AGRICULTURAL LAND CLASSIFICATION

WOODHAMS FARM KINGS WORTHY HANTS

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LAND AT WOODHAMS FARM KINGS WORTHY HANTS

1 BACKGROUND

1 1 Land on this 25 5 ha site was inspected on the 4 and 5 February 1992 in connection with residential development proposals 25 auger borings were made at approximately 100m intervals on a grid basis Additional information was obtained from the inspection of 2 soil pits and numerous small topsoil pits At the time of survey the site comprised 4 enclosures 2 arable fields and 2 small grass paddocks used for grazing horses

2 PHYSICAL FACTORS AFFECTING LAND QUALITY

Climate

2 1 Estimates of climatic variables were obtained by interpolation from a 5km grid database (Met Office 1989) for representative locations in the survey area -

Climatic Interpolation

Grid Ref	SU489331	SU487334
Altitude(mAOD)	46	65
Accumulated Temperature (day degrees)	1492	1472
Average Annual Rainfall(mm)	804	814
Field Capacity Days	175	177
Moisture Defecit(wheat-mm)	106	103
Moisture Defecit(potatoes-mm)	98	95

2 2 Climatic factors place no limitation on agricultural land quality in this area but do affect the interaction of soil factors with the climate namely soil wetness and droughtiness The site has a field capacity day (FCD) range which straddles the 175 FCD isopleth a cut-off in terms of ALC wetness assessment Land less than or equal to 175 FCD occurs on the lowest parts of the site ie less than about 50m AOD

Relief

2 3 The altitude of the site varies from about 46m AOD along Springvale Road to around 65m AOD on the highest ground to the northwest and southwest corners of the

site Gradients do not generally limit land quality on the site with the exception of a small area in the southwestern corner where gradients of 8 degrees were measured Elsewhere gradients were 3-6 degrees or less

Geology and Soils

2 4 British Geological survey sheet 299 (1 50000 scale- Winchester 1975) shows the area to be underlain by Upper Chalk with a narrow spread of valley gravel and sand covering it on the lowest slopes

2 5 The Soil Survey map of England and Wales (Sheet 6 - 1 250000 scale)(SSEW 1983) maps the Andover 1 Soil Association These soils are described in the accompanying legend as Shallow well drained calcareous silty soils over chalk on slopes and crests Deep calcareous and non calcareous fine silty soils in valley bottoms Striped soil patterns locally

2 6 Detailed field inspection confirms the above description with the majority of the area comprising shallow calcareous and permeable soils over chalk The lowest slopes and valley bottoms have deeper soils which are particularly flinty in the valley bottom running west to east across the site

3 AGRICULTURAL LAND CLASSIFICATION

3 1 The ALC grading of the site is primarily determined by topsoil stone content and soil droughtiness or a combination of the two factors At one location gradient is the overriding limitation to land quality ALC grades 2 3a and 3b have been mapped on the site and a breakdown of these in terms of area and extent is given below -

Grade	Area (ha)	%Total Area
2	3 69	14
3a	12 47	49
3b	9 34	37
Total Area	25 50	100

Appendix 1 gives a generalised description of the grades and subgrades

Grade 2

3 2 Land of this quality occurs on lower slopes in the northeast corner of the site adjoining Springvale Road and on lower slopes on the southern side of the valley running west to east across the site Soils comprise well drained (wetness class 1) calcareous slightly flinty (5-8%v/v >2cm) topsoils over similar upper subsoils which may extend to depths in excess of 120cm or pass into chalky drift within 55-70cm At some locations a stiff silty clay occurs immediately above the chalk boundary The minor agricultural limitation to such land is topsoil stone contents of 5-8% flints greater than 2cm in size In addition at some locations the relatively shallow depth of soil above the chalk causes land to have minor droughtiness limitations

Grade 3a

3 3 Land of this quality covers the majority of the site on relatively gently sloping land to the west of the site Soils are shallower and more stony than those graded 2 and typically comprise slightly flinty (max 15%v/v flints >2cm) medium silty clay loam topsoils over similar textured chalky subsoils Rubbly chalk is typically encountered within 33-50cm

3 4 The main agricultural limitations comprise topsoil stone contents (>2cm) in the range 10-15%v/v and droughtiness caused by relatively shallow depths of soil above the chalk

Grade 3b

3 4 Grade 3b land is associated with middle and lower slopes on the site The majority of land in this grade has similar soils to those described under grades 2 and 3a the main difference being a higher topsoil stone content in the range 15-20% v/v of flints The high stone contents combine with the relatively shallow soil depths at some locations to give a moderate risk of drought Occasional profiles are slightly less stony but are shallow with topsoils resting directly over chalk These are limited to 3b by drougtiness

3 5 A small area in the southwestern corner of the site is included in this grade due to moderately steep gradients of around 8 degrees

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SOURCES OF REFERENCE

BRITISH GEOLOGICAL SURVEY (1975) 1 50000 scale Geological Map Sheet no 299 (Winchester)

MAFF (1988) Agricultural Land Classification of England and Wales Revised guidelines and criteria for grading the quality of agricultural land

METEOROLOGICAL OFFICE (1989) Climatological Datasets for Agricultural Land Classification

SOIL SURVEY OF ENGLAND AND WALES (1983) Soils of England and Wales Sheet 6 South East England 1 250000 scale Map and accompanying legend

APPENDIX 1

DESCRIPTION OF THE GRADES AND SUBGRADES

The ALC grades and subgrades are described below in terms of the types of limitation which can occur typical cropping range and the expected level and consistency of yield In practice the grades are defined by reference to physical characteristics and the grading guidance and cut offs for limitation factors in Section 3 enable land to be ranked in accordance with these general descriptions The most productive and flexible land falls into Grades 1 and 2 and Subgrade 3a and collectively comprises about one third of the agricultural land in England and Wales About half the land is of moderate quality in Subgrade 3b or poor quality in Grade 4 Although less significant on a national scale such land can be locally valuable to agriculture and the rural economy where poorer farmland predominates The remainder is very poor quality land in Grade 5 which mostly occurs in the uplands

Descriptions are also given of other land categories which may be used on ALC maps

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 and horticultural crops can usually be grown but on some land in the 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

Grade 3 – good to moderate quality agricultural land

Land with moderate limitations which affect the choice of crops timing and type of cultivation harvesting or the level of yield Where 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 level of yields It is mainly suited to grass with occasional arable crops (eg 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 very severe limitations which restrict use to permanent pasture or rough grazing except for occasional pioneer forage crops

Descriptions of other land categories used on ALC maps

Urban

Built up or 'hard uses with relatively little potential for a return to agriculture including housing industry commerce education transport religious buildings cemeteries Also hard surfaced sports facilities permanent caravan sites and vacant land all types of derelict land including mineral workings which are only likely to be reclaimed using derelict land grants

Non agricultural

Soft uses where most of the land could be returned relatively easily to agriculture including golf courses private parkland public open spaces sports fields allotments and soft surfaced areas on airports/airfields Also active mineral workings and refuse tips where restoration conditions to soft after uses may apply

Woodland

Includes commercial and non commercial woodland A distinction may be made as necessary between farm and non farm woodland

Agricultural buildings

Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses Temporary structures (eg polythene tunnels erected for lambing) may be ignored

Open water

Includes lakes ponds and rivers as map scale permits

Land not surveyed

Agricultural land which has not been surveyed

Where the land use includes more than one of the above land cover types eg buildings in large grounds and where map scale permits the cover types may be shown separately Otherwise the most extensive cover type will usually be shown