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**Land at Mizens Farm,  
Chertsey Road, Woking, Surrey**

**Agricultural Land Classification  
ALC Map and Report  
May 1996**

**Resource Planning Team  
Guildford Statutory Group  
ADAS Reading**

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# AGRICULTURAL LAND CLASSIFICATION REPORT

## LAND AT MIZENS FARM, CHERTSEY ROAD, WOKING, SURREY

### Introduction

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 50.7 ha of land to the north of Woking, Surrey. The survey was carried out during September 1995 and May 1996.
2. The survey was commissioned by the Ministry of Agriculture, Fisheries and Food (MAFF), Land Use Planning Unit, Reading in connection with proposals for a corporate headquarters. The results of this survey supersede previous ALC information for this land.
3. The work was conducted by members of the Resource Planning Team in the Guildford Statutory Group in ADAS. The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF, 1988). A description of the ALC grades and subgrades is given in Appendix I.
4. At both times of survey horticultural uses covered the majority of the site. At the time of the original survey in September 1995, there were a number of pens containing ostriches which in total covered 6.6ha of the site; these areas were not surveyed until May 1996. By this time the birds had been removed and the areas were under horticultural crops or rough grass. The rough areas were found to comprise disturbed land currently in non agricultural use. Some disturbed areas along with the agricultural buildings, tracks, dwellings, a miniature railway, woodland and scrub are now shown on the accompanying maps as Other Land.

### Summary

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10000; it is accurate at this scale but any enlargement would be misleading.
6. The area and proportions of the ALC grades and subgrades on the agricultural land at this site are summarised in Table 1 overleaf.
7. The fieldwork was conducted at an approximate density of 1 boring per hectare of surveyed land. A total of 41 borings and five soil pits were described.
8. Land quality over the majority of the agricultural land on the site ranges from Grade 1, excellent quality, to Subgrade 3a, good quality with some Grade 4, poor quality towards the south of the site. The land has been classified on the basis of either soil droughtiness, soil wetness or soil depth limitations. Irrigation water is available on the site. As irrigation can significantly enhance the potential of agricultural land in drier areas, it is taken into account in ALC grading where it is current or recent practice. Consequently the ALC grading of the site has been influenced by the availability of irrigation water, which offsets the effects of soil

droughtiness over much of the site where sandy and light or medium loamy soils occur. Soil wetness is the principal limitation where light loamy over slowly permeable medium loams and clays occurs towards the south and north west of the site where Grade 2 and Subgrade 3a quality land has been mapped.

9. Soil depth is the principal limitation to the south of the site where Grade 4 quality land has been mapped. In this area the land has been disturbed by quarrying at some point in the past and infilled. The majority is now in non-agricultural use, however the areas where ostriches were previously housed is now rough grass and has a potential for agricultural use. In this area aftercare was minimal, ie a thin topsoil overlies a non rootable backfill, as such soil depth is severely restricted and therefore Grade 4 is appropriate.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% Total site area	% Surveyed Area
1	21.2	41.8	70.7
2	4.1	8.1	13.7
3a	3.7	7.3	12.3
4	1.0	2.0	3.3
Other land	20.7	40.8	-
Total surveyed area	30.0		100
Total site area	50.7	100	-

## Climate

10. Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics.

11. The key climatic variables used for grading this site are given in Table 2 and were obtained from the published 5km grid datasets using standard interpolation procedures (Met. Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	TQ 012 615
Altitude	m, AOD	30
Accumulated Temperature	day°C (Jan-June)	1487
Average Annual Rainfall	mm	656
Field Capacity Days	days	138
Moisture Deficit, Wheat	mm	117
Moisture Deficit, Potatoes	mm	112

12. 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.

13. The main parameters used in the assessment of an overall climatic limitation are average annual rainfall (AAR), as a measure of overall wetness, and accumulated temperature (AT0, January to June), as a measure of the relative warmth of a locality.

14. The combination of rainfall and temperature at this site mean that there is no overall climatic limitation. Local climatic factors, such as exposure and frost risk, are not believed to significantly affect the site. The site is climatically Grade 1.

### **Site**

15. The site lies at an altitude in the range of 20-35 m AOD with the highest land across the centre of the site. The land falls towards the north and south of the site. Nowhere on the site does gradient, microrelief or flooding affect the agricultural land quality.

### **Geology and soils**

16. The published geological information for the site (BGS, 1981) shows the site to be underlain by Tertiary Bagshot Beds on the highest land across the centre of the site. Surrounding this to the north, east and west an area of drift (flood plain gravels) deposits is mapped. Towards the extreme north and south of the site alluvial drift deposits are shown.

17. The published soils information for the site (SSEW, 1983) shows the site to be underlain by soils of the Hucklesbrook Association. These are described as, 'well drained coarse loamy and some sandy soils. Commonly over gravel. Some similar permeable soils affected by groundwater. Usually on flat land.' (SSEW, 1983). Soils of the coarse loamy and sandy type were found during ALC survey work. Gravel was rarely encountered. Slowly permeable clay subsoils were also encountered throughout the site. Towards the north west and south of the site, these were at shallow and moderate depths and were significant in the land quality assessment.

### **Agricultural Land Classification**

18. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1, page 1.

19. The location of the auger borings and pits is shown on the attached sample location map and the details of the soils data are presented in Appendix III.

### *Grade 1*

20. Land of excellent quality has been mapped over the majority of the agricultural area at this site. The availability of irrigation water at this site enhances the land quality in this area such that the land is capable of supporting a wide range of arable and horticultural crops.

21. Soils in this area commonly comprise a stoneless or very slightly stony (up to 3% total v/v flints) non-calcareous fine sandy loam or fine sandy silt loam topsoil. This passes to a stoneless to moderately stony (up to 20% total v/v flints), fine sandy loam, fine sandy silt loam or loamy fine sand upper subsoil, which is gleyed on occasion. The lower subsoil horizons are more variable. Occasionally the upper subsoil horizons pass directly to slowly permeable sandy clay loams and clays to depth. More commonly however, as indicated by the pit observations (1p, 3p and 5p), the upper subsoils pass to a gleyed, often stoneless, fine sandy loam or loamy fine sand intermediate horizon(s), above the slowly permeable lower horizons. The depth at which the slowly permeable horizons occur in these soils, in relation to the local climate mean that Wetness Class I or II is applied; however the light topsoil textures mean that the land is appropriately placed in Grade 1. In the local climate, some profiles in the Grade 1 mapping unit would normally be mapped as Grade 2 on the basis of a slight soil droughtiness limitation but, as a result of the enhanced potential afforded by the availability of irrigation water, these are mapped as Grade 1.

