

**A1**  
**Shepway District Local Plan**  
**Site 29: Ashford Road, Lympe**  
**Agricultural Land Classification**  
**ALC Map and Report**  
**October 1993**

**SHEPWAY DISTRICT LOCAL PLAN  
SITE 29: ASHFORD ROAD, LYMPNE**

**AGRICULTURAL LAND CLASSIFICATION REPORT**

**1. Summary**

- 1.1 In June 1993, a detailed Agricultural Land Classification (ALC) survey was made on approximately 4 hectares of land at Newingreen near Lympne in Kent.
- 1.2 The work was conducted by members of the Resource Planning Team in the Guildford Statutory Group of ADAS in response to a commission by MAFF's Land Use Planning Unit to provide information on the quality of agricultural land affected by proposals for development in the Shepway District Local Plan.
- 1.3 The classification has been made using MAFF's revised guidelines and criteria for grading the quality of agricultural land (MAFF, 1988). These guidelines provide a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on its use for agriculture.
- 1.4 The fieldwork was carried out with an observation density of approximately one per hectare. A total of 4 borings and 1 soil pit were examined.
- 1.5 The table below provides the details of the grades found across the site. The majority of the land is classified as very good quality (Grade 2). The key limitation is wetness, as evidenced by groundwater gleying occurring at a shallow depth in the profile.

Table 1 : Distribution of Grades and Subgrades

<u>Grade</u>	<u>Area (ha)</u>	<u>% of Site</u>
2	3.8	98.2
Non-Agricultural	<u>0.1</u>	<u>1.8</u>
Total area of site	3.9 ha	100%

- 1.6 The distribution of the ALC grades is shown on the attached map. The information is presented at a scale of 1:5,000; it is accurate at this level but any enlargement would be misleading. This map supersedes any previous ALC information for this site.
- 1.7 At the time of survey the land use on the site was permanent grassland.
- 1.8 A general description of the grades and sub-grades is provided as an appendix. The main classes are described in terms of the type of limitation that can occur, the typical cropping range and the expected level and consistency of yield.

## 2 Climate

- 2.1 The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions.
- 2.2 The main parameters used in the assessment of the overall climatic limitation are annual average rainfall, as a measure of overall wetness, and accumulated temperature, as a measure of the relative warmth of a locality.
- 2.3 A detailed assessment of the prevailing climate was made by interpolation from a 5 km gridpoint dataset (Met. Office, 1989). The details are given in the table below and these show that there is no overall climatic limitation affecting the site.
- 2.4 No local climatic factors such as exposure or frost risk affect the site.

Table 2 : Climatic Interpolations

Grid Reference:	TR123363
Altitude (m):	80
Accumulated Temperature (days):	1416
Average Annual Rainfall (mm):	764
Field Capacity (days):	159
Moisture Deficit, Wheat (mm):	114
Moisture Deficit, Potatoes (mm):	108
Overall Climatic Grade:	1

## 3. Relief

- 3.1 The site lies between approximately 75 and 80 m AOD. It rises very slightly from north to south-east. Gradient or microrelief do not affect the grading at this site.

## 4. Geology and Soil

- 4.1 The relevant published geological sheet (BGS Sheet 305/306, 1978) shows the site to be underlain by Recent Brickearth Head deposits. This is described in the local memoir (BGS, 1969) as mostly unbedded deposit of loams from friable sands to heavy clay loams.
- 4.2 The soil type according to the Soil Survey of England and Wales, Bulletin 9, Soils of Kent (SSEW, 1980) is of either Park Gate or Hook series. It describes them as, "silty non-calcareous wet soils in Caessal drift (brickearth) with a distinctly mottled layer by 40 cm". Soil similar to this description was found at the site.

## 5. Agricultural Land Classification

- 5.1 Table 1 provides the details of the area measurements for each grade and the distribution of each grade is shown on the attached ALC map.

