

**PUBLIC TRANSPORT INTERCHANGE
BLISWORTH, NORTHAMPTONSHIRE
Agricultural Land Classification
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**Resource Planning Team
Huntingdon Statutory Group
ADAS Cambridge**

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AGRICULTURAL LAND CLASSIFICATION REPORT

PUBLIC TRANSPORT INTERCHANGE BLISWORTH, NORTHAMPTONSHIRE

Introduction

1. This report presents the findings of a detailed, Agricultural Land Classification (ALC) survey of 65.8 ha of land at Blisworth, Northamptonshire. The survey was carried out during January 1997.
2. The survey was commissioned by the Ministry of Agriculture, Fisheries and Food (MAFF) Land Use Planning Unit, Cambridge in connection with an outline planning application for a public transport interchange. This survey supersedes a previous ALC survey on part of this land (ADAS Job No. 3/93).
3. The work was conducted by members of the Resource Planning Team in the Huntingdon Statutory Group in ADAS. 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 land use on the site was mainly ploughed land (after maize) with some permanent pasture grassland. A small area in the north of the site appeared to be restored land. Other land includes, some farm buildings, a section of the A43 dual carriageway, a filling station and associated land, a small section of dismantled railway embankment, and in the east a section fenced off for caravan storage. The remainder is associated with the mainline railway and the Grand Union Canal. The area between the railway and the canal is swampy scrubland.

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 and 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: Areas of grades and other land

Grade/Other land	Area (hectares)	% surveyed
2	3.4	5.2
3a	15.2	23.1
3b	37.2	56.5
Other land	10.0	15.2
Total agricultural land	55.8	84.8
Total survey area	65.8	100.0

7. The fieldwork was conducted at an average density of 1 boring per hectare. A total of 59 borings and 3 soil pits were described.

8. Land mapped as grade 2 (very good quality land) occurs in a small area in the north eastern part of the site, and is restricted to this grade due to a slight droughtiness limitation. Land mapped as subgrade 3a (good quality land) occurs in the extreme north western part of the site, and in a narrow ribbon in a north/south direction in the centre of the site. This land is restricted to this grade due to a moderate wetness and workability limitation. The remainder of the land is mapped as subgrade 3b (moderate quality land), and is restricted to this grade due to a more severe wetness and workability limitation.

Factors Influencing ALC Grade

Climate

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

10. 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

Parameter	Value
Grid reference	SP724550
Altitude (m, AOD)	80
Accumulated Temperature (day °C, Jan.–June)	1396
Average Annual Rainfall (mm)	636
Field Capacity Days	138
Moisture Deficit, Wheat (mm)	106
Moisture Deficit, Potatoes (mm)	98
Overall Climatic Grade	1

11. 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.

12. 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.

13. The combination of rainfall and temperature at this site mean there are no overriding climatic conditions, and therefore the climatic grade 1 is assigned.

Site

14. The majority of the site is at a height of approximately 80m AOD rising to 85m AOD on the northern, southern and western boundaries. The site is bounded in the east by open farmland with industrial units in the south east part, in the north by the Milton Malsor Road and industrial units, with open farmland and Station Road in the south. The western boundary largely follows the A43 (T) except where it includes Arm Farm which is on the western side of the main road. There are good examples of 'ridge and furrow' in the fields behind Arm Farm and to a lesser extent in the grass fields in the south of the site. In the arable area the 'ridge and furrow' has been ploughed out leaving a stripey effect of two different colour topsoils in an east/west direction. A small area in the north, adjacent to the industrial units, appears to have been restored.

Geology and soils

15. The published 1:63 360 scale geology map (Geol. Survey, 1969) shows the vast majority of the site to comprise Upper Lias Clay, with deposits of Glacial Sands and Gravel at the northern extreme.

16. The 1:250 000 reconnaissance soil survey map for the area (SSEW, 1983) shows the vast majority of the site to comprise soils of the Denchworth Association which are briefly described as slowly permeable seasonally waterlogged clayey soils with similar fine loamy over clayey soils. In the extreme north, soils of the Wick 1 Association are mapped which are briefly described as deep well drained coarse loamy and sandy soils, locally over gravel.

17. During the current detailed survey three main soil types were encountered.

Soil Type I

18. Soil Type I is confined to a small area in the north east of the site. Profiles typically comprise very slightly stony, slightly calcareous medium clay loam or sandy clay loam topsoil. This overlies slightly stony non-calcareous sandy clay loam or heavy clay loam upper subsoil. Lower subsoil comprises moderately stony, calcareous sandy clay loam (occasionally sandy clay). The soils are free draining and are assessed as Wetness Class I (q.v. Appendix II).

Soil Type II

19. Soil Type II occurs in the north west and in a narrow ribbon in the centre of the site. Profiles typically comprise very slightly stony, non-calcareous medium clay loam (occasionally heavy clay loam) topsoil, over very slightly stony, non-calcareous heavy clay loam upper subsoil. Lower subsoil comprises stoneless non-calcareous clay with gleying occurring at 40/45cm. These soils are typically assessed as Wetness Class III, but occasionally slightly better drained profiles occur (Wetness Class II).

Soil Type III

20. Soil Type III occurs over the remainder of the site. Profiles typically comprise stoneless, non-calcareous heavy clay loam (occasionally medium clay loam) topsoil over

slowly permeable stoneless clay subsoil. Gleying occurs at 30/35cm and the soils are assessed as Wetness Class IV, or less typically Wetness Class III.

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.

22. The location of the auger borings and pits is shown on the attached sample location map.

Grade 2

23. Land mapped as grade 2 occurs in the north east of the site and corresponds to the soils described in paragraph 18. The soils are free draining but with slightly/moderately stony subsoils the land is restricted to this grade due to a slight droughtiness limitation.

Subgrade 3a

24. Land mapped as subgrade 3a occurs in the north west and in a narrow ribbon in the centre of the site, and corresponds to the moderately well drained soils (Wetness Class III) described in paragraph 19, and is limited to this subgrade due to a moderate wetness and workability limitation. With the clay loam topsoils and slowly permeable subsoils care and timeliness with cultivations are required to avoid damage to soil structures. A few better drained profiles (Wetness Class II, Grade 2) were encountered, but these are not in discrete mappable areas.

Subgrade 3b

25. Land mapped as subgrade 3b occurs over the remainder of the site and corresponds to the imperfectly drained soils (Wetness Class IV, occasionally Wetness Class III) described in paragraph 20. With clay loam topsoils immediately over slowly permeable clay subsoils a more severe wetness and workability restriction limits the land to this subgrade. Considerable care and timeliness with cultivations will be required to avoid damage to soil structures.

Resource Planning Team
Huntingdon Statutory Group
ADAS Cambridge

SOURCES OF REFERENCE

British Geological Survey (1969) *Sheet No. 202, Towcester, Solid and Drift. Scale 1:63 360*
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 3, Soils of Midland and Western England*
SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils and their Use in Midland and Western England*
SSEW: Harpenden