CLAPHAM FOLLY
CLAPHAM, BEDFORDSHIRE
BEDFORD LOCAL PLAN (H17)

Agricultural Land Classification
ALC Map and Report

MAY 1997

Resource Planning Team
Eastern Region
FRCA Cambridge

RPT Job Number: 32/97
MAFF Reference:EL01/0112A
LURET Job No.:ME1ANMC

AGRICULTURAL LAND CLASSIFICATION REPORT
Clapham Folly, Clapham, Bedfordshire

INTRODUCTION

1. This report presents the findings of a detailed, Agricultural Land Classification (ALC) survey of 12.9 ha of land at Clapham Folly, Clapham, Bedfordshire. The survey was carried out during May 1997.

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 Bedford Borough Local Plan. This survey supersedes previous ALC information for this land.

3. The work was conducted by members of the Resource Planning Team in the Eastern 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 cereals, grass and vegetables. The areas mapped as 'Other' include areas covered by scrub and an extensive builders yard.

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)	% surveyed area	% site area
3a	8.2	88.2	63.6
3b	1.1	11.8	8.5
Other land	3.6	N/A	27.9
Total surveyed area	9.3	100	-
Total site area	12.9	-	100

7. A total of 15 borings and 2 soil pits were described. Extra auger borings were carried out to find the demarkation of soil type boundaries in the northern half of the site.

8. The majority of the agricultural area is mapped as subgrade 3a (good agricultural quality). Land in the southern and western parts is restricted to this subgrade due to a moderate droughtiness limitation whilst that in the eastern part is restricted to this subgrade by a moderate wetness and workability limitation. The small area in the north is mapped as subgrade 3b (moderate agricultural quality) and is restricted to this subgrade due to a more severe wetness and workability limitation.

FACTORS INFLUENCING ALC GRADE

Climate

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

10. 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

	Parameter	Value
Grid reference	N/A	TL022532
Altitude	m, AOD	40
Accumulated Temperature	day°C (Jan-June)	1435
Average Annual Rainfall	mm	586
Field Capacity Days	days	104
Moisture Deficit, Wheat	mm	115
Moisture Deficit, Potatoes	mm	110
Overall climatic grade	N/A	Grade 1

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 (AT0, January to June), as a measure of the relative warmth of a locality.

13. The combination of rainfall and temperature at this site mean there are no overriding climatic limitations to the grading of the land, and therefore the climatic grade 1 is assigned.

Site

14. The site slopes very gently in a southerly direction from a maximum altitude of approximately 44m AOD along the northern boundary to approximately 35m AOD in the south. It is bounded by the A6 to the east and a minor road to the south. Open farmland is adjacent to the north and west of the site.

Geology and soils

15. The 1:250 000 scale geology map (BGS, 1983) shows the site to comprise Cornbrash on the majority of the site with Oxford Clay in the north and Blisworth Limestone in the south west.

16. The 1:250 000 reconnaissance soil survey map for the area (SSEW, 1983) shows soils of the Efford 1 Associationto predominate with a small area in the northern part given to soils of the Moreton Association. Soils of the Efford 1 Association are briefly described as well drained fine loamy often over gravel, associated with similar permeable soils variably affected by groundwater. Those of the Moreton Association are described as well drained calcareous clayey and fine loamy soils over limestone, in places shallow and brashy. Some deeper slowly permeable calcareous clayey soils may be present.

17. During the current survey two soil types were encountered.

Soil Type I

18. Soil Type I occurs in the southern and western parts of the site. Profiles typically comprise slightly/moderately stony, variably calcareous sandy clay loam topsoils over, moderately stony, variably calcareous sandy clay loam upper subsoil. Lower subsoils comprise moderately stony, variably calcareous sandy clay or occasionally clay (with sand). The soils are well drained and are assessed as Wetness Class I/II.

Soil Type II

19. Soil Type II occurs in the north and eastern parts of the site. Profiles typically comprise very slightly stony heavy clay loam (occasionally clay) topsoil over very slightly stony heavy clay loam (occasionally clay) upper subsoil. Lower subsoil comprises stoneless slowly permeable clay. Gleying occurs at 35/40cm and the upper subsoils are typically slowly permeable at this depth. These soils are assessed as Wetness Class III. The soils in the northern part are non-calcareous whereas the soils in the eastern part are calcareous throughout the profile.

AGRICULTURAL LAND CLASSIFICATION

20. 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.

21. The location of the auger borings and pits is shown on the attached sample location map.

Subgrade 3a

22. The majority of the agricultural area has been mapped as subgrade 3a and corresponds to the soils described in paragraph 18 and the calcareous soils described in paragraph 19. The fine loamy soils (para. 18) are slightly/moderately stony and this acts as an impediment to cultivation, harvesting and crop growth and causes a reduction in the available water capacity giving rise to a moderate droughtiness limitation which restricts the land to subgrade 3a. The fine loamy over clayey soils (para. 19) are slowly permeable in the upper subsoil. The soils are naturally calcareous and easier to cultivate than the non calcareous variant. This land is restricted to subgrade 3a due to a moderate wetness and workability limitation.

Subgrade 3b

23. A small area in the north of the site has been mapped as subgrade 3b and corresponds to the soils described in paragraph 19 (non-calcareous). These non calcareous soils are slowly permeable in the upper subsoil and are subject to a more severe wetness and workability limitation thus excluding the land from a higher grade.

Resource Planning Team
Eastern Region
FRCA Cambridge

SOURCES OF REFERENCE

British Geological Survey (1983) *Sheet No. 52°N-02°W, East Midlands. Scale 1:250 000* 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 4, Eastern England. Scale 1:250 000* SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils and their Use in Eastern 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.