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**WYCOMBE DISTRICT LOCAL PLAN
Land at Rose Farm, Longwick,
Princes Risborough, Buckinghamshire**

**Agricultural Land Classification
ALC Map and Report**

May 1997

**Resource Planning Team
Eastern Region
FRCA Reading**

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AGRICULTURAL LAND CLASSIFICATION REPORT

WYCOMBE DISTRICT LOCAL PLAN. LAND AT ROSE FARM, LONGWICK, PRINCES RISBOROUGH, BUCKINGHAMSHIRE

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 24.6 hectares of land between the village of Longwick, and the High Wycombe to Bicester railway line, which lies to the west of Princes Risborough in Buckinghamshire. The survey was carried out during April 1997.
2. The survey was carried out by the Farming and Rural Conservation Agency (FRCA) for the Ministry of Agriculture, Fisheries and Food (MAFF), in connection with the Wycombe District Local Plan. This survey supersedes any previous ALC information for this land. An adjacent survey was completed to the south west of this site in 1987 (Ref: 0305/055/87).
3. The work was conducted by members of the Resource Planning Team in the Eastern Region of FRCA. 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 the time of survey, the agricultural land on this site was under permanent grass. The areas mapped as 'Other Land' comprise a farm yard area with agricultural buildings, a dwelling associated with the farm, to the north of the site, and a school playing field towards the south. In addition, to the south west of the farm buildings, there are areas which have been fenced off where trees have been planted to create new field boundaries.

SUMMARY

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10,000. 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 surveyed land are summarised in Table 1 below.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% surveyed area	% site area
3a	2.9	15.2	11.8
3b	16.2	84.8	65.8
Other land	5.5	N/A	22.4
Total surveyed area	19.1	100	80.5
Total site area	24.6	-	100

7. The fieldwork was conducted at an average density of 1 boring per hectare of agricultural land. A total of 24 borings and 2 soil pits were described.

8. The agricultural land at this site has been classified as Subgrade 3a (good quality) and Subgrade 3b (moderate quality). The principal limitation is soil wetness.

9. Land of Subgrade 3a quality has been mapped towards the south and north west of the site. Land in this area is principally limited by soil wetness. Variably stony and chalky medium loamy and silty soils prevail which are affected by a drainage impedance at moderate depths. This wetness limitation will reduce the versatility of the land in terms of access by machinery (eg for cultivations or harvesting) and for grazing if damage to the soil is to be avoided.

10. Land of Subgrade 3b quality has been mapped for the majority of the land at this site. The principal limitation is soil wetness, which is more severe than for the land classified as Subgrade 3a due to the fact that the clay occurs at shallower depths. The soils are commonly slightly stony and chalky medium loams and silts overlying clays. The clay causes a drainage impedance which, at this site, results in the versatility of the land being more severely restricted, further reducing flexibility of use and yield potential.

FACTORS INFLUENCING ALC GRADE

Climate

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

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

Table 2: Climatic and altitude data

Factor	Units	Values	
		SP 785 052	SP 784 049
Grid reference	N/A	SP 785 052	SP 784 049
Altitude	m, AOD	85	90
Accumulated Temperature	day°C (Jan-June)	1410	1405
Average Annual Rainfall	mm	649	664
Field Capacity Days	days	142	145
Moisture Deficit, Wheat	mm	108	107
Moisture Deficit, Potatoes	mm	100	98
Overall climatic grade	N/A	Grade 1	Grade 1

13. 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.

14. 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.

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

Site

16. The site lies at an altitude between approximately 85 and 90m AOD. The majority of the area is virtually flat, except towards the west where the land rises slightly. None of the slopes on the site are of sufficient gradient to adversely affect land quality.

Geology and soils

17. The published geological information for the site (BGS, 1994) shows the majority of the site to be underlain by Cretaceous Gault Clay. Towards the north and south east of the site recent head drift deposits are mapped.

