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AGRICULTURAL LAND CLASSIFICATION
DOVER AND WESTERN PARISHES LOCAL PLAN
LAND AT WHITFIELD AND CAPEL-LE-FERNE

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1.0 INTRODUCTION

1.1 An Agricultural Land Classification survey was carried out over three sites at Whitfield to the north of Dover, and two further sites at Capel-le-Ferne on the eastern side of Folkestone.

Whitfield

1.2 The three sites at Whitfield are located to the north-west of the built up area, bounded by the A2 road on the west and the A256 to the east. Site A extending to 15.10 ha lies to the north of Temple Farm, whilst Site B 37.25 ha is located to the south of the farm buildings. Both sites occupy the highest land in the area adjacent to the A2 road. The largest of the three sites, Site C, which is 57.06 ha, lies between the A256 in the east and Longfield Farm to the west. The site encompasses a dry valley running to the east with the associated higher land of the interfluve.

1.3 A total of 15 observations were made over Site A, and 37 over Site B with a further 55 over Site C. The observations were made to a depth of 1.1 m where possible using a spade and dutch auger. In addition 5 soil pits were dug over the area to determine the subsoil and drainage conditions in more detail.

1.4 At the time of survey the majority of the area was either under arable cropping or had been recently cultivated following harvest, with only a small area of permanent grass at Longfield Farm. The crops grown in the area were wheat, oilseed rape and peas.

Capel-le-Ferne

1.5 Two sites were surveyed at Capel-le-Ferne, Site A, which extends to 1.43 ha on the northern side of the village and Site D, 2.8 ha, which lies to the east of the village beside the A20 road.

1.6 Site A, which is bounded by built up development on three sides, with open farmland to the west, is under very old permanent grass and is used for horse grazing. A narrow 15 m wide strip on the eastern side of the site, adjacent to the road, has been stripped of topsoil and upper subsoil and consequently supports a sparse vegetation cover of weeds and grass.

1.7 Site D, which is located approximately 1 km to the east of the built up area, is bounded to the east and west by a caravan park and to the south by the A 20 road, with open farmland to the north. The site is under grass which had been cut for hay at the time of the survey.

1.8 A total of 4 observations were made on Site D and a further 2 at Site A.

2.0 PHYSICAL FACTORS AFFECTING LAND QUALITY

Climate

2.1 Climatic information for all the sites has been interpolated from the 5 km grid dataset produced by the Meteorological Office (Met Office, 1989). Climatic data for each site is given below:

Whitfield Sites	A	B	C		
			high	med	low
Altitude	125	130	120	110	90
ATO (deg)	1356	1351	1362	1373	1396
AAR (mm)	839	840	835	830	819
FCD (days)	177	177	176	175	173
MD wheat (mm)	99	98	99	101	104
MD potatoes (mm)	89	88	90	91	95
Climatic grade	1	1	1	1	1

Capel-le-Ferne Sites	A	D
Altitude	150	140
ATO (deg)	1331	1343
ARR (mm)	808	800
FCD (days)	170	169
MD wheat (mm)	101	103
MD potatoes (mm)	91	94
Climatic grade	2	1

2.2 Climatic information for Site C at Whitfield has been given for three different altitudes due to the range of altitude across the site. It is evident from the figures given above that the site straddles two Field Capacity Days (FCD) classes which are used when assessing ALC grade according to soil wetness.

2.3 The ALC grade with respect to climate is shown to be Grade 1 throughout with the exception of Capel-le-Ferne Site A which is restricted to Grade 2 at best. However, due to the proximity of all the sites to the south coast they will be exposed to winds coming from the sea. The median windspeed (measured at a height of 10 m above the ground) is 5 m/s. The consequence of this exposure would be to increase heating costs for glasshouses cause a hindrance to tree and crop growth etc. Furthermore there may be slight enhancement of frost risk due to the topography of the area especially where the dry valleys cause cold air to drain down to the lowest areas all of which may be a hindrance to horticultural cropping.

2.4 Consequently the local climatic conditions that predominate in this area have restricted the ALC grading to Grade 2 at best.

Relief

Whitfield

2.5 Site A lies at an altitude ranging from approximately 127 m in the west adjacent to the A2 road falling to the east to approximately 119 m. The slopes on the site are gentle being no greater than 3°.

Site B is predominantly flat over much of the central part of the area falling slightly to the east and south-west on either side of the site. Slopes are generally less than 2°.

