

**AGRICULTURAL LAND CLASSIFICATION
WELLINGBOROUGH LOCAL PLAN
LAND TO THE WEST OF PARK FARM, WELLINGBOROUGH**

1.0 INTRODUCTION

- 1.1 An Agricultural Land Classification (ALC) survey was undertaken on behalf of MAFF in November 1995 of a site included within the Wellingborough Local Plan.
- 1.2 The site, which extends to 68.7 ha, forms part of Appleby Lodge Farm and is located on the west side of Wellingborough bounded to the north by Sywell Road, to the east by the Park Farm Industrial Estate and to the south and west by open agricultural land.
- 1.3 A total of 67 auger borings was made over the entire site using a dutch auger to a depth of 1.2 m unless prevented by impenetrable material. In addition, 2 soil pits representative of the main soil variants found on the site were dug to help assess subsoil conditions in greater detail.
- 1.4 At the time of survey the two fields at the northern end of the site were in permanent grass and grazed by sheep and horses, whilst the remaining fields to the south were under winter cereals. Two areas of woodland were identified, the largest being Corrie's Spinney on the southern boundary of the site, with the second area comprising a small young plantation to the south west of Appleby Lodge. Three additional areas of non agricultural land have been mapped.
- 1.5 On the published 1:63,360 scale provisional ALC map (MAFF, 1974) the site has been mapped as Grade 2. The provisional ALC of the site was further reviewed in a desk study (ADAS, 1994) which concluded that, based on published reconnaissance soils data (see para 2.6, below), the land is likely to be predominantly Subgrade 3a, with the possibility of significant areas of Grade 2

and smaller areas of Subgrade 3b. In addition land immediately to the east of the site, which was mapped in 1982 (ADAS, 1982) using the original ALC system (MAFF, 1966) showed that area to comprise mainly Subgrade 3a with some Grade 2. However, both the provisional ALC and the subsequent desk study of this site are of a reconnaissance nature and the current survey was undertaken to provide more detailed site specific information on soils and land quality.

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. 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 show that there is no overall climatic limitation affecting this site.

Table 1: Climatic Interpolation

Grid Reference	SP854 685
Altitude (m)	110
Accumulated Temperature (Day °C, Jan-June)	1352
Average Annual Rainfall (mm)	616
Moisture Deficit, Wheat (mm)	105
Moisture Deficit, Potatoes (mm)	96
Field Capacity (Days)	127
Overall Climatic Grade	1

- 2.3 Climatic factors do however interact with soil properties to influence soil wetness and droughtiness.

Altitude and Relief

- 2.4 The site is relatively flat over much of the area, with a small valley feature running north south in the south western part of the site. Slopes over the majority of the site are $<1^\circ$, with slightly steeper slopes $2-4^\circ$ on the side slopes of the small valley. The altitude of the site is approximately 110 m AOD. *Altitude and relief therefore do not impose any limitation on the agricultural use of the area.*

Geology and Soils

- 2.5 The published 1:50,000 scale geology map (Geol Surv, 1974) indicates that the whole area is underlain by Jurassic Great Oolite Limestone except in the shallow valley in the southern part of the site where the stream has cut down into the underlying Upper Estuarine Series. The whole area has been overlain by drift deposits of glacial boulder clay.
- 2.6 The reconnaissance soil survey map for the area (Soil Survey, 1983) shows the presence of two soil associations, namely Hanslope* and Ragdale**. The former is more extensive covering the south eastern two thirds of the site with the remainder covered by the Ragdale association.

* Hanslope association: Slowly permeable calcareous clayey soils developed in chalky till on plateaux and gently to strongly sloping valley sides. Some slowly permeable non-calcareous clayey soils.

** Ragdale association: Slowly permeable seasonally waterlogged clayey and fine loamy soils with some calcareous soils especially on slopes, developed in chalky till.

- 2.7 The current survey indicates that the soils are broadly similar over the whole site, although slight differences occur in the degree of waterlogging and also within the upper horizons over different parts of the site. Over the western and south western parts of the site the topsoils are generally non-calcareous, with the remainder of the area being typically calcareous. Furthermore, the northern fields and the field immediately to the west of Corrie's Spinney have topsoil textures which are generally heavy clay loam, whilst over the remainder of the site the textures are typically clay. Wetness Classes range from II to III depending on the depth of gleying, with the more gleyed soils generally, but not exclusively, associated with the calcareous topsoils.
- 2.8 The soils therefore typically have a grey brown heavy clay loam or clay topsoil over a brown or yellowish brown clay, upper subsoil with variable amounts of ochreous mottling. The lower subsoil is typically a light yellowish brown or grey clay with many ochreous and grey mottles and common small chalk stones. The upper subsoil typically has a coarse subangular blocky structure whilst the lower subsoil is coarse prismatic. The lower subsoil is invariably strongly calcareous, whilst the upper horizons, as discussed in paragraph 2.7, are variably calcareous.

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 given in Table 2 and the definition of each grade is given in an Appendix at the end of the report.

Table 2: Distribution of Grades and Subgrades

Grade	Area (ha)	% of Site
3a	51.1	75
3b	14.5	21
Non Agricultural	0.9	1
Woodland	2.2	3
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TOTAL	68.7	100

Grade 3a

- 3.2 The majority of the site has been mapped as Subgrade 3a and correlates mainly with the area of predominantly calcareous profiles. The soils in this area are typically Wetness Class II or III, having a calcareous, clay or heavy clay loam topsoil texture. The main limitation associated with these soils therefore is due to wetness. This, coupled with the heavy topsoil textures, will give rise to workability restrictions limiting the periods during which the land can be trafficked and cultivated without causing structural damage. This moderate workability restriction therefore limits the land to Subgrade 3a. Within this area some profiles of Grade 2 or Subgrade 3b quality have been identified, but not in sufficient areas to merit separate delineation.

Subgrade 3b.

- 3.3 A small area in the south west of the site has been mapped as Subgrade 3b due to a slightly more severe workability limitation associated with the non-calcareous clayey soils. These soils, which are typically assessed as Wetness Class II have non-calcareous clay topsoil horizons which will tend to be less easily worked than their calcareous counterparts and are therefore restricted to this subgrade under the prevailing climatic conditions.

Woodland

- 3.4 Two areas of woodland have been identified. The largest area is Corrie's Spinney on the southern boundary of the site. A small young plantation of coniferous trees occurs to the south west of Appleby Lodge.

Non Agricultural

- 3.4 Three small areas of non-agricultural land have also be delineated.

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REFERENCES

ADAS CAMBRIDGE, 1982. Agricultural Land Classification of proposed sites for development around Wellingborough.

ADAS CAMBRIDGE, 1994. Wellingborough Local Plan (Resource Planning Team Internal Memorandum, Comm No 1221)

BRITISH GEOLOGICAL SURVEY, 1974. Sheet 186 , Wellingborough, 1:50,000 scale, Solid and Drift Edition.

MAFF, 1966. Agricultural Land Classification

MAFF, 1974. Agricultural Land Classification Map. Provisional. Scale 1:63,360 Sheet 133.

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 Eastern England". 1:250,000 scale.

Appendix I

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.