18. The most detailed published soils information for the site (SSEW, 1983 and 1984) shows this site to comprise soils of the Denchworth association. These are described as, 'Slowly permeable seasonally waterlogged clayey soils with similar fine loamy over clayey soils. Some fine loamy over clayey soils with only slight seasonal waterlogging and some slowly permeable calcareous clayey soils. Landslips and associated irregular terrain locally' (SSEW, 1983). Soils of these descriptions were found at this site.

AGRICULTURAL LAND CLASSIFICATION

19. 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.

20. 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 II.

Subgrade 3a

21. Land of good quality has been mapped in two separate units to the north west and south east of the survey area. The principal limitation to land quality here is soil wetness. Soils are characterised by the soil pit, 2P (see Appendix II).

22. The soil profile in these areas was found to comprise the following. A medium clay loam, occasionally heavy silty clay loam topsoil, which is stoneless or very slightly stony, occasionally with chalk stone. These pass to a stoneless to slightly stony, occasionally calcareous, moderately structured medium or heavy clay loam, or clay upper subsoil which were gleyed or slightly gleyed. The lower subsoils commonly comprise slightly stony or chalky, moderately or poorly structured, gleyed slowly permeable clays and heavy clay loams which on occasion became lighter (sandy clay loam or medium silty clay loam) and slightly

more chalky at depth. Given the local climate and this combination of imperfectly drained soils, the depth to the gleyed and slowly permeable horizons is the crucial factor in determining the land quality in these areas. These mostly equate with Wetness Class III which, when combined with the medium topsoil textures, leads to Subgrade 3a being appropriate on the basis of a soil wetness limitation.

23. Soil wetness restricts the versatility of the land by limiting the opportunities for cultivation or grazing without damaging the soil, as well as restricting plant growth and potential yield. Occasional observations of a slightly better quality have been included in these map units as they were too few in number and too scattered to be mapped separately.

Subgrade 3b

24. Land of moderate quality has been mapped over the majority of the agricultural land at this site in two mapping units. The principal limiting factor in these areas is soil wetness. The soils are characterised by the soil pit, 1P (see Appendix II).

25. The soils in these areas are of a single type. They comprise a stoneless to very slightly stony, occasionally calcareous medium or heavy clay loam, occasionally silty clay loam or clay. This passes to a relatively thin horizon which contains a similarly stony and calcareous, commonly gleyed heavy clay loam or clay upper subsoil overlying a gleyed and slowly permeable clay subsoil. In some observations, the narrow upper subsoil was non-existent, the topsoil passing directly to the slowly permeable clay. In some observations, the slowly permeable horizons give way, at depth, to a slightly to moderately chalky medium silty clay loam or heavy clay loam. The crucial factor in determining the land quality in these areas is the depth to the slowly permeable layer. In the local climate, this equates with Wetness Class IV and, given the medium to heavy nature of the topsoils, this leads to Subgrade 3b being appropriate. The limitations caused by soil wetness are detailed above in para. 23. In these areas they are of a more severe nature, significantly restricting land access and further reducing flexibility of use and yield potential.

Matthew Larkin
Resource Planning Team
Eastern Region
FRCA Reading

SOURCES OF REFERENCE

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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 DATA

Contents:

Sample location map

Soil abbreviations - explanatory note

Soil pit descriptions

Soil boring descriptions (boring and horizon levels)

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:

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	FRT: Soft and top fruit	FLW: Fallow
PGR: Permanent pasture	LEY: Ley grass	RGR: Rough grazing
SCR: Scrub	CFW: Coniferous woodland	OTH: Other
DCW: Deciduous woodland	BOG: Bog or marsh	SAS: Set-Aside
HTH: Heathland	HRT: Horticultural crops	PLO: Ploughed

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:

OC: Overall Climate	AE: Aspect	ST: Topsoil Stoniness
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: Erosion Risk	WD: Soil Wetness/Droughtiness
EX: Exposure		

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
ZL:	Silt 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 the following 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 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:

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

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

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 : WYCOMBE DLP LONGWICK Pit Number : 1P

