

**Agricultural Land Classification
Golf Course Application
Sherfield-on-Loddon
Hampshire**

**Resource Planning Team
Guildford Statutory Group
ADAS**

GOLF COURSE APPLICATION, SHERFIELD-ON-LODDON, HAMPSHIRE

Report of Survey

1. Introduction

In August 1992, an Agricultural Land Classification (ALC) was carried out on 146 hectares of land south east of Sherfield-on-Loddon in Hampshire. ADAS was commissioned by MAFF to determine the land quality affected by the application for planning permission for a private Golf Course.

The work was conducted by members of the Resource Planning Team within the Guildford Statutory Group with approximately 1 soil observation per 2.75 hectares. A total of 42 borings and 2 soil pits was 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 use for agriculture.

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 but any enlargement would be misleading.

The whole of the agricultural area has been placed in Subgrade 3B. The poor quality of the land is related to very stony profiles which cause a significant droughtiness limitation. Minor areas of wet soils also occur.

Table 1 : Distribution of Grades and Subgrades

<u>Grade</u>	<u>Area (ha)</u>
3B	122.3
Non-Agric	0.4
Woodland	20.7
Agric Buildings	0.3
Urban	<u>1.9</u>
Total	145.6 ha

2. Climate

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

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

A detailed assessment of the prevailing climate has been made by interpolation from a 5 km grid point dataset. Details of the interpolation are given in the table below. These show that there is no overall climatic limitation affecting the site; the area is climatically Grade 1. No local climatic factors such as exposure or frost risk are significant.

Table 2 : Climatic Interpolations

Grid Reference :	SU682564	SU688574
Altitude (m) :	77	60
Accumulated Temperature (°days):	1443	1462
Average Annual Rainfall (mm) :	719	700
Field Capacity (days) :	153	149
Moisture Deficit, Wheat (mm) :	106	109
Moisture Deficit, Potatoes (mm) :	99	103

3. Agricultural Land Classification

Pit 1 is typical of the stony soils that occur across the majority of the survey area. Topsoil stone content is itself not particularly limiting (7% >2 cm) but stone contents gradually increase in the upper and lower subsoil to approximately 20 and 40% respectively. The soil pit was excavated down to approximately 65 cm and there was little root penetration at this depth. As a result, the soils experience a significant droughtiness limitation and, at the time of survey after a dry summer, the response of the cereal crop was poor and uneven.

Wetter and heavier profiles occur on the flood plain of the River Loddon and along one minor valley feature which occurs in the centre of the survey area and on some heavier soils to the extreme west. Pit 2 is typical of these soils which experience clear evidence of gleying in the upper subsoil with poorly structured subsoil horizons which significantly impede the flow of drainage. As a result these soils have been placed in Wetness Class IV (ie the soils are wet within 70 cm depth for more than 180 days but not wet within 40 cm depth for more than 210 days in most years). This significant wetness limitation not only reduces the range of crops that will tolerate such conditions but significantly reduces the number of days when the soil is in a suitable condition for cultivation, trafficking by machinery or grazing by livestock.

SOIL PIT DESCRIPTION

Site Name : SHERFIELD GOLF HANTS Pit Number : 1P

Grid Reference: Average Annual Rainfall : 700 mm
 Accumulated Temperature : 1462 degree days
 Field Capacity Level : 149 days
 Land Use : Fallow
 Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 25	MCL	10YR42 00	7	12		
25- 40	MCL	25Y 52 00	0	20		
40- 65	HCL	25Y 52 00	0	40		

Wetness Grade : 1 Wetness Class : I
 Gleying : 000 cm
 SPL : No SPL

Drought Grade : 3B APW : 079mm MBW : -30 mm
 APP : 084mm MBP : -19 mm

FINAL ALC GRADE : 3B
 MAIN LIMITATION : Droughtiness

SOIL PIT DESCRIPTION

Site Name : SHERFIELD GOLF HANTS Pit Number : 2P

Grid Reference: Average Annual Rainfall : 700 mm
 Accumulated Temperature : 1462 degree days
 Field Capacity Level : 149 days
 Land Use : Permanent Grass
 Slope and Aspect : degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 13	MZCL	10YR42 00	0	3		
13- 25	HZCL	10YR62 00	0	2	M	MOVCAB
25-120	C	10YR52 00	0	0	M	WOCCAB

Wetness Grade : 3B Wetness Class : IV
 Gleying : 013 cm
 SPL : 013 cm

Drought Grade : 2 APW : 120mm MBW : 11 mm
 APP : 097mm MBP : -6 mm

FINAL ALC GRADE : 3B
 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 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.

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.