### *Grade 2*

22. Land of very good quality has been mapped towards the north east and south of the site. In this area minor soil wetness and minor soil droughtiness are the key limitations. Nevertheless, a wide range of agricultural and horticultural crops can be grown.

23. The majority of the Grade 2 areas are affected by minor soil wetness limitations. In these locations, the soil profile commonly comprises a very slightly stony (up to 5% v/v total flints) fine sandy loam topsoil, passing to a similarly textured or lighter (fine sand) upper subsoil, which is typically gleyed. This passes to a stoneless, gleyed and slowly permeable (see pit, 4p) sandy clay loam or heavy clay loam horizon between approximately 50 and 60cm. Typically, this passes to slowly permeable clay between 80 and 100cm. The depth to the gleyed and slowly permeable horizons is such that Wetness Class III has been applied given the local climate regime; however the light topsoils mean that Grade 2 is appropriate for this area on the basis of a soil wetness limitation. Soil wetness affects plant growth and yield as well as restricting land utilisation in terms of the number of days when mechanised operations or grazing by livestock can occur without causing structural damage to the soil.

24. Within the area to the north east of the site, there is a section which is affected by soil wetness and soil droughtiness. Where the profiles are solely limited by droughtiness, soils comprise a very slightly stony (2% v/v total flints) fine sandy loam topsoil. This passes to a similarly textured, similarly stony, upper subsoil. Between approximately 45 and 80cm, this becomes impenetrable to the soil auger due to flints or gravel in the profile. The stones in the lower subsoil horizon have the effect of reducing the moisture available for plant growth to the extent that normally within the local climate regime Subgrade 3a would be applied. However, with the enhanced potential afforded by the availability of irrigation water, this area has been mapped as Grade 2.

### *Subgrade 3a*

25. Land of good quality has been mapped towards the north west of the site. The principal limitation is soil wetness.

26. The soil profiles in this area typically comprise a stoneless or very slightly stony (up to 3% total v/v flints), non-calcareous, medium clay loam or fine sandy silt loam (occasionally fine sandy loam) topsoil which, either passes to a narrow but similarly textured upper subsoil horizon or, rests directly above a gleyed and slowly permeable clay, heavy clay loam or sandy clay loam; these occur to depth (120cm). Such soils are appropriately placed in Wetness Classes III and IV in the local climate. Given the light and medium workability status of the topsoils found here, Subgrade 3a has been subsequently applied. A slowly permeable horizon causes drainage through the profile to be impeded and as such creates a soil wetness limitation. Soil wetness affects plant growth and yield as well as restricting land utilisation in terms of the number of days when mechanised operations or grazing by livestock can occur without causing structural damage to the soil.

### *Grade 4*

27. Land of poor quality has been mapped to the south of the site. The principal limitation in this area is in relation to soil resource problems.

28. The land in this area has been disturbed at some point in the past. It is believed to have been quarried and then infilled with other material. The majority of this disturbed area is shown on the accompanying map as being Other Land as it is scrub with no visible topsoil and no present agricultural potential. However the two areas shown as Grade 4 do have a thin topsoil and have had ostriches grazing on them until recently. Therefore these areas must be considered as having some agricultural potential. Overall the soils comprise a shallow (<20cm) very slightly stony (3% v/v total flints) sandy clay loam topsoil overlying infill. The topsoil was found to be gleyed and matted with roots. The infill was found to contain glass and brick fragments totalling approximately 30% by volume in a black gritty matrix and was observed to contain no roots. The lack of topsoil resource over the compact infill is a limitation to potential cultivations and crop growth such that Grade 4 is appropriate.

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## SOURCES OF REFERENCE

British Geological Survey (1981) *Sheet 269, Windsor. Solid and Drift Edition. 1:50 000.*  
BGS: London.

Ministry of Agriculture, Fisheries and Food (1988) *Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land.* MAFF: London.

Met. Office (1989) *Climatological Data for Agricultural Land Classification.*  
Met. Office: Bracknell.

Soil Survey of England and Wales (1983) *Sheet 6, Soils of South East England. 1:250 000.*  
SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils and their Use in South East England.*  
*Bulletin No. 15.* SSEW: Harpenden.

## APPENDIX I

### DESCRIPTIONS 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 or horticultural crops can usually be grown but on some land of this 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 land.

#### **Grade 3: Good to Moderate Quality Land**

Land with moderate limitations which affect the choice of crops, the 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.

#### **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 the level of yields. It is mainly suited to grass with occasional arable crops (e.g. 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 severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.



## APPENDIX II

### SOIL WETNESS CLASSIFICATION

#### Definitions of Soil Wetness Classes

Soil wetness is classified according to the depth and duration of waterlogging in the soil profile. Six soil wetness classes are identified and are defined in the table below.

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Wetness Class	Duration of waterlogging <sup>1</sup>
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years. <sup>2</sup>
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 only wet within 40 cm depth for 30 days in most years.
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 present within 80 cm depth, it is wet within 70 cm for more than 180 days, but only wet within 40 cm depth for between 31-90 days in most years.
IV	The soil profile is wet within 70 cm depth for more than 180 days but not wet within 40 cm depth for more than 210 days in most years or, if there is no slowly permeable layer present within 80 cm depth, it is wet within 40 cm depth for 91-210 days in most years.
V	The soil profile is wet within 40 cm depth for 211-335 days in most years.
VI	The soil profile is wet within 40 cm depth for more than 335 days in most years.

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#### Assessment of Wetness Class

Soils have been allocated to wetness classes by the interpretation of soil profile characteristics and climatic factors using the methodology described in *Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land* (MAFF, 1988).

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<sup>1</sup> The number of days is not necessarily a continuous period.

<sup>2</sup> 'In most years' is defined as more than 10 out of 20 years.

**APPENDIX III**

**SOIL DATA**

**Contents:**

**Sample location map**

**Soil abbreviations - Explanatory Note**

**Soil Pit Descriptions**

**Soil boring descriptions (boring and horizon levels)**

**Database Printout - Horizon Level Information**

## SOIL PROFILE DESCRIPTIONS: EXPLANATORY NOTE

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

### Boring Header Information

1. **GRID REF:** national 100 km grid square and 8 figure grid reference.
2. **USE:** Land use at the time of survey. The following abbreviations are used.