Grid Reference: SP78500510 Average Annual Rainfall : 664 mm
 Accumulated Temperature : 1405 degree days
 Field Capacity Level : 145 days
 Land Use : Permanent Grass
 Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 24	HCL	10YR41 00	0	2	HR					
24- 60	C	25Y 52 53	0	2	HR	C	MDCAB	FM	P	
60-100	HZCL	25Y 72 00	0	30	CH	C	HKCSAB	VF	M	Y

Wetness Grade : 3B Wetness Class : IV
 Gleying : 24 cm
 SPL : 24 cm

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

FINAL ALC GRADE : 3B
 MAIN LIMITATION : Wetness

SOIL PIT DESCRIPTION

Site Name : WYCOMBE DLP LONGWICK Pit Number : 2P

Grid Reference: SP78600510 Average Annual Rainfall : 664 mm
 Accumulated Temperature : 1405 degree days
 Field Capacity Level : 145 days
 Land Use : Permanent Grass
 Slope and Aspect : degrees

HORIZON	TEXTURE	COLOUR	STONES >2	TOT.STONE	LITH	MOTTLES	STRUCTURE	CONSIST	SUBSTRUCTURE	CALC
0- 21	HZCL	10YR32 00	0	2	HR					
21- 37	HCL	25Y 42 00	0	10	HR	F	MDCSAB	FR	M	
37- 43	HCL	25Y 42 00	0	5	HR	C	MDCSAB	FR	M	Y
43- 84	HCL	25Y 42 00	0	5	HR	C	HKCAB	FR	M	Y
84-120	HZCL	10YR72 00	0	10	CH	C	WDCSAB	FR	M	Y

Wetness Grade : 3A Wetness Class : III
 Gleying : 37 cm
 SPL : 43 cm

Drought Grade : 1 APW : 149mm MBW : 42 mm
 APP : 113mm MBP : 15 mm

FINAL ALC GRADE : 3A
 MAIN LIMITATION : Wetness

SAMPLE NO.	GRID REF	ASPECT USE	--WETNESS--				-WHEAT-		-POTS-		M.REL		EROSN	FROST	CHEM	ALC	COMMENTS
			GRDNT	GLEY	SPL	CLASS	GRADE	AP	MB	AP	MB	DRT	FLOOD	EXP	DIST	LIMIT	
1	SP78700530	PGR		0	25	4	3B		0	0					WE 3B		
1P	SP78500510	PGR		24	24	4	3B		0	0					WE 3B	PIT80 AUG100	
2	SP78500520	PGR		55	55	2	2	128	21	117	19	2			WD 2	IMP 100	
2P	SP78600510	PGR		37	43	3	3A	149	42	113	15	1			WE 3A	PIT90 AUG120	
3	SP78650517	PGR		35	35	4	3B		0	0					WE 3B	IMP 90	
4	SP78700520	PGR		28	55	3	3A		0	0					WE 3A		
5	SP78400510	PGR		35	35	4	3B	135	28	112	14	2			WE 3B		
6	SP78500510	PGR		28	28	4	3B		0	0					WE 3B	IMP 100	
7	SP78600510	PGR		28	45	3	3A		0	0					WE 3A	IMP 90	
8	SP78200500	C&R		28	28	4	3B		0	0					WE 3B		
9	SP78300500	C&R		25	25	4	3B		0	0					WE 3B		
10	SP78400500	C&R		28	28	4	3B		0	0					WE 3B		
11	SP78500500	PGR		25	25	4	3B		0	0					WE 3B		
12	SP78600500	PGR		25	65	3	3A		0	0					WE 3A		
13	SP78400490	BAR SE	1	25	25	4	3B		0	0					WE 3B		
14	SP78500490	C&R		30	30	4	3B		0	0					WE 3B		
15	SP78670514	PGR		30	30	4	3B	147	40	117	19	1			WE 3B		
16	SP78500480	PGR SE	1	47	47	3	3A	133	26	110	12	2			WE 3A		
17	SP78600480	PGR SE	1	33	33	4	3B		0	0					WE 3B		
18	SP78700480	PGR		38	38	4	3B	103	-4	110	12	3A			WE 3B	IMP 75	
20	SP79000465	PGR N	1	45	45	3	3A	137	30	110	12	1			WE 3A	SL GLEYED 25	
21	SP78700470	PGR SE	1	35	35	4	3B	129	22	106	8	2			WE 3B		
22	SP78800470	PGR		35	35	4	3B	148	41	112	14	1			WE 3B		
23	SP78900470	PGR N	1	35	35	4	3B	129	22	106	8	2			WE 3B		
24	SP78800460	PGR N	1	25	55	3	3A	138	31	103	5	2			WE 3A		
25	SP78900460	PGR N	1	43	43	3	2	107	0	109	11	3A			WD 2	IMP 80 SLGL 23	

