

**CREWE AND NANTWICH LOCAL
PLAN: FIRST REPLACEMENT
Site 3 - North West of Nantwich**

**Agricultural Land Classification
ALC Map and Report
June 1998**

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**AGRICULTURAL LAND CLASSIFICATION REPORT
 CREWE AND NANTWICH LOCAL PLAN: FIRST REPLACEMENT
 Site 3 - North West of Nantwich**

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey on 21.7 hectares of land. The results of this survey supersede any previous ALC information for this land. The land is located on the north western edge of Nantwich, centred on grid reference SJ 649 532. The site is bounded to the east by the River Weaver, to the north by the A51(T) road, and to the south and west by agricultural land. The survey was in connection with the Crewe and Nantwich Local Plan First Replacement 2011.
2. The survey was undertaken on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF) in May 1998 by the Resource Planning Team 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 permanent grassland.

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	-	-	-
3a	10.7	52	49
3b	9.5	46	44
4	0.5	2	2
5	-	-	-
Agricultural land not surveyed	-	N/A	-
Other land	1.0	N/A	5
Total surveyed area	20.7	100	-
Total site area	21.7	-	100

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

8. The area of good quality land occurs on the higher ground in the west of the site. The soils commonly comprise either a sandy loam or loamy sand topsoil, over a loamy sand and sand subsoil.

9. The area of moderate quality occurs on the lower lying land adjacent to the River Weaver in the east and south of the site. The soils commonly comprise either a medium clay loam or silty clay loam topsoil, over a sandy clay loam, medium silty clay loam or heavy silty clay loam upper subsoil, over a heavy silty clay loam or silty clay lower subsoil. Gradients restrict the land to Subgrade 3b in the north of the site. Flood risk adjacent to the River Weaver restricts the land to Subgrade 3b.

10. Two areas of poor quality land occur in the north and south of the site. In the far north of the site, where the topography rises up particularly sharply from the low lying area adjacent to the River Weaver, gradient is a limitation. Along part of the southern boundary of the site soil wetness is a limitation where the land is particularly wet and marshy.

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 standard interpolation procedures (Meteorological Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	SJ 649 532
Altitude	m, AOD	35
Accumulated Temperature	day°C (Jan-June)	1429
Average Annual Rainfall	mm	731
Field Capacity Days	days	167
Moisture Deficit, Wheat	mm	97
Moisture Deficit, Potatoes	mm	86
Overall climatic grade	N/A	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 35 - 40 metres AOD. The site is divided into two halves, with low lying land adjacent to the River Weaver in the east of the site, and higher land in the west. Steep slopes occur in the north of the site where the land rises more sharply between the lower and higher land.

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

18. Gradient imposes limitations on the agricultural use of land in the north of the site.

19. The risk of flooding is a limitation on land adjacent to the River Weaver. Standing water was present in places at the time of the survey. A weir and flood control gates are located on the river at this point. Local observations confirm that flooding of land adjacent to the river does occur every year, lasting for two to three days in winter. On the basis of this information Subgrade 3b is appropriate due to flood risk.

20. Microrelief does not impose any limitations on the agricultural use of this land.

Geology and Soils

21. The solid geology of the area is comprised of Triassic Upper Keuper Saliferous Beds - British Geological Survey (1967). The drift deposits consist of Pleistocene and Recent Second Terrace deposits in the west of the site and Alluvium in the east of the site adjacent to the River Weaver - British Geological Survey (1948).

22. The soils that have developed on this geology are generally of a sandy loam or loamy sand texture in the west of the site, and silt loam texture in the east of the site.

Agricultural Land Classification

23 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.

Subgrade 3a

24 Land of good quality occupies 10.7 hectares (49 %) of the site area occurs on the higher land in the west of the site.

25 The soils commonly comprise a medium sandy loam or loamy medium sand topsoil, over a loamy sand and sand subsoil, with few stones within the profile. The moisture balance places these soils in Subgrade 3a. Within this area there are isolated borings of moderate quality land that area more droughty. These are too small to be represented at the scale of mapping.

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

Subgrade 3b

27. Land of moderate quality occupies 9.5 hectares (44 %) of the site area and occurs in the east of the site on the lower lying land adjacent to the River Weaver. Two soil types occur in this area.

28. In the northern part of this area the soils commonly comprise either a medium clay loam or silty clay loam topsoil, over a sandy clay loam, medium silty clay loam or heavy silty clay loam upper subsoil, over a heavy silty clay loam or silty clay subsoil. The depths to gleying and slowly permeable layer place these soils in Wetness Class IV and Subgrade 3b. Within this area isolated borings of good quality land occur, with medium silty clay loam or sandy clay loam soils to depth. However, the risk of flooding places all the land adjacent to the river in Subgrade 3b.

29. In the southern part of this area the soils commonly comprise either a medium sandy loam or medium sandy silt loam topsoil, over either a sandy clay loam or medium silty clay loam upper subsoil onto heavy silty clay loam and occasionally silty clay at depth. The depths to gleying and a slowly permeable layer place these soils in Wetness Class III and Subgrade 3a. However this area is subjected to flooding such that Subgrade 3b is appropriate.

30. In the north of the site, where the land rises sharply up from the low lying land adjacent to the River Weaver, gradients of between 7° and 11° occur. This restricts the land to Subgrade 3b.

31. The main limitations to the agricultural use of this land are soil wetness, gradient and flood risk.

Grade 4

32. Land of poor quality occupies 0.5 hectares (2 %) of the site area and occurs in the far north and along part of the southern boundary of the site.

33. In the far north of the site, where the land rises particularly sharply up from the low lying land adjacent to the River Weaver, there is a small stretch of land with gradients of between 11° and 18°. This restricts the land to Grade 4.

34. Along part of the southern boundary of the site a strip of poor quality land occurs where the land is particularly wet and marshy. Soil wetness is the main limitation.

35. The main limitations to the agricultural use of this land are soil wetness and gradient.
Other Land

36. Other land occupies 1.0 hectares (5 %) of the site area and is found as drainage ditches, a farm track and an area of trees and scrub land formed on an old ox-bow lake beside the River Weaver.

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SOURCES OF REFERENCE

British Geological Survey (1967) Sheet 122, Nantwich, Solid Edition.
1:63 360 Scale.
BGS: London.

British Geological Survey (1948) Sheet 122, Nantwich, Drift Edition.
1:63 360 Scale.
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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.
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Meteorological Office (1989) Climatological Data for Agricultural Land Classification.
Meteorological Office: Bracknell.