SHROPSHIRE STRUCTURE PLAN
BROSELEY
LAND NORTH OF COALPORT ROAD

Agricultural Land Classification
ALC Map and Report

June 1999

Resource Planning Team
Northern Region
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AGRICULTURAL LAND CLASSIFICATION REPORT

SHROPSHIRE STRUCTURE PLAN
BROSELEY, LAND NORTH OF COALPORT ROAD

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 8 ha of land north of Coalport Road, to the east of Broseley. The survey was carried out in May 1999.

2. The survey was undertaken by the Farming and Rural Conservation Agency (FRCA)[1] on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF). This survey was carried out in connection with MAFF's statutory input to the Shropshire Structure Plan. This survey 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 site was under grass.

SUMMARY

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10 000. 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)	% Total agricultural land area	% Total survey area
1	-	-	-
2	-	-	-
3a	6.0	75.0	75.0
3b	1.0	12.5	12.5
4	1.0	12.5	12.5
5	-	-	-
Agricultural land not surveyed	-	-	-
Other land	-	-	-
Total agricultural land area	8.0	100	-
Total survey area	8.0	-	100

[1] FRCA is an executive agency of MAFF and the Welsh Office

7. The fieldwork was conducted at an average density of 1 boring per hectare of agricultural land. In total of 10 borings and 1 soil pit were described.

8. The agricultural land on this site has been classified as Subgrade 3a (good quality), Subgrade 3b (moderate quality), and Grade 4 (poor quality). The main limitations to the agricultural use of this land are soil wetness, gradient and microrelief.

9. Land of good quality (Subgrade 3a) occurs across the south and east of the site. Soil wetness is the main limitation to the agricultural use of this land.

10. Land of moderate quality (Subgrade 3b) occurs in the west of the site. Gradient is the main limitation to the agricultural use of this land.

11. Land of poor quality (Grade 4) occurs in the west of the site. Microrelief and gradient are the main limitations to the agricultural use of this land.

FACTORS INFLUENCING ALC GRADE

Climate

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

13. 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	SJ684017
Altitude	m, AOD	130
Accumulated Temperature	day°C (Jan-June)	1342
Average Annual Rainfall	mm	746
Field Capacity Days	days	177
Moisture Deficit, Wheat	mm	86
Moisture Deficit, Potatoes	mm	72
Overall climatic grade	N/A	Grade 1

14. 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.

15. 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.

16. The combination of rainfall and temperature at this site mean that there is no overall climatic limitation. The site is climatically Grade 1.

Site

17. The site lies at an altitude of 115-140m AOD. Across the south and east of the site, land falls gently to the north. In the west of the site land falls more steeply to the north-west, where slopes in excess of 7°, imposes a gradient limitation to the agricultural use of the land.

Geology and soils

18. The underlying geology for this area comprises Carboniferous mudstones, siltstones and sandstones of the Coalport Formation (BGS 1978).

19. The most detailed published soils information for this area (SSEW, 1983) shows the site to comprise the 'typical brown earth' soils of the Rivington 2 association. This association, which generally occur over Carboniferous sandstones and shales, includes soils described as 'coarse loamy, well drained overlying hard sandstone' (SSEW 1984).

20. However, upon detailed field examination, no soil profiles matching the above description were found.

AGRICULTURAL LAND CLASSIFICATION

21. 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

22. Land of good quality occupies 6 ha (75%) of the total survey area, and occurs in the south and east of the survey area. The main limitation to the agricultural use of this land is soil wetness.

23. Within the Subgrade 3a mapping unit, soils comprise a slightly stony medium clay loam topsoil, which overlies medium clay loam, sandy clay loam and heavy clay loam subsoils. Subsoil stoniness varies from stoneless to very stony. Depths to gleying and the slowly permeable layer in relation to the local climatic regime, place these soils into Wetness Classes II, III and Subgrade 3a.

Subgrade 3b

24. Land of moderate quality occupies 1 ha (12.5%) of the total survey area, and occurs in the west of the survey area. The main limitation to the agricultural use of this land is gradient.

25. In the west of the site, gradients between 8° and 11° occur on land falling away to the north-west. This imposes a limitation consistent with land of Subgrade 3b quality.

Gradient has a significant effect on mechanical farm operations and the safe and efficient use of machinery.

Grade 4

26. Land of poor quality occupies 1 ha (12.5%) of the total survey area, and occurs in the far west of the survey area. The main limitations to the agricultural quality of the land are gradient and microrelief.

27. Gradient imposes an overriding limitation to the agricultural quality of the land where land slopes at gradients between 11-18°. This imposes a limitation consistent with land of Grade 4. On either side of the drain in the far west of the survey area, complex changes in slope angle and direction over short distances, impose a microrelief limitation consistent with Grade 4.

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SOURCES OF REFERENCE

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MAFF: London.

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Met. Office: Bracknell.

Soil Survey of England and Wales (1983) *Sheet 3, Soils of Midland and Western England. (1:250 000).*
SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils and their use in Midland and Western 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.