SAMPLE	DEPTH	TEXTURE	COLOUR	-----MOTTLES-----			PED		-----STONES-----			STRUCT/ CONSIST	SUBS			SPL	CALC		
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH		TOT	STR	POR			IMP	
1	0-25	hc1	10YR42 00	10YR56	00	C			Y	0	0	HR	2						
	25-50	c	25Y 53 00	10YR68	00	C			Y	0	0	HR	2		P		Y		
	50-65	hc1	25Y 62 00	10YR66	00	M			Y	0	0	HR	10		M		Y		
	65-70	mc1	10YR52 00	10YR68	00	M			Y	0	0	HR	25		M			IMP FLINT 70	
1P	0-24	hc1	10YR41 00							0	0	HR	2						
	24-60	c	25Y 52 53	10YR58	00	C	25Y 53 00	Y	0	0	HR	2	MDCAB	FM	P	Y	Y		
	60-100	hzc1	25Y 72 00	10YR68	00	C			Y	0	0	CH	30	WKCSAB	VF	M	Y	Y	Y
2	0-30	hzc1	10YR32 00							0	0	CH	5				Y		
	30-55	c	25Y 52 00	25Y 56	00	C				0	0	CH	5		M		Y	MOTS NOT OCHREOUS	
	55-85	c	05Y 63 00	10YR58	00	C	00M00 00	Y	0	0	CH	10			P		Y	Y	
	85-100	mzc1	05Y 72 00	10YR58	00	C			Y	0	0	CH	15		M		Y	IMP FLINT 100	
2P	0-21	mzc1	10YR32 00							0	0	HR	2						
	21-37	hc1	25Y 42 00	10YR56	00	F				0	10	HR	10	MDCSAB	FR	M			
	37-43	hc1	25Y 42 00	10YR56	00	C			Y	0	0	HR	5	MDCSAB	FR	M		Y	
	43-84	hc1	25Y 42 00	10YR56	00	C			Y	0	0	HR	5	WKCSAB	FR	M	Y	Y	Y
	84-120	mzc1	10YR72 00	10YR68	00	C			Y	0	0	CH	10	WDCSAB	FR	M		Y	
3	0-28	mzc1	10YR33 00							0	0	CH	5				Y		
	28-35	hzc1	25Y 53 00	25Y 56	00	F				0	0	CH	5		M		Y		
	35-45	c	25Y 53 00	10YR56	00	C			Y	0	0	CH	5		M		Y	Y	
	45-65	c	05Y 62 00	10YR58	00	C			Y	0	0	CH	10		M		Y	Y	
	65-90	mzc1	05Y 72 00	10YR58	00	C			Y	0	0	CH	15		M		Y	IMP FLINT 90	
4	0-28	mc1	10YR41 00	10YR46	00	F				0	0	HR	2						
	28-55	hc1	10YR63 62	10YR56	00	C			Y	0	0	HR	5		M				
	55-90	c	25Y 61 00	10YR68	00	C			Y	0	0	HR	5		P		Y	Y	
5	0-35	hzc1	10YR32 00							0	0		0						
	35-55	c	25Y 52 00	10YR56	00	C			Y	0	0		0		P		Y		
	55-82	c	25Y 52 00	10YR56	00	M			Y	0	0		0		P		Y		
	82-120	c	05Y 63 00	10YR56	00	M			Y	0	0	CH	1		P		Y	Y	
6	0-28	hzc1	10YR32 00							0	0	CH	5				Y	SEE 1P	
	28-40	c	25Y 52 00	10YR58	00	C	00M00 00	Y	0	0	CH	5		P		Y	Y		
	40-68	c	25Y 52 00	10YR58	00	M			Y	0	0	CH	1		P		Y	Y	
	68-100	mzc1	25Y 72 00	10YR56	00	C			Y	0	0	CH	15		M		Y	IMP FLINT 100	
7	0-28	mzc1	10YR41 00							0	0	CH	3				Y	SEE 2P	
	28-45	hc1	25Y 52 00	10YR58	00	C			Y	0	0	CH	5		M		Y		
	45-80	hc1	25Y 53 00	10YR58	00	M			Y	0	0	CH	2		M		Y	Y	
	80-90	mzc1	10YR71 00						Y	0	0	CH	50		M		Y	IMP CHALKY DRIFT 90	
8	0-28	hc1	10YR41 00							0	0	HR	2						
	28-40	c	25Y 51 00	10YR58	00	M	00M00 00	Y	0	0		0		P		Y			
	40-80	c	25Y 61 71	10YR58	68	C			Y	0	0		0		P		Y	Y	