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

3. **GRDNT:** Gradient as estimated or measured by a hand-held optical clinometer.
4. **GLEYSPL:** Depth in centimetres (cm) to gleying and/or slowly permeable layers.
5. **AP (WHEAT/POTS):** Crop-adjusted available water capacity.
6. **MB (WHEAT/POTS):** Moisture Balance. (Crop adjusted AP - crop adjusted MD)
7. **DRT:** Best grade according to soil droughtiness.
8. If any of the following factors are considered significant, 'Y' will be entered in the relevant column.

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

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

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

## Soil Pits and Auger Borings

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

<b>S:</b> Sand	<b>LS:</b> Loamy Sand	<b>SL:</b> Sandy Loam
<b>SZL:</b> Sandy Silt Loam	<b>CL:</b> Clay Loam	<b>ZCL:</b> Silty Clay Loam
<b>ZL:</b> Silt Loam	<b>SCL:</b> Sandy Clay Loam	<b>C:</b> Clay
<b>SC:</b> Sandy Clay	<b>ZC:</b> Silty Clay	<b>OL:</b> Organic Loam
<b>P:</b> Peat	<b>SP:</b> Sandy Peat	<b>LP:</b> Loamy Peat
<b>PL:</b> Peaty Loam	<b>PS:</b> Peaty Sand	<b>MZ:</b> 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 the following prefixes:

<b>F:</b> Fine (more than 66% of the sand less than 0.2mm)
<b>M:</b> Medium (less than 66% fine sand and less than 33% coarse sand)
<b>C:</b> 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 using Munsell notation.
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 using Munsell notation.
6. **GLEYS:** If the soil horizon is gleyed a 'Y' will appear in this column. If slightly gleyed, an 'S' will appear.

7. **STONE LITH:** Stone Lithology - One of the following is used.

<b>HR:</b> all hard rocks and stones	<b>SLST:</b> soft oolitic or dolomitic limestone
<b>CH:</b> chalk	<b>FSST:</b> soft, fine grained sandstone
<b>ZR:</b> soft, argillaceous, or silty rocks	<b>GH:</b> gravel with non-porous (hard) stones
<b>MSST:</b> soft, medium grained sandstone	<b>GS:</b> gravel with porous (soft) stones
<b>SI:</b> soft weathered igneous/metamorphic rock	

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

8. **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

9. **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

10. **SUBS STR**: Subsoil structural condition recorded for the purpose of calculating profile droughtiness: **G**: good    **M**: moderate    **P**: poor
11. **POR**: Soil porosity. If a soil horizon has less than 0.5% biopores >0.5 mm, a 'Y' will appear in this column.
12. **IMP**: If the profile is impenetrable to rooting a 'Y' will appear in this column at the appropriate horizon.
13. **SPL**: Slowly permeable layer. If the soil horizon is slowly permeable a 'Y' will appear in this column.
14. **CALC**: If the soil horizon is calcareous, a 'Y' will appear in this column.
15. 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 : BONSEYS/MIZEN FM WOKING Pit Number : 1P

Grid Reference: TQ01146159 Average Annual Rainfall : 656 mm  
 Accumulated Temperature : 1487 degree days  
 Field Capacity Level : 138 days  
 Land Use : Horticultural Crops  
 Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 36	FSL	10YR32 42	0	1	HR					
36- 68	FSL	10YR54 00	0	2	HR	F	MDCAB	FR	M	
68-115	FSL	25Y 62 00	0	0		M	MDCAB	FR	M	
115-120	C	25Y 61 62	0	0		M			P	

Wetness Grade : 1 Wetness Class : I  
 Gleying : 68 cm  
 SPL : 115 cm

Drought Grade : 1 APW : 176mm MBW : 59 mm  
 APP : 124mm MBP : 12 mm

FINAL ALC GRADE : 1  
 MAIN LIMITATION :

SOIL PIT DESCRIPTION

Site Name : BONSEYS/MIZEN FM WOKING Pit Number : 2P

Grid Reference: TQ00766163 Average Annual Rainfall : 656 mm  
 Accumulated Temperature : 1487 degree days  
 Field Capacity Level : 138 days  
 Land Use : Horticultural Crops  
 Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 30	FSL	10YR32 00	0	2	HR					
30- 44	FSZL	10YR32 42	0	2	HR		WKCSAB	FR	G	
44- 80	HCL	25Y 51 00	0	0		M	MDCAB	FR	M	
80-120	C	25Y 51 00	0	0		M			M	

Wetness Grade : 2 Wetness Class : III  
 Gleying : 44 cm  
 SPL : 44 cm

Drought Grade : APW : mm MBW : 0 mm  
 APP : mm MBP : 0 mm

FINAL ALC GRADE : 2  
 MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : BONSEYS/MIZEN FM WOKING Pit Number : 3P

Grid Reference: TQ00706150 Average Annual Rainfall : 656 mm  
 Accumulated Temperature : 1487 degree days  
 Field Capacity Level : 138 days  
 Land Use : Horticultural Crops  
 Slope and Aspect : 2 degrees N

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 36	FSL	10YR32 00	0	2	HR					
36- 51	FSL	10YR54 00	0	2	HR		MDCSAB	FR	G	
51- 60	FSL	25Y 62 00	0	0		C	WKCSAB	VF	M	
60-120	C	25Y 52 00	0	0		M	WKCAB	FM	P	

Wetness Grade : 1 Wetness Class : II  
 Gleying : 51 cm  
 SPL : 60 cm

Drought Grade : 1 APW : 149mm MBW : 32 mm  
 APP : 125mm MBP : 13 mm

FINAL ALC GRADE : 1  
 MAIN LIMITATION :

SOIL PIT DESCRIPTION

Site Name : BONSEYS/MIZEN FM WOKING Pit Number : 4P

Grid Reference: TQ01606160 Average Annual Rainfall : 656 mm  
 Accumulated Temperature : 1487 degree days  
 Field Capacity Level : 138 days  
 Land Use : Horticultural Crops  
 Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 28	FSL	10YR31 00	0	2	HR					
28- 45	FSL	05Y 41 00	0	0		M	MDCPR	FM	P	
45- 59	SCL	25Y 31 00	0	0		M	MDCAB	FM	P	
59-100	SCL	25Y 61 00	0	0		M			M	
100-120	FS	05G 61 00	0	0		M			M	

