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AGRICULTURAL LAND CLASSIFICATION
RECONNAISSANCE SURVEY

LAND AT TEHIDY PARK CAMBORNE

REPORT OF SURVEY

1. SUMMARY

The site, an area of 51 hectares of land at Tehidy Park Camborne was graded using the Agricultural Land Classification (ALC) system in May 1994. The south western part of the site was included in a survey carried out in 1991 this information is also presented in this report. The survey was carried out on behalf of MAFF as part of its Statutory Role in the consultation with Kerrier District Council regarding an ad hoc application for a golf course

The fieldwork was carried out by ADAS (Resource Planning Team, Taunton Statutory Unit) at a semi detailed level of 1 boring every 2 ha of agricultural land . The information is mapped at a scale of 1:10,000 but any enlargement from this scale could be misleading. A total of 30 auger borings and soil profile pits from surrounding surveys were examined. The distribution of ALC grades identified in the survey area is detailed below and illustrated on the accompanying map.

Information on climate, soils, geology and previous ALC surveys is referred to in the course of this report. The site surveyed occupies a gently sloping area of mainly arable cropping with grass fields in the southern part. The soils comprise deep clay loam profiles which are well drained over most of the site but experience a slight workability limitation. The low lying land experiences a moderate wetness limitation.

Distribution of ALC grades: Tehidy Park

Grade	Area (ha)	% of Survey Area	% of Agricultural Land	
2	33.0	64.7	71.4	
3a	13.2	25.9	28.6	
Non-agricultural	4.2	8.2		
Agric buildings	0.6	1.1		
TOTAL	51.0	100.0	100.0	(46.2ha)

2. INTRODUCTION

An area of 51 hectares of land at Tehidy Park, Camborne was surveyed on behalf of MAFF as part of its statutory role in the consultation with Kerrier District Council regarding an ad hoc planning application for a "pay and play" golf course. The survey was carried out in May 1994 and August 1991 by ADAS (Resource Planning Team, Taunton Statutory Unit) using the Agricultural Land Classification (ALC) system. Most of the survey was conducted at a semi-detailed level of approximately one sample point for every 2 hectares of agricultural land. The 30 borings were supplemented by reference to soil inspection pits from surrounding surveys. The information is correct at the scale shown but any enlargement could be misleading.

The published provisional 1" to the mile ALC map of the area (MAFF, 1970) shows the site to comprise mainly Grade 2 and 3 with a narrow band along the stream as Grade 4. Part of the site was surveyed in 1991 under the revised guidelines, this information is presented on the accompanying map. The current survey was undertaken to confirm the expected grades as indicated by recent surveys of the surrounding area. The Revised Guidelines and Criteria (MAFF, 1988) provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on the agricultural use. The grading takes account of the top 120 cm 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.

Climatic data for the site was interpolated from the published agricultural climate dataset (Meteorological Office, 1989). The parameters used for assessing climate are accumulated temperature (a measure of the relative warmth of a locality) and average annual rainfall (a measure of overall wetness). The results shown in Table 1 indicate that there is no overall climatic limitation.

Climatic data on Field Capacity Days (FCD) and moisture deficits for wheat (MDW) and potatoes (MDP) are also shown. This data is used in assessing the soil wetness and droughtiness limitations referred to in Section 6. No local climatic factors such as exposure were noted in the survey area. A description of the Soil Wetness classes used is included in Appendix 3.

Table 1 Climatic interpolations: Tehidy Park

Grid Reference		SW660 434	SW656 431
Height (m)		85	65
Accumulated Temperature (day °)		1554	1577
Average Annual Rainfall (mm)		1046	1035
Overall Climatic Grade		1	1
Field Capacity (days)		205	204
Moisture deficit:	Wheat (mm)	92	95
	potatoes(mm)	81	85

4. RELIEF AND LANDCOVER

The site occupies a gently sloping area of predominantly arable cropping the highest point being 85m AOD, and the lowest in the western corner is 52m AOD. At the time of survey the valley floor was used for permanent grazing.

5. GEOLOGY AND SOILS

The published 1:50,000 scale solid and drift geology map, sheet (Geological Survey of England and Wales, 1990), shows most of the site to comprise Mylor Slate Formation with the valley floor mapped as alluvium. The Soil Survey of England and Wales mapped the soils in the area in 1983 at a reconnaissance scale of 1:250,000. This map shows soils to comprise the Denbigh 2 Association. These soils are described as well drained fine loamy soils over slate or slate rubble which are variably affected by groundwater. The recent survey found similar soils to the mapped association with profiles comprising medium clay loam topsoils over medium and heavy clay loam subsoils with variable but generally high silty stone contents below approximately 40 cm.

6. AGRICULTURAL LAND CLASSIFICATION

The distribution of ALC grades identified in the survey area is detailed in Table 2 and shown on the accompanying ALC map. The information is correct at the scale shown but any enlargement could be misleading.

