

# REPORT OF THE MAFF AGRICULTURAL LAND CLASSIFICATION SURVEY (1989) FOR MACCLESFIELD LOCAL PLAN

## SUMMARY

Of the 742.5 hectares surveyed, 17.2 hectares are classified as Grade 2; 290.2 hectares are classified as subgrade 3a; 200.2 hectares are classified as subgrade 3b; 64.1 hectares are classified as Grade 4 and Grade 5. The remaining area is predominantly in urban use or non agricultural use.

### 1. Introduction

The survey area lies to the south west of Macclesfield and extends to the north and west of Gawsorth to the A537 road (SJ 885737) and east of Gawsorth to Lyme Green (SJ 925705). Field work was carried out on a free auger boring survey during the period September - November 1989, which followed several months of little rainfall.

### 2. Climatic limitations

The main parameters used in the assessment of climatic limitations are average annual rainfall (WAR), as a measure of overall wetness, and accumulated temperature (ATO), as a measure of the relative warmth of the locality. The figures of AAR and ATO indicate that there is a climatic limitation in the area and that the highest possible grade is 2.

### 3. Site limitations

The assessment of site factors is primarily concerned at the way in which topography influences the use of agricultural machinery and hence a cropping potential of the land. There are several locations within the survey area where site limitations such as gradient and irregularity affect the agricultural use of the land. Reference will be made where appropriate in section 7.

### 4. Soil limitations

The main soil properties which affect the crop potential and management requirements of land are texture, structure, depth, stoniness and chemical fertility. These may act as limitations separately, in combination or through interactions with climate or soil factors. The physical limitations which result from interactions with climate or soil are soil wetness, droughtiness and erosion. Soil wetness, which expresses the extent to which excess water imposes restrictions on crop growth, is one interactive limitation affecting the grading in the survey area. Soil wetness is assessed in the field by identifying the depth to any slowly permeable soil horizon, defined in terms of soil texture, structure and gleying and relating this to the texture of the top 25 cm. Combining the soil wetness class and the field capacity days (FC day) a land classification grade is arrived at. Reference will be made to its limitation in section 7.

To achieve full yield potential a crop requires an adequate supply of soil moisture throughout the growing season. In the Agricultural Land Classification (ALC) system, the method used to assess droughtiness takes into account the crop adjusted available water capacity of the soil and the moisture deficit to give an estimate of the average soil moisture balance. Where the soil moisture balance is a limitation to the agricultural use of the land, reference will be made to this in section 7.

5. Background information

The underlying geology varies over the area and is mapped predominantly as being Boulder clay to the east of the railway line and Danes Moss; glacial sands and gravel are found to the west of Danes Moss and around Warren with Boulder clay deposits to the north and east of Brownhills Farm (SJ 893717). Peat deposits occur extensively in the Danes Moss area and there are scattered deposits throughout the survey area in low lying depressions. (Sheet 110, Macclesfield, Geological Survey).

6. Agricultural Land Use

At the time of the survey much of the land was under grass for cattle or sheep grazing with some areas of cereals and potatoes.

7. Agricultural Land Quality (Appendix 1)

Grade 2:

Several areas of Grade 2 land are identified on the map close to Mounts Farm (SJ 903702), Furnace Pool Farm (SJ 8847043), and Lowes Farm (SJ 892708). The soil typically has a sandy loam texture extending to 45 cm and overlying loamy sand and sand to 100 cm. The soil is generally stoneless and the land level. The land is excluded from Grade 1 due to climatic limitations and moisture balance limitations.

Subgrade 3a:

Much of the area to the west of the railway line and Danes Moss is classified as subgrade 3a land. Typically the soil has a sandy loam texture extending to depths ranging between 30 and 40 cm and overlying loamy sand and sand. The main limitation to the agricultural use of this land results from the moisture balance failing to qualify for Grade 2. It should also be noted that in parts the land is slightly irregular and there is variation within the land mapped as subgrade 3a. There are some profiles of Grade 2 land, which are too small to identify separately at the scale of mapping (1:25000) used.

### Subgrade 3b:

The main area of subgrade 3b land is found to the east of the railway line towards Lyme Green. The soil typically have a medium clay loam top texture overlying clay. Observations of gleying and depth to the slowly permeable layer combined with a field capacity day figure of 212 indicate wetness class IV and subgrade 3b.

Some small areas of organic sandy loams overlying peats have been classified as subgrade 3b. Taking into account the profile morphology, climate, site characteristics, prevailing water levels and time of year, these areas have been placed in wetness class IV and subgrade 3b. Soil wetness is the main limitation to the agricultural use of the land.

### Grade 4:

Land in this grade is found close to Danes Moss where soils of either a peaty loam or a peat texture to depth are present. Taking into account the profile morphology, climatic limitations, site characteristics and prevailing water levels and time of year (soil moist and saturated at depths of between 30 and 60 cm at time of survey), the land has been placed in wetness class V and Grade 4.

To the west of the A523 road (SJ 916695) the soil has a heavy clay loam texture overlying clay. Observations of gleying and depth to the slowly permeable layer combined with a field capacity day figure of 212 indicate wetness class IV and Grade 4. Soil wetness is the main limitation to the agricultural use of this land.

Site limitations such as gradients exceeding 11 degrees and slope irregularity restrict parts of the survey area to Grade 4. Land with this limitation is found at Gawsmoor Hill (SJ 893712), West Wynds (SJ890722), Whitegate Farm (SJ 888711).

### Grade 5:

A small area is mapped at Oakgrove (SJ 920694), where there is a limitation to the agricultural use due to the gradient exceeding 18 degrees.

### Non agricultural land:

This includes Danes Moss, where there is a landfill site and a peat extraction operation. Areas of water and woodland are also classified as being a non agricultural use.

Resource Planning Group  
Farm and Countryside Service  
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AGRICULTURAL LAND QUALITY

Grade Sub-Grade	ha	as % of Total Area	as % of Agricultural Land
2	17.2	2	3
3a	290.2	39	50
3b	200.2	27	35
4	63.6	9	11
5	0.5	<1	1
(Sub total	571.7)		
Urban	44.5	6	(100)
Non-Agricultural	99.5	13	
Agricultural building	13.8	2	
Water	6.2	<1	
Not Surveyed	6.8	<1	
TOTAL	<hr/> 742.5	(100)	