

**BRANDON WEST, POWBURN,
NORTHUMBERLAND
Agricultural Land Classification and
Statement of Physical Characteristics
Summary Report
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**Resource Planning Team
Leeds Statutory Group
ADAS Leeds**

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AGRICULTURAL LAND CLASSIFICATION AND STATEMENT OF PHYSICAL CHARACTERISTICS SUMMARY REPORT

BRANDON WEST, POWBURN - PROPOSED SAND AND GRAVEL SITE

Introduction

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) and Statement of Physical Characteristics (SPC) survey of 54.8 ha of land at Brandon West. Most of this area had been surveyed by ADAS Statutory in late April and early May 1995. Further work was carried out in June 1996 which involved surveying an additional area of land adjoining the original survey area to the west. As a result of the differences between the applicant's ALC survey and the 1995 ADAS Statutory survey, a number of extra soil pits were dug and topsoil samples sieved in the area covered by the 1995 ADAS Statutory survey. In the light of this extra information the grade boundaries have been amended in this area in order to minimise the differences between the ADAS Statutory ALC gradings and the applicant's ALC gradings.
2. The survey was commissioned by the Ministry of Agriculture, Fisheries and Food (MAFF) Land Use Planning Unit, Northallerton in connection with the application to extract sand and gravel from this site. This survey supersedes the ALC survey carried out in 1995 by ADAS Statutory.
3. The work was conducted by members of the Resource Planning Team in the Leeds 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 the 1996 survey the land on the site was under permanent grass (in the west), ley grass (in the centre) and spring barley (in the east). A small area in the south-east of the site was under mixed woodland.

Summary

5. The findings of the survey are shown on the enclosed ALC and soil resource maps. The maps have been drawn at a scale of 1:10,000. They are 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, whole site.

Grade/Other land	Area (hectares)	% Total site area	% Surveyed Area
Grade 2	11.3	20.6	20.9
Subgrade 3a	25.1	45.8	46.4
Subgrade 3b	17.7	32.3	32.7
Other land	0.7	1.3	-
Total surveyed area	54.1	-	100
Total site area	54.8	100	-

7. The areas and proportions of the ALC grades and subgrades within the proposed extraction areas are given in Table 2.

Table 2: Area of grades and other land, proposed extraction areas

Grade/Other land	Area (hectares)	% Total site area	% Surveyed Area
Grade 2	7.5	22.2	22.2
Subgrade 3a	13.0	38.5	38.5
Subgrade 3b	13.3	39.3	39.3
Total surveyed area	33.8	-	100
Total site area	33.8	100	-

8. The fieldwork was conducted at an average density of one boring per hectare. A total of fifty four borings and thirteen soil pits were described. In addition to sieving the topsoil stones greater than 2 cm at the pits, the topsoils were also sieved at thirteen other locations. In addition to the field survey, 1:22,000 scale air photographs were used as an aid in refining grade boundaries.

9. Grade 2, very good quality agricultural land, is found in the east and south-west of the site. The soils are well drained and typically consist of slightly stony sandy loam topsoils overlying slightly to moderately stony sandy loam upper subsoils and, at variable depth, very stony coarse sand lower subsoils. This land is limited to Grade 2 by an overall climatic limitation and, in most places by very slight topsoil stoniness and soil droughtiness restrictions.

Subgrade 3a, good quality agricultural land, occurs in the centre, east and north-west. Generally the soils are well drained, with slightly to moderately stony sandy loam topsoils overlying very stony loamy sand or sand subsoils. These areas are limited to Subgrade 3a by slight topsoil stoniness and soil droughtiness restrictions. The Subgrade 3a land in the far north of the site is moderately well to imperfectly drained and consists of medium clay loam topsoils overlying gleyed and sometimes slowly permeable medium clay loam or sandy clay loam subsoils. Horizons of very stony sand occur at depth in many places but slight soil wetness is the factor which limits the ALC grade of this land.

Subgrade 3b, moderate quality agricultural land, occurs in a small area in the east and in a larger area in the west. Generally the soils are well drained, with moderately stony sandy loam topsoils overlying very stony sand subsoils. This land is limited to Subgrade 3b by topsoil stoniness and, in places, by soil droughtiness. In parts of the west of the site the soils themselves meet the requirements for Subgrade 3a but a microrelief limitation restricts the land to Subgrade 3b. Also in the west there is an area of poorly drained land where medium clay loam topsoils overlie gleyed and slowly permeable heavy clay loam and heavy silty clay loam subsoils. In this case soil wetness is the limitation restricting the land to Subgrade 3b.

Other land on this site occurs in the south-east and consists of mixed woodland.

10. In terms of soil resources two main soil types occur on this site. The first consists of medium to heavy-textured soils overlying very stony sandy soils at depth. In this case medium-textured topsoils (median depth 25 cm) overlie medium to heavy-textured upper subsoils (mean depth 27 cm) and very stony coarse sand lower subsoils. The second main soil type consists of light-textured to sandy soils (T2/U2/L1), where light-textured topsoils generally overlie very stony very light-textured or sandy subsoils. In some places a light or very light-textured upper subsoil occurs. The topsoil has a median depth of 25 cm and can be subdivided into Unit T1A, which is slightly stony, Unit T1B, slightly to moderately stony and Unit T1C, which is moderately stony. The upper subsoil (Unit U2) has a mean depth of 38 cm where it occurs, and the lower subsoil (L1) has a mean depth of 79 cm.

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.