Wetness Grade : 2 Wetness Class : III  
 Gleying : 28 cm  
 SPL : 45 cm

Drought Grade : 2 APW : 157mm MBW : 40 mm  
 APP : 113mm MBP : 1 mm

FINAL ALC GRADE : 2  
 MAIN LIMITATION : Soil Wetness/Droughtiness

SOIL PIT DESCRIPTION

Site Name : BONSEYS/MIZEN FM WOKING Pit Number : 5P

Grid Reference: TQ01406160 Average Annual Rainfall : 656 mm  
 Accumulated Temperature : 1487 degree days  
 Field Capacity Level : 138 days  
 Land Use : Horticultural Crops  
 Slope and Aspect : 1 degrees S

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 36	FSL	10YR32 42	0	2	HR					
36- 61	FSL	10YR54 53	0	0		C	MDCAB	VF	M	
61- 75	LFS	25Y 61 00	0	0		M	MDCSAB	FR	G	
75- 98	LFS	25Y 62 00	0	0		M	MDCAB	FM	M	
98-115	C	05Y 61 00	0	0		M	WKCSAB	FM	P	
115-120	FS	25Y 61 00	0	0		C			M	

Wetness Grade : 1 Wetness Class : I  
 Gleying : 36 cm  
 SPL : 98 cm

Drought Grade : 2 APW : 169mm MBW : 52 mm  
 APP : 122mm MBP : 10 mm

FINAL ALC GRADE : 2  
 MAIN LIMITATION : Droughtiness



SAMPLE NO.	GRID REF	ASPECT USE	--WETNESS--				-WHEAT-		-POTS-		M.REL		EROSN	FROST	CHEM	ALC	COMMENTS
			GRONT	GLEY	SPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST	LIMIT	
1P	TQ01146159	HRT		68	115	1	1	176	59	124	12	1				1	PIT110 AUG 120
2P	TQ00766163	HRT		44	44	3	2		0	0					WE	2	PIT 80 AUG 120
3P	TQ00706150	HRT	N	2	51	60	2	1	149	32	125	13	1			1	PIT 85 AUG 120
4P	TQ01606160	HRT			28	45	3	2	157	40	113	1	2		WD	2	PIT 90 AUG 120
5P	TQ01406160	HRT	S	1	36	98	1	1	169	52	122	10	2		DR	2	PIT120 BORDER1
7	TQ01006180	HRT			36	40	3	3A		0	0				WE	3A	
10	TQ01406160	HRT	S	2	65	110	1	1	174	57	123	11	1			1	SEE 5P BORDER2
11	TQ01426181	HRT			35	60	3	2	137	20	108	-4	2		WD	2	
12	TQ01486182	HRT			30		1	1	123	6	120	8	2		DR	2	IMP FLINTS 80
13	TQ01436170	HRT	N	1	60		1	1	175	58	114	2	2		DR	2	
14	TQ00906170	HRT			35	35	4	3A		0	0				WE	3A	
15	TQ01006170	HRT			30	70	2	1	149	32	123	11	1			1	
16	TQ01106170	HRT	N	1	30		2	1	132	15	131	19	2		DR	2	IMP FLINTS 80
17	TQ01166169	HRT			60	75	2	1	149	32	115	3	2		DR	2	
18	TQ01276167	SAS			70	70	2	1	175	58	130	18	1			1	
19	TQ01386167	SAS					1	1	80	-37	80	-32	3B		DR	3B	IMP FLINTS 45
20	TQ01486172	HRT			70	70	2	1	161	44	115	3	2		DR	2	
21	TQ01606167	HRT			38	90	2	1	161	44	124	12	1			1	
22	TQ00606160	HRT			35	35	4	3A		0	0				WE	3A	SEE 2P
23	TQ00706160	HRT			38	38	3	2		0	0				WE	2	
24	TQ00806160	HRT			48	48	3	2		0	0				WE	2	
25	TQ00906160	HRT			60	85	1	1	168	51	134	22	1			1	
26	TQ01006160	HRT			70	70	2	1	158	41	130	18	1			1	
27	TQ01106160	HRT			62	62	2	1	155	38	131	19	1			1	SEE 1P
28	TQ01236157	HRT	N	3	30	55	3	2	160	43	137	25	1		WE	2	
29	TQ01306160	SAS	N	3	50	70	2	1	145	28	113	1	2		DR	2	
30	TQ01406160	HRT			75	75	2	1	161	44	127	15	1			1	
31	TQ01506160	HRT			90	90	1	1	162	45	116	4	2		DR	2	
32	TQ01606160	HRT			38	38	3	3A		0	0				WE	3A	WET 30CM PLUS
33	TQ00606150	HRT			30	80	2	1	153	36	123	11	1			1	
34	TQ00706150	HRT	N	1	65	65	2	1	141	24	112	0	2		DR	2	SEE 3P
35	TQ00806150	HRT	N	2	50	50	2	1	144	27	121	9	2		DR	2	SL GLEY 30
36	TQ00906150	HRT	N	2	30	60	3	2	148	31	120	8	2		WD	2	
37	TQ01006150	HRT			30		2	1	177	60	120	8	2		DR	2	
38	TQ01076149	SAS			75	75	2	1	165	49	138	26	1			1	
39	TQ01206150	HRT	W	2	30		2	1	176	59	120	8	2			2	
40	TQ01306150	HRT	S	2	60	60	2	1	145	28	112	0	2		DR	2	
41	TQ01406150	HRT	S	1	75	75	2	1	153	36	114	2	2		DR	2	
42	TQ01506150	HRT			38	52	3	2		0	0				WE	2	SEE 4P
44	TQ01106140	SAS			20		2	1	75	-42	75	-37	3B	Y	DR	3B	IMP 60 DISTBRD
45	TQ00656143	HRT	N	2	65	85	1	1	152	35	113	1	2		DR	2	
46	TQ01336143	HRT	S	1	95		1	1	173	56	114	2	2		DR	2	

