

26/91B

PROPOSED DEVELOPMENT OF LAND TO THE EAST OF ETTINGTON ROAD,  
WELLESBOURNE

AGRICULTURAL LAND CLASSIFICATION

Report of Survey

1. Summary

Fifteen hectares of land to the south east of Wellesbourne were graded under the Revised Agricultural Land Classification System. Over half of the agricultural land was found to be grade 2, a further 20% to be sub-grade 3b, with a small area classified as sub-grade 3a.

2. Introduction

The survey area lies to the south east of Wellesbourne and is bounded by Ettington Road in the west, Walton Road in the north and agricultural land in the south east.

The site was surveyed using the MAFF Revised Agricultural Land Classification System, with soils being augered to a depth of 100cm at 100m grid intersections. Additional profiles were described as necessary to determine land quality boundaries.

3. Climate Limitations

The grade of the land is determined by the most limiting factor present. The overall climate is considered first because it can have an overriding influence on restricting land to lower grades, despite other favourable conditions. The main parameters used in the assessment of the climatic limitations are the Average Annual Rainfall (AAR), as a measure of overall wetness, and the Accumulated Temperature above 0°C for the period January to June (ATO), as a measure of warmth. The figures for AAR and ATO indicate that there are no climatic limitations on this site.

#### 4. Site Limitations

The assessment of site factors is primarily concerned with the way topography influences the use of agricultural machinery and hence the cropping potential of the land. The site lies at an altitude of 50m. The land is almost level and nowhere does gradient limit the classification of the land.

#### 5. Soil Limitations

The solid geology of the site is dominated by the Mercia Mudstone Group. The site is covered by a complex drift geology which has influenced the soils. The majority of soils are derived from Second Terrace River deposits. These soils include sandy loam over loamy medium sand with sand at depth or, more typically, medium sandy loam/sandy clay loam over sandy clay loam to clay in places. The southern part of the site is underlain by Fourth Terrace River deposits and these soils include heavy clay loams/heavy silty clay loams over silty clay.

#### 6. Interactive Limitations

The interactions between climate, site and soil determines whether a soil will be prone to wetness, droughtiness or erosion.

Seasonal waterlogging affects the soil workability and crop yields, hence wetness is an important parameter in the classification of land. It is measured by reference to climate particularly field capacity days, soil water and topsoil texture. This site is at field capacity for approximately 130 days. Some of the soils have gley morphology within 40cm and are slowly permeable within 63cm, falling into Wetness Class III. Occasional profiles fall into Wetness Class II being gleyed below 40cm and having a slowly permeable layer below 44cm.

The other soils on this site do not exhibit gley morphology within 70cm and do not have a slowly permeable layer within 80cm. These soils fall into Wetness Class I and being light textured are prone to drought. A soil's susceptibility to drought is measured by the amount of water the profile can hold (Ap) in comparison to the potential soil moisture deficit for the area (MD). In this area the moisture deficit for wheat is 113mm and for potatoes is 105mm.

## 7. Land Use

At the time of survey the land supported wheat, horticultural crops and grass.

## 8. Agricultural Land Classification

Land quality ranges from grade 2 to sub-grade 3b.

### 8.1 Grade 2

Grade 2 is mapped over 9.3ha and 62% of the site to include soils which have sandy loam overlying loamy medium sand or occasionally sandy clay loam at depths below 65cm. Sand occurs in some profiles at depths below 80cm. These soils fall into Wetness Class I with no evidence of gleying in the profile within 70cm and no slowly permeable layer within 80cm. In dry years crop yields may be slightly reduced due to a lack of available water, but these soils are very flexible and capable of supporting a wide range of crops.

In some areas sandy loam/sandy clay loam topsoils overlie sandy clay loam with medium clay loam to clay at depth and these profiles are too poorly drained for a higher grade. Most of these soils are gleyed below 40cm and have a slowly permeable layer below 60cm, falling into Wetness Class II.

Isolated profiles of grade 1 and sub-grade 3a occur within the land mapped as grade 2 but these areas were too small to map separately at this scale.

## 8.2 Sub-Grade 3A

Sub-grade 3a accounts for 1.6ha and 11% of the site, where the soils are too poorly drained for a higher grade. Typically sandy clay loam topsoils overlie heavy clay loam over clay. These soils exhibit gley morphology within 40cm and are slowly permeable within 50cm, falling into Wetness Class III.

## 8.3 Sub-Grade 3b

This sub-grade accounts for 2.8ha and 19% of the site to include soils which have typically heavy clay loam or heavy silty clay loam topsoils with clay/silty clay within 40cm. These soils are too poorly drained for a higher grade showing distinct gleying within 40cm and have a slowly permeable layer within 48cm.

## 8.4 Agricultural Buildings & Urban

These grades are mapped over 1.2ha and cover 8% of the site. They are mapped over glasshouses, field barns and a road.

### Breakdown of Agricultural Land Classification Grades

Grade	Area(ha)	% of Total	% of Agricultural land
2	9.3	62	68
3a	1.6	11	12
3b	2.8	19	20
Agricultural Buildings	0.9	6	
Urban	<u>0.3</u>	<u>2</u>	<u>   </u>
TOTAL	14.9	100	100

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