TUNBRIDGE WELLS LOCAL PLAN

Site 3 Downingbury Farm
Pembury
Kent

2014 / 228 / 91

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SITE 3 LAND AT DOWNINGBURY FARM, PEMBURY

1 INTRODUCTION

1 1 In June 1992 an Agricultural Land Classification (ALC) survey was carried out on 8 55 ha of land at Downingbury Farm Pembury Kent ADAS was commissioned by MAFF to determine land quality affected by the proposal to include this site for development in the Tunbridge Wells Local Plan

1 2 The survey work was carried out by members of the Resource Planning Team within the Guildford Statutory Group at a detailed level of approximately 1 boring per hectare A total of 8 auger borings and one soil inspection pit were described and the site graded 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 agricultural use At the time of survey the site was in a variety of horticultural uses including a pick your own enterprise

1 3 The distribution of grades is shown on the attached ALC map and the area and extent is given in the table below The map has been drawn at a scale of 1 5000 any enlargement of this would be misleading

Distribution of Grades and Sub grades

Grade	Area (ha)	% total agricultural land
2	2 52	32 9
3a	5 13	67 1
Total agricultural area	7 65	100
Urban	0 85	
Non agricultural	0 05	
Total Area of site	8 55	

1 4 Grades 2 and 3a have been mapped at this locality Soils are derived from deposits of Tunbridge Wells Sand and have slight wetness and/or droughtiness limitations The better quality land is generally moderately well drained and may rest over soft sandstone at depths greater than about 70 cm Grade 3a land tends to be slightly poorer drained and may also rest over soft sandstone at depths greater than 60 cm

2 PHYSICAL FACTORS AFFECTING LAND QUALITY

Relief

2 1 The site lies at an altitude of 80 90 m AOD falling gently from the south west towards the north east Nowhere on the site does altitude or gradient act as a limitation to agricultural land quality

Climate

2 2 Estimates of climatic variables relevant to the assessment of agricultural land quality were obtained for a representative location in the survey area by interpolation from a 5km grid point dataset (Met Office 1989)

Climatic Interpolation

Grid Reference	TQ 630 424
Altitude (m AOD)	87
Accumulated Temperature (°days Jan June)	1416
Average Annual Rainfall (mm)	751
Field Capacity Days	155
Moisture Deficit Wheat (mm)	106
Moisture Deficit Potatoes (mm)	99

2 3 There is no overall climatic limitation at this locality However climatic factors do affect the interactive limitations of soil wetness and droughtiness Field capacity days and crop adjusted soil moisture deficits are particularly influential in this respect

Geology and Soils

2 4 British Geological Survey (1971) Sheet 303 Tunbridge Wells shows the entire site to be underlain by Cretaceous deposits of Tunbridge Wells Sand

2 5 Soil Survey of England and Wales (1986) Sheet TQ64 Soils of Paddock Wood indicates the presence of two soil mapping units across the site Most of the site comprises soils of the Pembury Series silty typical brown earths (SSEW 1986) whilst soils of the Curtisden Series have been mapped along the western boundary of the site These soils are described as silty stagnogleyic argillic brown earths (SSEW 1986)

2 6 Detailed field examination of the soils on the site shows them to comprise moderately well drained fine and medium silty soils developed from Tunbridge Wells Sand

3 AGRICULTURAL LAND CLASSIFICATION

3 1 The ALC grading of this site is determined by the interaction between soil and climatic factors giving rise to soil wetness and/or droughtiness limitations Soil wetness is largely the overriding limitation across the site

3 2 Grade 2

Land of this quality has been mapped along the northern most boundary of the site adjacent to the B2015 Very slightly stony non calcareous topsoils of silt loam fine sandy silt loam or medium silty clay loam overlie similarly textured subsoils which may contain lenses of fine sandy loam or may become heavier with depth Stone content tends to increase with depth typically ranging from 2 20% by volume medium soft sandstone fragments Profiles may become impenetrable (to soil auger) below 100 cm These soils exhibit signs of slightly imperfect drainage in the form of mottling and gleying below about 70 80 cm which is coincident with horizons which are slowly permeable thereby inhibiting natural drainage of the profiles (wetness class II) Land assigned to grade 2 has minor limitations to its agricultural use as a result of slight soil wetness and/or droughtiness restrictions Profiles have slightly impeded drainage and/or slightly reduced reserves of available water as a result of slight profile stoniness or reduced soil depth

3 3 Grade 3a

Land of this quality occupies most of the site area and is principally limited by soil wetness although occasionally by wetness and droughtiness in combination Profiles similar to but slightly heavier those than described in section 3 2 above typically have silt loam or medium silty clay loam topsoils which may be very slightly stony and are non calcareous These overlie medium or heavy silty clay loam subsoils with 5 15% by volume medium soft sandstone fragments Again profiles may become impenetrable (to soil auger) over sandstone deposits from about 70 cm depth The land is limited mainly by soil wetness although where profiles are relatively shallow over sandstone soil droughtiness is also acting as a limitation Profiles tend to be gleyed between 27 and 47 cm depth in association with slowly permeable horizons at similar depths Given these drainage characteristics wetness class III is appropriate and land is assigned to subgrade 3a accordingly Although the slight soil wetness limitation which exists may adversely affect plant growth or impose restrictions on cultivations or grazing this good quality agricultural land is still capable of consistently producing moderate yields of a wide range of crops