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SAMPLE NO.	GRID REF	USE	ASPECT		---WETNESS---		-WHEAT-		-POTS-		M.REL		EROSN	FROST	CHEM	ALC	COMMENTS				
			GRDNT	GLEYSPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST	LIMIT						
47	TQ01406140	RGR	S		0	2	2	058	-59	058	-54	4					Y	DR	4	IMP 50 DISTBR	
48	TQ01206144	RGR			30	2	1	179	62	125	13	1							1	BORDER DISTBR	
49	TQ01066148	RGR			30	2	1	171	54	113	1	2							DR	2	
50	TQ01046144	RGR			35	2	1	180	63	122	10	2							DR	2	BORDER DISTBR

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED		----STONES----			STRUCT/		SUBS		SPL	CALC
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH	TOT	CONSIST	STR	POR		
1P	0-36	fs1	10YR32 42						0	0	HR	1					
	36-68	fs1	10YR54 00 10YR56 00 F						0	0	HR	2	MDCAB	FR	M		
	68-115	fs1	25Y 62 00 10YR58 00 M						Y	0	0	0	MDCAB	FR	M		
	115-120	c	25Y 61 62 10YR58 00 M						Y	0	0	0			P		Y
2P	0-30	fs1	10YR32 00						0	0	HR	2					
	30-44	fsz1	10YR32 42						0	0	HR	2	WKCSAB	FR	G		
	44-80	hc1	25Y 51 00 10YR58 00 M				05Y 51 00	Y	0	0	0	0	MDCAB	FR	M		Y
	80-120	c	25Y 51 00 10YR58 00 M						Y	0	0	0			M		Y
3P	0-36	fs1	10YR32 00						0	0	HR	2					
	36-51	fs1	10YR54 00						0	0	HR	2	MDCSAB	FR	G		
	51-60	fs1	25Y 62 00 10YR56 00 C						Y	0	0	0	WKCSAB	VF	M		
	60-120	c	25Y 52 00 10YR58 00 M						Y	0	0	0	WKCSAB	FM	P		Y
4P	0-28	fs1	10YR31 00						0	0	HR	2					
	28-45	fs1	05Y 41 00 10YR46 00 M						Y	0	0	0	MDCPR	FM	P		
	45-59	sc1	25Y 31 00 10YR46 00 M						Y	0	0	0	MDCAB	FM	P		Y
	59-100	sc1	25Y 61 00 10YR68 00 M						Y	0	0	0			M		Y
	100-120	fs	05G 61 00 75YR68 00 M						Y	0	0	0			M		
5P	0-36	fs1	10YR32 42						0	0	HR	2					
	36-61	fs1	10YR54 53 10YR56 00 C						Y	0	0	0	MDCAB	VF	M		
	61-75	lfs	25Y 61 00 10YR58 00 M						Y	0	0	0	MDCSAB	FR	G		
	75-98	lfs	25Y 62 00 10YR58 00 M						Y	0	0	0	MDCAB	FM	M		
	98-115	c	05Y 61 00 75YR58 00 M						Y	0	0	0	WKCSAB	FM	P		Y
	115-120	fs	25Y 61 00 10YR58 00 C						Y	0	0	0			M		
7	0-36	mc1	10YR43 00						0	0	HR	1					
	36-40	mc1	10YR52 00 00C00 00 M						Y	0	0	0			M		
	40-60	c	10YR52 00 00C00 00 M						Y	0	0	0			P		Y
10	0-30	fs1	10YR32 00						0	0	HR	2					
	30-65	fs1	10YR53 54 10YR56 00 F						0	0	0	0			M		
	65-90	lfs	10YR62 00 10YR58 00 C						Y	0	0	0			G		
	90-110	fs1	25Y 61 00 10YR58 68 M						Y	0	0	0			M		
	110-120	c	25Y 61 00 10YR58 00 M						Y	0	0	0			P		Y
11	0-35	fs1	10YR31 00						3	0	HR	5					
	35-60	fs	10YR53 56 75YR46 00 C						Y	0	0	HR	5		M		
	60-80	sc1	25Y 54 00 75YR46 00 C				05Y 54 00	Y	0	0	HR	5			M		Y
	80-120	c	05Y 63 64 75YR46 00 C						Y	0	0	HR	5		P		Y
12	0-30	fs1	10YR31 00						3	0	HR	5					
	30-80	fs1	25Y 52 53 75YR46 00 M						Y	0	0	HR	5		M		
13	0-35	fs1	10YR32 00						0	0	HR	2					
	35-60	lfs	10YR54 00						0	0	0	0			M		
	60-120	lfs	10YR62 00 10YR58 00 C						Y	0	0	0			M		

WATER TABLE C.65CM

WET PROFILE  
IMP FLINTS 80

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED COL.	----STONES----			STRUCT/ CONSIST	SUBS			CALC
				COL	ABUN	CONT		GLY	>2	>6		LITH	TOT	STR	
14	0-35	fsz1	10YR32 42					0	0	HR	3				
	35-100	c	25Y 51 00	10YR58	00	M		Y	0	0	0		P		Y
15	0-30	fsz1	10YR32 00					0	0	HR	3				
	30-70	fs1	25Y 52 63	10YR56	68	C		Y	0	0	HR	20		M	
	70-120	c	25Y 51 00	10YR58	00	M		Y	0	0	0		P		Y
16	0-30	fsz1	10YR32 00					0	0	HR	3				
	30-65	fs1	25Y 52 00	10YR56	66	C		Y	0	0	HR	5		M	
	65-80	fs1	25Y 52 00	10YR56	66	C		Y	0	0	HR	25		M	
															IMP FLINTS 80
17	0-38	fs1	10YR42 00					0	0	HR	2				
	38-60	1fs	10YR54 00					0	0		0		M		
	60-75	1fs	10YR64 00	000C00	00	C		Y	0	0	0		M		
	75-120	c	25Y 62 00	000C00	00	M		Y	0	0	0		P		Y
18	0-38	fs1	10YR42 00					0	0	HR	2				
	38-60	fs1	10YR54 00					0	0	HR	2		G		
	60-70	sc1	10YR64 00					0	0		0		M		
	70-90	sc1	25Y 62 00	000C00	00	M		Y	0	0	0		P		Y
	90-120	fs1	25Y 62 00	000C00	00	M		Y	0	0	0		M		
19	0-38	fs1	10YR42 00					0	0	HR	2				
	38-45	fs1	10YR54 00					0	0	HR	1		M		
															IMP FLINTS 45
20	0-38	fs1	10YR42 00					0	0	HR	1				
	38-60	1fs	10YR43 00					0	0	HR	2		M		
	60-70	1fs	10YR54 00					0	0	HR	2		M		
	70-95	c	25Y 52 00	000C00	00	M		Y	0	0	0		P		Y
	95-120	1fs	10YR56 00	000C00	00	M		Y	0	0	0		M		
21	0-38	fs1	10YR42 00					0	0	HR	2				
	38-70	fs1	10YR53 00	000C00	00	C		Y	0	0	HR	1		M	
	70-90	1fs	10YR56 00	000C00	00	C		S	0	0	0		M		
	90-120	c	25Y 62 00	000C00	00	M		Y	0	0	0		P		Y
22	0-35	fsz1	10YR42 00					0	0	HR	1				
	35-60	c	25Y 52 00	000C00	00	M		Y	0	0	0		P		Y
23	0-38	fs1	10YR42 00					0	0	HR	2				
	38-50	sc1	25Y 62 00	000C00	00	M		Y	0	0	0		P		Y
	50-70	sc	05Y 62 00	000C00	00	M		Y	0	0	0		P		Y
24	0-35	fs1	10YR42 00					0	0	HR	2				
	35-48	fs1	10YR54 00					0	0		0		G		
	48-68	sc1	10YR53 00	000C00	00	M		Y	0	0	0		P		Y
	68-90	c	25Y 62 00	000C00	00	M		Y	0	0	0		P		Y