5.2 The location of the soil observation points is shown on the attached sample point map.

5.3 Grade 2

Land of very good quality was found across the site. The soils were found to be commonly a stoneless medium silty clay loam or silt loam topsoil over a gleyed, moderately structured, stoneless medium silty clay loam upper subsoil beginning within 40 cm. This was found to overlie either a stoneless moderately structured heavy silty clay loam or a silty clay or a clay. From structural observation in the pit (1P, Appendix III), none of these were found to be slowly permeable, and as such drainage is only slightly impeded by the combination of shallow gleying, and medium textured topsoils restricting workability slightly leading to Wetness Class II (see Appendix II) and subsequent Grade 2 being most appropriate.

A soil wetness limitation exists where the soil water regime adversely affects plant growth or imposes restrictions on cultivation times or periods where grazing by livestock would be damaging. Land of very good quality would be expected to successfully grow most crops and give high yields, however results from more demanding crops such as winter harvested vegetables and arable root crops may be poor.

5.4 The area marked as non-agricultural is a small area of scrub adjoining the open water at the site boundary at the west of the site.

ADAS REFERENCE: 2010/86/93  
MAFF REFERENCE: EL 20/109

Resource Planning Team  
Guildford Statutory Group  
ADAS Reading

### **Sources of Reference**

- **British Geological Survey (1969) Geology of the country around Canterbury and Folkestone.**
- **British Geological Survey (1978) Sheet 305/306, Folkestone and Dover, Solid and Drift Edition 1:50000.**
- **MAFF (1988) Agricultural Land Classification of England and Wales Revised guidelines and criteria for grading the quality of agricultural land.**
- **Meteorological Office (1989) Climatic datasets for Agricultural Land Classification.**
- **Soil Survey of England and Wales (1980) Bulletin 9 Soils of Kent, 1:250,000 map and accompanying legend.**

## APPENDIX I

### DESCRIPTION OF THE GRADES AND SUB-GRADES

#### **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 or horticultural crops can usually be grown but on some land on 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. When 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.

#### **Sub-grade 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 the 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.

## **Urban**

Built-up or 'hard' uses with relatively little potential for a return to agriculture : 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 parkland, 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.

## **Woodland**

Includes commercial and non-commercial woodland.

## **Agricultural Buildings**

Includes the normal range of agricultural buildings as well as other relatively permanent structures such as glasshouses. Temporary structures (eg. 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, eg. buildings in large grounds, and where map scale permits, the cover types may be shown separately. Otherwise, the most extensive cover type will be shown.

## APPENDIX II

### DEFINITION OF SOIL WETNESS CLASSES

#### Wetness Class I

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

#### Wetness Class II

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

#### Wetness Class III

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

#### Wetness Class IV

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

#### Wetness Class V

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

#### Wetness Class VI

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

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



## APPENDIX III

### SOIL PIT AND SOIL BORING DESCRIPTIONS

- Contents :**
- \* Soil Abbreviations : Explanatory Note
  - \* Soil Pit Descriptions
  - \* Database Printout : Boring Level Information
  - \* Database Printout : Horizon Level Information

## SOIL PROFILE DESCRIPTIONS : EXPLANATORY NOTE

Soil pit and auger boring information collected during ALC fieldwork is held on a database. This has commonly used notations and abbreviations as set out below.

### Boring Header Information

1. GRID REF : national grid square and 8 figure grid reference.

2. USE : Land use at the time of survey. The following abbreviations are used.

ARA : Arable WHT : Wheat BAR : Barley CER : Cereals OAT : Oats MZE : Maize OSR : Oilseed rape  
BEN : Field Beans BRA : Brassicae POT : Potatoes SBT : Sugar Beet FCD : Fodder Crops LIN : Linseed  
FKT : Soft and Top Fruit HRT : Horticultural Crops PGR : Permanent Pasture LEY : Ley Grass RGR : Rough Grazing  
SCR : Scrub CFW : Coniferous Woodland DCW : Deciduous Woodland HTH : Heathland BOG : Bog or Marsh  
FLW : Fallow PLO : Ploughed SAS : Set aside OTH : Other

