

**AGRICULTURAL LAND CLASSIFICATION****LAND AT LANGOR BRIDGE, GREAT RYBURGH, NORFOLK.****1.0 INTRODUCTION**

- 1.1 An Agricultural Land Classification survey was carried out over 29 ha of land in the Wensum valley near Langor Bridge, Great Ryburgh on which it is proposed to extract sand and gravel. Due to the low lying nature of the land in the river valley, the area is proposed to be restored to a lake. For this reason a full physical characteristics report has not been prepared.
- 1.2 The area comprises four parcels of land, two of which are non agricultural, one being coniferous woodland and the other an area of small ponds. On the two agricultural areas a total of 19 auger borings were made using a dutch auger to a depth of 1.2 m unless stopped by impenetrable material. The area at the north of the site was growing carrots whilst the largest area around Starmoor Belt was in permanent grass with considerable areas of bog vegetation namely sedges and rushes.

**2.0 PHYSICAL FACTORS AFFECTING LAND QUALITY**Climate

- 2.1 Climatic information for the site has been interpolated from the 5 km grid datasets produced by the Meteorological Office (Met Office 1989). The average annual rainfall for the site is 676 mm and the site is likely to be at field capacity for 139 days.
- 2.2 The accumulated temperature for this area is approximately 1392 degrees celsius and the soil moisture deficits for wheat and potatoes are 109 and 102 respectively.

Relief

- 2/3 The land lies in the valley of the River Wensum adjacent to the river. The river has low levee banks and the majority of the area to the south and

east of Starmoor Belt is very close to the water level in the river. This area has a number of shallow ditches traversing the area with a newly cleaned out deeper ditch running south-east from Starmoor Belt. The land to the north and west of Starmoor Belt is slightly higher and is gently undulating with wet hollows and drier knolls.

2.4 The land at the north of the site is on the valley side on a southerly facing slope of some 3 degrees.

2.5 The altitude of the site is about 35 m AOD in the north falling to some 30 m AOD close to the river.

#### Soils & Geology

2.6 There is no detailed published geology map for the area. However, the 1:250,000 scale drift map of the area (sheet 12 Geol. Surv. 1971) indicates the site to lie on alluvium in the river valley with sands and gravels of various dates on the surrounding valley sides.

2.7 The soils on the lower lying land at the south of the site are very poorly drained peaty soils overlying sand. They have a loamy peat topsoil ranging from 50 to 90 cm depth overlying a grey loamy sand or sand. In some profiles a grey sandy clay loam subsoil was encountered at depth. The amount of gravel in the subsoil was variable and in some instances becoming impenetrable to the auger.

2.8 Further to the north on the slightly higher ground soils of the Newport series were encountered. These soils had a sandy loam topsoil and in the area of permanent pasture near Starmoor Belt, this topsoil was slightly humose. Beneath the topsoil the soil became loamy sand over sand. In some profiles heavier textured soil was encountered at depth. The soils were generally slightly stony with some profiles becoming moderately stony at depth.

### 3.0 AGRICULTURAL LAND CLASSIFICATION

3.1 The site has been classified using the guidelines contained in the Agricultural Land Classification of England and Wales (MAFF 1988). A breakdown of the grades found is given below.

Grade	Area	%
3a	3.4	11.2
3b	4.5	14.9
4/5	10.4	34.3
Non Ag	12.0	39.6
<hr/>		
Total	30.3	100.0
<hr/>		

#### Grade 3a

3.2 The land at the north of the site has been classified as Grade 3a. The major limitation associated with these sandy soils is droughtiness. Calculations of the moisture balance revealed that they are moderately droughty for both wheat and potatoes.

#### Grade 3b

3.3 The area to the north of Starmoor Belt has been graded as 3b on account of both droughtiness and localized wetness. The land is undulating with wet hollows and drier knolls. The soils are generally sandy and the shallow watertable causes water logging in the profile in the lower lying areas. This problem is evident from the vegetation, namely rushes. On the knolls, the soils are moderately droughty as found in the Grade 3a area. Due to the combined problems of both droughtiness and wetness the soils have been downgraded to Grade 3b.

#### Grade 4/5

3.4 On the low lying land wetness is the major limitation restricting land use to rough grazing. Over much of the area the loamy peat soils are saturated and have a low bearing strength. However, where the peaty soil thins out and the soils have a humose loam topsoil, the bearing strength increases.

However, due to the low lying nature of the land and its proximity to the water level in the river, the porous substrata will mean that the soils are saturated at around 40 cm for much of the year. The land has therefore been assessed as both wetness classes V and VI. Without major arterial works to lower the river level, it is unlikely that the area can be greatly improved.

December 1989

Resource Planning Group  
Cambridge