SHROPSHIRE STRUCTURE PLAN
BRIDGNORTH
LAND SOUTH OF WENLOCK ROAD

Agricultural Land Classification
ALC Map and Report

July 1999

Resource Planning Team
Northern Region
FRCA Wolverhampton

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AGRICULTURAL LAND CLASSIFICATION REPORT

SHROPSHIRE STRUCTURE PLAN
BRIDGNORTH, LAND SOUTH OF WENLOCK ROAD

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 9.6 ha of land south of Wenlock Road, to the west of Bridgnorth. The survey was carried out in June 1999.

2. The survey was undertaken by the Farming and Rural Conservation Agency (FRCA)[1] on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF). This survey was carried out in connection with MAFF's statutory input to the Shropshire Structure Plan, and supersedes any previous ALC information for this land.

3. The work was conducted by members of the Resource Planning Team in the Northern 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 site was under grass.

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.

Table 1: Area of grades and other land

Grade/Other land	Area (hectares)	% Total agricultural land area	% Total survey area
1	-	-	-
2	1.9	20	20
3a	4.2	44	44
3b	3.5	36	36
4	-	-	-
5	-	-	-
Agricultural land not surveyed	-	-	-
Other land	-	-	-
Total agricultural land area	9.6	100	-
Total survey area	9.6	-	100

[1] FRCA is an executive agency of MAFF and the Welsh Office

7. The fieldwork was conducted at an average density of 1 boring per hectare of agricultural land. In total 12 borings and 2 soil pits were described.

8. The agricultural land on this site has been classified as Grade 2 (very good quality), Subgrade 3a (good quality) and Subgrade 3b (moderate quality). The main limitation to the agricultural use of this land is soil wetness.

9. Land of very good quality (Grade 2) occurs on higher land in the north-east of the site. Soil wetness is the main limitation to the agricultural use of this land.

10. Land of good quality (Subgrade 3a) occurs down the middle of the site. Soil wetness is the main limitation to the agricultural use of this land.

11. Land of moderate quality (Subgrade 3b) occurs in the west of the site. Soil wetness is the main limitation to the agricultural use of this land.

FACTORS INFLUENCING ALC GRADE

Climate

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

13. 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
Grid reference	N/A	SO700933
Altitude	m, AOD	100
Accumulated Temperature	day°C (Jan-June)	1379
Average Annual Rainfall	mm	712
Field Capacity Days	days	168
Moisture Deficit, Wheat	mm	94
Moisture Deficit, Potatoes	mm	82
Overall climatic grade	N/A	Grade 1

14. 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.

15. 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 (ATO, January to June), as a measure of the relative warmth of a locality.

16. The combination of rainfall and temperature at this site means that there is no overall climatic limitation. The site is climatically Grade 1.

Site

17. The site lies at an altitude of 95-105m AOD. . The land slopes gently south-eastward. The site is bounded by Wenlock Road and associated dwellings to the north and the Bridgnorth by-pass to the south west. To the east the site is bounded by Portman's Way and associated dwellings

Geology and soils

18. In the far west of the site the underlying solid geology comprises purple and green marls, with the olive and buff sandstones of the Carboniferous Upper Coal Measures (BGS, 1975), underlying the remainder of the site. No drift geology is recorded at this site.

19. The most detailed published soils information (SSEW, 1983 & 1984) maps the 'cambic stagnogley soils' of the Bardsey association across the site.

20. Upon detailed field examination, soil profiles similar to descriptions of the above associations were found.

AGRICULTURAL LAND CLASSIFICATION

21. 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.

Grade 2

22. Land of very good quality occupies 1.9 ha (20%) of the total survey area, and occurs on the higher land in the north-east of the site. The main limitation to the agricultural use of this land is soil wetness.

23. Within the Grade 2 mapping unit, soils comprise a very slightly stony medium clay loam topsoil, overlying medium clay loam and sandy clay loam upper subsoils. These overlie sandy clay loam and medium sandy loam lower subsoils. A clay horizon was found at the base of one profile. Depths to gleying in relation to the local climatic regime, place these soils into Wetness Class II, and Grade 2.

