complement the MAFF Post 1988 ALC grading of land in the Study Area, an additional ALC survey was conducted in June 2025, as described in the remainder of this report.
- 5.1.3 A detailed soil survey and ALC of approximately 20.9 hectares (ha) of agricultural land within the Study Area that is not covered by the MAFF Post-1988 ALC (see **Appendix 1** and Section 4.2 of this report) survey was conducted on the 25th of June 2025. The ALC survey involved examining the soil's physical properties at a density of approximately one auger bore per hectare. The remainder of the Study Area that is not covered by the MAFF Post 1988 ALC survey also includes approximately 18.7ha of land classified as 'other/non-agricultural land', comprising buildings and roads at Oaklands College, an equestrian centre, and parcels of woodland.
- 5.1.4 The area (ha) in each ALC grade in the Study Area has been measured from (i) the MAFF Post 1988 ALC survey (i.e., ALCC06497 given in **Appendix 1**, and Section 4.2), and (ii) from the ALC map of the additional survey conducted in June 2025 given in **Figure 2**. The area (ha) of land in each ALC grade and the proportion (i.e., % of the Study Area) are given in Table 3.4.
- 5.1.5 By combining the MAFF Post 1988 ALC survey and the additional ALC survey in June 2025, it has been determined that agricultural land within the 70.4ha Study Area, is limited to Grade 2 (i.e., 16.2ha or 23.0% of the Study Area), Subgrade 3a (i.e., 16.3a or 23.2% of the Study Area), and Subgrade 3b (i.e., 17.3ha or 24.6% of the Study Area). Approximately 20.6ha, or 29.3%, of the Study Area is classified as non-agricultural, including buildings and roads at Oaklands College, an equestrian centre, and parcels of woodland.

- 5.1.6 Therefore, approximately 54% of the Study Area comprises non-BMV (i.e., Subgrade 3b) and non-agricultural land (i.e., approximately 24.6% of Subgrade 3b, and approximately 29.3ha of 'other/non-agricultural land'). Of the remainder, the Grade 2 (i.e., 23%) and Subgrade 3a (i.e., 23.2%) in the Study Area is enclosed by roads, urban development, and woodland.
- 5.1.7 The proposed scheme will follow best practices for soil management to help improve soil health, such as: (i) increasing soil organic matter (SOM), and hence soil organic carbon (SOC), (ii) increasing soil biodiversity, and (iii) improving soil structure. This is consistent with aims and objectives for improving soil health in the Government's 25-Year Plan for the Environment and the Soils in Planning Construction Task Force's (including Cornwall Council, Lancaster University, and The Landscape Institute *et al*) '*Building on soil sustainability: Principles for soils in planning and construction*' (September 2022).
- 5.1.8 Post-consent, a Soil Management Plan (SMP) will be produced for the construction phase. The SMP will sit alongside or form part of the Construction Environmental Management Plan (CEMP), or similar. A Condition of planning consent could secure the SMP.
- 5.1.9 In conclusion, the proposed development in the Study Area, comprising approximately 54% of non-BMV (i.e., Subgrade 3b) and non-agricultural land would not significantly harm national interests in agricultural land quality terms regarding paragraphs 187 and 188 (and Footnote 65) of the National Planning Policy Framework (12th of December 2024).

Figures



Key

- ALC Study Area
- Auger Location
- ⊙ Auger and Topsoil Sample Location
- Soil Pit

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Client:
Taylor Wimpey

Project:
Oaklands, St Albans, Hertfordshire

Title:
Figure 1: Sample Locations

Scale @ Size:
 Not to Scale

Date:
 12/09/2025

Project No: C1240

Drawing No: RWA/01



Key:

— ALC Study Area

ALC Grade

- Grade 1
- Grade 2
- Subgrade 3a
- Subgrade 3b
- Grade 4
- Grade 5
- Other Land

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Figure 2: Agricultural Land Classification

Scale @ Size:

