AGRICULTURAL LAND CLASSIFICATION
COOPERSALE HALL, EPPING, ESSEX

1.0 BACKGROUND

1.1 An Agricultural Land Classification (ALC) survey of the 33.8 ha site was undertaken on behalf of MAFF in November 1994 using guidelines contained in MAFF publication Revised Guidelines and Criteria for Grading the Quality of Agricultural Land.

1.2 The survey was undertaken using a hand held dutch auger and soils were sampled at 100m grid intersections to at least 100 cm. This information was supplemented by data collected from a soil inspection pit.

1.3 On the provisional 1:63,360 scale ALC map, sheet No. 161, the site has been mapped as grade 3. The map is of a provisional nature and the current survey was undertaken to provide more detailed site specific information.

1.4 The site was under permanent grass.

2.0 PHYSICAL FACTORS AFFECTING LAND QUALITY

Climate

2.1 Climate data for the site was extrapolated from data published in Agricultural Climatic Dataset (Meteorological Office, 1989). This indicates that for an average site altitude of 65m AOD, the annual average rainfall is 624 mm (24.6"), the field capacity days are 118 and the moisture deficits for wheat and potatoes are 116 mm and 111 mm respectively. These climatic characteristics do not impose any limitations on the ALC grade for the site.

Altitude and Relief

2.2 From Stewards Green Road, which constitutes the northern boundary of the site, at a height of 50m AOD, the land rises in a southerly direction to a height of 70m AOD in the centre of the site. From this point the land falls away south eastwards in two distinct valley systems with the south western side of one being bounded by the M25-M11 slip road and the south eastern side of the other bounded by the M11. Apart from a small area in the southern part of the site (slope measured 7-9°, therefore restricting this area to subgrade 3b) slopes were not a limiting factor.

Geology and Soils

2.3 The geology map for the area shows that the site is situated on London Clay which is exposed on the majority of the area. The extreme south western corner is shown to be Boulder Clay.

2.4 No detailed soil map exists for the area, but the reconnaissance 1:250,000 scale map "Soils of England & Wales" (Soil Survey 1983) shows the site to comprise soils of the Windsor Association (*1).

2.5 Two soil types were encountered. The first soil type covers all the site apart from the extreme south western corner and profiles typically comprise very slightly stony (1-5%) non calcareous heavy clay loam or clay topsoils over very slightly stony non calcareous clay. Gleying invariably occurs within 30/35 cm and is evident to depth giving rise to wetness class III/IV.

(*1) Windsor Association - slowly permeable seasonally waterlogged clayey soils mostly with brown subsoils. Some fine loamy over clayey and fine silty over clayey soils and, locally on slopes, clayey soils with only slight seasonal waterlogging.

2.6 The second soil type occurs in a very small area in the south western corner of the site and corresponds to the area on the geological map shown as Boulder Clay. Profiles comprise very slightly stony, non calcareous medium clay loam topsoil over a narrow horizon (10 cm) of slightly stony non calcareous heavy clay loam. This is underlain with non calcareous clay to 75/80 cm when chalky boulder clay occurs. Gleying was apparent at 35/40 cm and was evident to depth giving rise to wetness class III.

2.7 The areas of non agricultural use consists of two dried-up ponds covered with scrub. A new pond has been constructed just to the north of one of these.

3.0 AGRICULTURAL LAND CLASSIFICATION

3.1 The distribution of Agricultural Land Classification (ALC) grades is shown below:

Grade	ha	%
3a	0.7	2.0
3b	33.0	97.7
Non Agricultural	0.1	0.3
TOTAL	33.8	100.0

The definitions of the ALC grades are shown in appendix 1.

Subgrade 3a

3.2 This grade occurs in the extreme south-western corner of the site and comprises imperfectly drained (wetness class III) fine loamy over clayey soils (as described in para. 2.6). Due to the medium clay loam topsoil textures, these soils will have moderate winter wetness and workability imperfections, restricting them to subgrade 3a.

Subgrade 3b

3.3 This predominates on the site and comprises imperfectly drained (wetness class III) fine loamy over clayey soils (as described in para. 2.5). Due to the slightly heavier textured topsoils these soils have a more severe wetness and workability restriction than those mapped as subgrade 3a. This therefore limits the land quality to subgrade 3b.

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References

Geological Survey of England & Wales. Sheet 240. 1981. Scale 1:50,000.

MAFF, 1971. Agricultural Land Classification Map Sheet 161. Provisional. Scale 1:63,360.

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

Meteorological Office, 1989. Published climatic data extracted from the agricultural dataset, compiled by the Meteorological Office.

Soil Survey of England & Wales, 1983. Sheet 4, Soils of Eastern England. Scale 1:250,000.

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 (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.