

AGRICULTURAL LAND CLASSIFICATION

KIRKBY LANE, GREAT BROUGHTON
NEAR STOKESLEY, NORTH YORKSHIRE

Proposed Golf Course

MAFF
Leeds Regional Office

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KIRKBY LANE, GREAT BROUGHTON

1. INTRODUCTION AND SITE CHARACTERISTICS

This site is located around grid reference NZ 539068 approximately 2 km south east of Stokesley town centre. It covers 29.2 hectares, all of which is in agricultural use.

Survey work was carried out in August 1990 when soils were examined by hand auger borings at 100 metre intervals pre-determined by the national grid. Shallow soil profile pits were also dug at representative locations to assess soil structural characteristics and gley morphology.

All land quality assessments were made using the methods described in the "Revised Guidelines and Criteria for grading the quality of Agricultural Land" (MAFF 1988).

1.1 LAND USE

Agricultural land was mainly devoted to cereal production during the 1989-90 season except for 2 grassland fields alongside Broughton Beck and a small area of potatoes in the middle of the site.

1.2 CLIMATE

Average Annual Rainfall (AAR) is approximately 735 mm. Accumulated temperature above 0°C between January and June (ATO) is 1289 day°C and the land is at field capacity for 191 days a year. Summer moisture deficits of 87 mm for winter wheat and 72 mm for potatoes are relatively small and do not place a significant droughtiness limitation on the course loamy and clayey soils which are common on the site.

RELIEF

Altitude varies between 82 and 90 m above Ordnance Datum and relief is level to very gently undulating. Slopes rarely exceed 3-4° and do not restrict the use of agricultural machinery.

GEOLOGY AND SOILS

Boulder clay occurs across the whole site, but is partially overlain in the east by thin sand and gravel deposits on which are formed fine to coarse loamy soils with very slightly stony over slightly stony upper subsoils. The underlying boulder clay is usually encountered below about 50-60 cm depth.

This superficial drift is largely absent in the northern half of the site where boulder clay occurs close to the surface. Soil profiles formed on this material typically consist of stoneless to very slightly stony fine loamy topsoils over clayey subsoils.

2. AGRICULTURAL LAND CLASSIFICATION GRADES

The ALC grades occurring on the site are as follows.

GRADE	HECTARES	PER CENT OF TOTAL SITE AREA
3a	2.4	8.2
3b	25.2	86.3
4	<u>1.6</u>	<u>5.5</u>
TOTAL	29.2	100%

SUBGRADE 3A

A narrow strip of subgrade 3a on land occurs along the eastern edge of the site near Broughton Beck. All profiles fall within Wetness Class III and consist typically of sandy clay loam to sandy loam topsoils and upper subsoils passing into boulder clay at depth. A combination of profile wetness and topsoil workability problems form the main limitation on ALC grade.

SUBGRADE 3B

This is the predominant grade on the site. Soils consist mainly of medium clay loam or sandy clay loam topsoils and upper subsoils over boulder clay at depth. All soil horizons are stoneless to very slightly stony, except in the southern half of the site where slightly stonier upper subsoils often occur.

All profiles fall within Wetness Class IV and are limited to subgrade 3b by soil wetness and workability problems.

GRADE 4

A small area of grade 4 land occurs along the western site boundary north of Kirkby Lane Farm. Heavier topsoils consisting of heavy clay loam or clay are common in this area. Topsoil workability problems are thus more severe than on the adjoining subgrade 3b land and are the main restriction on ALC grade.

Resource Planning Group
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