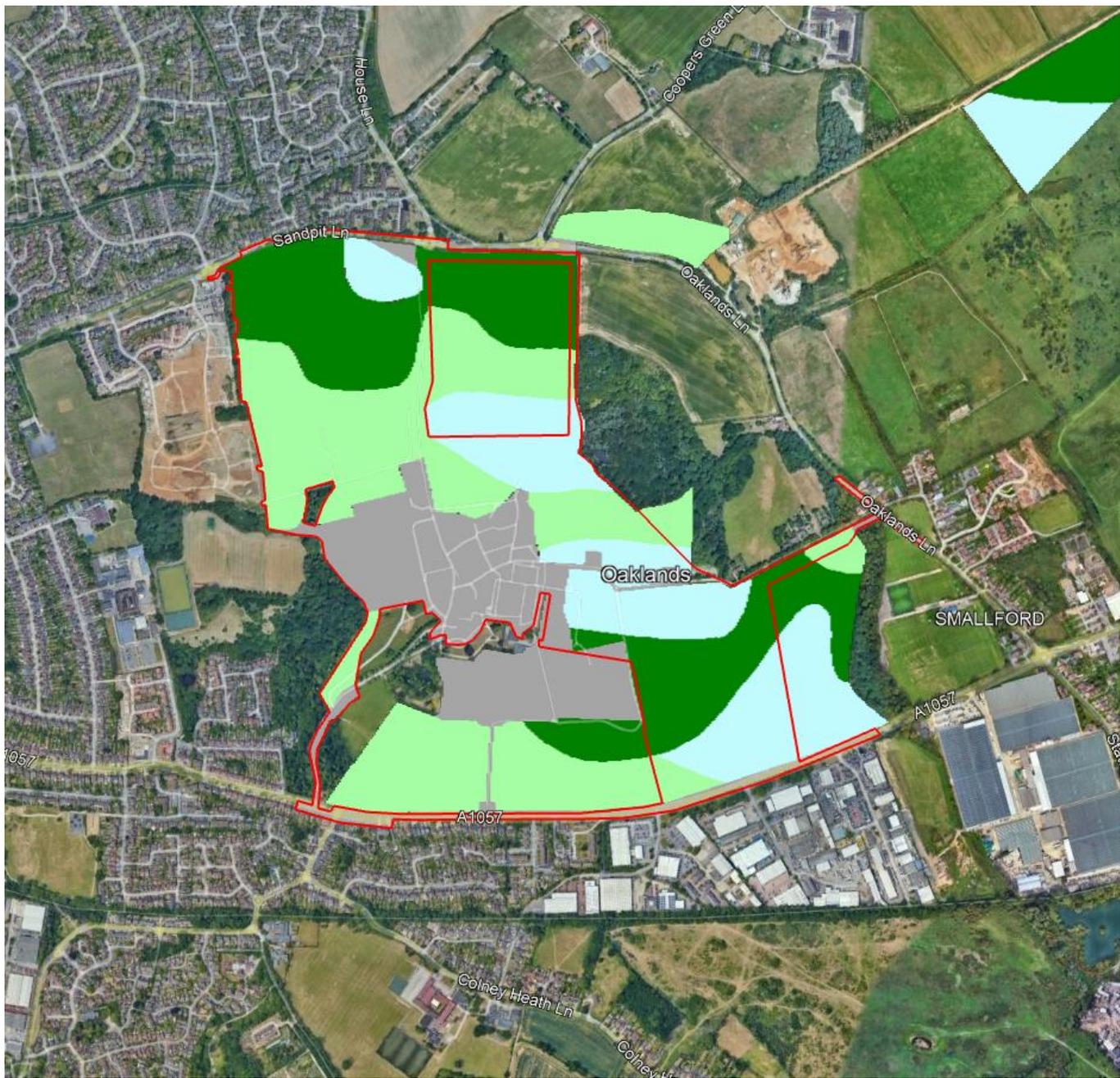
Not to Scale

Date:

12/09/2025

Project No: C1240

Drawing No: RWA/01



Key:
— Application Area

- ALC Grade**
- Grade 1
 - Grade 2
 - Subgrade 3a
 - Subgrade 3b
 - Grade 4
 - Grade 5
 - Other Land

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Title:
 Figure 3: Composite Agricultural Land Classification (MAFF Post 1988 ALC and ALC of the remainder of the Application Area)

Scale @ Size:
 Not to Scale

Date:
 12/09/2025

Project No: C1240

Drawing No: RWA/01

**Appendix 1:
Agricultural Land Classification and Statement of
Physical Characteristics: Oaklands College, St
Alban Hertfordshire, in November 1997
(MAFF Reference EL18/2539; ALCC06497)**

**Oaklands College, St. Albans,
Hertfordshire**

**Agricultural Land Classification
& Soil Physical Characteristics Report**

November 1997

**Resource Planning Team
Eastern Region
FRCA Cambridge**

**RPT Job Number: 64/97
MAFF Ref.: EL18/2539
LURET Job No:ME3WP4J**

AGRICULTURAL LAND CLASSIFICATION & SOIL PHYSICAL CHARACTERISTICS REPORT

Oaklands College, St. Albans,
Hertfordshire

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 73.6 ha of land at Oaklands College, St. Albans in Hertfordshire. The survey was carried out during September and October 1997.
2. The survey was carried out by the Farming and Rural Conservation Agency (FRCA) for the Ministry of Agriculture, Fisheries and Food (MAFF), in connection with a planning application by St. Albans Sand and Gravel Co. Ltd. to extract mineral from the site. This survey supersedes previous ALC information for this land.
3. The work was conducted by members of the Resource Planning Team in the Eastern Region of FRCA. The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF, 1988). A description of the ALC grades and subgrades is given in Appendix I.
4. At the time of survey a variety of land uses were on the site in keeping with an agricultural education centre. These included permanent grass and grass leys, wheat and maize stubble, potatoes and soft fruits. 'Other' land includes playing fields, houses, agricultural buildings, roads, golf course management area and tree and shrub nursery plots.

SUMMARY

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10 000; it is accurate at this scale but any enlargement would be misleading.
6. The area and proportions of the ALC grades and subgrades on the surveyed land are summarised in Table 1.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
2	21.3	32.8	29.0
3a	17.3	26.7	23.5
3b	26.3	40.5	35.7
Other land	8.7	N/A	11.8
Total surveyed area	64.9	100	-
Total site area	73.6	-	100

7. The fieldwork was conducted at an average density of 1 boring per hectare. A total of 65 borings and 6 soil pits was described.

8. The site has been graded almost equally between grades 2, 3a and 3b. Grade 2 land (very good quality agricultural land) is mapped in three locations on the site. The main limitation to this land is slight droughtiness and to a lesser extent, wetness and workability also acts as a limitation. Subgrade 3a land (good quality agricultural land) is mapped in two areas and the main limitation is one of moderate droughtiness. Subgrade 3b land (moderate quality agricultural land) is mapped in five areas, a majority of which are limited by wetness and workability constraints. Two small areas (adjacent to North Drive and to the south of East Drive) are equally limited by topsoil stone and droughtiness. The area to the north of Oaklands Lane has been disturbed and may have been affected by landfill.

FACTORS INFLUENCING ALC GRADE

Climate

9. Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics.

10. The key climatic variables used for grading this site are given in Table 2 and were obtained from the published 5 km grid datasets using the standard interpolation procedures (Met. Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	TL 186078
Altitude	m, AOD	80
Accumulated Temperature	day°C (Jan-June)	1406
Average Annual Rainfall	mm	666
Field Capacity Days	days	137
Moisture Deficit, Wheat	mm	110
Moisture Deficit, Potatoes	mm	102
Overall climatic grade	N/A	Grade 1

11. The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions.

12. The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR), as a measure of overall wetness, and accumulated temperature (AT0, January to June), as a measure of the relative warmth of a locality.

13. The combination of rainfall and temperature at this site mean there is no climatic limitation to the agricultural use of the land. The climatic grade is assessed as grade 1.

Site

14. The site is situated to the north of Hatfield Road (A1057) between St. Albans and Hatfield. The site is very gently undulating with low ridges and shallow valley features. Overall the land slopes in an easterly direction. The land falls from the highest point of 89m AOD in the south west corner to about 73 m AOD along Boggymead Spring on the south east boundary. Nowhere on the site does gradient or relief impose any restriction to the agricultural use of the land.

Geology and soils

15. The 1:50 000 scale drift edition geology map (Geological Survey of Great Britain, 1978) shows the majority of the site to be covered by glacial boulder clay which overlays Cretaceous Upper Chalk. To the east of Boggymead Spring and straddling Sandpit Lane in the north glacial gravels with Bruner Pebbles are mapped.

16. The 1:250 000 reconnaissance scale soils map (Soil Survey of England & Wales, 1983) of the area shows three soil associations mapped across the site. The main soil association which is mapped over the central and western parts comprises the Hornbeam 3 Association. This is derived from chalky till and is briefly described as; 'Deep fine loamy over clayey and clayey soils with slowly permeable subsoils and slight seasonal waterlogging. Some slowly permeable seasonally waterlogged fine loamy over clayey soils which may be calcareous in places.