3. GRDNT : Gradient as measured by a hand-held optical clinometer.

4. GLEY/SPL : Depth in cm to gleying or slowly permeable layers.

5. AP (WHEAT/POTS) : Crop-adjusted available water capacity.

6. MB (WHEAT/POTS) : Moisture Balance.

7. DKT : Best grade according to soil droughtiness.

8. If any of the following factors are considered significant, an entry of 'Y' will be entered in the relevant column.

MREL : Microrelief limitation FLOOD : Flood risk EROSN : Soil erosion risk EXP : Exposure limitation FROST : Frost  
DIST : Disturbed land CHEM : Chemical limitation

9. LIMIT : The main limitation to land quality. The following abbreviations are used.

OC : Overall Climate AE : Aspect EX : Exposure FR : Frost Risk GR : Gradient MR : Microrelief  
FL : Flood Risk TX : Topsoil Texture DP : Soil Depth CH : Chemical WE : Wetness WK : Workability  
DR : Drought ER : Soil Erosion Risk WD : Combined Soil Wetness/Droughtiness ST : Topsoil Stoniness

### Soil Pits and Auger Borings

1. TEXTURE : soil texture classes are denoted by the following abbreviations.

S : Sand LS : Loamy Sand SL : Sandy Loam SZL : Sandy Silt Loam CL : Clay Loam ZCL : Silty Clay Loam  
SCL : Sandy Clay Loam C : Clay SC : Sandy Clay ZC : Silty Clay OL : Organic Loam P : Peat SP : Sandy Peat  
LP : Loamy Peat PL : Peaty Loam PS : Peaty Sand MZ : Marine Light Silts

For the sand, loamy sand, sandy loam and sandy silt loam classes, the predominant size of sand fraction will be indicated by the use of prefixes.

F : Fine (more than 66% of the sand less than 0.2mm)

M : Medium (less than 66% fine sand and less than 33% coarse sand)

C : Coarse (more than 33% of the sand larger than 0.6mm)

The clay loam and silty clay loam classes will be sub-divided according to the clay content.

M : Medium (<27% clay) H : Heavy (27-35% clay)

2. **MOTTLE COL** : Mottle colour

3. **MOTTLE ABUN** : Mottle abundance, expressed as a percentage of the matrix or surface described.

F : few <2%    C : common 2-20%    M : many 20-40    VM : very many 40% +

4. **MOTTLE CONT** : Mottle contrast

F : faint - indistinct mottles, evident only on close inspection    D : distinct - mottles are readily seen

P : prominent - mottling is conspicuous and one of the outstanding features of the horizon

5. **PED. COL** : Ped face colour

6. **STONE LITH** : One of the following is used.

HR : all hard rocks and stones    MSST : soft, medium or coarse grained sandstone

SI : soft weathered igneous or metamorphic    SLST : soft oolitic or dolimitic limestone

FSST : soft, fine grained sandstone    ZR : soft, argillaceous, or silty rocks    CH : chalk

GH : gravel with non-porous (hard) stones    GS : gravel with porous (soft) stones

Stone contents (> 2cm, > 6cm and total) are given in percentages (by volume).

7. **STRUCT** : the degree of development, size and shape of soil peds are described using the following notation:

- degree of development    WK : weakly developed    MD : moderately developed    ST : strongly developed

- ped size    F : fine    M : medium    C : coarse    VC : very coarse

- ped shape    S : single grain    M : massive    GR : granular    AB : angular blocky    SAB : sub-angular blocky    PR : prismatic  
PL : platy

8. **CONSIST** : Soil consistence is described using the following notation:

L : loose    VF : very friable    FR : friable    FM : firm    VM : very firm    EM : extremely firm    EH : extremely hard

9. **SUBS STR** : Subsoil structural condition recorded for the purpose of calculating profile droughtiness.

G : good    M : moderate    P : poor

10. **POR** : Soil porosity. If a soil horizon has less than 0.5% biopores > 0.5 mm, a 'Y' will appear in this column.

