

**AGRICULTURAL LAND  
CLASSIFICATION**

**Hill and Coles Farm,  
nr Luton,  
Bedfordshire**

## AGRICULTURAL LAND CLASSIFICATION

### HILL AND COLES FARM, NEAR LUTON, BEDFORDSHIRE

#### 1.0 BACKGROUND

- 1.1 This <sup>4.5</sup> hectare site was inspected on 10 May 1993 in connection with a development proposal. A total of six auger borings were made and this data was supplemented by information collected from a soil profile pit. At the time of the survey the land was under cereals.
- 1.2 On the published Agricultural Land Classification (ALC) Map Sheet 147 (MAFF, 1984), the site is shown as 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.

#### 2.0 PHYSICAL FACTORS AFFECTING LAND QUALITY

##### Climate

- 2.1 Site specific climatic information has been obtained by interpolating data contained in the 5 km grid dataset produced by the Meteorological Office (Met Office, 1989). This information shows that the site has an average annual rainfall of 710 mm, and an accumulated temperature (January to June) of 1331°C. Moisture deficits for wheat and potatoes are 99 mm and 88 mm respectively, and the site is at field capacity for 150 days each year. These figures do not impose any climatic limitation to land quality.

##### Altitude and Relief

- 2.2 The highest ground, at 145 m AOD, lies in the east and south of the site, and slopes gently down a dry valley to a minimum altitude of 138 m AOD in the north-west. Slopes vary from generally very slight (1 or 2°) in the east and south to 4° on the valley sides.

## Geology and Soils

- 2.3 The published 1:63360 scale geology map sheet 238 (GSEW 1946) shows the entire site to be covered by Recent and Pleistocene clay-with-flints over Cretaceous Upper Chalk.
- 2.4 The Soil Survey of England and Wales have mapped the area at a 1:63360 scale. This map, sheet 238 "Aylesbury" (SSEW 1961) shows the area to be covered by the Batcombe Soil Association (\*1). The current, more detailed survey identified two soil types.
- 2.5 On the lower slopes in the dry valley are well-drained soils believed to have developed in aeolian drift. These comprise heavy clay loam or heavy silty clay loam topsoils over similar subsoils. Profiles are moderately stony (c. 20% flints) throughout.
- 2.6 On the slightly higher valley sides are soils which correspond to the Batcombe Association described above. Profiles are moderately stony and comprise heavy clay loams and heavy silty clay loams over slowly permeable clay subsoils. These soils are *imperfectly drained (wetness class III and occasionally wetness class IV)*. Locally, sandy pockets may be present within the clay subsoils.

## 3.0 **AGRICULTURAL LAND CLASSIFICATION**

- 3.1 The site has been classed as subgrade 3b, except <sup>0.85 hectares in</sup> for the north-eastern corner which has already been taken out of agricultural use and is presently being used as a topsoil dump for part of the adjacent roadworks.
- 3.2 The definition of ALC grades is given in Appendix 1.

### Subgrade 3b

- 3.3 This covers the surveyed part of the site and corresponds to those soils described in paragraphs 2.5 and 2.6.

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(\*1) Fine silty over clayey and fine loamy over clayey soils with slowly permeable subsoils and slight seasonal waterlogging. Some well drained clayey soils over chalk. Variably flinty.

- 3.4 The soils described in paragraph 2.5 are well drained (wetness class I) heavy clay loams or heavy silty clay loams over similar subsoils to depth. Their chief limitation however, is topsoil stone, typically 20% flint, which excludes the land from a higher grade.
- 3.5 Those soils in paragraph 2.6 have heavy clay loam or heavy silty clay loam topsoils over slowly permeable clay, and are assigned wetness classes III and occasionally IV. This imposes a moderate wetness and workability limitation, which restricts the land to subgrade 3b. Additionally, the profiles are moderately stony throughout, and thus are limited to subgrade 3b due to stoniness constraints.

May 1993

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## **REFERENCES**

**GEOLOGICAL SURVEY OF ENGLAND AND WALES, 1946. Sheet 238 "Aylesbury"**  
Drift edition 1:63360.

**MAFF, 1984. Agricultural Land Classification Map Sheet 147 Provisional, 1:63360.**

**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 climatological data for Agricultural  
Land Classification.**

**SOIL SURVEY OF ENGLAND AND WALES, 1961. Sheet 238, "Aylesbury" 1:63360.**