17. Along the south eastern boundary Hamble 2 Association soils are mapped. These are described as deep stoneless well drained silty soils and similar soils affected by groundwater. These soils are derived from aeolian drift and may be over gravel locally.

18. In the north of the site a small area of Charity 2 Association soils have been mapped. These are derived from flinty and chalky drift over chalk and are described as well drained flinty fine silty soils in valley bottoms. Calcareous fine silty soils over chalk or chalk rubble on valley sides, sometimes shallow.

19. During the detailed survey of the site four soil types have been found with a complex distribution which reflects the nature of deposition.

Soil type I

20. This soil type occurs in three areas on the site. These soils are found on the top of the ridge in the north of the site, in a band to the north east of Oaklands College and between Hatfield Road and the College.

21. These soils typically comprise very slightly stony non calcareous medium clay loam or heavy clay loam topsoil over clay which is slowly permeable immediately below the topsoil. Subsoils are gleyed and mottled typically within 35 cm and are stoneless or slightly stony and non calcareous throughout.

Soil Type II

22. The second soil type is found in three areas on the site, mainly in the south east corner, but also a small area to the south of East Drive and in another small area to the south of the ridge in the north.

23. This soil type typically comprises very slightly stony, non calcareous medium clay loam (occasionally medium silty clay loam or medium sandy silt loam) to 30 cm depth. The upper subsoil consists of medium silty clay loam or medium clay loam (occasionally heavy clay loam or heavy silty clay loam) which is typically stoneless or very slightly stony and non calcareous. Lower subsoils are typically slightly heavier, with heavy silty clay loam or clay. These are stoneless and tend to show signs of drainage impedence, with gleying and mottling being common. Profiles are either slowly permeable at depth or affected by groundwater.

Soil type III

24. This soil type has been divided into two depending on the depth to stonier horizons. Soil type IIIa tends to have less stony upper subsoils whilst soil type IIIb tends to have stony subsoils throughout.

Soil Type IIIa

25. This is a transitional soil type and occurs in three areas to the north and east of the College. Soils typically comprise very slightly to slightly stony medium clay loam over a similar or slightly heavier (including medium silty clay loam or heavy clay loam) upper subsoil. Soils become impenetrable to auger typically between 50/70 cm where dry gravely soils are encountered. Some soils exhibit evidence of gleying and mottling which is likely to indicate fluctuating groundwater levels. In localised instances a lower subsoil of clay is encountered which is slowly permeable typically between 45/50 cm.

Soil type IIIb

26. This soil type occurs immediately to the south of Sandpit Lane and in an area to the east of the College. These profiles typically comprise medium sandy silt loam or medium clay loam topsoils which are slightly or occasionally moderately stony. The depth is typically 25 cm under grass and 30 cm in arable cultivation. Upper subsoils are similar but are often impenetrable to auger. The maximum depth of augering was 50 cm and frequently shallower. Pits have revealed a very stony subsoil with 40/60% flints in a medium sandy silt loam or medium sandy loam matrix. Soils are typically free draining but in some instances show signs of being affected by groundwater.

Soil type IV

27. This soil type occurs on the small area to the north of Sandpit Lane and has been disturbed. Topsoils comprise slightly to moderately stony medium clay loam over a mixed subsoil which ranges from medium clay loam through to clay of similar stone content. Profiles typically become impenetrable to auger between 50/60 cm. Profiles exhibit evidence of poor drainage characteristics at a shallow depth and occasionally have bricks and other debris in the subsoil.

AGRICULTURAL LAND CLASSIFICATION

28. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1, page 1.

29. The location of the auger borings and pits is shown on the attached sample location map and the details of the soils data are presented in Appendix II.

Grade 2

30. Grade 2 land has been mapped in association with Soil Type II and the non clayey variant of Soil Type IIIa as described in paragraphs 23 and 25 respectively.

31. Soil Type II has been assessed typically as Wetness Class II (occasionally I) with a slowly permeable layer at depth or evidence that groundwater affects the lower part of the profile. In combination with the fine loamy or fine silty topsoils, this restricts the land to grade 2 because of minor wetness and workability constraints.

32. Soil Type IIIa is limited to this grade due to minor droughtiness limitations. The combination of profile textures and structural condition in combination with the gravely lower subsoils restrict the amount of available water for crop growth sufficiently to exclude the land from a higher grade.

Subgrade 3a

33. The land graded 3a is in association with the majority of Soil Type IIIb described in paragraph 26 above. This land is excluded from a higher grade due to the significantly reduced available water for plant growth due to the occurrence of shallower stonier soils which result in a moderate droughtiness limitation.

34. A small area of land is also graded 3a in conjunction with the clayey variant of Soil Type IIIa. These profiles have been assessed as Wetness Class III with a slowly permeable layer typically encountered at 45/50 cm. Thus this land is limited by a moderate wetness and workability limitation.

Subgrade 3b

35. Subgrade 3b land is largely associated with Soil Type I as described in paragraph 21. Slowly permeable subsoils are encountered immediately below the topsoil and have been assessed as Wetness Class IV. In combination with fine loamy topsoils this reduces the flexibility of the land due to the reduction in the number of days when the soil is in a suitable condition for cultivation, trafficking by machinery or grazing by livestock. Hence this land is excluded from a higher grade.

36. Land is also graded 3b in association with Soil Type IV which is described above in paragraph 27. These profiles have been disturbed and have very mixed subsoils. Profiles have been assessed as Wetness Class IV (occasionally III) which results in this land being excluded from a higher grade due to a significant wetness and workability limitation.

37. Very localised areas of Soil Type IIIb have also been included in this subgrade where the topsoil stone content > 2 cm exceeds 15% of the soil volume. A high stone content acts as an impediment to cultivation, harvesting and crop growth thus excluding this land from a higher grade.

Roger Orpin
Resource Planning Team
Eastern Region
FRCA Cambridge

SOURCES OF REFERENCE

British Geological Survey (1978) *Sheet No. 239, Hertford 1:50 000*
BGS: London.

Ministry of Agriculture, Fisheries and Food (1988) *Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land*. MAFF: London.

Met. Office (1989) *Climatological Data for Agricultural Land Classification*.
Met. Office: Bracknell.

Soil Survey of England and Wales (1983) *Sheet 4, Soils of Eastern England*.
SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils and their Use in Eastern England 1:250 000*
SSEW: Harpenden

APPENDIX I

DESCRIPTIONS OF THE GRADES AND SUBGRADES

Grade 1: Excellent Quality Agricultural Land

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

Grade 2: Very Good Quality Agricultural Land

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1 land.

