

PHYSICAL CHARACTERISTICS REPORT INCORPORATING AGRICULTURAL LAND CLASSIFICATION

LAND AT PRESWICK FARM, GERRARDS CROSS, BUCKS

1.0 INTRODUCTION

1.1 The site, an area of 14.3 hectares is the subject of an application for a borrow pit. ADAS surveyed the site in September 1992 at an auger boring density of approximately 1 boring per hectare. These borings were supplemented by 1 soil inspection pit in order to assess subsoil conditions.

1.2 On the Agricultural Land Classification Map Sheet No 159 (Provisional, scale 1:63,360 MAFF 1971) the entire site is shown as grade 3. The current survey was undertaken in order to provide a more detailed representation of the agricultural land quality and to provide a physical characteristic report of the soil resources.

2.0 SITE PHYSICAL CHARACTERISTICS

Climate

2.1 Climate data for the site was obtained from the published agricultural climatic dataset (Met. Office 1989). This indicates for the site's modal altitude of 79 m AOD, the annual average rainfall is 709 mm. This data also indicates that the field capacity days are 147 and moisture deficits are 105 mm for wheat and 97 mm for potatoes. These characteristics do not impose any climatic limitation on agricultural land quality.

Relief

2.2 The whole site is gently sloping from 83 m AOD in the south western corner to 74 m AOD in the south eastern corner of the site. Gradient, altitude and relief do not constitute any limitation to the ALC grading of the survey site.

3.0 AGRICULTURAL LAND CLASSIFICATION

3.1 The definitions of the Agricultural Land Classification grades are included in the 'Revised Guidelines and Criteria for the Grading of Agricultural Land' (MAFF, 1988).

3.2 The table below shows the breakdown of ALC grades in hectares and % terms for the survey area.

AGRICULTURAL LAND CLASSIFICATION		
Grade	ha	%
Subgrade 3b	12.7	93.4 88.8
Non Agricultural	0.9	6.6 6.3
Farm Buildings	0.7	4.9
TOTAL	13.8 14.3	100

Subgrade 3b

3.3 The entire site has been graded 3b and is associated with the soils described in paragraph 4.3. The combination of clay loam topsoils with slowly permeable subsoils, which have been assessed as wetness class IV, result in wetness being the overriding limitation to the grade of this site.

4.0 SOIL PHYSICAL CHARACTERISTICS

Geology

4.1 The published 1:63,360 scale solid and drift edition geology map, sheet No 225 (Geological Survey of England and Wales, 1948) shows the survey area to comprise Glacial Gravel.

Soils

- 4.2 The published 1:250,000 scale reconnaissance soils, sheet 4, (Soil Survey of England and Wales, 1983) shows the entire site to comprise Essendon Association (*).

The soils observed during the ADAS survey are similar to the published map and a single soil type was identified.

These non calcareous soils typically comprise very slightly stony clay loam occasionally silty or sand clay loam topsoils over clay loam or clay subsoils. These subsoils may contain slightly or moderately stony horizons, and are slowly permeable immediately below the topsoil (assessed as wetness class IV). At some locations' sandy and coarse loamy subsoil horizons were encountered at depth, however these profiles did not occupy significantly large and discrete areas to merit mapping separately at this scale.

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(*) Essendon Association Slowly permeable seasonally waterlogged coarse loamy over clayey soils. Associated with similar fine loamy over clayey and fine silty over clayey soils.

APPENDIX 1

SOIL PHYSICAL CHARACTERISTICS

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SOIL TYPE 12.7 hectares

Topsoil	Texture	:	medium or heavy clay loam occasionally silty or sandy clay loam.
	CaCO ₃	:	non calcareous
	Colour	:	10YR4/2
	Stone	:	typically 1-5% flint
	Structure	:	cultivation zone - not applicable
	Boundary	:	clear smooth
	Roots	:	many fine and very fine
	Depth	:	0-25/30 cm
Subsoil	Texture	:	clay loam or clay occasionally sandy or sandy loam at depth.
	CaCO ₃	:	non calcareous
	Colour	:	10YR6/3
	Mottles	:	common distinct ochreous mottles 7.5YR5/8
	Stone	:	typically 0-10% flint, locally up to 30% flint
	Structure	:	moderately developed coarse or very coarse prismatic.
	Consistence	:	firm, friable where stonier or sandy
	Biopores	:	<0.5%
	Roots	:	common fine and very fine, few 4.5+
	Depth	:	25/30 cm - 120 cm