AGRICULTURAL LAND CLASSIFICATION

RECTORY FARM, CRANFIELD, BEDFORDSHIRE

1.0 INTRODUCTION

1.1 An Agricultural Land Classification (ALC) survey of the 30.2 ha site was undertaken on behalf of MAFF in May 1995 using guidelines contained in the MAFF publication - Revised Guidelines and Criteria for Grading the Quality of Agricultural Land (MAFF, 1988).

1.2 Information was collected from auger borings at 100 m intervals, to a depth of 120 cm. Subsoil conditions were assessed from two inspection pits.

1.3 On the provisional 1:63 360 scale ALC map, sheet 147, 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 At the time of the survey all the land was under autumn sown cereals.

2.0 PHYSICAL FACTORS AFFECTING LAND QUALITY

Climate

2.1 Climate data for the site was interpolated from data published in the Agricultural Climatic Dataset (Meteorological Office, 1989). This indicates that for an average site altitude of 95 m AOD, the average annual rainfall is 596 mm (23.5"), while the accumulated temperature (ATO) is 1379 days °C. The field capacity days are 115, and the moisture deficits for wheat and potatoes are 110 mm and 103 mm respectively.

Altitude and Relief

2.2 The site occupies moderate sloping and level ground between altitudes of 100 m AOD in the west and 70 m AOD in the east and south. On the high ground at the western end of the site a spur projects in an easterly direction with slopes to the north and south measuring 7½-10°. The central and eastern parts of the site are relatively flat with slopes being <3°. Areas with slopes in excess of 7° are restricted to subgrade 3b.

Geology and Soils

2.3 The published 1:625 000 scale geology maps (Quaternary Map of the United Kingdom South and the Solid Map of the United Kingdom South) show the area to be covered with Boulder Clay and Morainic Drift overlying Oxford Clay and Kelloway Beds.

2.4 The Soil Survey of England and Wales have mapped the soils in the area at a reconnaissance scale of 1:250 000 (Soil Survey Sheet 4, 1983). The high ground at the extreme western end of the site has been mapped as Hanslope Association (*1) the remainder at Denchworth Association (*2).

Two soil types were encountered during the survey.

2.5 The first soil type occurs on elevated level ground at the western end of the site and corresponds to that mapped as Hanslope Association. Profiles are typically

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(*1) Hanslope Association - Slowly permeable calcareous clayey soils. Some slowly permeable non calcareous clayey soils. Slight risk of water erosion.

(*2) Denchworth Association - Slowly permeable seasonally waterlogged clayey soils with similar fine loamy over clayey soils. Some fine loamy over clayey soils with only slight seasonal waterlogging and some slowly permeable calcareous clayey soils. Landslips and associated irregular terrain locally.

calcareous and comprise very slightly stony, medium/heavy clay loam topsoil over clay subsoils with chalky boulder clay at depth of 75/90 cms. Gleying generally occurred at 50/55 cm depth with a slowly permeable layer at 55/60 cms, resulting in a wetness class of II.

2.6 The second soil type occurs over the remainder of the site, and broadly equates to the area mapped as Denchworth Association. Profiles generally comprise very slightly stony, variably calcareous clayey topsoils over very slightly stony calcareous clay subsoils. Gleying occurred at 30/35 cms with a slowly permeable layer at 35 cms resulting in a wetness class of III. Although individual profiles of better drained (wetness class II) were found in some areas in the extreme south of the site these occurred too randomly to permit separate delineation.

3.0 AGRICULTURAL LAND CLASSIFICATION

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

Grade	ha	%
2	3.2	10.6
3b	25.4	84.1
Non Agricultural	0.3	1.0
Urban	1.3	4.3
TOTAL	30.2	100.0

Definitions of ALC grades are shown in Appendix 1.

Grade 2

3.2 Land of this grade occurs in the extreme west of the site and corresponds to the calcareous moderately well drained (wetness class II) fine loamy over clayey soils described in paragraph 2.5. These soils have medium/heavy clay

loam topsoils and are therefore subject to minor workability restrictions limiting the land to grade 2.

Subgrade 3b

3.3 Subgrade 3b is mapped over the majority of the site and comprises the variably calcareous imperfectly drained (wetness class III) clayey soils described in paragraph 2.6 Although some profiles are calcareous throughout they are not eligible for upgrading to subgrade 3a since PSD analysis has shown that the topsoil clay content is in excess of 50%. Moderately severe wetness and workability restriction limit the land to subgrade 3b.

Urban

3.4 Areas mapped as urban consist of the concrete roadway to Rectory Farm and the farm buildings which are now used as small commercial units.

None-Agricultural

3.5 Two small areas have been mapped as non-agricultural. The area in the north west of the site consists of low scrub and the other, south of the farm, consists of scrub around a dried-up pond.

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REFERENCES

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