SAMPLE	DEPTH	TEXTURE	COLOUR	---MOTTLES---			PED		---STONES---				STRUCT/ CONSIST	SUBS			
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH	TOT		STR	POR	IMP	SPL
9	0-25	c	10YR41 00						0	0	HR	2					
	25-65	c	25Y 53 54 10YR58 68 M						Y	0	0	HR	2	P		Y	
	65-90	c	25Y 61 71 10YR68 00 C						Y	0	0	0	P		Y	Y	
10	0-28	mc1	10YR41 00						0	0	HR	2					
	28-40	c	10YR42 00 10YR46 00 C						Y	0	0	0	P		Y		
	40-80	c	10YR52 00 10YR58 00 M						Y	0	0	0	P		Y		
11	0-25	mc1	10YR41 00						0	0		0					
	25-45	c	25Y 52 00 10YR56 00 C						Y	0	0	CH	2	P		Y	Y
	45-55	c	25Y 63 00 10YR66 00 C						Y	0	0	CH	10	P		Y	Y
	55-120	zc	10YR72 00 10YR66 00 C						Y	0	0	CH	15	P		Y	Y
12	0-25	mc1	10YR41 00						0	0	HR	2					
	25-40	hc1	25Y 52 00 10YR68 00 C						Y	0	0	0	M				
	40-65	mc1	25Y 52 00 10YR58 00 M						Y	0	0	0	M			Y	
	65-90	c	25Y 61 00 10YR68 00 C						Y	0	0	0	P		Y	Y	
13	0-25	mc1	10YR32 00						0	0		0					
	25-60	c	25Y 53 62 10YR56 00 C						Y	0	0	0	P		Y		
	60-80	c	05Y 62 00 10YR46 00 C						Y	0	0	0	P		Y	Y	
14	0-30	hc1	10YR41 00						0	0	HR	2					
	30-70	c	25Y 53 00 10YR58 00 M						Y	0	0	HR	2	P		Y	
	70-80	c	25Y 53 52 10YR58 00 M				00M00	00	Y	0	0	0	P		Y		
	80-120	mzc1	10YR71 00 10YR58 00 C						Y	0	0	CH	30	M			Y
15	0-30	mzc1	10YR41 00						0	0	HR	2					
	30-65	c	25Y 42 52 10YR58 00 M						Y	0	0	HR	5	P		Y	
	65-80	c	25Y 51 00 10YR58 00 M						Y	0	0	HR	10	P		Y	Y
	80-120	hzc1	25Y 61 00 10YR58 00 C						Y	0	0	CH	15	M		Y	Y
16	0-25	mc1	10YR32 00						0	0		0					
	25-35	hc1	10YR53 32						0	0		0	M				
	35-47	c	25Y 53 54			F			0	0		0	M				
	47-85	c	25Y 53 62 10YR56 58 M						Y	0	0	0	P		Y		
	85-120	c	05Y 62 00 10YR46 00 C						Y	0	0	0	P		Y	Y	
17	0-25	mc1	10YR32 00						0	0		0					
	25-33	hc1	10YR53 32						0	0		0	M				
	33-90	c	25Y 53 62 10YR56 00 C						Y	0	0	0	P		Y		
18	0-25	hzc1	10YR42 00						0	0	CH	2					Y
	25-38	c	25Y 53 00 10YR56 00 F						0	0	CH	2	M				Y
	38-52	c	25Y 52 53 10YR56 00 C						Y	0	0	CH	2	P		Y	Y
	52-65	c	25Y 62 00 10YR46 00 M						Y	0	0	CH	10	P		Y	Y
	65-75	mzc1	25Y 72 00 10YR46 00 C						Y	0	0	CH	10	M			Y

