AGRICULTURAL LAND CLASSIFICATION

PISSY BEDS COMMON
HATFIELD, SOUTH YORKSHIRE

PROPOSED GOLF COURSE

MAFF
Leeds Regional Office

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1. Introduction and Site Characteristics

1.1 Location

The site which covers 60 hectares is located around grid reference SE 677117, 2 km South West of Thorne, immediately north east of Junction 5 on the M18 Motorway.

1.2 Survey Methods

Survey work was carried out in October 1990 when soils were examined by hand auger borings at 100 m intervals pre-determined by the National Grid. Soil profile pits were also dug to confirm soil characteristics and to collect samples for laboratory analysis.

All land quality assessments were made using the methods described in "Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land" (MAFF 1988).

1.3 Land Use

All of the site is in arable use.

1.4 Climate

Average annual rainfall at Pissy Beds Common is 582 mm. Accumulated temperature above 0°C between January and June (ATO) is 1416 day °C and the land is at field capacity for about 119 days each year. The temperature and rainfall figures indicate that there are no overall climatic limitations on ALC grade. The moisture deficits of 116 mm for winter wheat and

110 mm for potatoes, however, suggest that there is likely to be a drought risk on the heavy over light textured soils, which are common to the site.

1.5 Relief

The site is almost flat at an altitude of about 3 or 4 metres above Ordnance Datum.

1.6 Soils and Geology

Soils in the northern and eastern parts of the area are formed on lacustrine clay deposits and consist of heavy clay loam topsoils over gleyed slowly permeable clay subsoils to depth. These soils are poorly drained and all fall within Wetness Class III. Towards the eastern edge of the site, near Hatfield Road, the very dark colour of the topsoil indicates a high organic content, possibly associated with a previous peaty cover. In the central and western parts of the site, however, the clay deposit is very thin and consists only of a thin surface veneer over glaciofluvial sand. This gives rise to heavy clay loam topsoils, similar to those elsewhere on the site, but which pass into sharply contrasting subsoils of gleyed loamy medium sand or medium sand. This coarse subsoil is very porous and soils of this type, although heavy and sticky at the surface, fall within Wetness Class II.

2. Agricultural Land Classification Grades

The ALC grades occurring on this site are as follows:

Grade	Hectares	Per cent of Total Area
2	3.1	5
3a	28.8	48
3b	23.9	39
Non Ag	5	8
Total	60.8	100

2.1 Grade 2

A small area of grade 2 land occurs to the West of Gibbon Lane. This land has a sandy clay loam or medium clay loam topsoil over a moderately well drained (Wetness Classes I and II) medium sandy loam or sandy clay loam subsoil. These soils are slightly droughty and limited to Grade 2 for this reason.

2.1 Subgrade 3a

Land in this subgrade is widespread in the western and southern parts of the site where the heavy clay loam topsoil overlies a much lighter sandy subsoil. This coarse textured subsoil is droughty and limits these parts of the site to subgrade 3a.

2.3 Subgrade 3b

Subgrade 3b land occurs on the heavy soils in the east and north. These soils consist of heavy clay loam top soils over clayey slowly permeable subsoils. Sandy horizons often occur at depth below the slowly permeable layer but have little effect on drainage.

Most profiles fall within Wetness Class III and are limited to the subgrade by topsoil wetness and workability problems.

Resource Planning Group
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