SHROPSHIRE STRUCTURE PLAN
BRIDGNORTH
LAND WEST OF CHURCH LANE

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 WEST OF CHURCH LANE

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 11.8 ha of land west of Church Lane, west of Bridgnorth. The survey was carried out in July 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 and barley.

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	4.8	41	41
3a	-	-	-
3b	7.0	59	59
4	-	-	-
5	-	-	-
Agricultural land not surveyed	-	-	-
Other land	-	-	-
Total agricultural land area	11.8	100	-
Total survey area	11.8	-	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 13 borings and 2 soil pits were described.

8. The agricultural land on this site has been classified as Grade 2 (very 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 the higher land in the north of the site. Soil wetness is the main limitation to the agricultural use of this land.

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

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	Values
Grid reference	N/A	SO695936	SO700936
Altitude	m, AOD	100	110
Accumulated Temperature	day°C (Jan-June)	1379	1368
Average Annual Rainfall	mm	714	718
Field Capacity Days	days	169	169
Moisture Deficit, Wheat	mm	94	93
Moisture Deficit, Potatoes	mm	82	81
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 means that there is no overall climatic limitation. The site is climatically Grade 1.

Site

16. The site lies at an altitude of 100-118m AOD, and slopes southward. The site is bounded by Church Lane to the north-east, and by Racecourse Farm to the west. To the south the site is bounded by Wenlock Road and agricultural land, and to the west by Church Farm and agricultural land.

Geology and soils

17. In the north of the site the underlying solid geology comprises olive and buff sandstones, and in the south of the site purple and green marls of the Carboniferous Upper Coal Measures (BGS, 1975). No drift geology is recorded at this site.

18. The most detailed published soils information (SSEW, 1983 & 1984) maps the 'cambic stagnogley soils' of the Bardsey association in the north, and the 'typical argillic brown earths' of the Bromyard association in the south of the site.

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

AGRICULTURAL LAND CLASSIFICATION

20. 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

21. Land of very good quality occupies 4.8 ha (41%) of the total survey area, and occurs across the north of the site. The main limitation to the agricultural use of this land is soil wetness.

22. Within the Grade 2 mapping unit, soils comprise a very slightly stony medium clay loam or medium silty clay loam topsoil, overlying very slightly or slightly stony medium clay loam, medium silty clay loam, heavy clay loam or sandy clay loam subsoils. Occasionally sandy textured (medium sandy loam, loamy medium sand and medium sand) or clayey textured horizons are found in the lower subsoil. Depths to gleying in relation to the local climatic regime, place these soils into Wetness Class II and Grade 2. Occasional borings of Subgrade 3a quality are included in this mapping unit.

Subgrade 3b

23. Land of moderate quality occupies 7 ha (59%) of the total survey area, and occurs across the south of the site. The main limitation to the agricultural use of this land is soil wetness.

24. 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 and heavy clay loam upper subsoils

overlying heavy clay loam and clay lower subsoils. In the south-east of the site there is some evidence within the soil profile of previous open-cast coal mining, referred to in geological memoirs (BGS 1947, pp.178). 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. Within this Subgrade 3b mapping unit occasional borings of Subgrade 3a were included.

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.

British Geological Survey (1947) *Memoirs of the Geological Survey of Great Britain, Dudley and Bridgnorth.*
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.

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	SO69709380	PGR	S	02	034	053	3	3A	103	9	100	18	2				WE	3A	
1A	SO69759395	PGR	SE	01	035		2	2	122	28	114	32	2				WE	2	
1P	SO69809380	PGR	SE	01	025		2	2	141	47	124	42	1				WE	2	
2	SO69809380	PGR	SE	01	028		2	2	141	47	124	42	1				WE	2	
2P	SO69639361	BAR			036	036	4	3B	106	12	109	27	2				WE	3B	
3	SO69609370	BAR	S	01	025	037	4	3B	109	15	107	25	2				WE	3B	
4	SO69709370	BAR	S	02	025		2	2	133	39	111	29	1				WE	2	
5	SO69809370	PGR	SE	02	038	038	4	3B	113	19	106	24	2				WE	3B	
6	SO69909370	GRA		01	030		2	2	111	18	106	25	2				WE	2	CH
7	SO69509360	BAR	S	01	028	037	4	3B	114	20	105	23	2				WE	3B	
8	SO69609360	BAR	S	01	026	026	4	3B	105	11	095	13	2				WE	3B	
8A	SO69639361	BAR	SE		040	040	4	3B	102	8	106	24	2				WE	3B	GLEYIN40
9	SO69909360	GRA		01	075	075	2	2	150	57	124	43	1				WE	3A	COAL, DISTURBED
10	SO70009360	GRA		01	028	033	4	3B	086	-7	092	11	3A				WE	3B	
11	SO70009350	GRA		01	029		4	3B	123	30	115	34	2				WE	3B	~~GH-SPL~~

