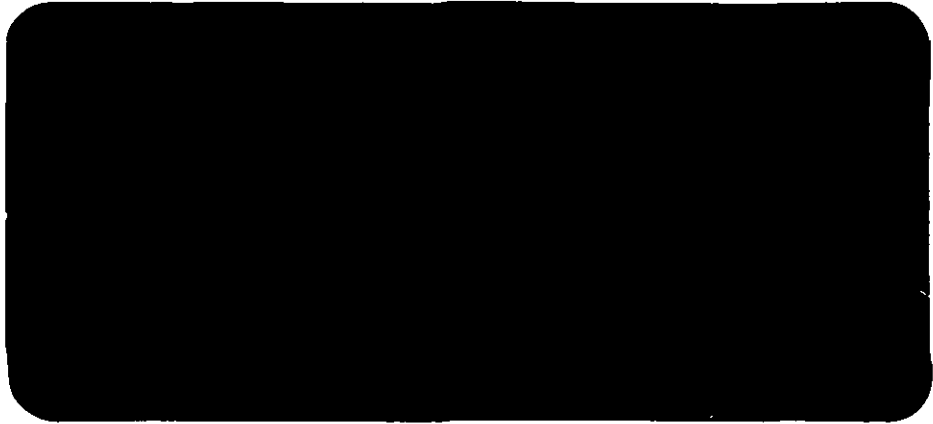


FRCA



FARMING AND RURAL CONSERVATION AGENCY

An Executive Agency of the Ministry of Agriculture, Fisheries and Food and the Welsh Office

**Land off Chalk Lane, Wingland,
Sutton Bridge, Lincolnshire.**

**Agricultural Land Classification
ALC Map and Report**

May 1999

**Resource Planning Team
Eastern Region
FRCA Cambridge**

**RPT Job Number: 36/99
FRCA Ref: EL24102984
LURET Ref: MLDG02984A**

AGRICULTURAL LAND CLASSIFICATION REPORT

Land off Chalk Lane, Wingland, Sutton Bridge, Lincolnshire.

INTRODUCTION

1. This report presents the findings of a detailed, Agricultural Land Classification (ALC) survey of 67.1 ha of land off Chalk Lane, Wingland, Sutton Bridge, Lincolnshire. The survey was carried out during May 1999.
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 planning application for a proposed Enterprise Park. 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 was under cereals and rough grass. The areas mapped as 'Other' include a metalled road joining two parts of the site, a defunct sewage works, gun club house and associated buildings and embankments, also a temporary car park and contractors storage area associated with the power station.

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
1	25.6	54	38
2	16.6	35	25
3a	5.1	11	8
Other land	19.8	N/A	29
Total surveyed area	47.3	100	71
Total site area	67.1	-	100

7. The fieldwork was conducted at an average density of 1 boring per hectare. A total of 50 borings and 3 soil pits was described.

8. Land mapped as grade 1 (excellent quality agricultural land) occurs on the eastern site and in the central part of the western site. There are no or very minor limitations to its agricultural use.

9. Land mapped as grade 2 (very good quality agricultural land) occurs on the western site on the southern boundary, the northwest, and a narrow ribbon in the northeast. It is restricted to this grade due to a minor droughtiness limitation.

10. Land mapped as subgrade 3a (good quality agricultural land) occurs on the western site in the northeast, and a small area in the southeast. It is restricted to this subgrade due to a moderate droughtiness limitation.

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	TF 485 200
Altitude	m, AOD	4
Accumulated Temperature	day°C (Jan-June)	1436
Average Annual Rainfall	mm	609
Field Capacity Days	days	111
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 (AT0, January to June), as a measure of the relative warmth of a locality.

15. The combination of rainfall and temperature impose no overall limitation at this site and therefore a climatic grade of 1 has been assigned.

Site

16 The site lies to the southeast of Sutton Bridge on the eastern side of the River Nene. It is in two parts which are connected by a newly constructed metalled road which continues to the power station which is under construction. The western part of the site is the much larger part and is being considered for an Enterprise Park. It is bounded in the southeast by a drainage ditch, the southwest by a newly constructed road, the northwest by commercial buildings, and the northeast by domestic and commercial buildings and Chalk Lane. The site is level at an approximate height of 4 m AOD.

The eastern part is bounded in the northeast by the A17(T) road, the southwest by the new road which is superimposed on Chalk Lane, the southeast by King John Bank and open farmland, and the northwest by open farmland. The site is level at an approximate height of 4 m AOD. This area is being considered for a new traffic management layout.

Geology and soils

17. The published 1:50 000 scale geology map (BGS, 1978) shows the site to comprise marine alluvium (Terrington Beds) over Ampthill Clay.

18. The 1:250 000 scale reconnaissance map (SSEW, 1983) shows the site to comprise soils of the Wisbech Association. These are briefly described as deep stoneless calcareous coarse silty soils with groundwater usually controlled by ditches or pumps.

19. During the current survey four main soil types were encountered. All soil types are well drained but exhibit ochreous mottling which is a relic feature reflecting the soil moisture regime prior to drainage.

20. The first soil type occurs on the eastern part of the site. Profiles typically comprise deep, stoneless, calcareous, silt loam topsoils over stoneless, calcareous, fine sandy silt loam upper subsoils. Lower subsoils are variable and range from loamy fine sand to fine sandy silt loam.

21. The second soil type occurs over the majority of the western site with profiles typically comprising stoneless, calcareous, fine sandy silt loam topsoils over stoneless, calcareous, loamy fine sand (occasionally fine sandy loam or fine sandy silt loam merging to loamy fine sand at depth) subsoils to 120 cm depth.

22. The third soil type occurs in the southeast, southwest, northwest and a narrow ribbon in the northeast of the western site. Profiles typically comprise stoneless, calcareous, loamy fine sand topsoils over stoneless, calcareous, loamy fine sand subsoils to 120 cm depth.

23. The fourth soil type occurs in small areas in the northeast and southeast of the western site. Profiles typically comprise stoneless, calcareous, medium sandy loam topsoils over loamy medium sand subsoils to 120 cm depth.

AGRICULTURAL LAND CLASSIFICATION

24. 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.

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

Grade 1

26. Land mapped as grade 1 occurs on the eastern site and on the majority of the western site and corresponds to the soils described in paragraphs 20 and 21. These soils are porous and despite the presence of some ochreous mottles have been assessed as Wetness Class I. Moisture balance figures do not indicate any droughtiness limitations. The low rainfall combined with the silt loam/sandy silt loam topsoils means that the land will be easily worked throughout the year and therefore the land has been classified grade 1.

Grade 2

27. Land mapped as grade 2 occurs on the southern boundary, the northwest, and a narrow ribbon in the northeast of the western site and corresponds to the soils described in paragraph 22. These soils are porous and despite the presence of some ochreous mottles have been assessed as Wetness Class I. Moisture balance figures indicate a slight droughtiness limitation which restricts the land to this grade. The loamy fine sand topsoils are susceptible to wind erosion but the problem is not serious enough to assess the land quality any worse than grade 2.

Subgrade 3a

28. Land mapped as subgrade 3a occurs in small areas in the northeast and southeast of the western site and corresponds to the soils described in paragraph 23. These soils have been assessed as Wetness Class I, and moisture balance figures indicate a moderate droughtiness limitation which restricts the land to this subgrade.

Mike Wood
Resource Planning Team
Eastern Region
FRCA Cambridge

SOURCES OF REFERENCE

British Geological Survey (1978) *Sheet No. 145, Kings Lynn and The Wash. 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. Soils of 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.