IMP CHALK DRIFT 75

SAMPLE	DEPTH	TEXTURE	COLOUR	----MOTTLES----			PED		----STONES----			STRUCT/ CONSIST	SUBS			CALC	
				COL	ABUN	CONT	COL.	GLE	>2	>6	LITH		TOT	STR	POR		IMP
20	0-25	mc1	10YR32 00						0	0	0						
	25-45	mc1	10YR43 00	10YR58 00	C			S	0	0	0		M				SLIGHTLY GLEYED
	45-70	c	25Y 53 54	10YR58 00	C		25Y 62 00	Y	0	0	0		P		Y		
	70-100	sc1	10YR56 71	75YR58 00	M			Y	0	0	0		P		Y		
	100-120	sc1	10YR56 71	75YR58 00	C			Y	0	0	CH	2	P		Y	Y	
21	0-23	mc1	10YR32 00						0	0	0						
	23-35	hc1	10YR32 00		F				0	0	0		M				
	35-75	c	25Y 53 62	10YR56 00	M			Y	0	0	0		P		Y		
	75-120	hc1	25Y 53 62	10YR56 00	M			Y	0	0	CH	5	P		Y	Y	
22	0-35	hzc1	10YR32 00						0	0	CH	1					Y
	35-60	c	25Y 62 00	10YR56 00	M			Y	0	0	CH	1	P		Y	Y	
	60-70	c	25Y 72 00	10YR56 00	M			Y	0	0	CH	2	P		Y	Y	
	70-120	mzc1	05Y 72 00	10YR56 00	F				0	0	CH	10	M				Y
23	0-23	mc1	10YR32 00						0	0	0						
	23-35	hc1	25Y 53 00	10YR56 00	F				0	0	0		M			Y	
	35-65	c	25Y 53 62	10YR58 00	C			Y	0	0	0		P		Y	Y	
	65-120	c	05Y 62 00	25Y 66 00	C			Y	0	0	0		P		Y	Y	
24	0-25	mc1	10YR32 00						0	0	HR	2					
	25-35	hc1	10YR53 00	10YR56 00	C			Y	0	0	HR	2	M				
	35-55	hc1	25Y 53 00	10YR56 00	C			Y	0	0	HR	2	M				
	55-75	c	25Y 53 62	10YR56 00	C			Y	0	0	HR	2	P		Y		
	75-120	hc1	05Y 72 00	25Y 66 00	C			Y	0	0	CH	15	M		Y	Y	
25	0-23	mc1	10YR32 00						0	0	0						Y
	23-43	hc1	10YR53 54		F				0	0	CH	1	M			Y	
	43-60	c	10YR53 62	10YR56 00	C			Y	0	0	0		P		Y	Y	
	60-80	hc1	05Y 72 00	10YR56 00	M			Y	0	0	CH	15	M		Y	Y	IMP CHALK 80