				MOTTLES			PED		STONES				STRUCT/	SUBS			
SAMPLE	DEPTH	TEXTURE	COLOUR	COL	ABUN	CONT	COL.	GLEY	>2	>6	LITH	TOT	CONSIST	STR	POR	IMP	SPL	CALC
1	0-34	mcl	25Y 54 00						0	0	HR	5						
	34-45	mcl	10YR53 00	10YR68 00	C			Y	0	0	HR	25		M				
	45-53	mcl	10YR53 00	10YR68 00	M			Y	0	0	HR	35		M				
	53-90	c	10YR62 00	10YR58 00	C		00MN00 00	Y	0	0	HR	10		P	Y		Y	
1A	0-27	mzcl	10YR42 00						0	0		0						
	27-35	mcl	10YR44 00	10YR58 00	F		00MN00 00		0	0	HR	10		M				
	35-80	mcl	10YR53 00	10YR68 00	M			Y	0	0	HR	10		M				
	80-90	scl	10YR53 00	10YR68 00	M			Y	0	0		0		M				
1P	0-25	mcl	10YR42 00						0	0	HR	5						
	25-25	mcl	10YR42 00						0	0	HR	5						
	25-40	mzcl	10YR53 00	10YR58 00	C			Y	0	0	HR	2		M				
	40-40	mzcl	10YR53 00	10YR58 00	C			Y	0	0	HR	2	MDMSAB FR	G				
	40-80	mzcl	10YR53 00	10YR58 00	A			Y	0	0	HR	2	MDCSAB FR	M				
2	0-28	mzcl	10YR43 00						0	0		0						
	28-47	mzcl	10YR53 00	10YR68 00	C			Y	0	0		0		M				
	47-66	hzcl	10YR53 00	10YR68 00	C			Y	0	0		0		M				
	66-80	mcl	10YR63 00	10YR68 00	M		00MN00 00	Y	0	0		0		M				
	80-100	scl	10YR63 00	10YR68 00	M		00MN00 00	Y	0	0		0		M				
2P	0-20	mcl	10YR41 42						0	0	HR	5						
	20-36	mcl	75YR42 54						0	0		0	WKMSAB FR	G				
	36-80	hcl	05YR43 00	05YR58 00	C		00MN00 00	Y	0	0		0	MDVCPR FM	P	Y		Y	
3	0-25	mcl	10YR42 00						0	0		0						
	25-37	hcl	10YR53 00	10YR58 00	M			Y	0	0		0		M				
	37-90	c	10YR62 00	10YR58 00	M			Y	0	0		0		P	Y		Y	
4	0-25	mcl	10YR42 00						0	0		0						
	25-25	mcl	10YR42 00						0	0		0						
	25-46	mcl	10YR52 00	10YR58 00	C			Y	0	0	HR	5		M				
	46-46	mcl	10YR52 00	10YR58 00	C			Y	0	0	HR	5		M				
	46-80	scl	10YR53 00	10YR58 00	C			Y	0	0	HR	5		M				
	80-80	scl	10YR53 00	10YR58 00	C			Y	0	0	HR	5		M				
	80-100	msl	10YR62 00	10YR46 00	M			Y	0	0		0		M				
	100-100	msl	10YR62 00	10YR46 00	M			Y	0	0		0		M				

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	0-28	mzcl	10YR42 00						0	0		0						
	28-38	mcl	10YR43 00	10YR58 00	F				0	0		0		M				
	38-55	hcl	75YR53 00	75YR58 00	C			Y	0	0	HR	10		P	Y		Y	
	55-76	c	05YR54 00	05YR58 00	C			Y	0	0	HR	5		P	Y		Y	
	76-100	hzcl	10YR61 00	10YR68 00	M			Y	0	0	HR	5		P	Y		Y	
6	0-30	mcl	75YR43 00						0	0	HR	2						
	30-45	hcl	05YR44 00	00MN00 00	C			Y	0	0	HR	2		M				
	45-60	scl	75YR56 00				05Y 61 00	Y	0	0	HR	2		M				
	60-82	lms	75YR56 00					Y	0	0	HR	2		M				
	82-100	ms	05YR53 00					Y	0	0	HR	2		M				
7	0-28	mcl	10YR42 00						0	0	HR	5						
	28-37	mcl	10YR53 00	10YR68 00	C			Y	0	0		0		M				
	37-50	c	10YR53 00	10YR68 00	M			Y	0	0		0		P	Y		Y	
	50-65	c	10YR53 00	10YR68 00	M		00MN00 00	Y	0	0		0		P	Y		Y	
	65-100	c	10YR61 00	10YR58 00	M		00MN00 00	Y	0	0		0		P	Y		Y	
8	0-26	mcl	75YR42 00						0	0	HR	5						
	26-100	hcl	05YR44 00	05YR58 00	F		00MN00 00	Y	0	0	HR	5		P	Y		Y	
8A	0-26	mcl	75YR42 00						0	0		0						
	26-40	mcl	10YR54 00	10YR58 00	F				0	0		0		M				
	40-65	hcl	05YR44 00	05YR58 00	F		00MN00 00	Y	0	0		0		P	Y		Y	
	65-80	c	05YR44 00	05YR58 00	F		00MN00 00	Y	0	0		0		P	Y		Y	
9	0-75	mcl	10YR42 00	10YR56 00	C			Y	0	0	HR	2						
	75-100	c	05Y 51 00	05Y 56 00	C			Y	0	0	HR	1		P			Y	
10	0-28	mcl	75YR32 00						0	0	HR	2						
	28-33	hcl	10YR53 00	10YR56 00	C			Y	0	0	HR	5		M				
	33-60	c	05Y 61 00	10YR56 00	M			Y	0	0	HR	2		P			Y	
11	0-29	mcl	10YR33 00						0	0	HR	2						
	29-40	mcl	10YR43 42	10YR56 00	C			Y	0	0	HR	5		M				
	40-90	hcl	25Y 63 00	10YR56 00	C			Y	0	0	HR	2		M			Y	