



**PROPOSED CEMETERY AT
TERRINGTON,
NORTH YORKSHIRE**

Agricultural Land Classification

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**Resource Planning Team
Leeds Statutory Group
ADAS Leeds**

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PROPOSED CEMETERY AT TERRINGTON
AGRICULTURAL LAND CLASSIFICATION REPORT

Introduction

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 7.1 ha of land at Terrington. The survey was carried out during November 1996.
2. The survey was commissioned by the Ministry of Agriculture, Fisheries and Food (MAFF) Land Use Planning Unit, Northallerton in connection with the appeal against the refusal of planning permission for a commercial cemetery on the site. This survey supersedes any previous ALC surveys on this land.
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 survey the land on the site was mainly sown to winter cereals although the south-eastern corner had a ley grass cover. A small area of non-agricultural land is found in the north-east of the site.

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)	% Total site area	% Surveyed Area
Subgrade 3a	5.3	74.6	75.7
Subgrade 3b	1.7	24.0	24.3
Other land	0.1	1.4	-
Total surveyed area	7.0	-	100
Total site area	7.1	100	-

7. The fieldwork was conducted at an average density of one boring per hectare. A total of ten borings and one soil pit were described, and another three soil pits were dug to confirm the depth to bedrock.

8. Most of the site falls in Subgrade 3a, good quality agricultural land. The soils are well drained and typically consist of slightly stony fine sandy loam or sandy clay loam topsoils overlying slightly to moderately stony fine sandy loam or sandy clay loam subsoils. Weathering sandstone bedrock begins at between 40cm and 70cm depth and soil droughtiness is the factor which limits the ALC grade.

9. Subgrade 3b, moderate quality agricultural land, occurs in two areas in the south. Generally it is the slopes of 9° to 11° in these areas which restrict the land to Subgrade 3b, but a small area of flatter land is also included where the soils are particularly shallow. Soil droughtiness and soil depth are the grade-limiting factors in this case.

10. Other, non-agricultural, land consisting of a garden occurs in the north-east.

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 the standard interpolation procedures (Met. Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values
Grid reference	N/A	SE671703
Altitude	m, AOD	95
Accumulated Temperature	day°C (Jan-June)	1285
Average Annual Rainfall	mm	684
Field Capacity Days	days	164
Moisture Deficit, Wheat	mm	90
Moisture Deficit, Potatoes	mm	76

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 an overall climate limitation of Grade 2.

Site

16. The land on the site is level to gently sloping (0-3°) in the north, centre and south-east but strongly sloping land (9-11°) occurs in the north-west and south-west. The strongly sloping land restricts the safe and efficient use of agricultural machinery and is thus limited to Subgrade 3b. Neither microrelief nor flood risk are of significance on this site.

Geology and soils

17. This site is underlain by Lower Oolite sands and shales, or in parts of the north-west and south-west, Upper Lias Shales. There is no drift cover on the site and weathering sandstone occurs within 70cm of the soil surface over most of the site.

18. The soils on this site have been mapped as Rivington 1 association by the Soil Survey of England and Wales (Soils of England and Wales, Sheet 1, Northern England). The field survey work confirmed that the soils belong to this association.

Agricultural Land Classification

19. 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.

Subgrade 3b

20. Good quality agricultural land covers most of the north, centre and south-east of the site. The soils are well drained, falling in Wetness Class I (see Appendix II) and consist of fine sandy loam or sandy clay loam topsoils and subsoils overlying weathering Oolitic sandstone at between 40cm and 70cm depth. The topsoils are slightly stony, containing 10% to 12% very small to medium sandstones (2-3% greater than 2cm in size) and the subsoils are slightly to moderately stony with 12% to 20% very small to medium sandstones. Soil droughtiness limits most of this land to Subgrade 3a and although the deeper profiles meet the requirements for Grade 2, they are too scattered to map as a separate unit.

Subgrade 3b

21. Subgrade 3b, moderate quality agricultural land, occurs in the north-west and south-west of the site. Most of this land is strongly sloping (9-11°) and is limited to Subgrade 3b because such gradients limit the safe and efficient use of some types of agricultural machinery. A small area of level land is also included in this subgrade where moderately stony fine sandy loam topsoils overlie weathering sandstone at around 25cm depth. In this case soil droughtiness and soil depth are the grade-limiting factors.

Other Land

22. Other, non-agricultural, land occurs in the north-east of the site and consists of a garden.

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SOURCES OF REFERENCE

British Geological Survey (1960) *Sheet No 53, Pickering, 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.

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

Soil Survey of England and Wales (1983) *Sheet 1, Soils of Northern England, 1:250,000 scale.*
SSEW: Harpenden.

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

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.

APPENDIX II

SOIL WETNESS CLASSIFICATION

Definitions of Soil Wetness Classes

Soil wetness is classified according to the depth and duration of waterlogging in the soil profile. Six soil wetness classes are identified and are defined in the table below.

Wetness Class	Duration of waterlogging ¹
I	The soil profile is not wet within 70 cm depth for more than 30 days in most years. ²
II	The soil profile is wet within 70 cm depth for 31-90 days in most years or , if there is no slowly permeable layer within 80 cm depth, it is wet within 70 cm for more than 90 days, but only wet within 40 cm depth for 30 days in most years.
III	The soil profile is wet within 70 cm depth for 91-180 days in most years or , if there is no slowly permeable layer present within 80 cm depth, it is wet within 70 cm for more than 180 days, but only wet within 40 cm depth for between 31-90 days in most years.
IV	The soil profile is wet within 70 cm depth for more than 180 days but not wet within 40 cm depth for more than 210 days in most years or , if there is no slowly permeable layer present within 80 cm depth, it is wet within 40 cm depth for 91-210 days in most years.
V	The soil profile is wet within 40 cm depth for 211-335 days in most years.
VI	The soil profile is wet within 40 cm depth for more than 335 days in most years.

Assessment of Wetness Class

Soils have been allocated to wetness classes by the interpretation of soil profile characteristics and climatic factors using the methodology described in *Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land* (MAFF, 1988).

¹ The number of days is not necessarily a continuous period.

² 'In most years' is defined as more than 10 out of 20 years.