

AGRICULTURAL LAND CLASSIFICATION

LAND NORTH OF JUNCTION 1 OF THE M69, BURBAGE, LEICS

1.0 BACKGROUND

1.1 An area of land approximately 16 ha in extent to the north of junction 1 of the M69 near to the village of Burbage, Leicestershire (Grid Ref. SP 435914) has been identified for possible development. The site had been the subject of a semi-detailed survey during 1985, however, the present survey was carried out on a detailed basis and the site assessed using the revised guidelines issued by MAFF in 1988 (MAFF, 1988). The present survey therefore supersedes all previous surveys.

1.2 ADAS Statutory Resource Planning Team undertook the present detailed Agricultural Land Classification (ALC) survey of the site during September 1995. Information was collected from auger borings, spaced at 100 m intervals, to a depth of 120 cm wherever possible. Subsoil conditions were assessed from two inspection pits. At the time of the survey the whole site was under grass.

1.3 On the published provisional 1:63 360 scale ALC map, sheet 132 (MAFF, 1972) the whole site is mapped as grade 3.

2.0 PHYSICAL FACTORS AFFECTING LAND QUALITY

Climate

2.1 Climatic criteria are considered when classifying land as they may have an overriding limitation in terms of the agricultural use of the land. The main parameters used in the assessment of the overall climatic limitation are average annual rainfall, as a measure of overall wetness, and accumulated temperature (day °C Jan-June), as a measure of the relative warmth of an area.

- 2.2 A detailed assessment of the prevailing climate for the site has been made by interpolation from the 5 km grid dataset produced by the Meteorological Office (Met Office, 1989). The details are given in the table below and these show that there is no overall climatic limitation affecting the site.

Table 1 : Climatic Interpolation

Grid Reference	SP 435 914
Altitude (m)	115
Accumulated Temperature (Day °C, Jan-June)	1346
Average Annual Rainfall (mm)	662
Moisture Deficit, Wheat (mm)	95
Moisture Deficit, Potatoes (mm)	83
Field Capacity Days	151
Overall Climatic Grade	1

Altitude and Relief

- 2.3 The site rises gently from approximately 110 m AOD in the south to approximately 120 m AOD in the north east corner of the site. Slopes are gentle with slight undulations within the fields. Altitude and relief therefore do not impose any limitation on the agricultural quality of the site.

Geology and Soils

- 2.4 The published 1:63 360 scale drift (Geol. Survey, 1926) and solid (Geol. Survey, 1956) geological maps show the entire site to be Pleistocene sands and gravels overlying Triassic Keuper Marl.
- 2.5 The reconnaissance scale (Soil Survey, 1983) shows the site to comprise soils of the Flint Association (*1).

- (*1) Flint Association: Reddish fine loamy over clayey soils with slowly permeable subsoils and slight seasonal waterlogging, developed from reddish till. Includes some fine loamy soils and fine loamy over clayey, seasonally waterlogged soils.

2.6 The present detailed survey shows the site to consist of two soil types.

Soil Type 1

2.7 This soil type consists of a medium sandy clay loam or medium clay loam, or very occasionally heavy clay loam topsoil which overlies an upper subsoil of sandy clay, sandy clay loam or heavy clay loam. This upper subsoils in turn overlies a slowly permeable clay textured lower subsoil. This soil type was assessed as wetness class II or III depending on the depth to the lower subsoil.

Soil Type 2

2.8 This soil type consists of a heavy clay loam or occasionally medium sandy clay loam topsoil directly overlying a clay textured subsoils. This subsoil was prominently mottled and slowly permeable hence profiles of this soil type were assessed as wetness class IV.

3.0 AGRICULTURAL LAND CLASSIFICATION

3.1 The land has been classified using the guidelines contained in the Agricultural Land Classification of England and Wales (MAFF, 1988). A breakdown of the individual grades found on the site is shown in Table 2.

Table 2 : Distribution of Grades and Subgrades

Grade	Area (ha)	% of site
3a	8.1	50.6
3b	7.3	45.6
Urban	0.6	3.8
TOTAL	<hr/> 16.0	<hr/> 100.0

Subgrade 3a

- 3.2 The moderately well drained soils described in paragraph 2.7 are included within this subgrade. The depth to any underlying slowly permeable layer and the texture of the topsoil is such that these profiles will have workability restrictions limiting the land to subgrade 3a.

Subgrade 3b

- 3.3 The two areas mapped as subgrade 3b consist of areas of soil type 2 described in paragraph 2.8. Additionally a small area of soils of soil type 1 (paragraph 2.7) which were assessed as wetness class III but having a heavy clay loam textured topsoil are also included in this subgrade. These soils will have a moderately severe workability limitation which will impose a significant restriction on the agricultural potential of the land restricting it to subgrade 3b.

Urban

- 3.4 A small section of the Rugby Road is included in the north west of the site.

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REFERENCES

- GEOLOGICAL SURVEY OF ENGLAND AND WALES, 1926. Sheet 169, Coventry, Drift Edition. 1:63 360 scale.
- GEOLOGICAL SURVEY OF GREAT BRITAIN, 1956. Sheet 169, Coventry, Solid Edition. 1:63 360 scale.
- MAFF, 1972. Agricultural Land Classification Map. Provisional. Scale 1:63 360. Sheet 132.
- MAFF, 1988. Agricultural Land Classification of England and Wales (Revised Guidelines and Criteria for grading the quality of agricultural land). Alnwick.
- METEOROLOGICAL OFFICE, 1989. Climatological Data for Agricultural Land Classification.
- SOIL SURVEY OF ENGLAND AND WALES, 1983. Sheet 3, "Soils of Midland and Western England". 1:250 000 scale.

Appendix 1

Grade 1 - excellent quality agricultural land

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly include top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

Grade 2 - very good quality agricultural land

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown but on some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable crops. The level of yield is generally high but may be lower or more variable than Grade 1.

Grade 3 - good to moderate quality agricultural land

Land with moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in Grades 1 and 2.

Subgrade 3a - good quality agricultural land

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

Subgrade 3b - moderate quality agricultural land

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

Grade 4 - poor quality agricultural land

Land with severe limitations which significantly restrict the range of crops and/or levels of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yield of which are variable. In most climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

Grade 5 - very poor quality agricultural land

Land with very severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.