



AGRICULTURAL LAND CLASSIFICATION  
BROOMY HOLM FARM, EDMONDSLEY,  
CO DURHAM  
PROPOSED GOLF COURSE  
DECEMBER 1993

ADAS  
Leeds Statutory Group

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## SUMMARY

A semi-detailed Agricultural Land Classification survey of 115.4 ha of land at Broomy Holm Farm, Edmondsley was carried out in November 1993, of which 96.9 ha was in agricultural use.

A total of 3.6 ha falls within Grade 2. Profiles within this Grade are well drained (falling in Wetness Class I) and consist of light textured topsoils overlying light or very light textured subsoils. The land is limited to Grade 2 by climate and, in places, by soil droughtiness restrictions.

34.8 ha falls in Subgrade 3a. Two main soil types occur within this subgrade. The first consists of light-textured topsoils overlying very light-textured subsoils. Profiles are very slightly to slightly stony and the ALC grade of the land is limited by soil droughtiness. The second soil type consists of imperfectly drained profiles (Wetness Class III) where medium-textured topsoils overlie medium or heavy-textured subsoils. Slowly permeable layers begin at between 50cm and 70cm depth and the land is restricted to Subgrade 3a by soil wetness limitations.

52.9 ha of the site falls in Subgrade 3b. Again, two main soil types occur. The first consists of light-textured topsoils overlying very light-textured subsoils. Topsoils are typically slightly stony and subsoils slightly to moderately stony, and soil droughtiness limits the land to Subgrade 3b. The second soil type consists of poorly drained profiles where medium-textured topsoils overlie slowly permeable medium or heavy-textured subsoils at around 40cm depth. Soil wetness and workability limitations are the factors restricting this land to Subgrade 3b. Some parts of the north and east of the site are limited to Subgrade 3b by slopes of 8-11°.

5.6 ha of land falls in Grade 4. Slopes of between 12° and 18° limit the ALC grade in this case.

The remainder of the site consists of urban land (2.0 ha), non-agricultural land (0.4 ha), farm woodland (14.5 ha), agricultural buildings (0.5 ha) and open water (1.1 ha).

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AGRICULTURAL LAND CLASSIFICATION REPORT ON LAND AT BROOMY HOLM FARM, EDMONDSLEY. PROPOSED GOLF COURSE

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

*The site is located approximately 9Km north-west of Durham city centre and lies around Grid Reference NZ 238502. A semi-detailed Agricultural Land Classification survey was carried out in November and early December 1993 when soils were examined by hand auger borings at a density of one boring every two hectares at points predetermined by the National Grid. Three soil pits were dug to allow the assessment of subsoil structure and stoniness and to collect samples for laboratory analysis.*

Land quality was assessed using the methods described in "Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land" (MAFF 1988). Because of the semi-detailed nature of the survey, additional work may be necessary in some parts of the site if the classification of the site is disputed.

1.2 Land Use and Relief

At the time of survey 96.9% of the site was in agricultural use (principally ley and permanent grass, but including significant areas of arable land). The remainder consisted of farm woodland (principally in the south and east), agricultural buildings and urban land.

Site altitude varies from 106m AOD in the west to 65m AOD in the east. The land is gently to steeply sloping with variable aspect. Slopes of 8-16° limit parts of the north and east of the site to Subgrade 3b and Grade 4.

### 1.3 Climate

Grid Reference	: NZ 238502
Altitude (m)	: 80
Accumulated Temperature above 0°C (January-June)	: 1276 day°C
Average Annual Rainfall (mm)	: 699
Climatic Grade	: 2
Field Capacity Days	: 174
Moisture Deficit (mm) Wheat	: 92
Moisture Deficit (mm) Potatoes	: 77

### 1.4 Geology, Soils and Drainage

The site is underlain by Carboniferous Coal Measures over which lie deposits of boulder clay (principally in the west and south) and glacial sand and gravel (over the remainder of the site). There are smaller areas of restored land in the south. The soils formed in the sand and gravel deposits are generally well-drained (falling in Wetness Class I) and consist of sandy loam topsoils overlying loamy sand or sand subsoils. Both topsoils and subsoils are very slightly to moderately stony, containing between 4% and 18% small and medium-sized hard stones. These soils are similar to those placed within the Newport Association by the Soil Survey and Land Research Centre.

