Babergh District Local Plan,
Sudbury, Suffolk. Site 1

Agricultural Land Classification
ALC Map and Report

May 1999

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AGRICULTURAL LAND CLASSIFICATION REPORT

Babergh District Local Plan, Sudbury, Suffolk. Site 1.

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 55.6 ha of land at Site 1 (east of New Farm, Acton Lane) in the Babergh District Local Plan. The survey was carried out during May 1999. The southwestern part of the site was surveyed in 1998 (Job Ref. RPT 54/98) the results of which have been incorporated into this report.

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 Babergh District 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 on the site was under cereals, sugar beet and oilseed rape with an orchard in the south. The areas mapped as 'Other' include farm buildings, old concrete runways (part of) and peri-tracks.

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
2	34.3	68	62
3a	12.5	24	22
3b	4.3	8	8
Other land	4.5	N/A	8
Total surveyed area	51.1	100	92
Total site area	55.6	-	100

7. The fieldwork was conducted at an average density of 1 boring per hectare. A total of 55 borings and 4 soil pits was described. At the time of the survey carried out in 1999, tall

oilseed rape was encountered in the north. This was almost impenetrable so auger borings were moved to within 50 m of the field boundaries.

8. Land mapped as grade 2 (very good quality agricultural land) occurs over the majority of the site and is restricted to this grade due to a minor droughtiness limitation.

9. Land mapped as subgrade 3a (good quality agricultural land) occurs on the southeastern and northwestern boundaries and is restricted to this subgrade due to a moderate droughtiness limitation.

10. Land mapped as subgrade 3b (moderate quality agricultural land) occurs where runways and concrete tracks have been lifted and is restricted to this subgrade due to high stone content and disturbance.

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	TL 889 435
Altitude	m, AOD	70
Accumulated Temperature	day°C (Jan-June)	1385
Average Annual Rainfall	mm	601
Field Capacity Days	days	106
Moisture Deficit, Wheat	mm	118
Moisture Deficit, Potatoes	mm	113
Overall climatic grade	N/A	Grade 1

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

15. The combination of rainfall and temperature impose no overall limitation to land quality and hence the site has a climatic grade of 1.

Site

16. The site lies on the northeast side of Sudbury and occupies part of a disused wartime airfield. It is bounded in the west by Acton Lane, in the south by Waldingfield Road and private dwellings, with all other boundaries to open farmland. From a height of 65 m AOD in the south the land rises gently to a height of 71 m AOD in the northern part of the site. Parts of the old runways, peri-tracks and parking bays are still in existence.

Geology and soils

17. The 1:50 000 scale geology map (BGS, 1991) shows the whole area to comprise boulder clay over Crag.

18. The 1:250 000 scale reconnaissance soil map (SSEW, 1983) shows the majority of the site to comprise soils of the Melford Association. These are briefly described as deep well drained fine loamy over clayey, coarse loamy over clayey and fine loamy soils, some with calcareous subsoils. To the northwest soils of the Ashley Association are mapped these being briefly described as fine loamy over clayey soils, some with slowly permeable subsoils and slight seasonal waterlogging.

19. During the current survey four main soil types were encountered.

20. The first soil type occurs in the north and northeast of the site with profiles typically comprising calcareous, very slightly stony medium clay loam or sandy clay loam topsoils over calcareous, slightly stony permeable heavy clay loam or sandy clay loam upper subsoil. Lower subsoils comprise calcareous, slightly stony sandy clay at depth. The profiles are free draining although gleying occurred occasionally at depth.

21. The second soil type occurs in the east, west and south of the site with profiles typically comprising calcareous, very slightly stony medium or heavy clay loam topsoils over calcareous, slightly stony permeable heavy clay loam upper subsoils. Lower subsoils comprise calcareous, slightly stony clay. The profiles are well/moderately well drained although slight gleying occasionally occurred at depth.

22. The third soil type occurs in the southwest and central parts of the site with profiles typically comprising calcareous, very slightly stony medium or heavy clay loam topsoils over calcareous, slightly stony permeable heavy clay loam upper subsoils. Lower subsoils comprise chalky boulder clay emergent at varying depths.

23. A stonier variant of all three soil types occurs sporadically throughout the site with moderately stony upper and lower subsoils.

24. The fourth soil type occurs where the concrete runways have been removed leaving moderately stony disturbed profiles which were impenetrable to the auger.

AGRICULTURAL LAND CLASSIFICATION

25. 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.

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

Grade 2

27. Land mapped as grade 2 occurs over the majority of the site and corresponds to the soils described in paragraphs 20, 21 and 22. These soils are generally well drained (Wetness Class I/II) and hold moderately good reserves of available water for crop growth. However the dry climate in this area results in a minor droughtiness limitation which restricts the land to this grade. Land where soils which have been assessed as Wetness Class II are equally limited to this grade due to a minor wetness and workability limitation.

Subgrade 3a

26. Land mapped as subgrade 3a occurs in the south and the northwest of the site and corresponds to the stony variant described in paragraph 23. The moderately stony subsoils have a reduced available water capacity for crop growth which results in a moderate droughtiness limitation thus restricting the land to this subgrade.

Subgrade 3b

27. Land mapped as subgrade 3b occurs in a narrow strip where the main part of the runways have been removed. It is restricted to this subgrade due to disturbed profiles and topsoil stone (> 2 cm) being in excess of 15%.

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SOURCES OF REFERENCE

British Geological Survey (1991) *Sheet No. 206, Sudbury. Solid and Drift.Scale 1:50 000.* 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.