

AGRICULTURAL LAND CLASSIFICATION

Mount Leven, Yarm  
Proposed Housing Development

MAFF  
Leeds Regional Office

August 1991  
File Ref: 2FCS 5463  
Project No: 64/91

lds.AL4.Mount.Lvn

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1. AGRICULTURAL LAND CLASSIFICATION

AGRICULTURAL LAND CLASSIFICATION REPORT, MOUNT LEVEN FARM, YARM, CLEVELAND

1.0 Introduction and Site Characteristics

1.1 Location

National Grid Reference:- NZ 438124.  
Location Details:- South of River Leven immediately east of Yarm.

Site Size:- 42 ha.

1.2 Survey Methods

Date Surveyed:- 19 July 1991.

Boring Density and Spacing Basis:- 1 boring per hectare at 100 m intervals predetermined by the National Grid.

Sampling Method:- Hand auger borings to 1 m.

Number of Borings:- 42 borings.

All land quality 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)".

### 1.3 Climate and Relief

Average Annual Rainfall (AAR):-	618 mm
Accumulated Temperature above 0°C (January-June):-	1352 day °C
Field Capacity Days:-	151 days
Altitude average:-	25 m a.o.d.
maximum:-	54 m a.o.d.
minimum:-	6 m a.o.d.
Climatic limitation (based on interaction of rainfall and temperature values):-	None.
Gradient Limitation	
Limiting gradient(s):-	11-18° and greater than 18°.
Grade(s)/subgrade(s):-	Grade 4 and 5 respectively.
Occurrence on site:-	Along valleyside of River Leven.

### 1.4 Geology and Soil

Solid Strata:-	Triassic sandstone.
Depth of solid rock from surface:-	Usually greater than 1 metre.
Drift types:-	Lacustrine clay.
Thickness of drift and distribution:-	Usually greater than 1 metre over the whole site.

**Soil Types and Distribution:-**

Soils consist of medium textured topsoils over heavy textured subsoils across the whole site.

**Soil Textures (topsoils and subsoils):-**

Topsoils consist of medium to heavy clay loams over similar upper subsoils and heavy clay to clay lower subsoils.

**Soil Series/Associations:-**

Crewe Association.

On 1/250,000 map:-

Crewe.

Identified on site:-

Crewe.

**Soil Limitations and type:-**

Soil wetness and workability is the major limitation with soil droughtiness at some locations where sandstone is less than one metre from surface.

**1.5 Drainage**

**Soil type and Wetness Class:-**

Clay loam soils, Wetness Class III and IV.

**Drainage Limitations:-**

Slowly permeable subsoil horizons except where sandstone is close to the surface.

## 2.0 Agricultural Land Classification Grades

The ALC grades occurring on the site are as follows:-

<u>Grade/Subgrade</u>	<u>Hectares</u>	<u>Percentage of Total</u> <u>Area</u>
2	9.46	23%
3a	16.64	39%
3b	7.66	18%
4	4.38	10%
5	0.94	2%
Non Agricultural	2.25	5%
Urban	1.16	3%
Total	<hr/> 42.50 <hr/>	<hr/> 100 <hr/>

**Grade 2**

**Distribution on site:-**

Adjoining the River Leven and in the centre of the site.

**Soil Type(s) and Texture(s):-**

Soils consist of medium clay loam topsoils and upper subsoils over heavy clay loam lower subsoils.

**Depth to Slowly Permeable Layers:-**

Greater than 68 cm.

**Wetness and Drainage Class:-**

Wetness Class II, moderately well drained.

**Stone Percentage and Type:-**

5-10% sandstones larger than 2 cm in the top 25 cm of soil.

**Grade Limiting Factors:-**

Slight soil wetness and workability problems.

**Subgrade 3a**

**Distribution on site:-**

Land in this grade occurs in most arable parts of the site.

**Soil Type(s) and Texture(s):-**

Soils consist of medium clay loam topsoils and upper subsoils over slowly permeable lower subsoils.

**Depth to Slowly Permeable Layers:-**

41 to 68 cm.

**Wetness and Drainage Class:-**

Wetness Class III, imperfectly drained.

**Stone Percentage and Type:-**

When present, 10-15% sandstone greater than 2 cm in the top 25 cm of soil.

**Grade Limiting Factors:-**

Soil wetness and workability problems.



**Subgrade 3b**

**Distribution on site:-**

Land in this grade occurs near Mount Leven Farm and sewage works adjacent to the River Leven.

**Soil Type(s) and Texture(s):-**

Soils consist of medium to heavy clay loam topsoils over heavy clay loam subsoils.

**Depth to Slowly Permeable Layers:-**

Less than 40 cm.

**Wetness and Drainage Class:-**

Wetness Class IV, poorly drained.

**Stone Percentage and Type:-**

None.

**Grade Limiting Factors:-**

Soil wetness and workability problems in area near Mount Leven. Gradient is limiting near the sewage works in north of site.

Grade 4

Distribution on site:-

Land in this grade occurs along the steep sides of the Leven valley.

Grade Limiting Factors:-

Slopes range from 11 to 18° and gradient is therefore the overriding limiting factor on land in this grade.

Grade 5

Distribution on site:-

Land in this grade occurs in isolated areas along the River Leven valley.

Grade Limiting Factors:-

Gradients are greater than 18° and gradient is therefore the overriding limiting factor on land in this grade.

Non Agricultural

Type and location of land included:-

Land in this grade consist of woodland along the River Leven valley.

Urban

Type of land use included:-

Farm tracks and weather station located in SW corner of site.

Resource Planning Group  
Leeds Regional Office  
August 1991

MAP