July 1992
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Resource Planning Team
ADAS Reading

SOURCES OF REFERENCE

BRITISH GEOLOGICAL SURVEY (1971) Sheet 303 Tunbridge Wells

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

METEOROLOGICAL OFFICE (1989) Climatological datasets for Agricultural Land Classification

SOIL SURVEY OF ENGLAND AND WALES (1984) Sheet TQ64 Soils of Paddock Wood and accompanying bulletin

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL	PED GLEY	STONES 2	STONES 6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC	
1	0 25	zl	10YR52 00						2	0	MSST	2							
	25 67	zl	10YR64 74		C		10YR72 00	Y	0	0	MSST	20		M					Imp 67+ msst
2	0 30	fszl	10YR53 00						0	0		0							
	30 50	fszl	10YR54 00		F		10YR82 00		0	0	MSST	5		M					
	50 70	fsl	10YR54 00		F		10YR82 00		0	0	MSST	2		M					
	70 80	fsl	10YR54 63		C		10YR72 82	Y	0	0		0		M					
	80 100	mszl	10YR54 63		C		10YR72 82	Y	0	0	MSST	2		M					Imp 100+ msst
3	0 25	mzcl	10YR43 00						0	0	MSST	1							
	25 55	mzcl	10YR53 00						0	0		0		M					
	55 80	mzcl	10YR54 00						0	0	MSST	5		M					
	80 105	mzcl	10YR64 00	10YR76 00	F		10YR74 00	Y	0	0	MSST	10		M			Y		
	105 120	h cl	10YR83 00	10YR66 00	C		10YR76 00	Y	0	0	MSST	15		M			Y		
4	0 25	mzcl	10YR42 52						0	0	MSST	5							
	25 47	mzcl	40YR54 00						0	0	MSST	5		M					
	47 60	mzcl	10YR73 00	10YR66 00	M		10YR81 00	Y	0	0	MSST	15		M			Y		Imp 60+ stone
6	0 27	zl	10YR53 00						0	0		0							
	27 60	zl	10YR64 00	75YR68 00	C		10YR80 00	Y	0	0		0		M					
	60 80	zl	10YR82 83	10YR66 00	C			Y	0	0	MSST	2		M					
	80 85	fszl	10YR80 82	75YR58 00	M			Y	0	0	MSST	10		M					
	85 95	lfs	10YR80 82	75YR58 00	C			Y	0	0	MSST	2		M					
	95 120	fs	10YR73 00	75YR58 00	C			Y	0	0	MSST	2		M					
6P	0 27	zl	10YR53 00						0	0		0							
	27 45	m cl	10YR64 00	75YR68 00	M		10YR80 00	Y	0	0	MSST	5	STCSAB VM	M	Y				
	45 60	mzcl	10YR64 00	75YR68 00	M		10YR80 00	Y	0	0	MSST	15	STVCAB VM	P	Y		Y		Not imp 60+
7	0 30	zl	10YR43 53						0	0		0							
	30 45	hzcl	10YR53 00	10YR66 00	C		10YR72 00	Y	0	0		0		M			Y		
	45 67	hzcl	10YR64 00	10YR66 00	M		25Y 70 00	Y	0	0		0		M			Y		
	67 78	hzcl	10YR53 00	10YR56 00	M		25Y 70 00	Y	0	0	MSST	10		M			Y		
	78 80	mzcl	10YR74 00	10YR66 00	M			Y	0	0	MSST	15		M			Y		Imp 80+ stone
8	0 25	m l	10YR43 53						0	0		0							
	25 40	mzcl	10YR53 00						0	0	MSST	5		M					
	40 50	m cl	10YR66 00	10YR76 00	F		25Y 70 00	Y	0	0	MSST	10		M			Y		
	50 90	mzcl	10YR76 00	10YR66 00	C		10YR72 00	Y	0	0	MSST	10		M			Y		
	90 120	h cl	10YR68 00	10YR72 00	C			Y	0	0	MSST	10		M			Y		
9	0 27	mzcl	10YR53 00						0	0		0							
	27 42	hzcl	10YR66 00	10YR56 00	F				0	0		0		M					
	42 70	h cl	10YR64 00	10YR56 00	C		25Y 70 00	Y	0	0	MSST	5		M			Y		Imp 70+ msst

SAMPLE NO	GRID REF	USE	ASPECT	GRDNT	GLEY	SPL	WETNESS CLASS	WHEAT GRADE	POTS AP	POTS MB	M REL AP	M REL MB	DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	TQ63104240	FRU			025		2	2	057	49	057	42	3B				DR	3B	
2	TQ63204240	FRU			070		1	1	166	60	142	43	1					1	
3	TQ62804230	HOR	N	05	080	080	2	2	155	49	123	24	1				WE	2	
4	TQ62904230	HOR	N	01	047	047	3	3A	096	10	102	3	3A				WE	3A	
6	TQ63104230	FRU	E		027		2	2	203	97	156	57	1				WE	2	
6P	TQ63104230	HOR			027	045	3	3A	000	0	000	0					WE	3A	
7	TQ62904220	HOR	N	02	030	030	4	3B	132	26	137	38	2				WE	3B	
8	TQ63004220	HOR	E	01	040	045	3	3A	152	46	119	20	1				WE	3A	
9	TQ62904210	HOR	S		042	042	3	3A	109	3	122	23	3A				WE	3A	