GOLF COURSE PROPOSAL
APPLETON, OXFORDSHIRE

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AGRICULTURAL LAND CLASSIFICATION

Report of Survey

1. Introduction

In June 1992 a detailed Agricultural Land Classification (ALC) was carried out on 63 ha of land adjacent to the village of Appleton in Oxfordshire. ADAS was commissioned by MAFF to determine the land quality affected by the application for planning permission for a private golf course.

Fieldwork was conducted by members of the Resource Planning Team within the Guildford Statutory Centre at a reconnaissance level with approximately 1 soil observation per 4 ha. A total of 17 borings and 1 soil pit were described using MAFF's revised guidelines and criteria for grading the quality of agricultural land. 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.

The distribution of the grades and subgrades is shown on the attached ALC map and the area of each grade is given in the table below. The map has been drawn at a scale of 1:20,000; the information is accurate at this level and any enlargement would be misleading.

Subgrade 3B is the main grade on the site with a smaller area of Grade 2. The poor quality of the land is related to the presence of upper subsoils of clay which cause a significant wetness limitation. The areas of higher quality land identify soils with poorly structured clays at a greater depth which cause a less severe wetness limitation. The application area contains less than 20 ha of best and most versatile land.

Table 1 : Distribution of Grades and Subgrades

Grade	Area (ha)	% of Agricultural Area
2	9.2	15.1
3B	51.6	84.9
Non Agric	0.3	100% (60.8 ha)
Agric Bldgs	0.5	
Urban	0.8	
Total	62.8 ha	

2. Climate

A detailed assessment of the prevailing climate has been made by interpolation from a 5 km grid point dataset. The details are given in the table below.

Climate is considered first when grading land as it can be overriding in the sense that severe limitation will restrict land to low grades irrespective of favourable soil or site conditions.

The main parameters used in the assessment of a climatic limitation are average annual rainfall, a measure of overall wetness, and accumulated temperature, a measure of the relative warmth a locality.

The interpolations show that there is no overall climatic limitation. In addition, no local climatic factors are significant. The site is climatically Grade 1.

Table 2 : Climatic Interpolations

Grid Reference	SP440018	SP434021
Altitude (m)	92	67
Average Annual Rainfall (mm)	638	634
Accumulated Temperature (°days)	1412	1441
Field Capacity (days)	134	134
Moisture Deficit, Wheat (mm)	109	112
Moisture Deficit, Potatoes (mm)	102	105

3. Agricultural Land Classification

3.1 General

The application area and adjacent land had been surveyed in 1987 by the Soil Survey and Land Research Centre. A detailed soil map at 1:10,000 was prepared which distinguished the main soil types and gave an ALC grade to each type. The ALC grading followed MAFF's Original ALC system, supplemented by the digging of soil pits to a depth of 45 cm with soil augering below. This map was used to target the fieldwork under MAFF's Revised ALC guidelines and the gradings were largely confirmed.

3.2 Grade 2

These soils occur along the eastern boundary of the application area and pit 1 is typical of the soils in this grade. Medium sandy loams overlie clay subsoils, sometimes sandy, which fall into Wetness Class III as a result of the presence of slowly permeable layers between approximately 35 and 60 cm. These layers obstruct the drainage in the profile and, as a result, the soils can be graded no better than Grade 2 given the topsoil textures and prevailing field capacity level (134 days).

3.3 Subgrade 3B

The majority of the soils fall into this grade as a result of a significant wetness limitation. Topsoil textures are typically heavy clay loams or clays and overlie clay subsoils which are slowly permeable. The profiles fall into Wetness Class III and this, in combination with the heavy topsoil textures and the prevailing field capacity day level (134 days), limits these soils to a low grade. No pit has been located in this grade because the subsoil structures are evidently slowly permeable.

SOIL PIT DESCRIPTION

Site Name : APPLETON GOLF COURSE Pit Number : 1P

Grid Reference: SP439 017

Average Annual Rainfall : 634 mm
Accumulated Temperature : 1441 degree days
Field Capacity Level : 134 days
Land Use : Wheat
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 25	MSL	10YR41 00	0	0	C	
25- 35	C	25Y 52 00	0	0	M	
35- 55	C	25Y 52 00	0	0	M	MCPRSM

Wetness Grade : 2

Wetnesss Class : 1I
Gleying :000 cm
SPL :035 cm

Drought Grade : 3B

APW : 082mm MBW : -30 mm
APP : 085mm MBP : -20 mm

FINAL ALC GRADE : 2
MAIN LIMITATION : Wetness

DESCRIPTION OF THE GRADES AND SUB-GRADES

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 include 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 an 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.

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.