



AGRICULTURAL LAND CLASSIFICATION

WITTON LODGE

Adjoining A47

NORFOLK

1/11/92

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WITTON LODGE, ADJOINING A47 ROAD, NORFOLK

1. BACKGROUND

- 1.1 The site, an area of 2.8 hectares, is the subject of an application for a touring caravan and camping park adjacent to Witton Lodge, Norfolk. MAFF surveyed the site in April 1992 to assess the agricultural land quality.
- 1.2 On the published Agricultural Land Classification Map sheet 126 (Provisional, scale 1:63360 [MAFF, 1972]) the survey area is shown as grade 1. The current survey was undertaken to provide a more detailed ALC of this small site.
- 1.3 A total of 8 soil inspections were made on site supplemented by observations from 1 soil pit.

2. PHYSICAL FACTORS AFFECTING LAND QUALITY

Climate

- 2.1 Climate data for the site was obtained from the published agricultural climatic dataset (Met Office, 1989). This indicates that the site's annual average rainfall is 630 mm (24.8"). This also shows that field capacity days are 120.
- 2.2 The accumulated temperature for this area is approximately 1404 Day degrees Celsius. This parameter indicates the cumulative build-up of warmth available for crop growth and in conjunction with rainfall has an influence on the development of soil moisture deficits (SMD)* and susceptibility to drought; soil moisture deficits of 118 mm and 113 mm are recorded for wheat and potatoes respectively.

* SMD represents the balance between rainfall and potential evapotranspiration occurring during the growing season. For ALC purposes the soil moisture deficits developing under a winter wheat and maincrop potato cover are considered. These 'reference' crops have been selected because they are widely grown, and in terms of their susceptibility to drought, are representative of a wide range of crops.

- 2.3 These climatic characteristics do not constitute a limitation to the ALC grade.

Altitude and Relief

- 2.4 The site lies fairly level at an altitude of 20 m AOD and forms part of the shoulder of the Witton brook valley. Neither gradient nor altitude are limitations to the ALC grade.

Geology

- 2.5 The published reconnaissance scale drift edition geology sheet 12 (Geological Survey of England and Wales, 1971) shows the survey area to comprise loam deposits.

Soils

- 2.6 The Soil Survey of England and Wales have mapped the survey area on two occasions, both times at a small scale. The larger scale map at 1:100,000 (Soil Survey, 1973) shows the site to comprise Brown Earths which corresponds with the light textured series of Hall, Sheringham, Wickmere and Burlingham. During the current survey a more detailed inspection of the soils on this small site indicated the predominance of a loamy soil.
- 2.7 Profiles typically comprise fine sandy loam or medium sandy silt loam topsoils over similar upper subsoils which merge into lower subsoils of interbedded sandy clay loams and sandy clays at depths below 55/60 cms. Adjacent to the A47 road a narrow strip of decalcified, heavier soils derived from boulder clay deposits predominate.

3. AGRICULTURAL LAND CLASSIFICATION

- 3.1 The definitions of the Agricultural Land Classification (ALC) grades are included in Appendix 1.
- 3.2 The site has been mapped as mainly grade 2 with a narrow strip of 3a adjacent to the A47 road. The table overleaf shows the breakdown of the ALC grades in hectares and % terms.

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Grade	ha	%
2	2.6	93
3a	<u>0.2</u>	<u>7</u>
TOTAL	<u>2.8</u>	<u>100</u>

Grade 2

3.3 The majority of the site has been mapped as grade 2. The soils are loamy, freely draining and are described in full in paragraph 2.7. The presence of heavier textures at depth (55/60 cms⁺) slightly reduces the available water for crop growth of the soil profile. Consequently minor droughtiness limitations restrict the land to grade 2 (very good quality agricultural land).

Subgrade 3a

3.4 In association with the narrow gas pipeline construction, adjacent to the A47 road, heavier textured, decalcified soils predominate. Field observations indicated that these soils are slowly permeable at depth (ie wetness class II). The fine topsoil texture, decalcified nature of the upper horizons and slow permeability of the lower subsoil combine to restrict this small area to subgrade 3a (good quality agricultural land).

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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 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 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 root crops. The level of yield 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. 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.

REFERENCES

GEOLOGICAL SURVEY OF ENGLAND & WALES 1971. Drift edition Geology Map 12,
1:250,000 scale.

MAFF, 1972. Agricultural Land Classification Map 126, 1:63360 scale.

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, 1973. Soils of Norfolk, 1:100,000 scale.

SOIL SURVEY OF ENGLAND AND WALES, 1983. Soils of Eastern England sheet 4,
1,250,000 scale.

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Map 1: Agricultural Land Classification