

AGRICULTURAL LAND CLASSIFICATION

LAND ADJACENT TO THE A1(M), BLYTH, NOTTINGHAMSHIRE

1.0 INTRODUCTION

1.1 This 25.1 hectare site is the subject of proposals for industrial development. In May 1994, ADAS Resource Planning Team undertook an Agricultural Land Classification (ALC) survey of the site, carrying out a total of 24 auger borings using a hand held dutch soil auger. In addition, two soil inspection pits were dug to assess subsoil structural conditions.

1.2 At the time of the survey half the land was set-aside and half was under barley.

1.3 On the published ALC map, sheet 103 (MAFF, 1969) the whole area is shown as grade 3.

2.0 PHYSICAL FACTORS AFFECTING LAND QUALITY

Climate

2.1 Climate data was obtained by interpolating information contained in the published agricultural climatic dataset (Met Office, 1989). This indicates that for an average site altitude of 14 m AOD, the average annual rainfall is 596 mm. This data also indicates that the field capacity days are 118 and moisture deficits for wheat and potatoes are 110 mm and 103 mm respectively. These climatic characteristics do not impose any climatic limitation on the site.

Altitude and Relief

2.2 The site is gently undulating at an average altitude of 14 m AOD. Gradients are less than 4° throughout the site, and neither altitude nor gradient constitute limitations to the ALC grade.

Geology and Soils

- 2.3 The published 1:50 000 scale solid and drift edition geology map, sheet 101, East Retford (Geological Survey of England and Wales, 1976) shows the whole site to be covered by Permo-Triassic Bunter Pebble Beds.
- 2.4 No detailed soil map of the area exists but the reconnaissance 1:250 000 scale map "Soils of Midland and Western England" published by the Soil Survey of England and Wales in 1983, shows the presence of one soil association only. The whole site is mapped as Newport 1 Association (*1).
- 2.5 During the detailed ADAS field survey two main soil types were identified.
- 2.6 Well drained brown sandy soils lie throughout the site. To the north and in a narrow band down the eastern site boundary, profiles comprise medium sandy loam or loamy medium sand topsoils which are generally very slightly stony, occasionally slightly stony. Upper subsoils comprise loamy medium sand or occasionally medium sand with stone content varying from stoneless to moderately stony. Lower subsoils comprise medium sand or occasionally loamy medium sands which are generally stoneless. Occasionally, lower subsoils comprise weathered sandstone which is stoneless.
- 2.7 To the southeast of the site, occupying slightly higher ground, lies an area of soils which are similar but slightly more heavily textured. Topsoils comprise medium sandy loams which are very slightly stony or occasionally slightly stony. Upper subsoils comprise medium sandy loams, and occasional medium clay loams or sandy clay loams which are very slightly stony or slightly stony. Lower subsoils are variable, and comprise medium sand, loamy medium sand or occasionally medium clay loams which are typically stoneless.
- 2.8 In summary, the main difference between the two soil types is that the profiles described in paragraph 2.7 are slightly heavier in texture. In addition, the loamy medium sand or medium sand lower subsoils occur at a lower depth than the soils described in paragraph 2.6, i.e. below 65 cm in all cases.

(*1) Newport 1 Association: Deep well drained sandy and coarse loamy soils. Some sandy soils affected by groundwater. Risk of wind and water erosion.

3.0 AGRICULTURAL LAND CLASSIFICATION

- 3.1 The definitions of the ALC grades are included in Appendix 1.
- 3.2 The site has been mapped as predominantly subgrade 3b, with slightly smaller areas of subgrade 3a. The table below shows the breakdown of the grades in hectares and in percentage terms for the survey area.

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Grade	ha	%
3a	8.7	34.7
3b	13.5	53.8
Urban	0.9	3.6
Woodland	2.0	7.9
TOTAL	25.1	100.0

Subgrade 3a

- 3.3 The grade 3a land lies on the slightly higher land to the southwest of the site. Profiles are as described in paragraph 2.7, with the relatively coarse textures imposing a moderate limitation on the potential for water retention in the soil. As a result, droughtiness restricts this land to subgrade 3a (good quality agricultural land).

Subgrade 3b

- 3.4 The majority of the site is assessed as subgrade 3b and is associated with the soils described in paragraph 2.6. The relatively coarse texture impose a significant limitation on the potential for water retention in the soil. As a result, droughtiness restricts this land to subgrade 3b (moderate quality agricultural land).

Woodland and Urban

- 3.5 Non-agricultural areas identified within the site consist of an area of woodland in the north western corner and an urban area of farmhouses and gardens in the southern corner of the site.

Irrigation

- 3.6 The site has been graded assuming irrigation is not available. Site inspection did not reveal any evidence of irrigation equipment.

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REFERENCES

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