Grade 3: Good to Moderate Quality Land

Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When more demanding crops are grown, yields are generally lower or more variable than on land in Grades 1 and 2.

Subgrade 3a: Good Quality Agricultural Land

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

Subgrade 3b: Moderate Quality Agricultural Land

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Grade 4: Poor Quality Agricultural Land

Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

Grade 5: Very Poor Quality Agricultural Land

Land with severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

APPENDIX II

Statement of Soil Physical Characteristics

Soil Type I (22.0 ha)

Topsoil	Texture:	medium clay loam or heavy clay loam
	Colour:	10YR4/3, occasionally 10YR4/2
	Stone:	2 - 8% flints
	Roots:	many fine and very fine
	Boundary form:	abrupt, smooth
	Depth:	25/30 cm
Subsoil	Texture:	clay
	Colour:	10YR 5/4 and 5/3
	Stone:	0 - 5% flints
	Structure:	moderately developed coarse prismatic
	Consistence:	very firm
	Porosity:	<0.5%
	Roots:	common very fine
	Concretions:	few, occasionally many
	Boundary form:	n/a
	Depth:	120 cm
	Comment:	assessed as Wetness Class IV
		mottled and gleyed from 25/30 cm
		typically non calcareous throughout

Soil Type II (11.2 ha)

Topsoil	Texture:	medium clay loam (occasionally medium silty clay loam or medium sandy silt loam)
	Colour:	10YR4/3
	Stone:	3 - 5% flint
	Roots:	many medium, fine and very fine
	Boundary form:	abrupt/wavy
	Depth:	30 cm
Upper Subsoil	Texture:	medium silty clay loam or medium clay loam (occasionally heavy silty clay loam or heavy silty clay loam)
	Colour:	10YR5/5, 6/4, 5/4 and 7.5YR5/4
	Stone:	typically stoneless, occasionally >5% flints
	Structure:	moderately developed very coarse subangular blocky
	Consistence:	friable
	Porosity:	>0.5%
	Roots:	many fine and very fine
	Concretions:	few
	Boundary form:	gradual, wavy
	Depth:	typically 55/70 cm
Lower Subsoil	Texture:	heavy silty clay loam or clay
	Colour:	10YR6/4, 6/3 (occasionally 10YR5/4 and 5/3)
	Stone:	typically stoneless (occasionally >10% 90 cm+)
	Structure:	moderately developed very coarse subangular blocky
	Consistence:	friable/firm
	Porosity:	<0.5% if clay
	Roots:	common/few very fine roots
	Concretions:	common, occasionally few
	Depth:	120 cm
	Comment:	typically assessed as Wetness Class II either due to slowly permeable layer in lower subsoil or affected by groundwater. typically non calcareous throughout mottling and gleying common in lower subsoil

Soil Type IIIa (11.7 ha)

Topsoil	Texture:	medium clay loam
	Colour:	10YR4/3 (occasionally 10YR4/2, and 10YR3/2)
	Stone:	3 - 10% flints
	Roots:	many fine and very fine
	Boundary form:	abrupt, wavy
	Depth:	typically 30 cm
Upper Subsoil*	Texture:	medium clay loam or medium silty clay loam (occasionally heavy clay loam or sandy clay loam)
	Colour:	10YR5/3, 4/4, 5/4, 6/3 and 6/4
	Stone:	range 0 - 15% flints (typically 5-8%)
	Structure:	moderately developed very coarse subangular blocky
	Consistence:	friable
	Porosity:	>0.5%
	Roots:	many fine and very fine
	Concretions:	few
	Boundary form:	clear wavy
	Depth:	50/70 cm (typically impenetrable to auger below)
Lower Subsoil	Texture:	medium silty clay loam, occasionally clay**
	Colour:	10YR5/5, 5/4, 6/3 and 6/2
	Stone:	40 - 50% flints
	Structure:	too stony
	Consistence:	too stony
	Porosity:	>0.5%
	Roots:	few fine and very fine
	Concretions:	common
	Depth:	120 cm
	Comment:	*no soil pit dug in this soil type. Information interpolated from adjacent pits. When impenetrable to auger assumed similar stone content to Soil Type IIIb **where clay occurs in lower subsoil, assessed as similar to clay in Soil Type I. i.e. slowly permeable resulting in Wetness Class III assessment profiles non calcareous throughout

Soil type IIIb (17.0 ha)

Topsoil	Texture:	medium sandy silt loam or medium clay loam
	Colour:	10YR4/2, occasionally 10YR4/3
	Stone:	typically 8 -12% flints (occasionally 25%+)
	Roots:	many fine and very fine
	Boundary form:	abrupt or clear/wavy
	Depth:	25/30 cm
Upper Subsoil*	Texture:	medium clay loam, medium sandy silt loam
	Colour:	10YR4/4, 5/4, 6/3 & 6/2
	Stone:	40 -50% flints
	Structure:	too stony
	Consistence:	too stony
	Porosity:	>0.5%
	Roots:	common fine and very fine
	Concretions:	none, occasionally common
	Boundary form:	clear wavy
	Depth:	50/70 cm
Lower Subsoil*	Texture:	medium sandy silt loam or medium sandy loam
	Colour:	10YR6/3, 7/3, 5/5, 5/4 and 5/3
	Stone:	40 -60% flints
	Structure:	too stony
	Consistence:	too stony
	Porosity:	>0.5%
	Roots:	few fine and very fine
	Concretions:	common
	Boundary form:	n/a
	Depth:	120 cm
	Comment:	*subsoil information interpolated from pits as auger borings frequently impenetrable 30/50 cm
		profiles non calcareous throughout
		Profiles assessed as Wetness Class I possibly Wetness Class II where affected by groundwater

Soil type IV (3.1 ha)

No soil pit has been dug in this soil type. Description as in paragraph 28 above.

Agricultural Land Classification

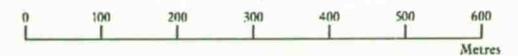
Hatfield Quarry

Oaklands College, St. Albans, Herts.