Subgrade 3a

24. Land of good quality occupies 4.2 ha (44%) of the total survey area, and occurs down the middle of the site. The main limitation to the agricultural use of this land is soil wetness.

25. Within the Subgrade 3a mapping unit, soils comprise a very slightly stony medium clay loam topsoil, overlying medium clay loam and sandy clay loam upper subsoils. These overlie sandy clay loam, heavy clay loam and clay lower subsoils. Occasionally a loamy medium sand horizon is encountered towards the base of the profiles. Depths to gleying and the slowly permeable layer in relation to the local climatic regime, place these soils into wetness Class III and Subgrade 3a.

Subgrade 3b

26. Land of moderate quality occupies 3.5 ha (36%) of the total survey area, and occurs in the west of the site. The main limitation to the agricultural use of this land is soil wetness.

27. Within the Subgrade 3b mapping unit, soils generally comprise a very slightly stony medium clay loam topsoil. These overlie subsoils which become increasingly fine textured with depth, with medium clay loam, heavy clay loam and sandy clay loam upper subsoils. Lower subsoils are generally clay textured, although occasional sandy clay loam or heavy clay loam textured lower subsoil horizons are also found. Depths to gleying and the slowly permeable layer in relation to the local climatic regime, place these soils into Wetness Class IV and Subgrade 3b.

William Fearnehough
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SOURCES OF REFERENCE

British Geological Survey (1975) *Sheet No.167, Dudley, Solid and Drift Edition, 1:50000 scale.*
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 No. 3, Soils of Midland and Western England. 1:250 000 scale.*
SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils and their use in Midland and Western England.*
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.

SITE C

program: ALC012 LIST OF BORINGS HEADERS 29/07/99 BRIDGNORTH TASLEY page 1

SAMPLE NO.	GRID REF	ASPECT USE		GRDNT	GLEY	SPL	—WETNESS— CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	SO70109330	GRA		01	022	045	4	3B	123	29	107	24	2				WE	3B	
1A	SO70089325	GRA		01	025	040	4	3B	143	49	115	32	1				WE	3B	
1P	SO70409310	GRA	W		023	023	4	3B	132	38	104	21	1				WE	3B	
2	SO70209330	GRA		01	000	050	3	3A	111	17	109	26	2				WE	3A	
2P	SO70409310	PGR	W	01	044	058	3	3A	133	39	106	24	1				WE	3A	
3	SO70309330	GRA		01	000		2	2	143	49	115	32	1				WE	2	CHK SPL
4	SO70109320	GRA		01	020	045	4	3B	102	8	107	24	2				WE	3B	
5	SO70209320	PGR			025	048	3	3A	125	31	106	24	1				WE	3A	
6	SO70309320	PGR	W	01	000	088	2	2	140	46	113	30	1				WE	2	
7	SO70209310	PGR	SW	01	000	043	4	3B	135	41	108	25	1				WE	3B	BORDER3A
8	SO70309310	PGR	SW	01	000	050	3	3A	132	38	111	28	1				WE	3A	
9	SO70409310	PGR	SW	01	047	055	3	3A	139	45	110	27	1				WE	3A	
10	SO70309300	PGR	W	01	027	036	4	3B	126	32	110	27	1				WE	3B	
11	SO70409300	PGR	W	01	027	047	3	3A	109	15	107	24	2				WE	3A	