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES-----			PED		----STONES----			STRUCT/ CONSIST	SUBS				
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH		TOT	STR	POR	IMP	SPL
25	0-38	fs1	10YR32 00						0	0	HR	2					
	38-60	fs1	10YR43 00						0	0		0		G			
	60-85	fs1	10YR64 00 000C00 00 C					Y	0	0		0		M			
	85-120	c	10YR52 00 000C00 00 M					Y	0	0		0		P			Y
26	0-38	fs1	10YR42 00						0	0	HR	2					
	38-60	fs1	10YR53 00						0	0	HR	1		G			
	60-70	lfs	10YR53 00						0	0		0		M			
	70-120	c	25Y 62 00 000C00 00 M					Y	0	0		0		P			Y
27	0-38	fs1	10YR42 00						0	0		0					
	38-62	fs1	10YR54 00						0	0	HR	2		G			
	62-120	c	10YR52 00 000C00 00 M					Y	0	0		0		P			Y
28	0-30	fsz1	10YR43 00						0	0	HR	2					
	30-55	fsz1	25Y 62 00 10YR66 00 C					Y	0	0		0		M			
	55-90	c	25Y 61 00 10YR68 00 M					Y	0	0		0		P			Y
	90-120	hc1	25Y 53 00 10YR58 00 M					Y	0	0		0		P			Y
29	0-30	fs1	10YR32 00						0	0	HR	2					
	30-50	lfs	10YR44 54						0	0		0		G			
	50-70	lfs	25Y 62 00 10YR58 00 M					Y	0	0		0		M			
	70-80	sc1	25Y 52 00 10YR58 00 M					Y	0	0		0		P			Y
	80-120	c	25Y 61 00 10YR58 00 M					Y	0	0		0		P			Y
30	0-28	fs1	10YR42 00						0	0	HR	2					
	28-50	fs1	10YR54 00						0	0	HR	1		G			
	50-75	lfs	10YR54 00						0	0		0		M			
	75-120	c	25Y 62 00 000C00 00 M					Y	0	0		0		P			Y
31	0-40	fs1	10YR32 00						0	0	HR	2					
	40-70	lfs	10YR54 00						0	0		0		M			
	70-80	lfs	10YR64 00						0	0		0		M			
	80-90	fs1	10YR64 00						0	0		0		M			
	90-120	sc	10YR52 00 000C00 00 M					Y	0	0		0		P			Y
32	0-38	mc1	10YR32 00						0	0	HR	2					
	38-70	sc1	10YR42 00 000C00 00 M					Y	0	0		0		P			Y
33	0-30	fs1	10YR32 00						0	0		0					
	30-80	fs1	10YR54 64 10YR56 00 C					Y	0	0	HR	5		M			
	80-120	c	25Y 51 52 10YR58 00 M					Y	0	0	HR	2		P			Y
34	0-30	fs1	10YR32 00						0	0	HR	2					
	30-65	lfs	10YR54 00						0	0		0		M			
	65-120	c	25Y 51 52 10YR58 00 M					Y	0	0		0		P			Y
35	0-30	fsz1	10YR32 00						0	0	HR	2					
	30-50	sc1	10YR54 00 10YR56 00 C					S	0	0		0		M			
	50-120	c	25Y 52 00 75YR56 58 M					Y	0	0		0		P			Y