Legend

	Quality	Area (ha)
Grade 1	Excellent	Nil
Grade 2	Very Good	21.3
Grade 3a	Good	17.3
Grade 3b	Moderate	26.3
Grade 4	Poor	Nil
Grade 5	Very Poor	Nil
	Agricultural land not surveyed	Nil
	Other land	8.7
	Boundary of survey area	
Total agricultural land area		64.9
Total survey area		73.6
* Not present within survey area		

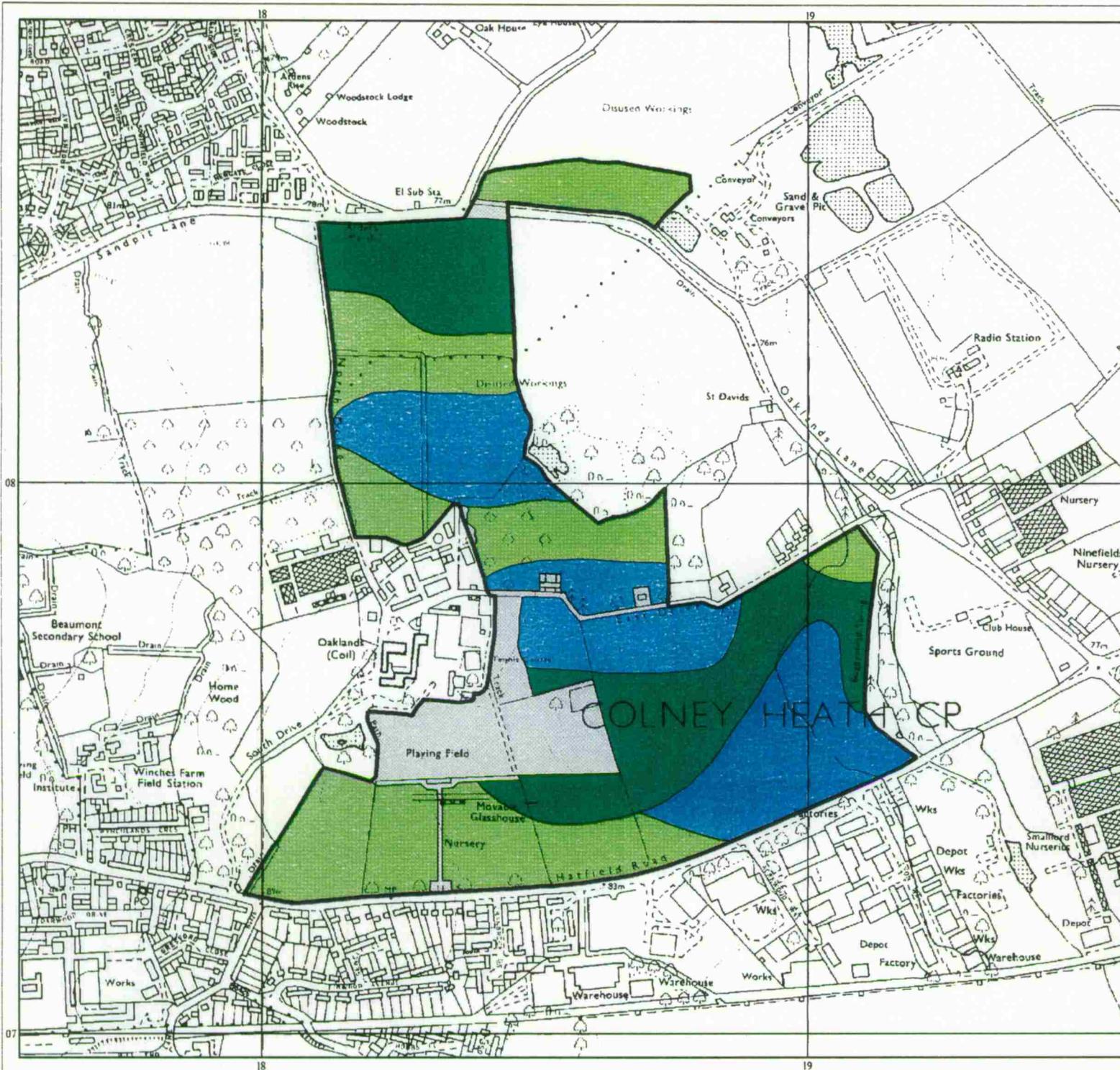
Scale - 1:10,000



Further details contained in MAFF (1988) Agricultural Land Classification of England and Wales - Revised guidelines and criteria for grading the quality of agricultural land. MAFF (publications), London SE99 7TP. The information is accurate at base map scale but any enlargement would be misleading. Reproduction in whole or in part by any means is prohibited without the prior permission of MAFF.

Surveyed and drawn by the Resource Planning Team, FRCA, Cambridge.

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 Source map/sh: TL10 NE
 Reference no: 64/97
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Agricultural Land Classification

Hatfield Quarry

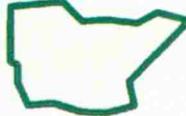
Oaklands College, St. Albans, Herts.

Sample Point Map

Legend

■ 1 Location of soil pit

■ 1 Location of auger sample point

 Boundary of survey area

 Agricultural land not surveyed

 Other land

Scale - 1:10,000



Further details contained in MAFF (1988) Agricultural Land Classification of England and Wales - Revised guidelines and criteria for grading the quality of agricultural land. MAFF (publications), London SE99 7TP. The information is accurate at base map scale but any enlargement would be misleading. Reproduction in whole or in part by any means is prohibited without the prior permission of MAFF.