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
1	0-22	mcl	10YR42 00	00MN00	00	C			0	0	HR	2						
	22-34	mcl	10YR42 00	10YR56	00	C		Y	0	0	HR	2		M				
	34-45	mcl	10YR53 00	10YR56	00	C		Y	0	0	HR	2		M				
	45-67	c	25 Y53 00	10YR56	00	C		Y	0	0	HR	2		P				Y
	67-88	scl	25Y 61 00	10YR56	00	C		Y	0	0	HR	2		M				Y
	88-100	c	05Y 53 00	10YR56	00	M		Y	0	0	HR	2		M				Y
1A	0-25	mcl	75YR33 00						0	0	HR	2						
	25-30	hzcl	05YR46 00	75YR56	00	C		Y	0	0	HR	2		M				
	30-40	hzcl	75YR46 00	75YR56	00	C		Y	0	0	HR	2		M				
	40-55	c	75YR46 00	75YR56	00	C		Y	0	0	HR	2		M				Y
	55-110	scl	75YR56 00	10YR56	00	C		Y	0	0	HR	2		M				Y
1P	0-23	mcl	75YR43 00						0	0	HR	2						
	23-40	hcl	75YR53 00	75YR46	00	C		Y	0	0	HR	1	WKCAB FM	P	Y		Y	
	40-55	c	75YR52 00	75YR56	00	C		Y	0	0	HR	1	WKCPR FM	P	Y		Y	
	55-110	mcl	10YR53 00	10YR56	00	C		Y	0	0	HR	1	WKCAB FR	M	Y		Y	
2	0-27	mcl	10YR41 00	10YR56	00	C		Y	0	0	HR	2						
	27-37	mcl	10YR52 00	10YR56	00	C		Y	0	0	HR	2		M				
	37-50	mcl	10YR54 00	10YR56	00	C		Y	0	0	HR	2		M				
	50-90	c	05YR43 00					Y	0	0	HR	2		P				Y
2P	0-20	mcl	10YR42 00						0	0	HR	5						
	20-44	mcl	75YR54 00						0	0	HR	5		M				
	44-58	scl	75YR53 00	75YR58	00	C		Y	0	0	HR	10		P				
	58-110	scl	05YR54 00	05YR58	00	C		Y	0	0	HR	10	MDCAB FR	M	Y		Y	
3	0-29	mcl	10YR42 00	10YR56	00	C		Y	0	0	HR	2						
	29-60	mcl	10YR56 00	75YR56	00	C		Y	0	0	HR	2		M				
	60-70	scl	75YR53 00	10YR56	00	F		Y	0	0	HR	2		M				
	70-110	scl	05YR46 00					Y	0	0	HR	2		M				
4	0-20	mcl	10YR43 00						0	0	HR	2						
	20-35	scl	10YR53 00	10YR56	00	C		Y	0	0	HR	2		M				
	35-45	hcl	10YR53 00	10YR56	00	C		Y	0	0	HR	2		M				
	45-50	c	05YR44 00	00MN00	00	C		Y	0	0	HR	2		M				Y
	50-70	c	10YR53 00	10YR56	00	C		Y	0	0		0		P				Y
	70-80	c	05Y 61 00	10YR56	00	C		Y	0	0		0		P				Y

SAMPLE	DEPTH	TEXTURE	COLOUR	MOTTLES COL	MOTTLES ABUN	MOTTLES CONT	PED COL.	GLEY	STONES >2	STONES >6	STONES LITH	STONES TOT	STRUCT/ CONSIST	SUBS STR	SUBS POR	SUBS IMP	SUBS SPL	SUBS CALC
5	0-25	mcl	10YR42 00						0	0	HR	3						
	25-48	scl	10YR63 00	10YR56 00	C			Y	0	0	HR	2		M				
	48-76	scl	05YR54 00	10YR58 00	C			Y	0	0		0		P	Y		Y	
	76-110	c	05YR54 00	10YR58 00	A			Y	0	0		0		P	Y		Y	
6	0-27	mcl	10YR41 00	10YR46 00	C			Y	0	0		0						
	27-45	scl	10YR53 00	10YR58 00	C			Y	0	0		0		M				
	45-88	msl	10YR53 00	10YR58 00	C			Y	0	0		0		M				
	88-110	c	05YR54 00	10YR58 00	C			Y	0	0		0		P	Y		Y	
7	0-27	mcl	10YR41 00	75YR46 00	C			Y	0	0	HR	5						
	27-43	scl	10YR63 00	10YR58 00	C			Y	0	0	HR	5		M				
	43-50	scl	05YR54 00	10YR68 00	C			Y	0	0	HR	10		M	Y		Y	
	50-75	hcl	05YR54 00	10YR68 00	C			Y	0	0	HR	10		M	Y		Y	
	75-90	scl	05YR54 00	10YR68 00	C			Y	0	0	HR	10		M	Y		Y	
	90-110	msl	05YR54 00	10YR68 00	C			Y	0	0	HR	10		M	Y		Y	
8	0-27	mcl	10YR42 00	75YR46 00	C			Y	0	0		0						
	27-50	scl	10YR63 00	10YR58 00	C			Y	0	0		0		M				
	50-66	scl	05YR54 00	10YR68 00	C			Y	0	0	HR	10		M	Y		Y	
	66-80	hcl	05YR54 00	10YR68 00	C			Y	0	0	HR	10		M	Y		Y	
	80-110	c	05YR54 00	10YR68 00	C			Y	0	0	HR	10		M	Y		Y	
9	0-27	mcl	10YR42 00						0	0	HR	5						
	27-47	mcl	10YR43 00						0	0	HR	5		M				
	47-55	mcl	10YR63 00	10YR58 00	C			Y	0	0	HR	5		M				
	55-110	scl	05YR54 00	10YR68 00	C			Y	0	0	HR	5		M	Y		Y	
10	0-27	mzcl	10YR42 00						0	0		0						
	27-36	mcl	10YR43 53	10YR58 00	C			Y	0	0		0		M				
	36-55	c	10YR63 00	10YR58 00	C			Y	0	0		0		P	Y		Y	
	55-110	c	05YR54 00	10YR58 00	C			Y	0	0		0		P	Y		Y	
11	0-27	mcl	10YR42 00						0	0		0						
	27-47	scl	10YR53 00	10YR58 00	C			Y	0	0	HR	10		M				
	47-75	scl	05YR54 00	10YR58 00	C			Y	0	0	HR	10		M	Y		Y	
	75-90	lms	05YR54 00				00MN00	00 Y	0	0	HR	10		M			Y	

