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Cambs

**AGRICULTURAL LAND  
CLASSIFICATION**

**FOREST HEATH LOCAL PLAN  
SUFFOLK**

## **AGRICULTURAL LAND CLASSIFICATION**

### **FOREST HEATH LOCAL PLAN**

#### **1.0 BACKGROUND**

- 1.1 The survey area covered 2 individual sites, totalling 67 hectares. The sites form part of Forest Heath Local Plan and are located to the northwest and south of the village of Red Lodge. ADAS Statutory Group Resource Planning Team surveyed the sites in May 1993 on a semi-detailed basis of approximately 1 auger boring per 2 hectares. These borings were supplemented by three soil inspection pits to provide additional information on subsoil conditions. Riddling was also undertaken to assess stone content. It should be noted that in the event of resurveying at a more detailed level grade boundaries may be subject to slight revision.
- 1.2 At the time of the survey potatoes, cereals and sugar beet were being grown on the northern site, with the southern site consisting of permanent grassland paddocks.
- 1.3 On the published Provisional 1:63,360 scale Agricultural Land Classification (ALC) Map, sheet 135 (MAFF 1971) the areas are shown to be mainly grade 4 with a small area of grade 5 in the north of the southern site, and two small areas of non-agricultural land in the northeast and west of the northern site, corresponding to an old chalk pit working and an area which had previously been woodland.

#### **2.0 PHYSICAL FACTORS AFFECTING LAND QUALITY**

##### Climate

- 2.1 Climate data for the two sites was interpolated from data contained in the published agricultural climatic dataset (Meteorological Office 1989). This information is shown in summary overleaf:

	SITES	
	North	South
Annual Average Rainfall (mm)	581	582
Altitude (m)	15	24
Field Capacity Days	105	105
MD Wheat (mm)	118	116
MD Potatoes (mm)	114	112
Accumulated Temperature (°C)	1441	1431

These climatic characteristics do not impose a limitation to the ALC grade of the sites.

#### Altitude and Relief

- 2.2 The sites occupy flat and very gently sloping land near the River Kennet. The land lies between 15 and 24 m AOD. Neither gradient nor altitude constitute limitations to the ALC grade.

#### Geology and Soils

- 2.3 The published 1:50,000 scale Solid and Drift edition geology map sheet 189, Bury St Edmunds (Geological Survey of Great Britain, 1982) shows the survey areas to comprise Cretaceous Middle Chalk. This outcrops extensively in the southern site and in a small area in the northeast of the northern site, elsewhere it is overlain by second river terrace drift deposits.
- 2.4 The 1:63,360 scale soil map (Soil Survey of England and Wales 1976) shows the occurrence of four soil associations within the survey area. The majority of the southern site is shown as the Moulton Association which occurs in conjunction with the chalk geological deposits, with the Freckenham A Association occurring in the south. The Freckenham A Association is also present to the west of the northern site, together with a larger area of Freckenham B in the centre. These are derived from the underlying second river terrace drift deposits. A small area of Methwold Association also occurs in the northeast of the northern site which corresponds to the underlying chalk deposits. The current more detailed survey identified three main soils types.

- 2.5 Over the majority of the northern site, particularly in the centre and to the west, soils correspond to those mapped as Freckenham A and B and typically consist of loamy medium sands which become sands at approximately 40/60 cm depth. Topsoil stoniness is generally in the range very slightly to slightly stony (3-7%). Although moderately stony topsoils (17%) do occur locally these form areas which are too small to delineate separately. Stoniness often increases with depth with moderately stony bands occurring through the profiles. Gravelly material containing more than 30% stones may be encountered below 80 cms. These soils are well drained (wetness class I) but are limited by droughtiness.
- 2.6 In the northeast corner of the northern site and in the centre and northwest of the south site soils overlie chalk and typically comprise very slightly or slightly stony medium sandy loam topsoils over a chalk-sand mix of similar texture which is rootable to depths of between 80 to 90 cms. These soils are also free draining but prone to drought.
- 2.7 Over the remaining areas soils are generally lighter textured typically comprising very slightly stony medium sand or loamy medium sand topsoils overlying stoneless medium sand (occasionally loamy medium sand) subsoils which usually extend to depth but occasionally overlie chalk or chalk-sand mix below 70/100 cm. These soils have no drainage imperfections but suffer from droughtiness limitations.

### 3.0 AGRICULTURAL LAND CLASSIFICATION

- 3.1 The definitions of the Agricultural Land Classification grades are included in Appendix 1.

