62/91

AGRICULTURAL LAND CLASSIFICATION
LAND AT TURVES, CAMBS

1. BACKGROUND

1.1 The site, an area of 1.46 hectares, is the subject of an application for residential development at Turves, Cambs. MAFF surveyed the site in October 1991, this survey incorporated five auger borings and a soil inspection pit.

2. PHYSICAL FACTORS AFFECTING LAND QUALITY

Relief

2.1 The survey area is virtually level at approximately 0m AOD (sea level). Gradient and altitude do not constitute limitations to the ALC grade.

Climate

2.2 Climate data for the site was obtained from the published agricultural climatic dataset (Met Office, 1989). This indicates that for the site's average altitude (0m AOD) the annual average rainfall is 562 mm (22.1"). This dataset also indicates that the field capacity days are 96 and moisture deficits are 122 mm for wheat and 119 mm for potatoes. The climatic characteristics do not impose any climatic limitation on the ALC grading of the survey site, although the dry climate requires the soils to have a high water holding capacity to avoid the risk of droughtiness.

Geology

2.3 The published 1:50,000 solid and drift edition geology map sheet 158 (Geological Survey of England & Wales 1984) shows the site to comprise marine alluvium over Oxford clay.

Soils

2.4 Although no large scale map is available the entire site has been mapped as Downholland 1(*) Association on the 1:250,000 reconnaissance soil map sheet No 4 (SSEW 1983). The MAFF survey results were consistent with the reconnaissance soil map and single soil type was identified.

2.4.1 Profiles at this site typically comprise organic clay topsoils over clayey subsoils which are stone free throughout. Despite the fine subsoil textures these soils are permeable because of the presence of a dense network of interlinking biopores below 40/45 cm. The mottling present is considered to be relic(**) and therefore these soils are assessed as Wetness Class I.

3. AGRICULTURAL LAND CLASSIFICATION

3.1 The definitions of the Agricultural Land Classification (ALC) grades are included in Appendix 1.

3.2 The table below shows the breakdown of the ALC grades for the survey area.

AGRICULTURAL LAND CLASSIFICATION

| Grade | ha | % |
|---|---|---|
| 2 | 1.46 | 100 |
| TOTAL | 1.46 | 100 |

(*) Downholland 1 Association. Deep stoneless humose clayey soils, calcareous in places. Some peat soils and deep calcareous silty soils. Flat land. Groundwater usually controlled by ditches and pumps.

(**) Relic mottling is considered to result from previously wetter prevailing soil conditions which no longer occur.

3.3 Grade 2

The entire site has been graded 2. As indicated in section 2.4.1 the soils are permeable and therefore do not have a wetness limitation. However the combination of fine subsoil textures, soil structure and high moisture deficits in this area result in these profiles having a slight droughtiness limitation. Droughtiness is therefore the overriding limitation to the ALC grade.

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Resource Planning Group
Cambridge RO

References

GEOLOGICAL SURVEY OF ENGLAND & WALES, 1984. Solid and drift edition geology map sheet 158.

MAFF, 1988. Agricultural Land Classification of England and Wales (Revised Guidelines and criteria for grading the quality of agricultural land).

METEOROLOGICAL OFFICE, 1989. Climate data extracted from the published Agricultural Climatic Dataset.

SOIL SURVEY OF ENGLAND & WALES, 1983. 1:250,000 scale reconnaissance survey entitled 'Soils of Eastern England' Sheet 4.

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 and 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 level 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.