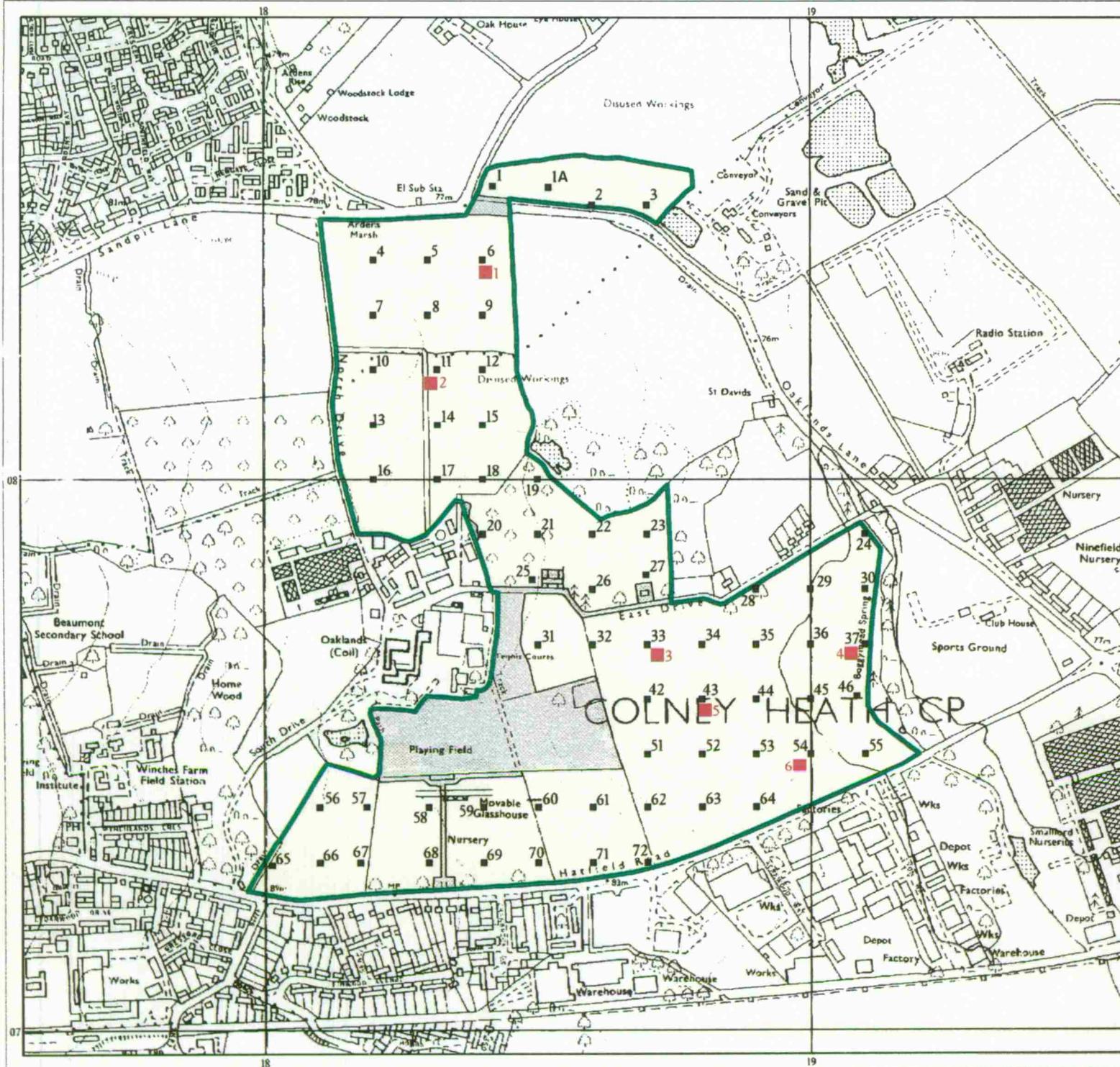
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Reference no: 64/97

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Agricultural Land Classification

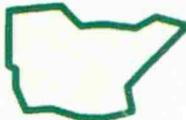
Hatfield Quarry

Oaklands College, St. Albans, Herts.

Soil Resources Map

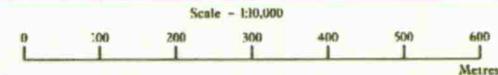
Legend

Refer to separate schedule for details of soil map units

 Boundary of survey area

 Agricultural land not surveyed

 Other land



Further details contained in MAFF (1988) Agricultural Land Classification of England and Wales - Revised guidelines and criteria for grading the quality of agricultural land. MAFF (publications), London SE99 7TP. The information is accurate at base map scale but any enlargement would be misleading.

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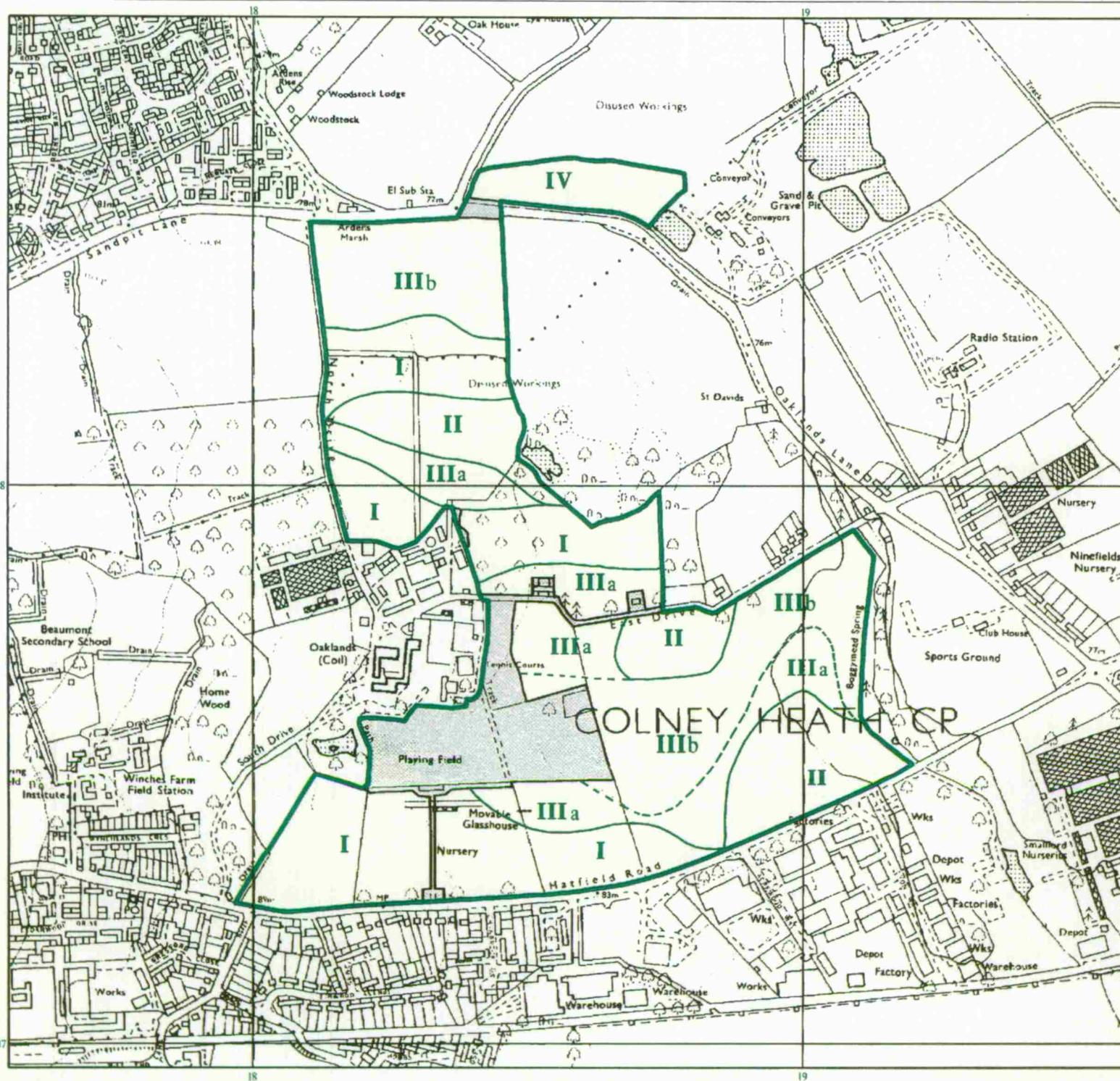
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Appendix 2: Soil Profile Logs