2.6 Site C encompasses a dry valley on the northern side of the site running in a west to east direction. Slopes along the valley sides are relatively gentle and nowhere exceed 7°. To the south of the dry valley the interfluve is very gently sloping toward the east before the land falls toward the south into a second dry valley which runs through the northern part of Whitfield.

2.7 Slope is therefore not a limiting factor on any of the sites at Whitfield.

Capel-le-Ferne

2.8 Site A lies at an altitude of approximately 150 m and falls very gently toward the south. Site D is located at an altitude of 140 m close to the cliffs overlooking the English Channel. The site slopes very gently toward the south. Relief is therefore not a limiting factor on either site.

Geology & Soils

2.9 On the higher land adjacent to the A2 road, the site comprises soils developed in the Plateau Drift and Clay-with-flints which cap the chalk, whilst to the east where the land falls, the surface is covered with a veneer of silty aeolian deposits.

2.10 The soils on the highest ground have a dark brown heavy silty clay loam topsoil to approximately 30 cm, overlying a greyish brown, distinctly mottled, heavy silty clay loam upper subsoil. Below about 50 cm the soil becomes a light greyish brown clay with common distinct ochreous and red mottling. In some instances the upper subsoil was absent with the topsoil developed directly over the clay. The soils were assessed as Wetness Class III.

2.11 Downslope the soils are generally slightly better drained and lighter textured. A typical soil profile has a medium silty clay loam topsoil over a faintly mottled medium or heavy silty clay loam upper subsoil. Beneath approximately 50-70 cm depth, the soil is a strongly mottled light greyish brown clay. These soils have been assessed as Wetness Class II.

2.12 In the shallow valley in the central eastern part of the site, deep freely draining coarse silty soils were mapped. These soils have a brown silt loam topsoil to 30 cm overlying a yellowish brown silt loam or medium silty clay loam subsoil. The soils are generally slightly heavier at depth with occasional faint ochreous mottling below 90 cm depth. These soils have been assessed as Wetness Class I.

Site B

2.13 The soils found on this site are also developed on the Clay-with-flints, with the soils becoming better drained and slightly

coarser textured on the lower land to the east. The heaviest textured soils occur on the higher land to the west of the site and generally have a heavy silty clay loam topsoil over a strongly mottled clay subsoil. The topsoils tend to be slightly heavier toward the south-west of the site with occasional profiles being silty clay. These soils are generally assessed as Wetness Class III although individual profiles approaching Wetness Class IV were noted.

2.14 The majority of the remainder of the site has soils with a heavy silty clay loam topsoil over a yellowish brown heavy silty clay loam or clay upper subsoil with faint ochreous mottles and a coarse blocky structure. Beneath about 60-80 cm depth the soil becomes a strongly mottled light greyish brown clay with coarse prismatic structure. These soils have been mapped as Wetness Class II. In the south-eastern corner of the site the soils are better drained with little evidence of ochreous mottling above 80 cm and these soils are assessed as Wetness Class I.

2.15 In the very shallow valley feature on the eastern side of the site free draining soils have been mapped. These soils have a medium silty clay loam topsoil over a slightly or moderately flinty silty clay loam subsoil which gets heavier with depth and occasionally shows faint mottling or manganiferrous concretions at depth. The soils have been classified as Wetness Class I.

Site C

2.16 The soils at the western end of the site are similar to those described in paragraph 2.14 above, whilst those on the central and southern side are similar to those described in paragraph 2.15. However the underlying chalk tends to be at a shallower depth and is often encountered within about 80 cm depth. In many profiles, although the chalk was not encountered, the soils became more flinty at depth.

2.17 On the lower slopes and bottom of the dry valley the soils tend to be coarse silty with profiles similar to those described in paragraph 2.12 above although locally the underlying chalk was found to be close to the surface.

2.18 At the eastern end of the site the chalk is very close to the surface with shallow rendzina soils developed. These soils have a calcareous medium silty clay loam topsoil which is slightly flinty overlying the weathered chalk. Although the chalk is partially fissured and soft at its surface, rooting was not seen to extend to more than 20 cm into the chalk.

Capel-le-Ferne

2.19 The soils at the two sites at Capel-le-Ferne are broadly similar being developed in the aeolian silty drift material overlying the Plateau drift which is prevalent in this area. These soils have a brown silt loam topsoil with very few flints overlying a yellowish brown to strong brown silt loam or medium silty clay loam subsoil. In some profiles the underlying clay was encountered below 90 cm depth, but the soils were all classified as Wetness Class I.

