AGRICULTURAL LAND CLASSIFICATION

FLAXBY COVERT, KNARESBOROUGH

NORTH YORKSHIRE

PROPOSED BUSINESS PARK

MAFF

Leeds Regional Office

September 1990

File Ref: 2FCS 4968

Project Number: 66/90

lds.AL2.Flxby.cvt

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1. INTRODUCTION AND SITE CHARACTERISTICS

This site is located around grid reference SE 405570 approximately 5½ km east of Knaresborough. It covers 61.11 hectares, 74% of which is in agricultural use.

Survey work was carried out in September 1990 when soils were examined by hand auger borings at 100 metre intervals at points pre-determined by the National Grid. Soil profile pits were also dug at representative locations to assess soil structural characteristics and stone content, and 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).

LAND USE

All agricultural land was in arable use at the time of survey. Almost a quarter of the site is covered by woodland.

CLIMATE

Average Annual Rainfall (AAR) is approximately 669 mm. Accumulated temperature above 0°C between January and June (ATO) is 1366°C and the land is at field capacity for 159 days a year. These rainfall and temperature figures indicate that there is no overall climatic restriction on ALC grade. Summer moisture deficits of 101 mm for wheat and 91 mm for potatoes, however indicate that light textured soils will be droughty.

RELIEF

Altitude varies between about 30 and 40 mm above Ordnance Datum, and relief is gently undulating. Bayram Hill forms the only noticeable relief feature on the site. Slopes, however, rarely exceed 7° and do not restrict the use of agricultural machinery.

GEOLOGY AND SOILS

Solid strata do not occur within 1 metre of the surface and soils are developed on drift deposits consisting of light textured till, glacial lake deposits of silt and clay and glaciofluvial sand and gravel.

Light drift covers much of the site east of Flaxby Covert. Topsoils are generally of medium sandy loam over heavily mottled upper and lower subsoils with similar textures. Although most profiles are now freely drained and fall into Wetness Class I, the strong mottling indicates that in the past drainage was imperfect. Similar textured soils also occur around Bayram Hill, but have a much higher stone content due to the presence of sand and gravel close to the surface on the higher ground.

To the west of Flaxby Covert soils are formed largely on post glacial sand which forms a thin and patchy cover over the glacio lacustrine clay deposits. As a result of this patchiness soils are variable with topsoils ranging from medium sandy loam to sandy clay loam and medium clay loam. Subsoils are similar and vary from light textured mottled material to heavy clay where the underlying lacustrine deposits lie near the surface. Where clay is very close to the surface soils consists of medium or heavy clay loam topsoils over slowly permeable clay subsoils. Wetness Class ranges from Class I on the deeper light textured profiles to Class IV on the heavy clays.

2. AGRICULTURAL LAND CLASSIFICATION

The ALC grades on the site are as follows:-

Grade	Hectares	Percentage of total area
2	10.23	16.74
3a	29.19	47.77
3b	6.01	9.83
Woodland	14.08	23.04
Non Agricultural	1.60	2.62
Total	61.11	100

AGRICULTURAL LAND CLASSIFICATION

Grade 2

Land in this grade occurs in two areas to the east of Flaxby Covert. Topsoils are usually of medium sandy loam over similar but mottled subsoils. These soils fall into Wetness Class I. In a few places heavier subsoils occur at around 80 cm in depth. All soils in this grade are almost stoneless and restricted to grade 2 by a slight droughtiness limitation.

Subgrade 3a

This subgrade is the dominant grade on the site. To the east of Flaxby Covert medium sandy loam topsoils overlie similar textured but mottled subsoils, all of which fall into Wetness Class I. These soils are much stonier than those in the Grade 2 areas. As a result droughtiness is more severe and this land is limited to subgrade 3a for this reason.

To the west of the wood soils are very variable and land is classed as 3a because of the combination of droughtiness and soil variability over short distances.

Subgrade 3b

This is restricted to three separate small areas. Two of these, in the far western corner, and at Bayram Hill, consist largely of freely drained (Wetness Class I) medium sandy loam topsoils over similar textured subsoils. Subsoils are extremely stony below about 60 cm depth. These areas are restricted to subgrade 3b by a combination of topsoil stone content (45%) and droughtiness.

The remaining area of 3b land is to the west of Flaxby Wood and consists of medium or heavy clay loam topsoils over heavy clay loam or clay subsoils. These soils fall into Wetness Class IV and are restricted to subgrade 3b by wetness and workability problems.

Non-Agricultural

This consists mainly of Flaxby Covert.

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