SAMPLE	DEPTH	TEXTURE	COLOUR	-----MOTTLES-----			PED		-----STONES-----			STRUCT/ CONSIST	SUBS				
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH		TOT	STR	POR	IMP	SPL
36	0-30	fs1	10YR32 42						0	0	HR	2					
	30-60	fs1	10YR53 00 10YR56 00 C					Y	0	0		0		M			
	60-100	sc1	25Y 53 00 10YR56 00 C					Y	0	0		0		P		Y	
	100-120	c	25Y 52 00 75YR58 00 M					Y	0	0		0		P		Y	
37	0-30	fs1	10YR32 00						0	0	HR	3					
	30-60	fs1	10YR53 00 10YR56 00 C					Y	0	0	HR	2		M			
	60-100	lfs	25Y 53 52 75YR58 00 M					Y	0	0		0		M			
	100-120	fs	25Y 62 00 75YR58 00 M					Y	0	0		0		M			
38	0-30	fs1	10YR43 44						0	0		0					
	30-65	fs1	10YR43 44						0	0	HR	2		G			
	65-75	fs1	10YR44 54						0	0	HR	2		M			
	75-120	c	25Y 52 00 75YR58 00 M					Y	0	0		0		P		Y	
39	0-30	fs1	10YR32 00						0	0	HR	2					
	30-55	fs1	10YR53 63 10YR56 00 C					Y	0	0		0		M			
	55-80	lfs	25Y 62 00 10YR58 00 C					Y	0	0		0		M			
	80-120	fs	25Y 62 00 10YR58 00 M					Y	0	0		0		M			
40	0-35	fs1	10YR42 00						0	0	HR	2					
	35-60	lfs	10YR54 00 10YR56 00 F						0	0		0		M			
	60-80	sc1	10YR63 00 10YR58 00 C					Y	0	0		0		P		Y	
	80-100	c	25Y 61 00 10YR58 00 M					Y	0	0		0		P		Y	
	100-115	sc1	10YR62 00 10YR58 00 M					Y	0	0		0		P		Y	
	115-120	fs	25Y 61 00					Y	0	0		0		M			
41	0-35	fs1	10YR32 42						0	0	HR	2					
	35-60	lfs	10YR54 00						0	0		0		M			
	60-75	lfs	10YR54 00 10YR56 00 F						0	0		0		M			
	75-120	sc1	25Y 62 00 10YR58 00 C					Y	0	0		0		P		Y	
42	0-38	fs1	10YR32 00						0	0	HR	1					
	38-52	fs1	05Y 62 00 000C00 00 M					Y	0	0		0		P			
	52-80	sc1	05Y 62 00 000C00 00 M					Y	0	0		0		P		Y	
44	0-20	fs1	10YR32 42						0	0	HR	5					DISTURBED PROFILE
	20-45	fs1	25Y 53 00 75YR66 00 C					00MN00 00	Y	0	0	HR	5		P		
	45-60	lfs	25Y 54 00 75YR58 00 C					00MN00 00	Y	0	0	HR	40		P		IMP GLASS FRAGS 60
45	0-30	fs1	10YR32 42						0	0	HR	2					
	30-65	lfs	10YR54 00						0	0	HR	3		M			
	65-85	fs1	25Y 52 00 10YR58 00 M					Y	0	0		0		M			
	85-120	c	25Y 51 00 10YR58 00 M					Y	0	0		0		P		Y	
46	0-35	fs1	10YR32 00						0	0	HR	2					
	35-60	lfs	10YR54 00						0	0		0		M			
	60-95	lfs	10YR64 54 10YR56 00 F						0	0		0		M			
	95-120	fs	25Y 62 72 10YR58 68 C					Y	0	0		0		M			

SAMPLE	DEPTH	TEXTURE	COLOUR	-----MOTTLES-----			PED COL.	-----STONES-----			STRUCT/ CONSIST	SUBS			SPL	CALC	
				COL	ABUN	CONT		GLEY	>2	>6		LITH	TOT	STR			POR
47	0-18	sc1	25Y 62 61	10YR68	00	M		Y	0	0	HR	3					MATTED WITH ROOTS
	18-50	mzc1	10YR21	00				Y	0	0	HR	30	P	Y			NO VIS ROOTS IMP 50
48	0-30	fs1	10YR32	00					0	0	HR	2					
	30-70	fs1	10YR53	54	10YR56	00	C	Y	0	0		0		M			
	70-120	lfs	25Y 63	00	10YR68	00	C	Y	0	0	HR	2		M			
49	0-30	fs1	10YR43	00					0	0	HR	2					
	30-95	lfs	10YR54	53	10YR56	00	C	Y	0	0		0		M			
	95-120	fs	10YR62	00	10YR68	00	C	Y	0	0		0		M			
50	0-35	fs1	10YR42	00					0	0	HR	2					
	35-60	fs1	10YR53	52	10YR56	00	C	Y	0	0		0		M			
	60-120	lfs	25Y 53	00	10YR58	00	C	Y	0	0		0		M			

**LAND AT MIZENS FARM, CHERTSEY ROAD,  
WOKING, SURREY**

**Physical Characteristics in the area of proposed  
soil disturbance.**

**January 1999**

**Resource Planning Team  
Eastern Region  
FRCA Reading**

**RPT Job Number: 4011/011/99  
MAFF Reference: EL 40/01322**



## SOIL CHARACTERISTICS FOR AREAS TO BE DISTURBED IN ASSOCIATION WITH PROPOSED DEVELOPMENT AT MIZENS FARM, WOKING, SURREY.

1. This report briefly describes the soil resources identified in the area likely to be disturbed during proposed development at Mizens Farm, Chertsey Road, Woking, Surrey as outlined on Plan No. S-LM135709 025A supplied by Terence O'Rourke. It should be emphasised that this is not intended as a prescription for soil stripping, but merely an illustration of the soil resources available in this part of the site. Due to the natural variability of soils, the depths of topsoil and subsoil are averages from the observations made in these areas and therefore should be treated with caution. Where possible, soils were sampled to a maximum depth of 120cm<sup>1</sup> during survey work in May 1995 and September 1996. In some cases soil resources will extend below this depth. Textures described relate predominantly to hand texturing, incorporating the results of laboratory analysis (particle size distribution), where taken. The soil colours described use the nomenclature found in the Munsell Soil Colour Charts (Gretag Macbeth 1994).

### *Topsoil*

2. A single topsoil unit has been identified in this area. Its characteristics are described in Table 1 below. At the time of survey, no information on the structural condition of the topsoil was collected.

Table 1: Representative topsoil characteristics

Horizon	Average Depth (cm)	Description
Topsoil	0-34	<ul style="list-style-type: none"><li>• Non-calcareous;</li><li>• fine sandy loam and fine sandy silt loam;</li><li>• very dark greyish brown (10YR3/2), dark greyish brown (10YR4/2) or brown (10YR4/3);</li><li>• stoneless to very slightly stony (0-3% flints).</li></ul>

### *Subsoil*

3. The plan attached shows two subsoil units divided along the 25.5m contour. If the soils are stripped and reinstated under suitable conditions as outlined in the 'The Soil Code' (MAFF, 1998) in accordance with these units then the effect on land quality should be minimised.

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<sup>1</sup> Occasional observations were impenetrable to the soil auger, see para. 4.

***Subsoil Unit I***

4. This larger area to the north of the site has subsoils as represented by Table 2 below. This unit covers an area of approximately 5 hectares and generally comprises sandy upper horizons overlying slowly permeable clayey lower horizons which very occasionally revert to sandy textures close to the maximum sampling depth (120cm). Towards the north of the unit, occasional observations contained quantities of flints sufficient to cause the profile to be impenetrable to the soil auger at 80cm.

