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MAFF Ministry of Agriculture Fisheries and Food

AGRICULTURAL LAND CLASSIFICATION
LEEDS UDP, TOPIC 642
GALLOWS HILL, OTLEY
WEST YORKSHIRE
MARCH 1995

ADAS
Leeds Statutory Group

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SUMMARY

A detailed Agricultural Land Classification survey of 22.8 ha of land at Gallows Hill, Otley, (Leeds UDP Topic 642) was carried out in March 1995.

At the time of survey all the land was under grass. The land is level and subject to a slight flood risk.

Soils in the east are developed from alluvium and river terrace deposits. Elsewhere soils are restored following sand and gravel workings. 8.1 ha were Graded 2. This land is well drained and limited by a slight flood risk.

Subgrade 3a covers 3.9 ha. This comprises soils restored over 15 years ago. Profiles are shallow and stony and the land is limited by droughtiness.

Subgrade 3b occupies 2.7 ha. Again, soils were restored over 15 years ago. Subsoils are slowly permeable on this land and a soil wetness limitation of Subgrade 3b applies.

The remaining 8.1 ha of land are provisionally Graded 4. Restoration on this land was only completed in 1991 and soil limitations can not yet be definitely assessed. However, currently subsoils are almost impermeable and severe soil wetness limitation prevent this land from being classed better than Grade 4.

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AGRICULTURAL LAND CLASSIFICATION REPORT ON LEEDS UDP, TOPIC 642, GALLOWS HILL, OTLEY, WEST YORKSHIRE

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

The site was surveyed in March 1995. It lies between the River Wharfe and the A659 Otley to Pool road, east of the town of Otley. The centroid grid reference is SE 215 460. Soils were examined by hand auger borings at 100m intervals predetermined by the OS National Grid. Three soil profile pits were dug to examine the soil in greater detail. Land quality assessments were made using the criteria set out 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 and Relief

At the time of survey the whole site was under grass. The eastern portion of the site has been restored following sand and gravel workings (See section 1.4). The site is level at an altitude of 50m AOD. Flood risk and rare, medium duration winter floods, impose an overall limitation of Grade 2 across the site.

1.3 Climate

Grid Reference	: SE 215 460
Altitude (m)	: 50
Accumulated Temperature above 0°C (January - June)	: 1358 day °C
Average Annual Rainfall (mm)	: 783
Climatic Grade	: 1
Field Capacity Days	: 202
Moisture Deficit (mm) Wheat	: 92
Moisture Deficit (mm) Potatoes	: 80

1.4 Geology, Soils and Drainage

Soils in fields east of easting 215 have been restored following sand and gravel extraction. The 2 fields east of easting 220 are understood to have been restored over 15 years ago. Here, topsoils and subsoils are typically a medium clay loam or sandy clay loam over gravel and overburden at about 65cm depth. Subsoils are generally gleyed and slowly permeable in the south of this area. Profiles are Wetness Class II to IV, moderately well to poorly drained.

Restoration work on the remaining restored land is understood to have only been completed in 1991. Soil structure, root development, porosity, consistence and drainage are still developing, and assessment of this land can only therefore be provisional. Currently subsoils are almost impermeable and are poorly to very poorly drained - Wetness Class IV to V.

To the west of the site are 3 fields which have not been worked for minerals, where soils are undisturbed. Soils have developed from river terrace and alluvium and typically contain medium textured topsoils and subsoils extending to 120cm depth.

Profiles are well drained and soil Wetness Class I.

These undisturbed soils correspond to the Wharfe Association as mapped by the Soil Survey and Land Research Centre (1984).

2. AGRICULTURAL LAND CLASSIFICATION

The ALC grades occurring on this site are as follows:

	Grade/Subgrade	Hectares	Percentage of Total Area
	1		
	2	8.1	35.5
	3a	3.9	17.1
	3b	2.7	11.8
*	4	8.1	35.5
	5		
	(Sub total)	(22.8)	(100.0)
	Urban		
	Non Agricultural		
	Woodland - Farm		
	- Commercial		
	Agricultural Buildings		
	Open Water		
	Land not surveyed		
	(Sub total)	(0)	(0)
	TOTAL	22.8	100

* **Provisional**

2.1 Grade 2

This land is well drained (Wetness Class I). Soils are medium textured and extend to 120cm depth. This land is limited to Grade 2 by slight flood risk.

2.2 Subgrade 3a

This subgrade includes restored land in the east of the site. Restoration took place over 15 years ago. Topsoils and subsoils are slightly stony and medium textured. Gravel and overburden occur at 65 cm depth. Droughtiness limits the ALC grade of this land.

2.3 Subgrade 3b

This land was also restored over 15 years ago. However subsoils are heavy textured and slowly permeable. This land is poorly drained and soil Wetness Class IV. Soil wetness and workability problems limit the ALC grade of this land .

2.4 Grade 4 (Provisional)

This grading is only provisional as the soils on this land were only restored in 1991 and limitations can not yet be accurately assessed (see 1.4). Currently subsoils display characteristics of being almost impermeable. These include weakly developed very coarse angular blocky structure, very firm soil strength and very little root penetration. Severe soil wetness limits this land to Grade 4.

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MAP