Project Number	Project Name	Parcel
C1240	Oaklands, St Albans	

Date of Survey	Survey Type	Surveyor(s)	Company
25/06/2025	Detailed ALC	RTL	Askew Land and Soil

Weather	Relief	Land use and vegetation
Dry, Clear	Falt	PGR (Permanent Pasture)

Grid Reference	Postcode	Altitude	Area
TL179082	AL49JL	89	21.5

MAFF prov	MAFF detailed	Flooding
Grade 3	Grade 2, Subgrade 3a and Subgrade 3b border	Flood Zone 1

AAR	AT0	MDw	MDp	FCD	Climate grade
670	1396	108	101	138	1

Bedrock	Superficial deposits
Lewes Nodular Chalk Formation	Lowestoft Formation

Soil association(s) 1:250,000	Detailed soil information
majority Hornbeam 3, some Charity 2	None

Revision Number	Date Revised
2	30/08/2025

Point	Grid ref.			Alt (m)	Slope °	Aspect	Land use	Depth (cm)			Matrix		Ochreous Mottles		Grey Mottles		Gley	Texture	Stones - type 1			Stones - type 2			Ped			SUBS STR	CaCO3	Mn C	SPL	Drought			Wet		Final ALC								
	NGR	X	Y					Top	Bttm	Thick	Munsell colour	Form	Munsell colour	Form	Munsell colour	%			> 2cm	> 6cm	Type	%	> 2cm	> 6cm	Type	Strength	Size					Shape	NON	N	Yes	No	MBw	MBp	Gd	WC	Gw	Limitation 1	Limitation 2	Limitation 3	Grade
13	TL 18000 08200	518000	208200	89	≤7	Level	CER	0 25 25	10YR4/3						No	MCL - Cla15	8	1	HR - All hard rocks or stones (i.e. those which cannot be scratched w	Not Applic	NON - N	No	No	15	-1	2	WC III	3a	Wetness				3a												
14	TL 18100 08200	518100	208200	86	≤7	Level	CER	0 25 25	10YR4/3						No	MCL - Cla15	8	1	HR - All hard rocks or stones (i.e. those which cannot be scratched w	Not Applic	NON - N	No	No	15	-1	2	WC III	3a	Wetness				3a												
15	TL 17800 08100	517800	208100	93	≤7	Level	CER	0 26 26	10YR4/3						No	HCL - Cla15	8	1	HR - All hard rocks or stones (i.e. those which cannot be scratched w	Not Applic	NON - N	No	No	16	0	2	WC III	3b	Wetness				3b												
16	TL 17900 08100	517900	208100	89	≤7	Level	CER	0 26 26	10YR4/3						No	HCL - Cla15	8	1	HR - All hard rocks or stones (i.e. those which cannot be scratched w	Not Applic	NON - N	No	No	16	0	2	WC III	3b																	
17	TL 17800 08000	517800	208000	93	≤7	Level	CER	0 26 26	10YR4/3						No	HCL - Cla14	8	1	HR - All hard rocks or stones (i.e. those which cannot be scratched w	Not Applic	NON - N	No	No	18	2	2	WC III	3b	Wetness				3b												
18	TL 17900 08000	517900	208000	91	≤7	Level	CER	0 26 26	10YR4/3						No	HCL - Cla15	8	1	HR - All hard rocks or stones (i.e. those which cannot be scratched w	Not Applic	NON - N	No	No	15	-1	2	WC III	3b	Wetness				3b												
19	TL 17800 07900	517800	207900	93	≤7	Level	CER	0 26 26	10YR4/3						No	HCL - Cla14	8	1	HR - All hard rocks or stones (i.e. those which cannot be scratched w	Not Applic	NON - N	No	No	18	2	2	WC III	3b	Wetness				3b												
20	TL 17964 07916	517964	207916	91	≤7	Level	CER	0 26 26	10YR4/3						No	HCL - Cla10	2	1	HR - All hard rocks or stones (i.e. those which cannot be scratched w	Not Applic	NON - N	No	No	17	2	2	WC III	3b	Wetness				3b												
21	TL 18081 07958	518081	207958	88	≤7	Level	CER	0 26 26	10YR4/3						No	HCL - Cla10	4	1	HR - All hard rocks or stones (i.e. those which cannot be scratched w	Not Applic	NON - N	No	No	17	2	2	WC III	3b	Wetness				3b												
22	TL 18041 07448	518041	207448	92	≤7	Level	CER	0 26 26	10YR4/3						No	HCL - Cla15	8	1	HR - All hard rocks or stones (i.e. those which cannot be scratched w	Not Applic	NON - N	No	No	15	-1	2	WC III	3b	Wetness				3b												
END																																													

Mottle form

FF - Few Faint
 FD - Few Distinct
 FP - Few Prominent
 CF - Common Faint
 CD - Common Distinct
 CP - Common Prominent
 MF - Many Faint
 MD - Many Distinct
 MP - Many Prominent
 VF - Very many Faint
 VD - Very many Distinct
 VP - Very many Prominent

Texture

C - Clay
 CHK - Chalk
 CS - Coarse Sand
 CSL - Coarse sandy loam
 CSZL - Coarse sandy silt loam
 FP - Fibrous and semifibrous peats
 FS - Fine Sand
 FSL - Fine sandy loam
 FSZL - Fine sandy silt loam
 HCL - Clay loam (heavy)
 HP - Humified peats
 HZCL - Silty clay loam (heavy)
 IMP - Impenetrable to roots
 LCS - Loamy Coarse Sand
 LFS - Loamy fine sand
 LMS - Loamy medium sand
 LP - Loamy peats
 MCL - Clay loam (medium)
 MS - Medium Sand
 MSL - Medium sandy loam
 MSZL - Medium sandy silt loam
 MZ - Marine Light Silts
 MZCL - Silty clay loam (medium)
 OC - Organic clays
 OL - Organic loams
 OS - Organic sands
 PL - Peaty loams
 PS - Peaty sands
 SC - Sandy clay
 SCL - Sandy clay loam
 SP - Sandy peats
 ZC - Silty clay
 ZL - Silt loam