3.0 AGRICULTURAL LAND CLASSIFICATION

3.1 The sites have 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:

Whitfield

Site A

Grade	Area (ha)	% Agricultural Area
2	3.90	26
3a	6.23	42
3b	4.65	32
Total	14.78	100

Site B

Grade	Area (ha)	% Agricultural Area
2	2.00	5
3a	22.55	61
3b	12.25	34
Farm buildings	0.55	
Total	37.25	100

Site C

Grade	Area (ha)	% Agricultural Area
2	32.85	59
3a	17.83	32
3b	4.85	9
Woodland	0.33	
Urban	1.20	
Total	57.06	100

Capel-le-Ferne

Site A

Grade	Area (ha)	% Agricultural Area
2	1.15	81
3b	0.28	19
Total	1.43	100

Site D

Grade	Area (ha)	% Agricultural Area
2	2.8	100

Whitfield Site A

3.2 The heavy textured soils on the higher ground adjacent to the A2 road have been classified as Grade 3b. These soils have a heavy silty clay loam topsoil and have been assessed as Wetness Class III and will therefore have a wetness/workability limitation. Climatic data for the area indicates that soils on this site will be at field capacity for 177 days and consequently these soils will be very susceptible to structural damage through trafficking and cultivations under adverse conditions.

3.3 The better drained soils on the site which have been assessed as Wetness Class II have been mapped as Grade 3a. These soils have a medium silty clay loam topsoil and under the climatic conditions referred to above will be slightly susceptible to damage from untimely trafficking and cultivations, although the limitation is less severe than that referred to above.

3.4 The free draining soils in the dry valley have been assessed as Grade 2. These soils have been limited to this grade due to the interaction between soil texture and climatic conditions making them susceptible to structural damage if trafficked under adverse conditions.

Site B

3.5 The ALC grading of this site is similar to that described for Site A above. The poorly drained soils on the higher ground have been mapped as Grade 3b although in the south-west corner of the site individual profiles have been classified as Grade 4 due to a clay textured topsoil and occasionally Wetness Class IV drainage conditions.

3.6 As in the case of Site A, the better drained soils (Wetness Class II) have been mapped as Grade 3a. These soils have a heavy silty clay loam topsoil texture and in a climatic regime of 177 field capacity days are limited to Grade 3a. In the south-east corner of the site, soils with a similar texture but which are wetness Class I have been mapped. Despite the improved soil drainage the interaction between climate and topsoil texture still limits the area to Grade 3a.

3.7 The free draining soils of the shallow valley have been mapped as Grade 2 due to the lighter textured topsoil (medium silty clay loam).

Site C

3.8 The area of Grade 3a mapped at the western end of the site has soils which are similar to the Grade 3a referred to in paragraph 3.5 above. However the other areas of Grade 3a mapped at the eastern end of the site have been restricted to this grade due to droughtiness. These areas have soils developed over chalk with the chalk being

encountered within about 50 cm depth. Moisture balance figures have been calculated for these soils and they are shown to be moderately droughty for wheat due to the restriction in rooting depth.

3.9 The very shallow rendzina soils at the eastern end of the site have been mapped as Grade 3b due to drought. A soft pit revealed that roots penetrated the chalk for about 20 cm but moisture balance figures show that these soils will be moderately droughty for potatoes and very droughty for wheat, thereby restricting their potential.

3.10 The majority of this site has been mapped as Grade 2. The soils in this area have all been classified as Wetness Class I and having medium silty clay loam or silt loam topsoils and with the number of field capacity days being in the range 173-175 are just eligible for Grade 1. However due to the exposure from the proximity of the site to the south coast and also the potential for increased frost risk in the dry valley the land has been restricted to Grade 2.

3.11 Two small areas of woodland have been delineated at the eastern end of the site, and a small rough area which is the remains of a small chalk pit has been mapped at the north-western end.

Capel-le-Ferne Site A

3.12 The free draining silt loam soils mapped on this site have been classified as Grade 2 due to a climatic restriction (see paragraph 2.3). The narrow band adjacent to the road on the eastern side of the site which has been stripped of topsoil has been mapped as Grade 3b due to the lack of topsoil and consequent low fertility and poor structural stability.

Site D

3.13 The free draining silt loam soils of this site are eligible for Grade 1 in terms of wetness/workability. However due to the proximity of the south coast, with the site being located close to the top of the sea cliffs, it is exposed to the prevailing winds off the sea. Consequently the area is therefore restricted to Grade 2 as a result of this climatic limitation (see paragraph 2.3).

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