

**LAND AT DOWLEY GAP LANE  
BINGLEY**

**Agricultural Land Classification (ALC)  
Map and Report**

**July 1998**

**Resource Planning Team  
Northern Region  
FRCA, Leeds**

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# AGRICULTURAL LAND CLASSIFICATION REPORT

## LAND AT DOWLEY GAP LANE, BINGLEY

### INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 0.9ha of land at Dowley Gap Lane, Bingley. The survey was carried out during July 1998.

2. The survey was carried out by the Farming and Rural Conservation Agency (FRCA) for the Ministry of Agriculture, Fisheries and Food (MAFF), in connection with proposed land raising works.

This report supersedes any previous ALC information for this land.

3. The work was conducted by members of the Resource Planning Team in the Northern Region of FRCA. The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF, 1988). A description of the ALC grades and subgrades is given in Appendix I.

4. At the time of survey the land use on the site was permanent grassland.

### SUMMARY

5. The findings of the survey are shown on the attached ALC map. The map has been drawn at a scale of 1:2,500; it is accurate at this scale but any enlargement would be misleading.

6. The areas and proportions of the ALC grades and subgrades on the surveyed land are summarised in Table 1.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
3b	0.6	66.7	66.7
4	0.2	22.2	22.2
5	0.1	11.1	11.1
Total surveyed area	0.9	100	-
Total site area	0.9	-	100

7. The fieldwork was conducted at an average density of four borings per hectare. A total of four borings and one soil pit were described.

8. Most of the site (0.6 ha) fell into ALC Subgrade 3b. Most of this area consisted of an organic medium clay loam topsoil overlying a variable medium to heavy clay loam subsoil with a slowly permeable layer at 25 cm. Grade was limited by soil wetness. A small

proportion in the south-western area of the site was strongly sloping (10°), having a medium clay loam topsoil over a sandy clay loam subsoil. In this area grade was limited by slope.

9. A small area (0.2ha) in the north of the site had an organic medium clay loam topsoil and loamy peat subsoil. ALC grade was restricted to Grade 4 by a more severe wetness limitation.

10. The southern edge of the site was steeply banked (up to 27°), with a medium clay loam topsoil overlying a sandy clay loam subsoil, the ALC grade of this area is limited to Grade 5 by slope.

## FACTORS INFLUENCING ALC GRADE

### Climate

11. Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics.

12. The key climatic variables used for grading this site are given in Table 2 and were obtained from the published 5km grid datasets using the standard interpolation procedures (Met. Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	SE 117384
Altitude	m, AOD	75
Accumulated Temperature	day°C (Jan-June)	1335
Average Annual Rainfall	mm	812
Field Capacity Days	days	206
Moisture Deficit, Wheat	mm	86
Moisture Deficit, Potatoes	mm	72
Overall climatic grade	N/A	Grade 2

13. The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions.

14. The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR), as a measure of overall wetness, and accumulated temperature (AT0, January to June), as a measure of the relative warmth of a locality.

15. The combination of rainfall and temperature at this site means that there is a climatic limitation of Grade 2.

## Site

16. The site consists of a steep (10-27°) north-facing slope on the southern edge, becoming more or less level over the remainder of the site. An area of land in the north of the site was marshy, with standing water visible at the time of survey.

## Geology and soils

17. The geology of the area is shown as moraine overlying Millstone Grit (BGS Sheet 69, Bradford).

18. The area has been mapped as urban land by the Soil Survey of England and Wales (Soils of England and Wales, Sheet 1).

## AGRICULTURAL LAND CLASSIFICATION

19. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1, page 1.

### *Subgrade 3b*

20. The main part of the site falls into ALC Subgrade 3b. The largest part of this area consists of organic medium clay loam topsoil overlying medium to heavy clay loam subsoil with evidence of a lower subsoil of organic clay, with a slowly permeable layer at 25cm. This gives Wetness Class IV, limiting grade by soil wetness. A smaller area in the south west of the site comprises a medium clay loam topsoil over a sandy clay loam subsoil, situated on a strongly sloping bank (10°). In this area grade is limited by slope.

### *Grade 4*

21. An area of 0.2ha in the north of the site was graded as Grade 4, poor quality agricultural land. This comprised an organic medium clay loam topsoil overlying a loamy peat subsoil. Impeded drainage was evidenced by areas of standing water, suggesting Wetness Class V. These conditions imposed a more severe wetness limitation than was found in the adjacent areas of Subgrade 3b.

### *Grade 5*

22. The area along the southern edge of the site was Grade 5, land with severe limitations. It consisted of a medium clay loam topsoil over a sandy clay loam subsoil and was strongly to very steeply sloping (10° to 27°). Grade was limited by slope.

Resource Planning Team  
Northern Region  
FRCA Leeds

## SOURCES OF REFERENCE

British Geological Survey (1949) *Sheet No. 69, Bradford (Drift)*.  
BGS: London.

Ministry of Agriculture, Fisheries and Food (1988) *Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land*. MAFF: London.

Met. Office (1989) *Climatological Data for Agricultural Land Classification*.  
Met. Office: Bracknell.

Soil Survey of England and Wales (1983) *Sheet 1 Northern England*.  
SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils and their Use in Northern England*  
SSEW: Harpenden

## APPENDIX I

### DESCRIPTIONS OF THE GRADES AND SUBGRADES

#### **Grade 1: Excellent Quality Agricultural Land**

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

#### **Grade 2: Very Good Quality Agricultural Land**

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1 land.

#### **Grade 3: Good to Moderate Quality Land**

Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When more demanding crops are grown, yields are generally lower or more variable than on land in Grades 1 and 2.

#### **Subgrade 3a: Good Quality Agricultural Land**

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

#### **Subgrade 3b: Moderate Quality Agricultural Land**

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

#### **Grade 4: Poor Quality Agricultural Land**

Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

#### **Grade 5: Very Poor Quality Agricultural Land**

Land with severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.