

AGRICULTURAL LAND CLASSIFICATION

LAND AT SLASH LANE, BARROW ON SOAR, LEICESTERSHIRE

1.0 BACKGROUND

- 1.1 A site of approximately 14 ha in extent to the south east of Barrow on Soar in Leicestershire is the subject of a proposed employment development.
- 1.2 The site consists of a north western block and a slightly smaller east block on either side of Slash Lane, centred on grid reference SK 588 163. At the time of the survey all agricultural land consisted of permanent grassland.
- 1.3 On the published 1:63 360 scale Agricultural Land Classification (ALC) map (MAFF, 1972) the site as a whole is mapped as Grade 4. This map is only of a reconnaissance nature and hence the current detailed survey was carried out to provide site specific ALC information.
- 1.4 The site was surveyed on a 100 m grid basis using a dutch auger to a depth of 120 cm wherever possible. In addition a soil pit was dug to assess subsoil structure in more detail.

2.0 PHYSICAL FACTORS AFFECTING LAND QUALITY

Climate

- 2.1 Climatic criteria are considered when classifying land as these 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 Table 1 and these show that there is no overall climatic limitation affecting the site.

Table 1. Climatic data

Grid Reference	SK 588 163
Altitude (m, AOD)	45
Accumulated Temperature Day °C, Jan-June	1412
Average Annual Rainfall (mm)	646
Moisture Deficit, Wheat (mm)	108
Moisture Deficit, Potatoes (mm)	100
Field Capacity Days	148
Overall Climatic Grade	1

Altitude and Relief

- 2.3 The site is generally level or gently sloping to the south east and south west. The ground surface is usually undulating with a ridge and furrow landform evident in the most south westerly field. Altitude and relief do not therefore constitute a limitation for the agricultural quality of the site.

Flooding

- 2.4 Information provided by the National Rivers Authority (NRA) indicate that land in the south and east of the site are the subject of frequent winter flooding events which are generally long in duration. This frequency and duration of flooding restricts the land within the flood risk area to Grade 4.

Geology and Soils

- 2.5 The published 1:50 000 scale geology map (Geol. Survey, 1976) shows the northern edge of the site to consist of Hydraulic Limestone with a thin band of Rhenish Shales and Limestone adjacent to the south. However, the majority of the site is shown to comprise Alluvium.
- 2.6 The reconnaissance (1:250 000 scale) soil survey map for the area (Soil Survey, 1983) shows the site to comprise soils of the Fladbury 2 association. These soils are described as stoneless clayey soils variably affected by groundwater, some with sandy subsoils with some similar fine loamy soils formed on river alluvium.
- 2.7 The present survey identified a single main soil type within the site. This soil type generally consisted of a stoneless - very slightly stony clay textured topsoil overlying similar textured mottled subsoil horizons. Occasionally slightly lighter medium/heavy clay loam or silty clay loam topsoils were encountered. All soil horizons are generally very calcareous. Additionally in the north east of the site areas of disturbed soil profiles were evident.

3.0 **AGRICULTURAL LAND CLASSIFICATION**

- 3.1 The breakdown of the various Agricultural Land Classification (ALC) grades within the site are shown in Table 2. The definition of the ALC grades is given in Appendix 1.

Table 2. Distribution of grades and subgrades

AGRICULTURAL LAND CLASSIFICATION		
Grade	Area (ha)	% of site
3b	6.2	43.7
4	4.9	34.5
Other land	3.1	21.8
TOTAL	14.2	100.0

Subgrade 3b

- 3.2 Land of this subgrade is restricted to those areas of the site in which no flooding occurs or is likely to be less frequent. Subsoil horizons are slowly permeable with the profiles assessed as wetness class IV hence these areas have a moderate wetness and workability constraint.

Grade 4

- 3.3 Land of this grade lies within areas of frequent winter flooding in which the duration of such flooding events is long.

Other Land

- 3.4 Areas identified as other land consist of the present mineral conveyor system and loading facilities, offices and adjacent infrastructure. Additionally an area in the north east boundary of the site has been subject to tipping.

March 1996

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REFERENCES

GEOLOGICAL SURVEY OF GREAT BRITAIN (ENGLAND AND WALES),

1976. Sheet 142, Melton Mowbray, 1:50 000 scale.

MAFF, 1972. Agricultural Land Classification Map. Provisional. Scale 1:63 360

Sheet 122.

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. Bracknell.

SOIL SURVEY OF ENGLAND AND WALES, 1983. Sheet 3, "Soils of Midland

and Western England". 1:250 000 scale.

Appendix 1

DEFINITIONS OF ALC GRADES

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.