Table 2 Distribution of ALC grades: Tehidy Park

Grade	Area (ha)	% of Survey Area	% of Agricultural Land	
2	33.0	64.7	71.4	
3a	13.2	25.9	28.6	
Non-agricultural	4.2	8.2		
Agric buildings	0.6	1.1		
TOTAL	51.0	100.0	100.0	(46.2ha)

Grade 2

All except the low lying land has been graded 2 (very good quality). These profiles are well drained and moisture retentive, however the medium clay loam topsoil textures impose a slight workability limitation under the prevailing FC days.

Subgrade 3a

A band of 3a land is identified along the course of the stream. These soils have similar profiles to the rest of the land surveyed, however a slight groundwater problem exists as indicated by the presence of gleying within 40 cm depth and occasionally from the surface. These profiles are assessed as Wetness Class III and limited to Subgrade 3a due to a moderate wetness limitation.

Other land

Areas of scrub, woodland and farm tracks have been mapped as Non agricultural and Old Melrose Farm is shown on the accompanying map as Agricultural Buildings.

APPENDIX 1

REFERENCES

GEOLOGICAL SURVEY OF ENGLAND AND WALES, 1990, Solid and Drift edition, sheet 352, Falmouth, 1:50,000 scale

MAFF (1970), Agricultural Land Classification Map, sheet 189, Provisional 1:63,360 scale

MAFF (1988), Agricultural Land Classification of England and Wales (Revised Guidelines and Criteria for Grading the Quality of 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 scale

APPENDIX 2

DESCRIPTION OF ALC 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 include 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 most 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.

Descriptions of other land categories used on ALC maps

Urban

Built-up or 'hard' uses with relatively little potential for a return to agriculture including: housing, industry, commerce, education, transport, religious buildings, cemeteries. Also, hard-surfaced sports facilities, permanent caravan sites and vacant land; all types of derelict land, including mineral workings which are only likely to be reclaimed using derelict land grants.

Non-agricultural

'Soft' uses where most of the land could be returned relatively easily to agriculture, including: private park land, public open spaces, sports fields, allotments and soft-surfaced areas on airports/airfields. Also active mineral workings and refuse tips where restoration conditions to 'soft' after-uses may apply.

Agricultural buildings

Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses. Temporary structures (e.g. polythene tunnels erected for lambing) may be ignored.

Open water

Includes lakes, ponds and rivers as map scale permits.

Land not surveyed

Agricultural land which has not been surveyed.

Where the land use includes more than one of the above landcover types, e.g. buildings in large grounds, and where may be shown separately. Otherwise, the most extensive cover type will usually be shown.

Source: MAFF (1988) Agricultural Land Classification of England and Wales (Revised Guidelines and Criteria for Grading the Quality of Agricultural Land), Alnwick.

APPENDIX 3

DEFINITION OF SOIL WETNESS CLASSES

Wetness Class I

The soil profile is not wet within 70 cm depth for more than 30 days in most years.

Wetness Class II

The soil profile is wet within 70 cm depth for 31-90 days in most years or, if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 90 days, but not wet within 40 cm depth for more than 30 days in most years.

Wetness Class III

The soil profile is wet within 70 cm depth for 91-180 days in most years or, if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 180 days, but only wet within 40 cm depth for between 31 and 90 days in most years.

Wetness Class IV

The soil profile is wet within 70 cm depth for more than 180 days but not within 40 cm depth for more than 210 days in most years or, if there is no slowly permeable layer within 80 cm depth, it is wet within 40 cm depth for 91-210 days in most years.

Wetness Class V

The soil profile is wet within 40 cm depth for 211-335 days in most years.

Wetness Class VI

The soil profile is wet within 40 cm depth for more than 335 days in most years.

Notes: The number of days specified is not necessarily a continuous period. 'In most years' is defined as more than 10 out of 20 years.

Source: Hodgson, J M (in preparation) Soil Survey Field Handbook (revised edition).

53-94 TEHIDY PARK

	HA	ACRES	% AGRICULTURAL LAND	% TOTAL LAND
Grade 1	0.0	0.0	0.0	0.0
Grade 2	33.0	81.5	71.4	64.7
Subgrade 3a	13.2	32.6	28.6	25.9
Subgrade 3b	0.0	0.0	0.0	0.0
Grade 4	0.0	0.0	0.0	0.0
Grade 5	0.0	0.0	0.0	0.0
Total Agri. Land =	46.2	114.1	100	90.7
Urban	0.0	0.0	-	0.0
Non-Agricultural	4.2	10.3	-	8.2
Woodland	0.0	0.0	-	0.0
Ag-Buildings	0.6	1.4	-	1.1
Open Water	0.0	0.0	-	0.0
Land Not Surveyed	0.0	0.0	-	0.0
Total Site Area =	51.0	125.8	-	100.0