**Table 2: Representative subsoil profile for Soil Unit I**

Horizon	Average Depth (cm)	Description
Subsoil 1	34-62	<ul style="list-style-type: none"> <li>• Non-calcareous;</li> <li>• fine sandy loam or loamy fine sand;</li> <li>• dark yellowish brown (10YR4/4), brown (10YR5/3), yellowish brown (10YR5/4), greyish brown (2.5Y 5/2), grey (2.5Y 6/1), light brownish grey (2.5Y 6/2) or light yellowish brown (2.5Y 6/3);</li> <li>• common to many, distinct, yellowish brown (10YR5/6-5/8) or brownish yellow (10YR6/6-6/8) ochreous mottles; occasionally not present</li> <li>• stoneless to moderately stony (0-25% flints);</li> <li>• moderately developed coarse sub-angular blocky or moderately developed coarse angular blocky structure;</li> <li>• very friable, friable or firm consistence.</li> </ul>
Subsoil 2	62-120	<ul style="list-style-type: none"> <li>• Non-calcareous;</li> <li>• clay;</li> <li>• greyish brown (10YR5/2), grey (2.5Y 5/1-6/1, 05Y 6/1) or greyish brown (2.5Y 5/2);</li> <li>• many distinct strong brown (7.5YR5/8) or yellowish brown (10YR5/8) ochreous mottles;</li> <li>• stoneless;</li> <li>• weakly developed coarse sub-angular blocky structure;</li> <li>• firm consistence.</li> </ul>

***Subsoil Unit II***

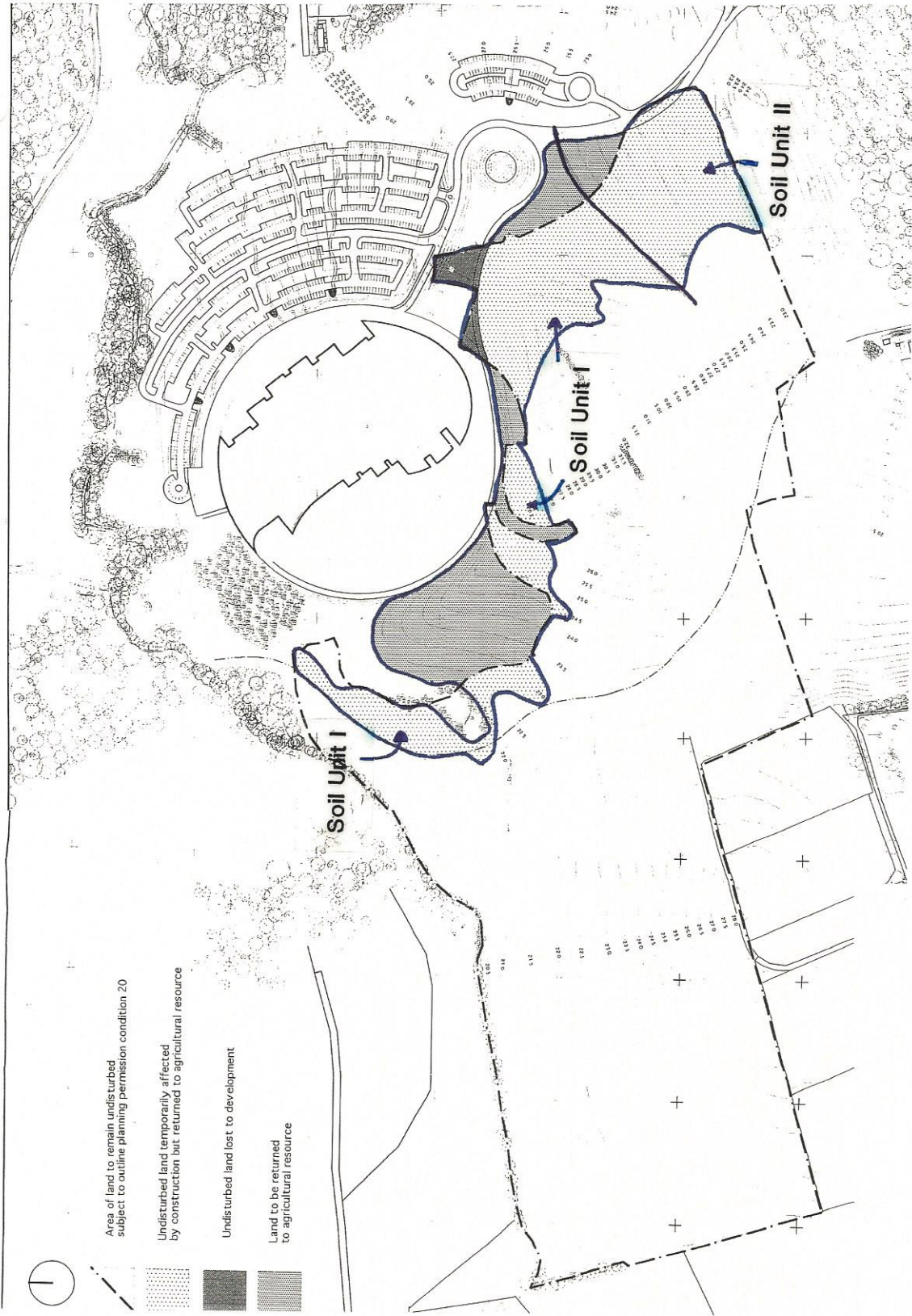
5. Table 3 below outlines the subsoil characteristics present on the site towards the south of the area to be disturbed during the proposed development. The unit generally comprises sandy upper subsoil textures overlying slowly permeable sandy clay loam lower subsoils. This unit covers approximately 2 hectares.

**Table 3: Representative subsoil profile for Soil Unit II**

Horizon	Average Depth (cm)	Description
Subsoil 1	34-52	<ul style="list-style-type: none"> <li>• Non-calcareous;</li> <li>• fine sandy loam, loamy fine sand;</li> <li>• yellowish brown (10YR5/4) or light olive grey (05Y 6/2);</li> <li>• few to many, distinct, yellowish brown (10YR5/6) ochreous mottles;</li> <li>• stoneless;</li> <li>• moderately developed coarse prismatic structure;</li> <li>• firm consistence.</li> </ul>
Subsoil 2	52-120	<ul style="list-style-type: none"> <li>• Non-calcareous;</li> <li>• sandy clay loam;</li> <li>• light brownish grey (2.5Y 6/2) or light olive grey (05Y 6/2);</li> <li>• common to many, distinct, brownish yellow (10YR5/8) ochreous mottles;</li> <li>• stoneless;</li> <li>• moderately developed coarse angular blocky structure;</li> <li>• firm consistence.</li> </ul>

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 Subsoil Units in Areas of Potential Disturbance



Scale: approx. 1:5,000

From plan TOR S-LM135709 625A