#### Irrigation

- 3.2 The northern site is irrigated. Since this irrigation facility enhances the potential of the agricultural land for crop production the ALC grades at this site take into account the reduction in drought risk it affords.
- 3.3 The table overleaf shows the ALC grades for each of the survey sites.

SITE	GRADE	HECTARE	PERCENTAGE
NORTH OF RED LODGE	3a	23	62
	3b	9	24
	Non-Agricultural	<u>5</u>	<u>14</u>
	TOTAL	37	100
SOUTH OF RED LODGE	3a	9	31
	3b	17	57
	Urban	1	3
	Non-Agricultural	2	6
	Agricultural Buildings	<u>1</u>	<u>3</u>
	TOTAL	30	100

**North of Red Lodge (37 hectares)**

This site is irrigated.

**Subgrade 3a**

- 3.4 The majority of the western part of the site is graded 3a. This area corresponds to the loamy sand soils described in paragraph 2.5. These light textures combine with profile stoniness to impose a moderate droughtiness limitation on the ALC grade. The availability of irrigation enhances the water reserves available for crop growth, consequently the land has been graded 3a (good quality agricultural land). Locally topsoil stone content also excludes the land from a higher grade.
- 3.5 In the northeast corner of the site is a small area comprising soils described in paragraph 2.6. These sandy loam soils overlying chalk have a moderate droughtiness limitation. However, the availability of irrigation enhances the water reserves available for crop growth and therefore the land has been graded 3a.

**Subgrade 3b**

- 3.6 The subgrade 3b land is associated with the lightest and most droughty soils described in paragraph 2.7. Although irrigation water is available which enhances the reserves of soil moisture, the weakly structured nature of the sand topsoil means they cannot be graded higher than subgrade 3b (moderate quality agricultural land).

### Non Agricultural

- 3.7 Several areas of woodland, a new area of planting to the west of the roundabout and a disused area of land northeast of the roundabout have been mapped as non-agricultural.

### South of Red Lodge (30 hectares)

This site is not irrigated.

#### Subgrade 3a

- 3.8 In the north of the site the land has been graded 3a and is associated with the soils described in paragraph 2.6. These sandy loam soils which overly chalk below 90 cm experience droughtiness imperfections which exclude the land from a higher grade. Although individual auger borings of grade 2 or 3b quality are present within this area it is not possible to delineate them separately at the scale of mapping undertaken.

#### Subgrade 3b

- 3.9 Land falling into subgrade 3b corresponds with two soil types. Firstly, in the centre of the site are sandy loam soils overlying chalk below 60 cm (see paragraph 2.6). The shallower depth to chalk combined with the relatively light surface textures result in moderate droughtiness imperfections which limit the land to subgrade 3b.
- 3.10 Secondly, on the southern and eastern boundaries of the site very light textured soils occur which correspond to those described in paragraph 2.7. These soils also suffer from moderate droughtiness imperfections restricting them to subgrade 3b. Locally medium sand topsoils also occur which are excluded from a higher grade due by their very weak structure.

### Urban

- 3.11 Several houses with gardens occur in the vicinity of Warren Farm and have been mapped as urban.

Non-Agricultural

- 3.12 Small areas of woodlands are present at the site, in the north and close to Warren Farm. These have been classified non-agricultural. Although single tree lines do occur across the site these were not delineated.

Agricultural Buildings

- 3.13 Several agricultural buildings occur near to Warren Farm.

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## Appendix 1

### **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 include 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 and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable crops. The level of yields is generally high but may be lower or more variable than Grade 1.

### **Grade 3 - good to moderate quality agricultural land**

Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where 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 winter 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 levels of yields. It is mainly suited to grass with occasional arable crops (eg. cereals and forage crops) the yield of which are variable. In most 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 very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

## **REFERENCES**

**GEOLOGICAL SURVEY OF GREAT BRITAIN (ENGLAND AND WALES) 1982.**  
Solid and Drift Edition Sheet 189, Bury St Edmunds. Scale 1:50,000.

**MAFF, 1971.** Agricultural Land Classification Map Sheet 135. Provisional. Scale  
1:63,360.

**MAFF, 1988.** Agricultural Land Classification of England and Wales (Revised Guidelines  
and Criteria for grading the quality of Agricultural Land). Alnwick.

**METEOROLOGICAL OFFICE 1989.** Climate data extracted from the published  
agricultural climatic dataset.

**SOIL SURVEY OF ENGLAND AND WALES 1976.** Sheet 135, Cambridge and Ely.  
Scale 1:63,360.

**FOREST HEATH LOCAL PLAN**

**MAP 1: NORTH OF RED LODGE (IRRIGATED)**

**MAP 2: SOUTH OF RED LODGE**