The soils formed in the deposits of boulder clay typically consist of medium clay loam or sandy clay loam topsoils and subsoils although heavy clay loam subsoils occur in places. Profiles are imperfectly or poorly drained, falling in Wetness Classes III or IV. These soils resemble those of the Brickfield Association as mapped by the SSLRC.

## 2. AGRICULTURAL LAND CLASSIFICATION

The ALC grades occurring on this site are as follows:

<u>Grade/Subgrade</u>	<u>Hectares</u>	<u>Percentage of Total Area</u>
1		
2	3.6	3.1
3a	34.8	30.2
3b	52.9	45.9
4	5.6	4.8
5		
(Sub total)	(96.9)	(84.0)
Urban	2.0	1.8
Non Agricultural	0.4	0.3
Woodland - Farm	14.5	12.6
- Commercial		
Agricultural Buildings	0.5	0.4
Open Water	1.1	0.9
Land not surveyed		
(Sub total)	(18.5)	(16.0)
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TOTAL	115.4	100
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## 2.1 Grade 2

Grade 2 land is restricted to the central northern part of the site. Profiles are well drained (falling in Wetness Class I) and typically consist of medium sandy loam topsoils overlying loamy sand<sup>or</sup>/sandy loam subsoils. The land is limited to Grade 2 by the overall climate of the area and, in places, by slight soil droughtiness.

## 2.2 Subgrade 3a

Much of the west and centre of the site falls within Subgrade 3a. Two main soil types occur within this subgrade. The first comprises deep, well-drained (Wetness Class I) profiles where sandy loam topsoils overlie loamy sand or sand subsoils. Both topsoils and subsoils are very slightly to slightly stony (typically containing 4-12% small and medium-sized subangular and subrounded hard stones). The ALC grade of this land is limited by soil droughtiness.

In the case of the second main soil type, profiles are generally imperfectly drained (falling in Wetness Class III) and consist of very slightly stony medium clay loam or sandy clay loam topsoils and upper subsoils followed, in places, by heavy clay loam lower subsoils. Slowly permeable layers begin at between 50cm and 70cm depth and the land is limited to Subgrade 3a by soil wetness restrictions.

## 2.3 Subgrade 3b

Subgrade 3b land covers much of the east of the site and also occurs near the west and north western boundaries. As in the case of the Subgrade 3a land there are two main soil types. The first consists of deep well-drained (Wetness Class I) profiles where slightly or occasionally moderately stony sandy loam or loamy sand topsoils overlie slightly to moderately stony loamy sand or sand subsoils. Stone content is typically 6-18% in the topsoil and 6-20% in the subsoil, made up of small and medium sized subrounded and subangular hard stones. Soil droughtiness is more limiting than on the Subgrade 3a land where the soils are similar (principally because there is a higher stone content) and this land is, therefore, restricted to Subgrade 3b.

The second main soil type consists of poorly drained (Wetness Class IV) profiles where medium clay loam or sandy clay loam topsoils overlie similarly textured subsoils, with heavy clay loam subsoils occurring in places. Slowly permeable layers begin at between



35cm and 45cm depth and the land is limited to this subgrade by soil wetness and workability restrictions.

Slopes of between 8° and 11° are the factor limiting some land in the north and north-east of the site to Subgrade 3b.

#### 2.4 Grade 4

Two areas of Grade 4 land occur on the site, one in the east and one in the north-east. Both are restricted to this grade by slopes of between 12° and 18°.

#### 2.5 Urban

This category includes a sewage works in the south and a track in the centre and south.

#### 2.6 Non-Agricultural

This refers to a small area of scrubland to the south of Broomy Holm Farm.

#### 2.7 Farm Woodland

This occurs along the banks of Little Burn (which runs through the centre of the site) and Long Burn (in the south of the site).

#### 2.8 Agricultural Buildings

This category includes the farmhouse and outbuildings at Broomy Holm, in the centre of the site.

#### 2.9 Open Water

This refers to Long Burn, in the south of the site.

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MAP