

PROPOSED GOLF DRIVING RANGE, STOKEHILL, CRAPSTONE, DEVON

AGRICULTURAL LAND CLASSIFICATION

Report of Survey

1. SUMMARY

Five hectares of land at Stokehill, Crapstone, Devon were graded using the Agricultural Land Classification (ALC) System in August 1993. The survey was carried out on behalf of MAFF as part of its statutory role in connection with a planning application for a golf driving range made to West Devon Borough Council.

The fieldwork was carried out by ADAS (Resource Planning Team, Taunton Statutory Unit) at a scale of 1:10,000. The information is correct at this scale but any enlargement would be misleading. A total of 5 auger sample points were examined.

The distribution of the ALC grades identified in the survey area is detailed below and illustrated on the accompanying map.

Distribution of ALC grades: Stokehill, Crapstone

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
3B	4.3	96.0	100%
Non Agric	0.2	4.0	
TOTAL	4.5	100%	

There is a climatic limitation in the survey area which limits the land to Subgrade 3a at best. The main limitation however is caused by the combination of the topsoil texture, heavy clay loam, and the climatic conditions for the site. The combination of the the high number of days that the soil is at field capacity and the heavy topsoil texture means that there is a limited time when cultivations and grazing can occur without damaging the soil structure. This restricts the versatility of the land and downgrades it to Subgrade 3b.

2. INTRODUCTION

Five hectares of land at Stokehill, Crapstone, Devon were graded using the Agricultural Land Classification (ALC) System in August 1993. The survey was carried out on behalf of MAFF as part of its statutory role in connection with a planning application for a golf driving range made to West Devon Borough Council.

The fieldwork was carried out by ADAS (Resource Planning Team, Taunton Statutory Unit) at a scale of 1:10,000 (approximately one sample point every hectare). The information is correct at this scale but any enlargement would be misleading. A total of 5 auger sample points were examined.

The published Provisional 1" to the mile ALC map of the area (MAFF 1973) shows the site to be Grade 3. The recent survey supersedes this map having been carried out at a more detailed level and using the Revised Guidelines and Criteria for grading the quality of agricultural land (MAFF 1988).

The ALC provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use. The grading takes account of the top 120cm of the soil profile. A description of the grades used in the ALC System can be found in Appendix 2.

3. CLIMATE

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.

Estimates of climatic variables were obtained for the site by interpolation from the 5km grid Meteorological Office Database (Meteorological Office 1989) and are shown in Table 1.

The parameters used for assessing overall climatic limitation are accumulated temperature, (a measure of the relative warmth of a locality) and average annual rainfall, (a measure of overall wetness). The values shown in Table 1 reveal that there is an overall climatic limitation.

No locally limiting climatic factors such as exposure were noted in the survey area. Climatic data on Field Capacity Days (FCD) and Moisture Deficits for wheat (MDW) and potatoes (MDP) are also shown. These data are used in assessing the soil wetness and droughtiness limitations referred to in Section 6.

Table 1 Climatic Interpolations: Stokehill, Crapstone

Grid Reference	SX 502 675
Height (m)	160
Accumulated Temperature (day deg)	1438
Average Annual Rainfall (mm)	1322
Overall Climatic Grade	3A
Field Capacity (Days)	259
Moisture Deficit, Wheat (mm)	63
Potatoes (mm)	45

4. RELIEF AND LAND USE

The site is flat and there are no microrelief limitations. The site is at 160m AOD. At the time of the survey the site was in permanent grass being used for hay. There is a small area of woodland in the south of the site.

5. GEOLOGY AND SOILS

The published 1:50,000 scale solid and drift geology map, sheet 338 (Geological Survey of England and Wales 1977) shows the entire site to be underlain by Upper Devonian slates and limestone.

The Soil Survey of England and Wales mapped the soils of the area in 1983, at a reconnaissance scale of 1:250,000. This map shows the soils at the site to be of a single association. Soils of the Denbigh 1 Association are described as well drained fine loamy and fine silty soils over rock.

The soils in the recent survey were found to be well drained with an increasing stone content down the profile. The heavy clay loam topsoils gave way to clay subsoils.

6. AGRICULTURAL LAND CLASSIFICATION

The distribution of ALC grades identified in the survey area is detailed below and illustrated on the accompanying ALC map. The information is correct at the scale shown but any enlargement would be misleading.

Table 2 Distribution of ALC grades: Stokehill, Crapstone.

Grade	Area (ha)	% of Survey Area	% of Agricultural Land
3B	4.3	96.0	100%
Non Agric	0.2	4.0	
TOTAL	4.5	100%	

Subgrade 3b

All of the agricultural land has been classified as Subgrade 3b. The soil is well drained and is Wetness Class I as per Appendix 3. The topsoil texture of the soils is heavy clay loam and the subsoil from 30cm depth is a clay. The stone content of the soil increases with depth. These soils are not droughty because of the low moisture deficits in the area. There is a climatic limitation across the site limiting the land to Subgrade 3a at best but there is a greater workability limitation present. The site has a high number of days when the soil is at field capacity, 259 days. At this level of wetness and with the heavy topsoils the time available to carry out cultivations and grazing is limited by the risk of damage to the soil structure whilst at field capacity. This limits the versatility of the land, downgrading the site to Subgrade 3b.

Non-Agricultural Land

The small area of woodland in the south of the site has been mapped as non-agricultural land.

APPENDIX 1

REFERENCES

GEOLOGICAL SURVEY OF ENGLAND AND WALES (1977) Solid and Drift edition. Sheet 338 Dartmoor Forest, 1:50,000 scale

MAFF (1973) Agricultural Land Classification map sheet 187 Provisional 1:63,360

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

METEOROLOGICAL OFFICE (1989) Published climatic data extracted from the agroclimatic dataset, compiled by the Meteorological Office

SOIL SURVEY OF ENGLAND AND WALES (1983) Sheet 5 Soils of South West England 1:250,000