Cambs 72/89

PHYSICAL CHARACTERISTICS REPORT INCORPORATING AGRICULTURAL LAND CLASSIFICATION

LAND AT WEST DEEPING, LINCOLNSHIRE

## 1.0 INTRODUCTION

1.1 A survey was carried out over 51.2 ha of land on the eastern side of King Street, West Deeping, Lincolnshire in connection with a planning application by Butterley Aggregates to extract sand and gravel.

1.2 A total of 47 inspections were made using a dutch auger, to a depth of 1.2m unless stopped by impenetrable gravel. In addition two soil pits were dug to assess subsoil conditions.

## 2.0 SITE PHYSICAL CHARACTERISTICS

### Climate

2.1 Climatic information for the site has been interpolated from the 5km grid datasets produced by the Meteorological Office (Met Office, 1989). The average annual rainfall for the site is 578mm which is low by national standards. The number of days at which the site is likely to be at field capacity is also low at 108.

2.2 The accumulated temperature for this area is approximately 1442 degrees Celsius and soil moisture deficits for wheat and potatoes are 119 and 115mm respectively.

2.3 These climatic characteristics do not impose a climatic limitation on the ALC grading of the site.

### Relief

2.4 The land is relatively level across the site. The altitude is approximately 10m AOD, consequently gradient and altitude do not constitute limitations to ALC grade.

## 3.0 AGRICULTURAL LAND CLASSIFICATION

3.1 The land has been classified as Grade 3a throughout, however individual borings of Grades 2 and 3b were encountered. The individual borings of 2 and 3b however did not form mappable areas, but were interspersed randomly across the site and hence an overall grade 3a classification of the site has been made.

3.2 The limiting factor in this site is droughtiness with the soils having a clay loam profile over calcareous gravel. The gravel was encountered generally between 50 and 80 cm depth, but both localised shallower and deeper variants were found.

3.3 A full description of the soil physical characteristics is given below.

## 4.0 SOIL PHYSICAL CHARACTERISTICS

### Geology

4.1 The published 1:50,000 solid and drift edition geology sheet 157 (Stamford) shows the site to comprise fen and terrace gravel deposits overlying Oxford Clay.

### Soils

4.2 During this survey a detailed inspection of the soils indicated one soil type over the site although some variation in depth to the underlying gravel was observed.

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4.2 During this survey a detailed inspection of the soils indicated one soil type over the site although some variation in depth to the underlying gravel was observed.

4.3 The typical soil on site had a medium clay loam topsoil overlying a medium or heavy clay loam subsoil which became sandier and stonier at depth before the underlying calcareous sand and gravel strata was reached. In some profiles the clay loam rested immediately over the sand and gravel whilst in others a thin sandy loam or loamy sand layer occurred. The soils were generally slightly stony (5-10%) in the topsoil and upper subsoil. Topsoil depth is in the range 25-45 cm, but is typically 30 cm deep. The depth to the underlying sand and gravel ranged from as shallow as 45cm to over 120cm, but the majority of profiles reached gravel at between 50 and 80cm depth.

RESOURCE PLANNING GROUP
CAMBRIDGE

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References

Geological Survey of Great Britain (1975) Drift edition geology sheet 157 (Stamford).

MAFF (1988) Agricultural Land Classification of England and Wales.

Meteorological Office (1989) Climatological data for Agricultural Land Classification.