

AGRICULTURAL LAND CLASSIFICATION

Kirby Thore Hall, Penrith  
Cumbria

Proposed Golf Course

January 1991

2FCS 5242

Project No 03/91

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1. Agricultural Land Classification

AGRICULTURAL LAND CLASSIFICATION REPORT: LAND AT KIRBY THORE HALL, PENRITH,  
CUMBRIA

1.1 Introduction and Site Characteristics

This site is located around grid reference NY 646252 approximately 5 km NW of Appleby on the A66. It covers 51.43 hectares, almost all of which is in agricultural use.

Survey work was carried out in January 1991 when soils were examined by hand auger borings at 100 metre intervals at points pre-determined by the National Grid to a depth of 1 metre.

All 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).

1.2 Land Use

All agricultural land was under pasture at the time of survey.

1.3 Climate

Average Annual Rainfall (AAR) is approximately 854 mm. Accumulated temperature above 0°C between January and June (ATO) is 1262 day °C, and the land is at field capacity for 214 days a year. The rainfall and temperature values impose an overall climatic limitation of Grade 2 on all agricultural land in the area.

1.4 Relief

Altitude varies between 105 and 125 metres above Ordnance Datum. Extensive areas of almost level ground adjoin Trout Beck, especially in the central part of the site. Elsewhere the land rises steadily away from the river. Slopes are generally gentle or moderate except north of the beck at Burwain Terrace

and west of the river in the centre of the site. In both areas gradients of 10° impose an overall slope limitation of subgrade 3b.

### 1.5 Geology and Soils

Alluvial deposits varying from sandy loam to silty clay occur on the low lying flatter land adjoining Trout Beck. Soils formed on this material vary from freely drained deep sandy loams at the north western end of the site to mixed sandy, silty and clayey soils in the central and south eastern areas. Away from the river soils are generally light and consist of well drained sandy loam topsoils over similar or lighter subsoils. Heavier subsoils occur at depth in a few places, especially in the north west adjoining Sleastonhow Lane. Here, reddish slowly permeable boulder clay, usually of heavy clay loam texture is common below about 50 cm depth and restricts drainage of the overlying lighter topsoil and upper subsoil. Stone content of soils throughout the site is variable. Except for the alluvial soils close to the river, which can be stoneless, most vary from slightly to moderately stony. The stonier soils are most common in patches to the south and south east of Kirkby Thore Hall where stone content can be high enough to cause cultivation and droughtiness problems.

## 2 Agricultural Land Classification

The ALC grades on the site are as follows:-

Grade	Hectares	Percentage of Total Area
2	21.2	41.4
3a	19.9	38.7
3b	7.0	13.6
Agricultural Buildings	0.8	1.5
Urban	1.0	1.9
Open water	<u>1.5</u>	<u>2.9</u>
TOTAL	51.4	100%

### 2.1 Grade 2

Land in this grade occurs in two strips down either side of the valley where soils are light, consisting mainly of sandy loams and sandy clay loams over similar subsoils. These soils are generally freely drained (Wetness Class I) and limited to Grade 2 only by the overall climatic limitation applying to the whole area.

### 2.2 Subgrade 3a

Subgrade 3a land occurs on either side of the river and along the boundary with Sleastonhow Lane. Soils along the river floodplain vary from freely drained (Wetness Class I) sandy loams in the north west to heavier profiles with slowly permeable subsoils in the south east. The heavier soils fall within Wetness Class III and are limited to subgrade 3a by wetness problems. The lighter land in the north west is limited to subgrade 3a by a winter flood risk. The area alongside Sleastonhow Lane falls within Wetness Class III and is limited to the subgrade by soil wetness problems.

### 2.3 Subgrade 3b

There are three areas of subgrade 3b land on the site. The two smaller areas on Burwain Terrace and west of the beck contain slopes of around 10° which limit the use of agricultural machinery and they are restricted to subgrade 3b for this reason. The largest area on the floodplain north east of the river consists of clay loam topsoils overlying slowly permeable silty clay subsoils. These soils are poorly drained (Wetness Class IV) and are limited to subgrade 3b by wetness and workability problems.

### 2.4 Farm Buildings

This consists of the buildings at Kirby Thore hall.

### 2.5 Urban

This category includes houses along Burwain Terrace, the Kirby Thore Hall access road and a bungalow on Sleastonhow Lane.

### 2.6 Open Water

This consists of Trout Beck a swiftly flowing stream which effectively divides the site.

Resource Planning Group  
Leeds Regional Office  
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