# EASINGTON LOCAL PLAN
# LAND AT TRIMDON STATION
# COUNTY DURHAM

## Agricultural Land Classification
## ALC Map and Report

**June 1998**

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**Northern Region**
**FRCA, Leeds**

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# EASINGTON LOCAL PLAN
# LAND AT TRIMDON STATION
# AGRICULTURAL LAND CLASSIFICATION REPORT

## INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 13.1 ha of land at Trimdon Station, County Durham. The survey was carried out during June 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 a proposed housing allocation in the Easington Local Plan. No ALC has been carried out on this land since 1988; a reconaissance survey in the area carried out in the 1970s shows the restored land to the north of the road as Grade 4, and the undisturbed plot to the south west of the road as Subgrade 3b.

3. The current survey 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 to the north and east of the road was permanent grassland and that to the south west was occupied by a rye-grass ley.

## SUMMARY

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:5,000. It is accurate at this scale but any enlargement would be misleading.

6. The area 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 | 4.0 | 34 | 30.5 |
| 5 | 7.7 | 66 | 58.8 |
| Other land | 1.4 | N/A | 10.7 |
| Total surveyed area | 11.7 | 100 | - |
| Total site area | 13.1 | - | 100 |

7. The fieldwork was conducted at an average density of one boring per hectare. A total of 12 borings and one soil pit was described.

8. The south western area of the site, extending to 4.0 ha, is classified as Subgrade 3b, moderate quality agricultural land. The soil is medium clay loam mainly overlying clay. The ALC grade of this land is limited by soil wetness.

9. The area to the north of the road is mostly covered by Grade 5 land, very poor quality agricultural land. This area has been restored to agricultural use, and consists of very thin medium clay loam topsoil, ranging from 5 to 15 cm deep, overlying mining spoil made up of hard stone, shale, cinders and brick fragments. The ALC grade of this land is limited by soil depth.

10. Other land on this site consists of an area being used for buildings and hard standing, and a plot of young woodland establishing in the north of the site.

## FACTORS INFLUENCING ALC GRADE

### Climate

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

11. 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* | *NZ 382 366* |
| Altitude | m, AOD | 145 |
| Accumulated Temperature | day°C (Jan-June) | 1205 |
| Average Annual Rainfall | mm | 705 |
| Field Capacity Days | days | 175 |
| Moisture Deficit, Wheat | mm | 83 |
| Moisture Deficit, Potatoes | mm | 76 |
| Overall climatic grade | N/A | Grade 2 |

11. 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.

12. 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 (ATO, January to June), as a measure of the relative warmth of a locality.

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

**Site**

14. The land on the site slopes gently to the south and south west (1-3°). However none of the slopes are greater than 7°, therefore ALC grade is not limited by gradient.

**Geology and soils**

15. The undisturbed land is underlain by Magnesian limestone, with a covering of till. (BGS Sheet 27, Durham). The restored land comprised a thin medium clay loam topsoil over spoil.

16. The undisturbed soils of the site have been mapped as Dunkeswick Association by the Soil Survey of England and Wales. (Soils of England and Wales, Sheet 1).

## AGRICULTURAL LAND CLASSIFICATION

17. 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*

18. Subgrade 3b, moderate quality agricultural land, occupies the area to the south west of the road. The profiles are made up of medium clay loam topsoil overlying clay or sandy clay loam subsoils. Both the topsoil and subsoils are stoneless to slightly stony, containing up to 2% total stones of hard rock. The subsoils are slowly permeable, and show evidence of gleying, giving Wetness Class IV. Soil wetness and workability limits the ALC grade of this land.

*Grade 5*

19. The larger part of the area, to the north and east of the road consists of Grade 5 land, very poor quality agricultural land. The topsoil is made up of medium clay loam to a depth of between 5 and 15 cm with heavy root matting, containing 2 - 5 % stones of hard rock, cinders, and shale. The lower horizon is made up of colliery waste containing shale, brick fragments and cinders. A little root penetration has occurred within this layer, but this is limited to a depth of approximately 1 to 2 cm from the horizon boundary. The ALC of this land is limited by soil depth.

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## 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.

## SOURCES OF REFERENCE

British Geological Survey (1965) *Sheet No. 27, Durham.*
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