AGRICULTURAL LAND CLASSIFICATION

WEYBRIDGE FARM, ALCONBURY, CAMBRIDGE

1.0 INTRODUCTION

1.1 An area of land consisting of a single field unit of approximately 34 ha in extent at Weybridge Farm, Cambridgeshire, is the subject of a planning application for the extraction from a borrow pit of sand and gravel. An Agricultural Land Classification (ALC) survey of the proposed site was undertaken by ADAS Statutory Group in April 1994 using a hand held dutch auger at a density of 1 auger boring per hectare. Additionally four soil inspection pits were dug to assess the structural development of subsoil horizons.

1.2 The survey area lies immediately to the north of the A14 and to the west of the junction of the A14 with the A1 trunk road. At the time of the field survey the whole of the area was sown to oil seed rape.

1.3 The published ALC sheet 134 (MAFF, 1969) at a scale of 1 inch to 1 mile (1:63 360) maps the whole of the survey areas as ALC grade 3. Since this map is of a reconnaissance nature designed primarily for strategic planning purposes, the current survey was undertaken to provide more detailed information on land quality for the survey area.

2.0 PHYSICAL FACTORS AFFECTING LAND QUALITY

2.1 Climate

2.1.1 Site specific climatic data was extrapolated from the published agricultural climatic dataset (Meteorological Office, 1989) for the survey area. Data for the site, assuming an average altitude of 15 m AOD, indicate that average annual rainfall is 577 mm. Field capacity days were calculated to be 109 with moisture deficits for the reference crops of wheat and potatoes being 118 mm and 113 mm respectively. Therefore there are no climatic limitations on the ALC grading of the site.

2.2 Altitude and Relief

2.2.1 The land within the survey area is generally level with only slight undulations occurring across the site which result in slopes of less than 1°. Altitude is an average 15 m AOD varying little within the application area. Therefore neither gradient nor altitude limit the ALC grading of the site.

2.3 Geology and Soils

2.3.1 The published 1:50 000 scale solid and drift edition geology sheet 187 (Geological Survey of England and Wales, 1975) shows the northern third of the site to be Oxford Clay. The southern two thirds of the site having alluvium overlying the Oxford Clay.

2.3.2 No detailed soil map is available for the area but the reconnaissance 1:250 000 scale map of Soils of Eastern England published by the Soil Survey of England and Wales (1983) shows the site to be covered by soils of two soil associations. In the south east of the site Fladbury 1 Association (*1) soils are mapped while within the north and north eastern areas of the site Evesham 3 (*2) Association soils are shown.

2.3.3 A single soil type was found across the site consisting typically of a non-calcareous or very slightly calcareous stone free clay topsoil overlying clay or occasionally heavy clay loam subsoils. The soils were poorly drained and slowly permeable below the topsoil horizon from approximately 30 cm (assessed as wetness class III). Two small areas towards the middle of the northern and southern boundaries were found to have similar soils to those described above but having slightly better drainage characteristics. Any slowly permeable layer occurred at approximately 60 *cm and hence were assessed as wetness class II.*

(*1) Fladbury 1 Association - stoneless clayey soils, in places calcareous, variably affected by groundwater. Flat land. Risk of flooding.

(*2) Evesham 3 Association - slowly permeable calcareous clayey, and fine loamy over clayey soils. Some slowly permeable seasonally waterlogged non-calcareous clayey soils.

3.0 AGRICULTURAL LAND CLASSIFICATION

3.1 The definitions of the ALC grades are included in Appendix 1.

3.2 The site has been mapped as predominantly subgrade 3b with two small areas of subgrade 3a in the northern and southern parts of the site. The table below summarises the breakdown of the grades in hectares and percentage terms for the survey area.

Grade	Area (ha)	% of total area
3a	2.6	8.0
3b	31.0	92.0
TOTAL	33.6	100.00

3.3 Subgrade 3a

3.3.1 The land graded as 3a occurs in two small areas in the north and south of the site and is associated with the soils which are moderately well drained (wetness class II). The moderate drainage characteristics combined with the heavy textured topsoil restrict the agricultural usage of the land and impart a moderate wetness and workability limitation.

3.4 Subgrade 3b

3.4.1 The majority of the site is graded as 3b and is associated with heavy textured soils which are poorly drained and slowly permeable at a shallow depth (wetness class III). This factor combined with the heavy textured topsoil results in a moderately severe wetness and workability restriction limiting the land to subgrade 3b.

4.0 REFERENCES

GEOLOGICAL SURVEY OF ENGLAND AND WALES 1975. Solid and Drift Edition Sheet 187 Northampton 1:50 000 scale.

MAFF 1969. Agricultural Land Classification Map Sheet 134 Provisional 1:63 360 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. Published climatic data extracted from the agroclimatic dataset compiled by the Meteorological Office.

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

SOIL SURVEY OF ENGLAND AND WALES 1984. Soils and their use in Eastern England by C A M Hodge *et al.* Harpenden.

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.