VALE ROYAL LOCAL PLAN
LAND WEST OF GADBROOK PARK
Agricultural Land Classification
ALC Map and Report
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AGRICULTURAL LAND CLASSIFICATION REPORT
VALE ROYAL LOCAL PLAN
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INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey on 79.0 hectares of land. The results of this survey supersede any previous ALC information for this land. The land is located to the south east of Northwich. The site is bounded to the north by the A556(T) road, to the west by the River Dane, to the south by Davenham Road and to the east by a railway line. The survey was in connection with the Vale Royal Local Plan.

2. The survey was undertaken on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF) in March 1996 by the Resource Planning Team now of the Farming and Rural Conservation Agency (FRCA)- Northern region of FRCA.

3. The land has been graded in accordance with the publication "Agricultural Land Classification of England and Wales - Revised guidelines and criteria for grading the quality of agricultural land" (MAFF 1988) .

4. At the time of survey the agricultural land on this site was under grass, cereals and fodder crops.

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 with an average auger boring density of 1 per hectare. The ALC map is only accurate at this base map scale and 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)	% surveyed area	% site area
1	-	-	-
2	31.9	44	41
3a	12.1	16	15
3b	27.2	37	34
4	2.4	3	3
5	-	-	-
Agricultural land not surveyed	1.7	N/A	2
Other land	3.7	N/A	5
Total surveyed area	73.6	100	
Total site area	79.0		100

7. The agricultural land on this site has been classified as Grade 2 (very good quality), Subgrade 3a (good quality), Subgrade 3b (moderate quality) and Grade 4 (poor land). The key limitations to the agricultural use of this land are soil droughtiness, soil wetness and gradient.

8. The area of very good quality land is found in the centre and west of the site. These soils commonly comprise either a sandy loam texture overlying loamy sand and sand to depth or clay loam overlying clay loam to depth.

9. The area of good quality land is found across the east of the site and in the west at the base of the slope. The soils commonly comprise either a clay loam or sandy clay loam overlying either a clay loam or sandy clay loam subsoil and clay to depth.

10. The area of moderate quality land is found in the east and in the central west of the site. The soils commonly comprise either a clay loam or sandy clay loam overlying heavy loam and clay to depth.

11. The area of poor quality land is found in the north west of the site, where gradients of up to 18° limit the grade of the 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 standard interpolation procedures (Meteorological Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	SJ 675 715
Altitude	m, AOD	15
Accumulated Temperature	day°C (Jan-June)	1443
Average Annual Rainfall	mm	786
Field Capacity Days	days	185
Moisture Deficit, Wheat	mm	95
Moisture Deficit, Potatoes	mm	84
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 (AT0, 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 15 to 33 metres AOD. The land rises gently eastwards from the River Dane

18. The three site factors of gradient, microrelief and flooding are considered when classifying the land.

19. Gradients of up to 18° along one ridge running north-south to Shipbrook Mill Farm impose limitations on the agricultural use of the land.

Geology and Soils

20. The solid geology of the area is comprised of Lower Keuper Saliferous Beds overlain with deposits of Quaternary Boulder Clay, glacial sand and gravel and alluvium. - British Geological Survey (1965 and 1968).

21. The soils that have developed on this geology are generally of either a sandy loam or clay loam texture.

Agricultural Land Classification

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

Grade 2

23. Land of very good quality occupies 31.9 hectares (41%) of the site area and is found in the centre and west of the site.

24. The soils in the centre of the site typically have a sandy loam texture overlying loamy sand and sand to depth, with few or no stones within the profile. The moisture balance places these soils into Grade 2.

25. The main limitation to the agricultural use of this land is soil droughtiness.

26. The soils along the west of the site typically have a clay loam or silty clay loam topsoil texture overlying clay loam or silty clay loam to depth. The combination of field capacity days and topsoil texture place these soils in Wetness Class I and Grade 2.

27. The main limitation to the agricultural use of this land is soil wetness.

Subgrade 3a

28. Land of good quality occupies 12.1 hectares (15%) of the site area and is found across the east of the site and in the west at the base of the slope.

29. The soil in the east of the site typically has a clay loam or sandy clay loam topsoil texture, over a clay loam or sandy clay loam subsoil and clay to depth. Observations of gleying and depth to the slowly permeable layer place these soils in Wetness Class III.

30. The main limitation to the agricultural use of this land is soil wetness.

31. The soil in the west of the site typically has a clay loam texture overlying clay loam subsoil to depth. Observations of gleying place these soils in either Wetness Class II or III.

32. The main limitation to the agricultural use of this land is soil wetness.

Subgrade 3b

33. Land of moderate quality occupies 27.2 hectares (34%) of the site area and is found in the east of the site and in the central west of the site.

34. The soils in the east typically have either a clay loam or sandy clay loam topsoil texture overlying heavy clay loam and clay to depth. Observations of gleying and depth to the slowly permeable layer place these soils in Wetness Class IV.

35. The main limitation to the agricultural use of this land is soil wetness.

36. Gradients of up to 11° limit the agricultural use of land in the central west of the site.

Grade 4

37. Land of poor quality occupies 2.4 hectares (31%) of the survey area and is found in the north west of the site.

38. Gradients of up to 18° limit the agricultural use of this land.

Other Land

39. Other land occupies 3.7 hectares (5%) of the site and includes metalled roads, railway and road cuttings, farm buildings and woodland.

40. Some 1.7 hectares (2%) of the site were not surveyed due to access being denied.

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SOURCES OF REFERENCE

British Geological Survey Sheet 109 and 110, Chester (1965) and Macclesfield (1968). 1:63 360 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.

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