

**AGRICULTURAL LAND CLASSIFICATION  
BARNSELY UNITARY DEVELOPMENT PLAN  
SITE DE 18, BOLTON UPON DEARNE  
AUGUST 1993**

**ADAS  
Leeds Statutory Group**

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## SUMMARY

A semi-detailed Agricultural Land Classification survey was carried out on 62.8ha of land to the north-west of Bolton upon Dearne, South Yorkshire, during August 1993.

All of the land was in agricultural use of which 27.6ha is of Subgrade 3a quality. Two soil types occur within this subgrade. The first consists of light to medium textured material (loamy fine sand, loamy medium sand, fine sandy loam, medium sandy loam or sandy clay loam) which is well drained, falling within Wetness Class I. These soils are limited to Subgrade 3a by the risk of wind erosion, slight soil droughtiness and pattern restrictions. The second soil type consists of moderately well drained to imperfectly drained (Wetness Classes II and III) medium to heavy textured soils. Fine sandy silt loam, medium clay loam or sandy clay loam topsoils overlie silt loam or heavy silty clay loam subsoils which are, in places, gleyed within 40cm of the surface and slowly permeable at between 40cm and 70cm depth. This land is limited to Subgrade 3a by slight soil wetness and workability problems and, again, a pattern restriction.

The remaining land on the site falls within Subgrade 3b. Two soil types occur within this subgrade. The first consists of well drained (Wetness Class I), shallow, light textured soils which are limited by severe soil droughtiness and a pattern restriction. Other soils are poorly drained (Wetness Class IV) and consist of medium clay loam topsoils overlying heavy silty clay loam subsoils which are gleyed and slowly permeable within 40cm depth. This land is limited to Subgrade 3b by soil wetness and workability problems.

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1. AGRICULTURAL LAND CLASSIFICATION

AGRICULTURAL LAND CLASSIFICATION REPORT: BARNSELY UNITARY  
DEVELOPMENT PLAN, SITE DE 18, BOLTON UPON DEARNE, SOUTH YORKSHIRE

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

The site lies on the north-western edge of the village of Bolton upon Dearne, between the A635 Barnsley Road and Carr Head Lane around National Grid Reference SE444033. Survey work (semi-detailed) was carried out in August 1993 when soils were examined by hand auger borings at a density of 1 boring per 2 hectares. Two soil profile pits were dug to assess subsoil structure, stone content and soil depth. Land quality was assessed using methods described in "Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land" (MAFF, 1988). (Due to the semi-detailed nature of the survey, further work may be necessary if the classification is disputed).

1.2 Land Use and Relief

At the time of the survey all of the site was in agricultural use. Crops in August 1993 were cereals, sugar beet and peas, with a small area of recently ploughed land. Site altitude varies from 25 to 42m AOD. A broad valley runs approximately east-west across the site. Land in the centre of the site is level, while that in the north and south is gently to moderately sloping (3-6°). Aspect is variable, being northerly to north-north-westerly in the south and south-south-easterly to south-westerly in the north.

1.3 Climate

Grid Reference	: SE 444033
Altitude (m)	: 35
Accumulated Temperature above 0°C (January-June)	: 1388 day°C
Average Annual Rainfall (mm)	: 628
Climatic Grade	: 1
Field Capacity Days	: 132
Moisture Deficit (mm) Wheat	: 106
Moisture Deficit (mm) Potatoes	: 98

### 1.3 Geology, Soils and Drainage

The site is underlain by sandstones and gritstones of the Middle Coal Measures, which lie within 40cm to 100cm depth over most of the site. Drift deposits are confined to alluvium and head which cover the valley floor and its lower slopes in the centre of the site.

Two main soil types cover the site: in the first type, profiles generally consist of well drained stoneless to slightly stony (0 to 6% total stones), light to medium textured topsoils (typically loamy fine sand, medium or fine sandy loam, sandy clay loam or medium clay loam) overlying light textured subsoils (typically medium or fine sandy loam, loamy medium sand, loamy fine sand or medium sand) which are very slightly stony to very stony (5-50% total stone). These pass into weathering sandstone bedrock at depth. Soil depth varies from 40cm on the valley sides in the north and south of the site, to 120cm on the valley floor.

The second soil type which occurs mainly in the west, adjacent to Carr Dike, and on higher ground on the upper slopes of the valley sides is moderately well to poorly drained (Wetness Classes II to IV). Profiles consist of medium to light textured topsoils (typically medium clay loam, medium silty clay loam or fine sandy silt loam) over medium to heavy textured subsoils (typically silt loam, medium clay loam, sandy clay loam or heavy silty clay loam) which may be gleyed within 40cm depth and slowly permeable, within 70cm.

Many of the soils are similar to those of the Bardsey Association as mapped by the Soil Survey and Land Resource Centre.

## 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		
3a	27.6	43.9
3b	35.2	56.1
4		
5		
(Sub total)	(62.8)	(100)
Urban		
Non Agricultural		
Woodland - Farm		
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Sub total)		
<b>TOTAL</b>	<u>62.8</u>	<u>100</u>

## 2.1 Subgrade 3a

Three areas of Subgrade 3a land occur on the site: one in the central valley floor and two smaller areas on upper slopes in the extreme north-east and south-east of the site. Two soil types fall within this subgrade: firstly, well drained (Wetness Class I) medium to light textured soils. In this soil type stoneless to slightly stony up to 6% total stones), variable textured topsoils (typically medium clay loam, sandy clay loam, fine sandy silt loam, medium sandy loam, fine sandy loam or loamy fine sand) overlie slightly stony (up to 10% total stones) light textured subsoils (typically fine sandy loam, medium sandy loam, loamy fine sand or loamy medium sand) which become very stony to extremely stony as they pass into hard sandstone bedrock at between 70cm and 100cm depth. This land is limited to Subgrade 3a by soil droughtiness, the risk of wind erosion and pattern restrictions.

The second soil type within the Subgrade 3a area is medium to heavy textured. Profiles consist of medium clay loam, sandy clay loam or fine sandy silt loam topsoils overlying silt loam or heavy clay loam subsoils which are frequently gleyed within 40cm and slowly permeable at between 40cm and 70cm. These soils are moderately well drained to imperfectly drained (Wetness Classes II and III) and limited to Subgrade 3a by soil wetness and workability restrictions as well as a pattern limitation.

## 2.2 Subgrade 3b

The remaining land on the site falls within Subgrade 3b. Two main soil types occur. The first consists of well drained (Wetness Class I), shallow, light textured soils. Very slightly stony to slightly stony topsoils (typically fine or medium sandy loam or loamy fine sand) overlie slightly stony to moderately stony (6-20% total stones) loamy fine sand, loamy medium sand, fine sand or medium sand subsoils, with solid rock occurring within 40 to 60cm depth. These soils are limited to Subgrade 3b by severe soil droughtiness and pattern restrictions.

The second soil type consists of poorly drained (Wetness Class IV) material composed of sandy clay loam or medium clay loam topsoils overlying heavy silty clay loam subsoils which are gleyed and slowly permeable within 40cm depth. This land is limited to Subgrade 3b by severe soil wetness and workability problems.

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MAP