THE MARGINS, SHEPPERTON RANGES, SHEPPERTON, SURREY AGRICULTURAL LAND CLASSIFICATION REPORT OF SURVEY

ADAS
Guildford Statutory Group
Resource Planning Team

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THE MARGINS, SHEPPERTON RANGES, SHEPPERTON, SURREY
AGRICULTURAL LAND CLASSIFICATION
REPORT OF SURVEY AND STATEMENT OF SITE PHYSICAL CHARACTERISTICS

1. Introduction

In March 1993 a detailed Agricultural Land Classification (ALC) survey was conducted on 3.1 hectares of land at Shepperton in Surrey. ADAS was contracted by MAFF's Land Use Planning Unit to determine the quality of land affected by a minerals extraction application which involved restoring part of the site to agriculture.

The ALC provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on its use for agriculture. The site was graded using MAFF's revised guidelines and criteria for classifying the quality of agricultural land.

Five auger borings and one soil pit were described. All of the site that is in agricultural use (2.6 ha) has been classified as poor quality land, Sub-grade 3B. Soil wetness is the main physical limitation, with poorly structured upper subsoils that significantly obstruct the free drainage of excess rainfall and cause shallow waterlogging in the soils.

Part of the application area is a proposed haul road. At present, the majority of this is not in agricultural use. It has been worked for minerals in the past and has not been restored to agriculture and was partly flooded at the time of survey. The southern end of the proposed road crosses a restored field in agricultural use.

2. Agricultural Land Classification and Soil Resources

Details of the prevailing climate are given in the table below; the site is at approximately 165 Field Capacity Days. The soils are typically Heavy Clay Loam topsoils overlying an upper subsoil horizon of Clay. The latter shows clear evidence of gleying within the top 40 cms of the profile and exhibits a structure that is slowly permeable (weakly developed coarse subangular blocky) with poor porosity, again within the top 40 cms. These characteristics combine to create a significant degree of shallow waterlogging. The soils are placed in Wetness Class IV (ie. they are wet within 70 cm depth for more than 180 days but not wet within 40 cm depth for more than 210 days in most years). This degree of wetness greatly reduces the number of days when the soil is in a suitable condition for cultivation, trafficking by machinery or grazing by livestock, and restricts the range of crops that will tolerate such conditions.

Minor areas of 3B microrelief occur in the centre of the site where an old channel runs east-west.

On the undisturbed part of the site there is a topsoil resource of approximately 5,000 m^3 (ie. HCL, 0-20 cm), an upper subsoil resource of approximately 10,000 m^3 (ie. C, 20-60 cm) and a lower subsoil resource of at least 10,000 m^3 (ie. a mixture of HCL and MCL, both calcareous, 60-100 cm).

The southern end of the route of the proposed haul road crosses a field that has been restored to agriculture. This land is deemed to be no better than the adjacent, unworked part of the site. The restored land exhibits settlement hollows that were flooded at the time of survey and other parts of the field were unfit for trafficking or grazing.

On the restored land affected by the haul road there is a topsoil resource of 450 m^3 (HCL, 0-45 cm). This gives a total topsoil resource on the agricultural land of 5,450 m^3.

Climatic Interpolation

Grid Reference	SU073 663
Altitude (m)	11
Average Annual Rainfall (mm)	725
Accumulated Temperature (°days)	1528
Field Capacity (days)	165
Moisture Deficit, Wheat (mm)	111
Moisture Deficit, Potatoes (mm)	105
Overall Climatic Grade	1

SOIL PIT DESCRIPTION

Site Name : SHEPPERTON, SURREY Pit Number : 1P

Grid Reference: su07256629

Average Annual Rainfall : 725 mm
Accumulated Temperature : 1528 degree days
Field Capacity Level : 165 days
Land Use : Permanent Grass
Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 22	HCL	10YR31 00	0	0		MCSAB
22- 48	C	25Y 53 00	0	0	C	WCSAB
48- 65	MCL	25Y 63 00	0	0	M	WCP

Wetness Grade : 3B

Wetness Class : IV
Gleying :022 cm
SPL :022 cm

Drought Grade : 3A

APW : 099mm MBW : -12 mm
APP : 108mm MBP : 3 mm

FINAL ALC GRADE : 3B
MAIN LIMITATION : Wetness

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