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AGRICULTURAL LAND CLASSIFICATION REPORT FOR LAND COVERED BY THE MACCLESFIELD LOCAL PLAN

1. Introduction

A land classification survey of approximately 220 hectares of land to the west and south of Macclesfield was carried out in the autumn and winter of 1991.

The survey was undertaken using a hand held 5cm Dutch auger to provide sufficient information to map the results at a scale of 1:25,000.

The area is mainly underlain by Keuper Waterstones or peat and land quality varies from Grade 2 on the freely drained sandy soils to Grade IV on the wet peats.

2. Site details and limitations

2.1 Climatic limitations

The main parameters used in the assessment of the climatic limitation are average annual rainfall as a measure of overall wetness and accumulated temperature as a measure of the relative warmth of the locality. The site receives an average annual rainfall of approximately 879 mm and has an accumulated temperature (January to June) of approximately 1270°C. This combination of rainfall and temperature preclude the area from Grade 1.

2.2 Location and site limitations

The land lies to the west and south of Macclesfield between Broken Cross in the north and Lyme Green in the south. The eastern boundary is formed by the urban edge whilst in the west and south the boundary of the area is determined by an existing Agricultural Land Classification (ALC) survey.

The area is undulating and ranges from 183m to 164m north west of the A536 but is almost level to the south east of the road lying at an altitude of 160-150m. Slopes of 1 - 8° are common and in a few areas slope exceed 11°. Gradient and micro relief are limiting factors in some areas.

2.3 Geology and soil limitation

The area is underlain by Keuper Waterstones which give rise to light textured deep sandy soils, or medium to heavy textured soils over marl. In many of the numerous hollows peat has been deposited and in these areas drainage is difficult and the soils are wet for long periods.

The geology and resulting soils vary over short distances and a detailed survey would be required to determine the many different grades represented.

The mineral soils vary from Wetness Class I and ALC Grade 1 where deep sandy soils occur, to Wetness Class IV and subgrade 3b where clay loam subsoils or sandy clay loam topsoils reduce the permeability of the soil, making it more difficult to work.

2.4 Interactive limitations

The physical limitations which result from interaction between climate, site and soil are soil wetness, droughtiness and erosion. Soil wetness is expressed by the extent to which excess water imposes restrictions on crop growth and cultivations, whilst droughtiness indicates the degree to which a shortage of soil water influences the crops which may be grown and the level of yield which may be achieved.

The land around Macclesfield is at field capacity for approximately 214 days. With sandy loam and sandy clay loam topsoils, soils in this area fall into Wetness Class I to IV, the wetness class being determined by the depth to slowly permeable layer and gleying.

Many of the peaty soils cannot easily be drained and appear to have a high water table which precludes them from a higher grade than Grade 4.

Soil droughtiness is generally not a limitation in this area, although some soils could not be graded higher than Grade 2.

2.5 Land use

The majority of the land supports grass for cattle and sheep. Much of the grass on the peat is of a poor quality and contains many rushes and some shrubs.

3. Agricultural Land Classification

Land quality ranges from Grade 2 to Grade 4.

3.1 Grade 2

A small area (4.9 ha and 2.2 %) has been mapped to the west of the A536. The soils are mainly sandy loams over loamy sands and sands. Some of these soils are of Grade 1 quality but the overall climate limits the area to Grade 2.

3.2 Subgrade 3a

This grade is mapped extensively to the west of the A536 accounting for 55.2 ha and 24.9% of the area. It includes sandy loams and sandy clay loam which overlie similar or heavier subsoils. These soils fall into Wetness Class II or III. The area is gently undulating and very localised slopes are steeper than 7°, but these areas are too small to map separately.

To the east of Tansy Moss Farm peaty soils overlie grey sandy soils. These soils have been drained and the wetness limitation partly overcome.

3.3 Subgrade 3b

This subgrade accounts for 55.3 ha and 25.0% of the area. It is mapped to include medium textured soils which fall into Wetness Class IV, typically gleyed sandy loams or sandy clay loams overlie slowly permeable layer within 56cm of the surface. It is also mapped to include moderately sloping land (greater than 7°) and undulating land where complex slopes and soil variability make it difficult to utilise the higher quality areas.

3.4 Grade 4

This grade is mapped extensively to the east of the A536, accounting for 42.0 ha and 19.0% of the area. It is mapped over peat soils which have a high water table. Small areas in the north have also been mapped to include steeply sloping land with gradients of more than 11°.

3.5 Non agricultural and urban

These grades account for 64.0 ha and 28.9% of the area, included playing fields , a partially restored landfill site and some new industrial development.

3.6 Summary of Agricultural Land Classification grades

Grade	Hectares	% total	% agricultural land
2	4.9	2.2	3.1
3a	55.2	24.9	35.1
3b	55.3	25.0	35.1
4	42.0	19.0	26.7
Non ag	32.9	14.9	-
Urban	31.1	14.0	-
Total	221.4	100.0	100.0