

AGRICULTURAL LAND CLASSIFICATION

COLNEY HEATH FARM, COURSERS ROAD, HERTFORDSHIRE

1.0 INTRODUCTION

1.1 This 18.5 ha site was inspected on the 18th September 1990 in connection with proposals to construct a 9 hole golf course, driving range and ancillary facilities. At the time of survey the land was under grass. On the raised ground the dry and stony condition of the majority of soils prevented augering to depth in many locations. Agricultural land quality in these areas was consequently determined by surface stone volumes which effectively constituted the main limitation to agricultural land use.

2.0 PHYSICAL FACTORS AFFECTING LAND QUALITY

Relief

2.1 The site has an overall south westerly aspect and falls over gentle gradients from an altitude of 75m AOD adjacent the Tollgate Road to approximately 70m in the Valley of the River Colne. Neither altitude nor relief constitute limiting factors to agricultural land quality.

Climate

2.2 Climatic data for this site has been extracted from the 5km grid dataset produced by the Meteorological Office (Met Office, 1989). The average annual rainfall for the site is 656mm which is moderately low by national standards, field capacity days are also relatively low at 138. Climate does not impose a limitation to agricultural land use.

Geology and Soils

2.3 The geology of this area is mapped on the 1:50,000 scale drift edition geology map no. 239 (Hertford). This shows the solid geology of the site to comprise of Upper Chalk which is overlain on the higher ground to the north and east by glacial boulder clay drift and on the mid slope areas by glacial sand and gravels (with Bunter pebbles). The lowlying land flanking the River Colne is mapped as alluvium.

2.4 No detailed published soils map exists for this area. On the generalised 1:250,000 scale soils map, "Soils of Eastern England", (SSLRC, 1983) the site is shown as Hamble 2 soil association. Field survey observations indicate that in the immediate vicinity of the site, profiles are generally too stony to qualify for this description, although the surface textures of sandy silt loam and medium clay loam were generally in keeping with those expected in a typical Hamble or Hook profile.

3.0 AGRICULTURAL LAND CLASSIFICATION

3.1 The site has been graded in accordance with criteria contained in the Revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1989). A breakdown of the agricultural land classification grades is provided overleaf in hectares and percentage terms:

ALC	Ha	%
3a	2.5	13
3b	16.0	87
Total	<u>18.5</u>	<u>100</u>

Subgrade 3a

- 3.2 This occurs in a narrow ribbon of generally higher ground along the northern and north eastern boundary of the site. The land is mainly excluded from grade 2 by surface stoniness constraints, although smaller areas may also be limited by summer droughtiness. Measurements of surface stone within this area proved total stone volumes of approximately 15-20%; with stones in excess of 2cm typically accounting for between 10 and 15% of topsoil volume. Although patches of slightly lesser surface stone did occur within this area they were not too inextensive to delineate separately.

Subgrade 3b

This occurs over the majority of the site in two main situations:

- 3.3 On the lowlying land flanking the River Colne soils are derived from river alluvium and comprise of non calcareous clay loam or clay topsoils over clay subsoils which may at depth overlie peat. The land is currently assessed as wetness class III and IV and is limited by wetness and workability constraints.
- 3.4 Elsewhere land graded 3b is limited by surface stoniness constraints. Measurements across the site proved total surface stone volumes of approximately 30%, with stones in excess of 2cm typically accounting for approximately 20% of topsoil volume.

Supplementary Information

- 3.5 In all instances topsoil stones comprised chiefly of small and medium subangular flints and rounded pebbles. Although large (>6cm) stones did occur rarely on site, they were never sufficiently widespread to constitute a limitation in their own right. (Table 5; MAFF, 1989)
- 3.6 The main effect of stones of this type are to act as impediment to cultivation harvesting and crop growth; they can also increase productions costs by causing extra wear and tear to implements and tyres, and may reduce crop quality by causing bruising or distortion to root crops during harvesting. They also reduce the nutrient capacity of the soil, and can impair crop establishment by causing reduced plant populations in precision drilled crops.

KATHERINE A JEWSON
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Personal communications with the land owner indicates that this land is currently undrained. Although an overall wetness class III status could be achieved through underdrainage in this area this will not affect overall ALC grade.