

## AGRICULTURAL LAND CLASSIFICATION

### LAND SOUTH OF SHRIPNEY, BOGNOR REGIS

#### Background

The site lies to the south of Shripney, West Sussex and is bounded to the north and west by Shripney Lane, to the south by a service road crossing the Aldingbourne Rife, and to the east by Shripney Road (A29). The land lies at approximately 5m A.O.D, and is relatively flat with gradients and microrelief imposing no limitation in terms of agricultural quality.

#### Climate

The average annual rainfall for this area is approximately 748 mm (Met.Office, 1989). The median accumulated temperature above zero degrees C for January to June is estimated from interpolated data to be 1544 day degrees (Met. Office, 1989). The site is estimated to have 152 field capacity days (Met. Office, 1989) and crop adjusted moisture deficits are 120 and 117 mm for wheat and potatoes respectively (Met. Office, 1989). Climate is therefore not a limitation in terms of agricultural land quality.

#### Geology and Soils

The published Geological Survey of England and Wales map of the area around Bognor Regis - sheet 332 (1975) shows the site to be underlain mainly by Brickearth deposits to the north and east, and estuarine alluvial deposits to the south and west. The published Soil Survey of Gt. Britain map "Bognor Regis" - sheet SU 90 (1967), shows the site to belong to the Hook and Park Gate soil series (associated with the Brickearth deposits) to the north and east, and to the Arundel and Applesham soil series (associated with alluvium deposits) to the south and west.

#### Land use

At the time of survey the majority of the site was in arable use. Exceptions to this were in the extreme north where, to the west of Shripney Manor, the land was used for horticulture, and to the south east where there was a permanent site for touring caravans (classified as urban) and a small area of non-agricultural land.

Field examination found soils to fall into two broad groups: Those associated with the alluvium deposits to the south and west of the site were composed typically of heavy clay loam or clay topsoils over slowly permeable clay gleyed within 40cm. Those associated with the Brickearth deposits at the north and east of the site were lighter and where down graded were limited chiefly by drought, having fine sandy silt loam or medium silty clay loam topsoils over clay loam textured subsoils containing varying quantities of sand and silt grading into clay at depth. Most profiles are gleyed within 60cm due to groundwater effects.

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Appendix 1 gives a generalised description of the grades used in the revised ALC system (MAFF, 1989). A breakdown of the site area in terms of grade and percentage of the total agricultural land is given below.

	ha	% of agricultural area
Total area of site:	67.4	
Non-agricultural:	1.48	
Urban:	3.1	
Grade 1:	11.98	19.1
Grade 2:	14.72	23.4
Grade 3b:	36.12	57.5
Total agricultural area	62.82	100.0

### Grade 1

Grade 1 land is located in the most easterly and northerly regions of the site. To the east, soil profiles were typically composed of virtually stoneless fine sandy silt loam topsoils, generally overlying similarly textured upper subsoils and clay lower subsoils. To the north, soil profiles were similar but had slightly heavier upper subsoils, typically sandy or silty clay loams. Profiles within this grade generally fall into soil wetness class I and have good structural conditions within the upper subsoils. This coupled with the field capacity days for the site results in the land falling into Grade 1. Therefore, land within this grade will suffer no or very minor limitations to agricultural use.

### Grade 2

Grade 2 land is located adjacent to land allocated to Grade 1. These soils are more droughty than those described above having heavier silty clay loam or medium clay loam topsoils over clay loam textured subsoils, containing varying amounts of sand and silt, passing into clay at depth. A few profiles have sandy silt loam topsoils shallower than those in profiles qualifying for Grade 1 so that in calculations of available water capacity these soils are still more droughty. Most of these profiles are gleyed within 70cm and fall into either wetness class I or II.

### Grade 3b

This grade occupies the majority of the site covering ha. Profiles typically consist of heavy clay loam or clay topsoils over clay subsoils. All profiles are gleyed within 40cm. Poor structural conditions in the clay subsoil indicate that it is slowly permeable. Thus, these soils are allocated to wetness class IV which in combination with the range of field capacity days for the area results in these soils being graded 3b.

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Resource Planning Group  
A. Fenwick, T. Proffitt

REFERENCES

Geological Survey of Great Britain (1975)  
Geological Map Sheet 332 (Bognor Regis)

MAFF (1988)  
Agricultural Land Classification of England and Wales. Revised  
guidelines and criteria for grading the quality of agricultural  
land.

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

Soil Survey of England and Wales (1967)  
Sheet SU 90 (Bognor Regis)

## APPENDIX 1

### DESCRIPTION OF THE GRADES AND SUBGRADES

#### **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 includes 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 root 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 level of yields. It is mainly suited to grass with occasional arable crops (eg cereals and forage crops) the yields of which are variable. In moist 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.