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HART LOCAL PLAN - LAND ADJACENT
TO COBBETTS LANE YATELEY, HAMPSHIRE

AGRICULTURAL LAND CLASSIFICATION
ALC MAP & REPORT

FEBRUARY 1993

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LAND ADJACENT TO COBBETTS LANE, YATELEY, HAMPSHIRE

1. INTRODUCTION

1.1 In February 1993, an Agricultural Land Classification (ALC) survey was carried out on approximately 22 hectares of land adjacent to Cobbetts Lane, Yateley, Hampshire. ADAS was commissioned by MAFF to determine the quality of the land in connection with proposals contained in the Hart District Local Plan.

1.2 The survey work was carried out at a detailed level of approximately one boring per hectare. A total of 19 borings and two soil inspection pits were assessed using MAFF's revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988). These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose long term limitations on its agricultural use.

At the time of the survey the land was under permanent grass.

1.3 The distribution of the grades and subgrades is shown on the attached ALC map and the areas given in the table below. The map has been drawn at a scale of 1:5000. Any enlargement of this scale would be misleading.

<u>Grade</u>	<u>Area (ha)</u>	<u>% Total Agricultural Land</u>
3A	12.6	59.7
3B	7.4	35.1
4	1.1	<u>5.2</u>
		<u>100%</u> (21.1 ha)
Urban	0.5	
Farm buildings	0.6	
Non Agricultural	<u>0.3</u>	
Total Area of Site	<u>22.5</u>	

1.4 A general description of the grades and landcover categories identified in this survey is attached.

1.5 The majority of the site comprises good quality subgrade 3A land with smaller areas of subgrade 3B and grade 4.

1.6 Much of the site consists of coarse loamy and medium sandy textured soils with variable profile stone content. These free draining textures are counteracted by the presence of clay in the lower subsoil. Consequently the land is classified subgrade 3a due to droughtiness limitations.

1.7 Land to the west of the site has similar textured soils but without the presence of clay at depth. Profile stone content and free draining textures limit kind to subgrade 3b due to significant droughtiness imperfection.

1.8 A small area of land in a hollow north of Hill Farm has been classified as grade 4. Land here is constantly waterlogged throughout the year.

2. PHYSICAL FACTORS AFFECTING LAND QUALITY

Altitude and Relief

- 2.1 The site lies at an altitude of 70-85 m AOD, the highest land being in the south and sloping gently northwards. In the vicinity of Hill Farm is a small area of lower lying land which is permanently wet and marshy. Altitude and relief do not constitute any limitation to agricultural and quality.

Climate

- 2.2 Climatic variables were interpolated from a 5 km grid database (Met. Office, 1989) for a representative location in the survey area.

Table 2 : Climatic Interpolation

Grid Reference	SU 825 600
Altitude (m AOD)	75
Accumulated Temperature (°days Jan-June)	1441
Average Annual Rainfall (mm)	687
Field Capacity Days	144
Moisture Deficit - wheat	111
Moisture Deficit - potatoes	105

- 2.3 These climatic variables do not constitute a climatic limitation to agricultural land quality. However climate and soil factors interact to affect soil wetness and droughtiness limitations.

Geology and Soils

- 2.4 The published 1:50,000 scale Geology Map Sheet 285 (Aldershot) Drift Edition (Geol. Survey, 1976) shows the site to comprise of Recent and Pleistocene Higher terrace River Gravels and Eocene Barton sand. The published 1:250,000 scale soils map sheet 6 "Soils of South East England" (SSEW, 1983) shows the site to be mapped as Southampton Association, sandy stony soils.

A detailed examination of soils indicates the presence of stony sandy soils often with clay at depth.

3. AGRICULTURAL LAND CLASSIFICATION

Subgrade 3A

- 3.1 Good quality land covers the majority of the site. Profiles typically comprise topsoils of very slightly to slightly stony (2-7% flints by volume) medium sandy loam. Upper subsoils consist of similar textures including medium sand which are very slightly to slightly stony (2-15% flints). Occasionally this passes into gleyed sandy clay loam. Lower subsoils comprise loamy medium sand and medium sand. Stone content is very slightly to slightly stony (2-10% flints). Occasionally gleyed, poorly structured, but permeable clay or sandy clay is found at depths of 70-105 cm (below the sandy clay loam in the upper subsoil). Profiles are typically free draining wetness class I, however there is evidence of some minor impedance of water in some profiles with clay at

depth. Moderate droughtiness imperfections are the main limitation with land limited to subgrade 3A. A few better quality profiles were found but due to their limited number and extent were included in this subgrade.

Subgrade 3B

- 3.2 Moderate quality land covers the remainder of the site. Profiles typically comprise topsoils of very slightly to slightly stony (4-14% flints by volume) medium sandy loam, occasionally loamy medium sand. Upper subsoils consist of very slightly to moderately stony (3-25% flints) loamy medium sand. Lower subsoils comprise medium sand, occasionally loamy medium sand and medium sandy loam. Stone content is in the range 3-50% flints by volume, typically 25-50%. Profiles are freely draining, wetness class I, however due to the light sandy textures and profile stone content significant droughtiness is a limitation and land is classified as subgrade 3B. Some less droughty better-quality profiles were found but again due to their limited number and extent were included in this subgrade.

Grade 4

- 3.3 Land in a hollow north of Hill Farm was waterlogged at the time of survey and was understood to be wet year to year. It was felt appropriate to assign a wetness class of V. Consequently the land is classified as grade 4.

ADAS Ref: 1506/012/93

MAFF Ref: EL 5854

Resource Planning Team
Guildford Statutory Group
ADAS Reading

SOURCES OF REFERENCE

GEOLOGICAL SURVEY, 1976. Geology Map Sheet 285 (Aldershot) 1:50,000 scale drift edition.

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

METEOROLOGICAL OFFICE, 1989. Climatological datasets for Agricultural Land Classification.

SOIL SURVEY OF ENGLAND AND WALES, 1983. Sheet 6, Soils of South East England. 1:250,000 scale.

SOIL SURVEY OF ENGLAND AND WALES, 1984. Bulletin 15 Soils and their use in South East England.

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: 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.

Definition of Soil Wetness Classes

Wetness Class	Duration of Waterlogging ¹
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years ² .
II	The soil profile is wet within 70 cm depth for 31-90 days in most years <i>or</i> , if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 90 days, but not wet within 40 cm depth for more than 30 days in most years.
III	The soil profile is wet within 70 cm depth for 91-180 days in most years <i>or</i> , if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 180 days, but only wet within 40 cm depth for between 31 and 90 days in most years.
IV	The soil profile is wet within 70 cm depth for more than 180 days but not within 40 cm depth for more than 210 days in most years <i>or</i> , if there is no slowly permeable layer within 80 cm depth, it is wet within 40 cm depth for 91-210 days in most years.
V	The soil profile is wet within 40 cm depth for 211-335 days in most years.
VI	The soil profile is wet within 40 cm depth for more than 335 days in most years.

¹ The number of days specified is not necessarily a continuous period.

² 'In most years' is defined as more than 10 out of 20 years.