

AGRICULTURAL LAND CLASSIFICATION

WEST OF WHITTLESEY ROAD, MARCH, CAMBRIDGESHIRE

1. BACKGROUND

1.1 The site, an area of approximately one hectare is the subject of an application for a residential development to the north west of March. A survey was carried out in August 1991 to assess the agricultural land quality. A total of five auger borings were made supplemented by data collected from a soil inspection pit. At the time of survey the land was under wheat stubble.

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 for the survey area the annual average rainfall is 546mm (21.5"). Field capacity days are 93 and moisture deficits are 121mm for wheat and 117mm for potatoes. The accumulated temperature for January to June is 1453. These characteristics do not impose any climatic limitations on the ALC grading of the area.

Altitude and Relief

2.2 The site occupies level land at an altitude of approximately 1m AOD. Consequently, gradient and altitude do not constitute limitations to the agricultural land quality.

Geology and Soils

2.3 The published 1:50,000 scale solid and drift edition, geology sheet 158 (Geology Survey of England and Wales 1984), shows that the whole site is mapped as marine alluvium over Jurassic mudstones.

2.4 The soils in this area have been mapped at 1:63,360 scale by the Soil Survey of England and Wales (Sheet 135, Cambridge and Ely 1976). This shows the occurrence of the Downholland 1 (*1) and Adventurers' Associations (*2).

During the current survey a more detailed inspection of the soils was carried out, and the soils of the Downholland 1 Association identified.

2.5 In general profiles are stoneless, mainly calcareous, and comprise of organic clay topsoils over silty clay, or occasionally silty clay loam subsoils to depth. Exceptions occur in the vicinity of the ditch along the western boundary of the site where some non or only slightly organic topsoils were identified. This may have resulted from ditch clearance operations.

Despite their fine textures profiles are permeable and free draining due to the existence of an open vertical reed channel network within the subsoil and are assessed as wetness class 1. Although gleying is present within the subsoil it is considered to be a relic feature indicative of soil water regimes prior to the installation of a pumped drainage system.

3. AGRICULTURAL LAND CLASSIFICATION

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

3.2 Grade 2

The entire site has been graded 2 and is limited by minor workability and droughtiness imperfections.

(*1) Downholland 1 Association: Clayey humic alluvial gley soils derived from peat wastage in the fens.

(*2) Adventurers' Association: Eutro-emorphous peat soils formed in reed and sedge peat.

Although soils are typically permeable and free draining (see paragraph 2.5) the workability of the land is restricted slightly by the heavy nature of the topsoil coupled with its relatively low organic matter content. This effectively reduces its flexibility and makes the production of late harvested root crops and some horticultural crops more difficult than on similar land with higher organic matter topsoils.

RESOURCE PLANNING GROUP

Cambridge RO

December 1991

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.

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.

References

GEOLOGICAL SURVEY OF ENGLAND AND WALES, 1984. Solid and Drift edition, sheet 158 Peterborough, 1:50,000.

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 1:63360.