

**CASTLE MORPETH DISTRICT  
LOCAL PLAN  
(LAND SOUTH OF MPS4:  
LOANSDEAN)  
NORTHUMBERLAND**

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

**MARCH 1998**

**Resource Planning Team  
Northern Region  
FRCA Leeds**

**RPT Job Number: 4/98  
MAFF Reference: EL 31/27A  
LURET Job Number: ME1AJJR**

*RPT 20, 31 0*

**CASTLE MORPETH DISTRICT LOCAL PLAN  
(LAND SOUTH OF MPS4: LOANSDEAN)  
AGRICULTURAL LAND CLASSIFICATION REPORT**

**INTRODUCTION**

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 15.8 ha of land at lying between the southern edge of the town of Morpeth and the Catch Burn. The field work was carried out in March 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 the Castle Morpeth District Local Plan. This report and map supersede 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 agricultural land on the site was sown to winter cereals. Other land on the site consists of scrub alongside the Catch Burn.

**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
1			
2			
3a	8.8	58.3	55.7
3b	6.3	41.7	39.9
4			
5			
Agricultural land not surveyed		N/A	
Other land	0.7	N/A	4.4
<b>Total surveyed area</b>	<b>15.1</b>	<b>100</b>	<b>-</b>
<b>Total site area</b>	<b>15.8</b>	<b>-</b>	<b>100</b>

7. The fieldwork was conducted at an average density of one boring per hectare. A total of fifteen borings and two soil pits were described.

8. Subgrade 3a, good quality agricultural land, covers almost 56% of the site. The soils vary between well and imperfectly drained and consist of light to medium-textured topsoils and upper subsoils overlying light, medium or heavy-textured lower subsoils. Profiles become gleyed at between 30 cm and 60 cm depth and slowly permeable layers, where they occur, begin at between 55 cm and 70 cm depth. The ALC grade of this land is limited by the combination of soil wetness and topsoil texture.

9. Subgrade 3b, moderate quality agricultural land, covers 40% of the site. The soils in these areas are poorly drained and consist of medium-textured topsoils and, in places, upper subsoils, overlying gleyed and slowly permeable heavy-textured subsoils at between 20 cm and 40 cm depth. Again, soil wetness is the grade-limiting factor for these areas. Some parts of the south of the site are also limited to Subgrade 3b by slopes of 8°.

10. Other land on this site occurs alongside the Catch Burn and consists of scrub.

## 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	NZ 198 838
Altitude	m, AOD	67
Accumulated Temperature	day°C (Jan-June)	1277
Average Annual Rainfall	mm	723
Field Capacity Days	days	186
Moisture Deficit, Wheat	mm	87
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 an overall climatic limitation of Grade 2.

### Site

16. The land on this site is gently to strongly sloping (2 - 8°) with variable aspect. Only in the far south of the site do slopes exceed 7° and these areas are restricted to Subgrade 3b by their gradient. Neither flood risk nor microrelief are grade-limiting factors on this site.

### Geology and soils

17. The site is underlain by Upper Carboniferous Coal Measures (BGS, Sheet 14) over which lie deposits of till and glacial sand and gravel.

18. The soils on the site have been mapped as belonging to the Dunkeswick series (Soils of the Alnwick and Rothbury district) and, at a less detailed level, the Nercwys association (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 3a

20. Land in this subgrade covers 8.8 ha. The soils vary between well drained and imperfectly drained, falling in Wetness Classes I to III. Typically medium sandy loam or medium clay loam topsoils and upper subsoils overlie medium sandy loam, sandy clay loam, medium clay loam or heavy clay loam. Most profiles become gleyed at between 30 cm and 60 cm depth and slowly permeable layers begin at between 55 cm and 70 cm depth where present. The ALC grade of this land is restricted by the combination of soil wetness and topsoil texture.

#### Subgrade 3b

21. The remaining agricultural land on the site falls in Subgrade 3b. The soils are generally poorly drained (Wetness Class IV) and consist of medium clay loam topsoils and, in places, thin gleyed upper subsoils, overlying gleyed and slowly permeable heavy clay loam at between 20 cm and 40 cm depth. A more significant soil wetness limitation than on the adjoining Subgrade 3a land further limits these areas to Subgrade 3b. Some parts of the south of the site are also restricted to Subgrade 3b by slopes of around 8°.

Other land

22. Other land on this site consists of scrub alongside the Catch Burn in the east.

File Reference: RPT 20,310  
Resource Planning Team  
Northern Region  
FRCA, Leeds

## SOURCES OF REFERENCE

British Geological Survey (1977) *Sheet No. 14, Morpeth, (Solid and Drift)*. 1:50,000 scale.  
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, Soils of Northern England*, 1:250,000 scale.  
SSEW: Harpenden.

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

Soil Survey of England and Wales (1990), *Soils of the Alnwick and Rothbury district and 1:50,000 scale map*.  
SSEW: Silsoe.

## 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.