Stone Type

CH - Chalk or chalk stones
 FSST - Soft fine grained sandstones
 GH - Gravel with non-porous (hard) stones
 GS - Gravel with porous stones (mainly soft stone types listed above)
 HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)
 MSST - Soft, medium or coarse grained sandstones
 SI - Soft 'weathered' igneous or metamorphic rocks or stones
 SLST - Soft oolitic or dolomitic limestones
 ZR - Soft, argillaceous or silty rocks or stones

Ped. Shape

SG - Single grain
 GRA - Granular
 SAB - Subangular Blocky
 AB - Angular Blocky
 PRIS - Prismatic
 PLAT - Platy
 MASS - Massive
 NA - N/A

Subsoil Structure Condition

Not Applicable
 Good
 Moderate
 Poor

Soil or Ped. Strength

Loose
 Very friable
 Friable
 Firm
 Very firm
 Extremely firm
 Extremely hard
 N/A

Calcareousness

NON - Non-calcareous (<0.5% CaCO₃)
 VSC - Very slightly calcareous (0.5 - 1% CaCO₃)
 SC - Slightly calcareous (1 - 5% CaCO₃)
 MC - Moderately calcareous (5 - 10% CaCO₃)
 VC - Very calcareous (>10% CaCO₃)

Ped. Size

VF - Very Fine
 F - Fine
 M - Medium
 C - Coarse
 VC - Very Coarse
 NA - N/A

Degree of Ped. Development

W - Weak
 M - Moderate
 S - Strong
 NA - Not applicable

Wetness Class

WC I
 WC II
 WC III
 WC IV
 WC V
 WC VI

ALC Grades

1
 2
 3a
 3b
 4
 5
 Non-Ag

Gley

None
 Gley
 N/A

Appendix 3: Soil Pit Description

Soil Survey				Surveyor	RTL
Easting (X)	518000	Northing (Y)	208400	Alt (m)	85
Land Use	CER	Reference	4 (Pit 1)	Slope °	≤7
Bedrock	Blue Lias Formation	Superficial	Lewes Nodular Chalk Formation	Aspect	Level
				Grid Reference	TL 18000 08400
				Date	25/06/2025

Layer		Topsoil	2	3	4	5	6	7
Lower Depth (cm)		25	55	90	120			
Texture		MCL - Clay loam	MCL - Clay loam (medium)	HZCL - Silty clay	HZCL - Silty clay loam (heavy)			
Matrix Colour		10YR3/3	10YR4/3	10YR5/4	10YR4/4			
Gley (Y/N)		No	Yes	Yes	Yes			
Ochreous Mottles	Form		CD - Common Distinct	CD - Common Di	CD - Common Distinct			
	Munsell Colour		7.5YR5/8	7.5YR5/8	7.5YR5/8			
Grey Mottles	Form							
	Munsell Colour							
Manganese (Y/N)		No	No	No	No			
% Stones (type 1)		15	15	5	5			
Stones > 2cm		8						
Stones > 6cm		2						
Stone Type		HR - All hard roc	HR - All hard rocks or ston	HR - All hard roc	HR - All hard rocks or stones (i.e. those which cannot be scratch			
% Stones (type 2)								
Stones > 2cm								
Stones > 6cm								
Stone Type								
CaCO3		NON - Non-calca	NON - Non-calcareous (<0	NON - Non-calca	NON - Non-calcareous (<0.5% CaCO3)			
Shape of Peds.		SAB - Subangula	AB - Angular Blocky	AB - Angular Blo	PRIS - Prismatic			
Size of Peds.		M - Medium	M - Medium	C - Coarse	M - Medium			
Subsoil Structure		Not Applicable	Moderate	Moderate	Moderate			
Soil or Ped. Strength		Firm	Firm	Firm	Firm			
Degree of Ped. Development		M - Moderate	M - Moderate	M - Moderate	M - Moderate			
Slowly Permeable Layer (Y/N)		No	No	No	No			

MDw	MDp	FCD
108	101	138

Wetness	Class (WC)	WC II
	Grade (WE)	2

Moisture Balance (MB): Wheat = 31mm; Potatoes = 3mm (Gradde 2 according to soil droughtiness)

Appendix 4: Topsoil Texture Analysis

ANALYTICAL REPORT

Report Number	98246-25	N717	ROB ASKEW
Date Received	01-JUL-2025		RW ASKEW
Date Reported	14-JUL-2025		THE OLD STABLES
Project	C1240		UPEXE
Reference	OAKLANDS		EXETER
Order Number			DEVON EX5 5ND

Laboratory Reference		SOIL756954	SOIL756955	SOIL756956						
Sample Reference		AB4	AB13	AB18						
Determinand	Unit	SOIL	SOIL	SOIL						
Sand 2.00-0.063mm	% w/w	33	37	31						
Silt 0.063-0.002mm	% w/w	49	42	42						
Clay <0.002mm	% w/w	18	21	27						
Textural Class **		MCL/SZL	MCL	HCL						

Notes

Analysis Notes	The sample submitted was of adequate size to complete all analysis requested. The results as reported relate only to the item(s) submitted for testing. The results are presented on a dry matter basis unless otherwise stipulated.
Document Control	This test report shall not be reproduced, except in full, without the written approval of the laboratory.

** Please see the attached document for the definition of textural classes.

Reported by ***Teresa Clyne***
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 Coopers Bridge, Braziers Lane, Bracknell, Berkshire, RG42 6NS
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 Fax: 01344 890972
 email: enquiries@nrm.uk.com

ADAS (UK) Textural Class Abbreviations

The texture classes are denoted by the following abbreviations:

Class	Code
Sand	S
Loamy sand	LS
Sandy loam	SL
Sandy Silt loam	SZL
Silt loam	ZL
Sandy clay loam	SCL
Clay loam	CL
Silt clay loam	ZCL
Clay	C
Silty clay	ZC
Sandy clay	SC

For the *sand*, *loamy sand*, *sandy loam* and *sandy silt loam* classes the predominant size of sand fraction may be indicated by the use of prefixes, thus:

vf	Very Fine (more than 2/3's of sand less than 0.106 mm)
f	Fine (more than 2/3's of sand less than 0.212 mm)
c	Coarse (more than 1/3 of sand greater than 0.6 mm)
m	Medium (less than 2/3's fine sand and less than 1/3 coarse sand).

The subdivisions of *clay loam* and *silty clay loam* classes according to clay content are indicated as follows:

M	medium (less than 27% clay)
H	heavy (27-35% clay)

Organic soils i.e. those with an organic matter greater than 10% will be preceded with a letter O.

Peaty soils i.e. those with an organic matter greater than 20% will be preceded with a letter P.

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