# AGRICULTURAL LAND CLASSIFICATION
# LAND AT CATCHPOLE MEADOWS, MALDON, ESSEX

## 1.0 BACKGROUND

1.1 A detailed survey was carried out over 10.6 ha of land to the north of the village of Heybridge near Maldon in Essex, centred on grid reference TL862088. The land is the subject of a planning application for a proposed housing development.

1.2 The site is bounded to the south and west by roads. To the east of the site is a lake in former gravel workings. Further agricultural land lies to the north of the proposed site. At the time of the survey the site was sown to grassland.

1.3 On the published 1:63 360 scale Agricultural Land Classification (ALC) map (MAFF, 1972) the site is shown as Grade 2. However, this map is of a reconnaissance nature and the current survey was undertaken to provide site specific details.

1.4 ADAS Statutory Resource Planning Team undertook a detailed ALC survey of the site during November 1995. Information was collected from auger borings, spaced at 100 m intervals, to a depth of 120 cm wherever possible. Subsoil conditions were assessed from two soil pits. However, at the time of the survey ground conditions were very dry and hard, limiting the depth of the auger borings. Hence the findings of this report are of a provisional nature.

## 2.0 PHYSICAL FACTORS AFFECTING LAND QUALITY

Climate

2.1 Climatic criteria are considered when classifying land as these may have an overriding limitation in terms of the agricultural use of the land. The main

parameters used in the assessment of the overall climatic limitation are average annual rainfall, as a measure of overall wetness, and accumulated temperature (day °C Jan-June) as a measure of the relative warmth of an area.

2.2 A detailed assessment of the prevailing climate for the site has been made by interpolation from the 5 km grid dataset produced by the Meteorological Office (Met. Office, 1989). The details are given in Table 1 and these show that there is no overall climatic limitation affecting the site.

2.3 Climatic factors, do, however, interact with soil properties to influence soil wetness and droughtiness. The climate in this area is relatively dry and warm and consequently the likelihood of a droughtiness limitation may be enhanced depending on soil conditions.

**Table 1: Climatic Interpolation**

| | |
|---|---|
| Grid reference | TL 862088 |
| Altitude (m) | 6 |
| Accumulated Temperature (day °C, Jan-June) | 1475 |
| Average Annual Rainfall (mm) | 540 |
| Moisture Deficit, Wheat (mm) | 130 |
| Moisture Deficit, Potatoes (mm) | 129 |
| Field Capacity (Days) | 95 |
| Overall Climatic Grade | 1 |

Altitude and Relief

2.4 The site is relatively flat at an altitude of approximately 6 m AOD. Altitude and relief do not therefore impose any limitation on the agricultural quality of the site.

Geology and Soils

2.5 The published 1:50 000 scale geological map (Geol. Survey, 1975) shows the site to consist of Second Terrace River Gravels.

2.6 The reconnaissance soil survey map (1:250 000 scale) for the area (Soil Survey, 1983) shows the site to comprise soils of the Hurst association*.

2.7 The detailed survey carried out shows the presence of a single soil type within the site area. This soil type consisted of a very slightly stony medium clay loam textured topsoil overlying a similar textured slightly stony upper subsoil. This upper subsoil overlay a lower subsoil of slightly to moderately stony medium clay loam textured material with clay inclusions. Both upper and lower subsoil horizons exhibited evidence of period wetness with greyish and pale colours dominating the matrix and ochreous mottles being common. The lower subsoil was found to constitute a slowly permeable layer with a weakly developed coarse and very coarse subangular blocky structure. The profiles throughout the site were therefore assessed as Wetness Class III.

## 3.0 AGRICULTURAL LAND CLASSIFICATION

3.1 The land has been classified using the guidelines contained in the Agricultural Land Classification of England and Wales (MAFF, 1988). A breakdown of the grades found within the site is given in Table 2. A description of the grades is given in Appendix 1.

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* Hurst association: Coarse and fine loamy permeable soils mainly over gravel variably affected by groundwater. Formed in River Terrace Gravel.

**Table 2: Distribution of grades and subgrades**

| Grade | Area (ha) | % of site |
|---|---|---|
| 3a | 10.6 | 100 |

Subgrade 3a

3.2 The whole site has been assessed as Subgrade 3a with wetness and workability being equally limiting with droughtiness for the soil profiles. The soils within the site were assessed as Wetness Class III which together with a non-calcareous medium clay loam textured topsoil restricts workability during the wetter periods of the year thus limiting the land to Subgrade 3a. Droughtiness for shallow rooting crops such as potato is also assessed as limiting the quality of the land to Subgrade 3a. However, the conclusions for the quality of the land within some areas of the site is based on limited auger boring information and hence the overall grading of the site is of a provisional nature.

November 1995

Resource Planning Team
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## REFERENCES

GEOLOGICAL SURVEY OF GREAT BRITAIN, 1975. Sheet 241, Solid and Drift. 1:50 000 scale.

MAFF, 1972. Agricultural Land Classification Map. Provisional. Scale 1:63 360, Sheet 162.

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

METEOROLOGICAL OFFICE, 1989. Climatological Data for Agricultural Land Classification. Met Office, Bracknell.

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

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 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. 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 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 levels of yields. It is mainly suited to grass with occasional arable crops (e.g. 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.