AGRICULTURAL LAND CLASSIFICATION

KNOWLES FARM, KIRK LEVINGTON, CLEVELAND

Proposed Residential Development

ADAS
LEEDS REGIONAL OFFICE

JUNE 1989

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CONTENTS

MAP

AGRICULTURAL LAND CLASSIFICATION REPORT ON LAND AROUND KNOWLES FARM, KIRK LEVINGTON, CLEVELAND

1.1 INTRODUCTION

This 7.3 hectare site surrounds Knowles Farm (Grid Reference NZ 424 096), immediately south west of Kirk Levington, Cleveland. 93 per cent of the land is currently in agricultural use.

Survey work was carried out in early June 1989 when soils were examined by hand auger borings at 10 points predetermined by the National Grid. Several additional borings were made to check upon and refine grade boundaries. A profile pit was also dug to examine soil morphology and collect samples for laboratory analysis.

Land quality assessments were made using the revised guidelines published by MAFF in (1988).

1.2 CLIMATE AND RELIEF

Average annual rainfall is 642 mm and the accumulated temperature above $0^{o}C$ (January to June) is 1325 day degrees. The land is at field capacity for 157 days a year. These factors indicate that there is no overall climatic limitation on ALC grade.

Slopes are steep enough to limit ALC grade only in the field south west of Knowles Farm. The average altitude is 50 m a.o.d.

1.3 GEOLOGY AND SOILS

All soils are formed on a reddish boulder clay (till) deposit which forms a thick cover over the underlying Triassic sandstones.

Soils closely resemble their parent material and show only slight variation across the site. Topsoils are typically of medium or heavy clay loam, over reddish, clayey slowly permeable subsoils. Most profiles fall within Wetness Class IV except in the north west corner where the slowly permeable layer is deeper and meets the requirements for wetness class III.

All the soils have an overriding wetness and workability limitation. None are droughty.

1.4 LAND USE

Except for one field growing cereals all land is under permanent grass used for grazing horses.

1.5 AGRICULTURAL LAND CLASSIFICATION

Grade	Area hectares	% of total area
3a	0.3	4
3b	6.3	86
4	0.2	3
Farm Buildings	0.5	7
Total	7.3	100

1.5.1 Subgrade 3a

This small area contains fine loamy top and upper subsoils over a clayey slowly permeable lower subsoil. Slight soil wetness and workability problems are the main limitation on ALC grade.

1.5.2 Subgrade 3b

Most of the site falls within this subgrade. Topsoils are again fine loamy over clayey upper and lower subsoils. Wetness and workability however, are more serious limitations than on the 3a land. Most

profiles are slowly permeable at less than 40 cm depth and thus fall within Wetness Class IV. Soils of this type cannot be graded higher than 3b in areas such as Kirk Levington where there are between 151 and 175 Field Capacity Days.

1.5.3 Grade 4

A small area of land with moderately steep slopes is restricted to Grade 4 by gradient limitations.

1.5.4 Farm Buildings

Two areas fall within this category.

Reference

"Revised guidelines and criteria for grading the quality of agricultural land" MAFF (1988).

Resource Planning Group
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