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ALC DATA ENTRY - PRINT PROFILE HEADERS

program: ALC012 LIST OF BORINGS HEADERS 16/06/99 BRIDGNORTH TASLEY page 1

SAMPLE NO.	GRID REF	USE	ASPECT GRDNT	GLEY	SPL	--WETNESS-- CLASS	GRADE	-WHEAT- AP	MB	-POTS- AP	MB	M.REL DRT	FLOOD	EROSN EXP	FROST DIST	CHEM LIMIT	ALC	COMMENTS
1	SO70109330	GRA	01	022	045	4	3B	123	29	107	24	2				WE	3B	
1A	So99999999	GRA	01	025	040	4	3B	143	49	115	32	1				WE	3B	
2	SO70209330	GRA	01	000	050	3	3A	111	17	109	26	2				WE	3A	
3	SO70309330	GRA	01	W00		2	2	143	49	115	32	1				WE	2	CHK SPL
4	SO70109320	GRA	01	020	045	4	3B	102	8	107	24	2				WE	3B	

66/98.

BORING	WET CLASS	TEXTURE	TOPSOIL STONES >2	>6	DEPTH	COLOUR	CaCO3	MOTTLES
1	4	mcl			0-22	10YR42 00		common 00MN00 00
		mcl			22-34	10YR42 00		common 10YR56 00
		mcl			34-45	10YR53 00		common 10YR56 00
		c			45-67	25 Y53 00		common 10YR56 00
		scl			67-88	25Y 61 00		common 10YR56 00
		c			88-10005Y	53 00		many 10YR56 00
1A	4	mcl			0-25	75YR33 00		
		hzcl			25-30	05YR46 00		common 75YR56 00
		hzcl			30-40	75YR46 00		common 75YR56 00
		c			40-55	75YR46 00		common 75YR56 00
		scl			55-11075YR56	00		common 10YR56 00
2	3	mcl			0-27	10YR41 00		common 10YR56 00
		mcl			27-37	10YR52 00		common 10YR56 00
		mcl			37-50	10YR54 00		common 10YR56 00
		c			50-90	05YR43 00		
3	2	mcl			0-29	10YR42 00		common 10YR56 00
		mcl			29-60	10YR56 00		common 75YR56 00
		scl			60-70	75YR53 00		few 10YR56 00
		scl			70-11005YR46	00		
4	4	mcl			0-20	10YR43 00		
		scl			20-35	10YR53 00		common 10YR56 00
		hcl			35-45	10YR53 00		common 10YR56 00
		c			45-50	05YR44 00		common 00MN00 00
		c			50-70	10YR53 00		common 10YR56 00
		c			70-80	05Y 61 00		common 10YR56 00