11. **IMP** : If the profile is impenetrable a 'Y' will appear in this column at the appropriate horizon.

12. **SPL** : Slowly permeable layer. If the soil horizon is slowly permeable a 'Y' will appear in this column.

13. **CALC** : If the soil horizon is calcareous, a 'Y' will appear in this column.

14. Other notations

APW : available water capacity (in mm) adjusted for wheat

APP : available water capacity (in mm) adjusted for potatoes

MBW : moisture balance, wheat

MBP : moisture balance, potatoes

SOIL PIT DESCRIPTION

Site Name : SITE 29 SHEPWAY L P Pit Number : 1P

Grid Reference: TR12223623 Average Annual Rainfall : 764 mm  
 Accumulated Temperature : 1416 degree days  
 Field Capacity Level : 159 days  
 Land Use : Permanent Grass  
 Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	MOTTLES	STRUCTURE
0- 24	MZCL	10YR43 00	0	0		
24- 47	MZCL	10YR53 00	0	0	C	STCSAB
47- 64	HZCL	10YR63 00	0	0	M	MDCSAB
64- 95	ZC	10YR63 00	0	0	M	MDCSAB

Wetness Grade : 2 Wetness Class : II  
 Gleying : 024 cm  
 SPL : No SPL

Drought Grade : 2 APW : 129mm MBW : 15 mm  
 APP : 123mm MBP : 15 mm

FINAL ALC GRADE : 2  
 MAIN LIMITATION : Wetness

SAMPLE NO.	GRID REF	ASPECT USE	--WETNESS--		-WHEAT-		-POTS-		M.REL		EROSN EXP	FROST DIST	CHEM LIMIT	ALC COMMENTS
			GRDNT	GLEY SPL	CLASS	GRADE	AP	MB	AP	MB				
1	TR12203630	PGR	025	2	2	160	46	124	16	1			WE 2	GLEY 25
1P	TR12223623	PGR	024	2	2	129	15	123	15	2			WE 2	PIT95 AUG120
2	TR12303630	PGR	035	2	2	121	7	112	4	2			WE 2	GLEY 35
3	TR12203620	PGR	025	2	2	123	9	114	6	2			WE 2	GLEY 25
4	TR12243640	PGR	036	2	2	170	56	134	26	1			WE 2	GLEY 36

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----			PED COL.	----STONES----			STRUCT/ CONSIST	SUBS		
				COL	ABUN	CONT		GLEY	>2	>6		LITH	TOT	STR
1	0-25	mzc1	10YR42 00					0	0	0				
	25-37	mzc1	10YR63 62 10YR56 00 C				Y	0	0	0			M	
	37-120	hzc1	25Y 63 62 10YR56 00 M				00M00 00 Y	0	0	0			M	
1P	0-24	mzc1	10YR43 00					0	0	0				
	24-47	mzc1	10YR53 00 10YR56 00 C				10YR52 00 Y	0	0	0	STCSAB	FR	M	
	47-64	hzc1	10YR63 00 10YR56 00 M				10YR62 00 Y	0	0	0	MDCSAB	FR	M	
	64-95	zc	10YR63 00 10YR56 00 M				10YR62 00 Y	0	0	0	MDCSAB	FR	M	
2	0-35	mzc1	10YR44 00 10YR58 00 F					0	0	0				
	35-100	c	10YR52 00 10YR58 61 C				00M00 00 Y	0	0	0			P	
3	0-25	mzc1	10YR42 00 10YR58 00 F					0	0	0				
	25-50	hc1	10YR63 00 10YR58 61 C				Y	0	0	0			M	
	50-100	c	10YR52 00 10YR58 61 C				00M00 00 Y	0	0	0			P	
4	0-25	z1	10YR42 00					0	0	0				
	25-36	mzc1	10YR51 00 10YR46 00 F					0	0	0			M	
	36-60	mzc1	10YR63 62 10YR56 00 C				Y	0	0	0			M	
	60-120	hzc1	25Y 52 00 10YR58 00 M				00M00 00 Y	0	0	0			M	