Agricultural Land Classification
ALC Map and Report

Dunningley Lane, Tingley
Proposed Landfill and Restoration

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Resource Planning Team
Northern Region
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AGRICULTURAL LAND CLASSIFICATION REPORT

DUNNINGLEY LANE, TINGLEY, PROPOSED LANDFILL AND RESTORATION

INTRODUCTION

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 1.4 ha of land at Dunningley Lane, Tingley, West Yorkshire..

2. The survey was carried out by the Farming and Rural Conservation Agency (FRCA) for the Ministry of Agriculture, Fisheries and Food (MAFF), in connection with a proposal to import insert waste on to the site. A survey of the site in 1990 carried out by this office classed the land in question as non-agricultural. This category is no longer used and has been replaced by the category "Other Land". Non-Agricultural land is described in the MAFF 1988 ALC guidelines as including "soft uses where most of the land could be returned relatively easily to agriculture including: golf courses, private parkland, public open spaces, sports fields, allotments and soft-surfaced areas on airports/airfields." The 1990 survey did not class the land in question as Urban which is defined in the guidelines as "Built-up or hard uses with relatively little potential for a return to agriculture". Urban land was mapped elsewhere at the Tingley site in the 1990 survey and mostly comprised derelict railways and hard standing.

3. The survey 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 land on the site was not in intensive agricultural use and was under rough grass which horses were grazing.

SUMMARY

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:5,000. 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)	% surveyed area	% site area
1 2 3a 3b 4 5	1.4	100	100
Agricultural land not surveyed		N/A	
Other land		N/A	
Total surveyed area	1.4	100	-
Total site area	1.4	-	100

7. The fieldwork was conducted at an average density of 5 borings per hectare. A total of 7 borings and 1 soil pit were described.

Subgrade 3a

8. Were land on the site to be classified as agricultural land it would meet the criteria for Subgrade 3a, subject to a droughtiness 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

Factor	Units	Values
Grid reference	N/A	SE 287 265
Altitude	m, AOD	125
Accumulated Temperature	day°C (Jan-June)	1279
Average Annual Rainfall	mm	700
Field Capacity Days	days	166
Moisture Deficit, Wheat	mm	90
Moisture Deficit, Potatoes	mm	76
Overall climatic grade	N/A	Grade 2

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 means that there is an overall climatic limitation of Grade 2 across the site.

Site

14. As described in paragraph 4 the site is presently under rough grass cover which is grazed by horses. The northern and eastern perimeters have been tipped with some inert waste and there is occasionally concrete and bricks present on the surface. The site is mostly level or gently sloping but the surface is often uneven due to vehicle rutting and use of the land for motor cycle scrambling.

Geology and soils

15. Carboniferous sandstones, the Thornhill Rock of the Middle Coal Measures, lie close to the surface across the whole site. The resulting soils are all light textured and consist mainly of slightly stony medium sandy loam topsoils 30 cm in thickness over thin similarly textured subsoils. These pass into weathering sandstone bedrock, usually between 40-60 cm from the surface. The applicant has suggested soils on the site are disturbed. However the evidence of disturbance on the site indicates, the problem is minor and neither the auger borings or the single soil profile pit examined, showed any sign of significant disturbance such as reduced topsoil depth. Droughtiness calculations suggest that soils with a total topsoil and subsoil thickness of less than about 50 cm will be droughty in summer for crops such as wheat and potatoes. Profiles are all freely drained and Soil Wetness Class I.

AGRICULTURAL LAND CLASSIFICATION

16. 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.

Subgrade 3a

17. Fieldwork suggests the site could be returned to intensive agricultural use without any major problems. Soils as described above are freely drained and light textured. However profiles are often rather shallow and calculations indicate moisture deficits of -5mm for wheat and +12mm for potatoes which place this land in Subgrade 3a, using published MAFF grading criteria.

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SOURCES OF REFERENCE

British Geological Survey (1940) *Sheet No.70, Wakefield, Solid and Drift Geology* 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.

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.