Cambs 52/92

AGRICULTURAL LAND CLASSIFICATION AND SOIL PHYSICAL CHARACTERISTICS

LAND AT KENNETT HALL FARM, KENNETT, CAMBRIDGESHIRE

1. BACKGROUND

1.1 The site, a restored mineral working area of 11.3 hectares, is the subject of an application by Anti-Waste Limited for a controlled landfill site with restoration to an agricultural use. ADAS Resource Planning Team undertook a detailed Agricultural Land Classification (ALC) and soil physical characteristics survey during July 1992. Soil inspections were made using a Dutch soil auger and a soil inspection pit was dug to assess subsoil conditions. Riddling was also undertaken to assess stone content.

1.2 At the time of the survey carrots, linseed and mustard were being grown on part of the site with the remainder under set-aside.

1.3 On the published ALC map sheet 135 (Provisional 1:63,360 MAFF 1971) the majority of the site is mapped as "other land primarily in non agricultural use", (a sand and gravel quarry) with a small area of grade 4 land on the north eastern edge of the site. A MAFF survey in 1989 of land almost adjacent to the south of the site mapped land as mainly grades 2 and 3a with smaller areas of 3b.

2.0 SITE PHYSICAL FACTORS

Climate

2.1 Climate data for the site was interpolated from data contained in the published agricultural climatic dataset (Met. Office 1989). This indicates that for the survey area's average altitude of 20 m AOD, the annual average rainfall is 582 mm (22.9"). The field capacity days are 105 and the moisture deficits for wheat and potatoes are 117 mm and 113 mm respectively. These climatic characteristics do not impose any climatic limitation on the ALC grade of the site.

Altitude and Relief

2.2 The site consists of a long shallow basin running east-west across the site, with very gentle slopes. The land lies between 18 and 23 m AOD. Neither gradient nor altitude constitute limitations to the ALC grade.

3.0 AGRICULTURAL LAND CLASSIFICATION

3.1 The definitions of the ALC grades are included in Appendix 1. The site has been disturbed and is shown with a stipple and ALC colour on the ALC map. This indicates the condition of the land at the time of survey.

3.2 The entire site has been mapped as subgrade 3a.

Irrigation

3.3 The whole site is irrigated. The irrigation facility enhances the potential of the agricultural land (on site) for crop production. Consequently the ALC grades take into account the reduction in drought risk afforded by irrigation.

Subgrade 3a (Disturbed)

3.4 The site comprises the soils described in paragraph 4.2. The coarse and fine loamy soils combine with profile chalk stone to impose a droughtiness limitation on the ALC grade. The availability of irrigation enhances the water reserves available for crop growth, consequently the land has been graded 3a. Also locally topsoil stone content imposes a moderate limitation excluding the land from a higher grade.

4.0 SOIL PHYSICAL CHARACTERISTICS

4.1 The published 1:50,000 scale solid and drift edition geology sheets 188 and 189 (Geological Survey of Great Britain 1981 and 1982) show the site to comprise third river terrace deposits with a small outcrop of Cretaceous Middle Chalk on the eastern part of the site. The current detailed inspection of the site identified the presence of a single disturbed soil type.

4.2 The soils typically comprise very slightly or slightly stony medium sandy loam topsoils over subsoils of moderately stony chalky material. Textures are typically silty clay loam or sandy silt loams and profiles are rootable to a depth of at least 80 cms. All profiles are freely draining and have been assessed as wetness class I.

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REFERENCES

GEOLOGICAL SURVEY OF GREAT BRITAIN (ENGLAND AND WALES) 1981. Solid and Drift Edition Sheet 188 Cambridge 1:50,000.

GEOLOGICAL SURVEY OF GREAT BRITAIN (ENGLAND AND WALES) 1982. Solid and Drift Edition Sheet 189. Bury St Edmunds 1:50,000.

MAFF 1971. Agricultural Land Classification Map Sheet 135. Provisional 1:63,360.

MAFF 1988. Agricultural Land Classification of England and Wales. (Revised Guidelines and Criteria for grading the quality of Agricultural Land). Alnwick.

METEOROLOGICAL OFFICE 1989. Climate data extracted from the published agricultural climatic dataset.

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 yields 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 winter range of crops or high yields of grass which can be grazed or harvested over most of the year.