

AGRICULTURAL LAND CLASSIFICATION
LAND AT WALTON, WEST YORKSHIRE
PROPOSED GOLF COURSE
JULY 1993

ADAS
Leeds Statutory Group

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SUMMARY

A semi-detailed Agricultural Land Classification survey was carried out on 69.1ha of land at Walton, West Yorkshire in July 1991.

67.4ha of this was in agricultural use of which 1.4ha falls in Grade 2. These soils are well drained (Wetness Class I), consisting of medium sandy loam or medium silty clay loam topsoils over medium sandy loam, silt loam or medium silty clay loam subsoils. This land is limited to Grade 2 by slight soil droughtiness.

39.1ha of the site falls within Subgrade 3a. Two main soil types fall within this subgrade. The first consists of light to medium textured topsoils (typically medium sandy loam, sandy clay loam or medium clay loam) over similarly textured subsoils which are frequently gleyed within 40cm depth and slowly permeable within 60cm. These soils are imperfectly or poorly drained (Wetness Class III or IV) and limited to Subgrade 3a by soil wetness and workability restrictions. Some of these soils have moderately to extremely stony subsoils which are impenetrable within 40 to 70cm depth. This land is, thus, limited to Subgrade 3a by soil droughtiness. The second main soil type within this subgrade consists of well drained (Wetness Class I) light to very light textured soils with medium sandy loam topsoils over loamy medium sand or medium sand subsoils. This land is limited to Subgrade 3a by soil droughtiness.

The remaining agricultural land on the site (26.9ha) falls within Subgrade 3b. Two main soil types fall within this subgrade. The first consists of deep, poorly drained (Wetness Class IV) medium to heavy textured soils with medium clay loam, sandy clay loam or heavy silty clay loam topsoils over similarly textured subsoils which are slowly permeable within 40cm. This land is limited to Subgrade 3b by soil wetness and workability restrictions. The second main soil type consists of well drained, shallow medium to light textured topsoils (typically medium sandy loam) and similarly textured subsoils which are impenetrable within 40cm depth. This land is also limited to Subgrade 3b by soil droughtiness. A small area of land in the centre of the site is strongly sloping (8-10°) and is limited to Subgrade 3b by gradient.

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1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

The site lies on the north-western side of the village of Walton between Springs Lane and Wetherby Road, and is centred on National Grid Reference SE 438482. Survey work (semi-detailed) was carried out during July 1993 when soils were examined by hand auger borings at a density of one every two hectares at points predetermined by the National Grid. Land quality was assessed using methods outlined 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 if the classification is disputed.)

1.2 Land Use and Relief

At the time of survey 97.5% of the site was in agricultural use, the remainder being farm woodland, farm buildings and scrubland not used for agriculture. The site is gently undulating, most of the land being level to moderately sloping. Altitude varies between 20m and 40m AOD.

1.3 Climate

Grid Reference	: SE 438482
Altitude (m)	: 25
Accumulated Temperature above 0°C (January-June)	: 1380 day°C
Average Annual Rainfall (mm)	: 668
Climatic Grade	: 1
Field Capacity Days	: 161
Moisture Deficit (mm) Wheat	: 102
Moisture Deficit (mm) Potatoes	: 92

1.4 Geology, Soils and Drainage

The area is underlain by Upper Magnesian Limestone which, over most of the site, is covered by glacial till, morainic deposits and outwash deposits of variable texture. Soils are variable over the site but generally resemble those of the Bishampton 1 and Escrick 2 Associations as mapped by the Soil Survey and Land Resource Centre.

Soils on the tops and slopes of the morainic ridges generally consist of very slightly to slightly stony topsoils (containing up to 12% small and medium sized hardstones) overlying similar subsoils which are frequently gleyed within 40cm of the surface and slowly permeable within 60cm. These soils are moderately well drained to poorly drained (Wetness Classes II to IV). In some parts of the site, particularly in the south, subsoils are moderately to extremely stony, and are impenetrable within 30 to 80cm depth.

Soils on lower lying parts of the site are formed on till and outwash deposits. Soils formed on till are predominantly poorly drained (Wetness Class IV), consisting of medium to heavy textured topsoils (typically sandy clay loam or heavy silty clay loam) over similarly textured subsoils, which are slowly permeable within 40cm.

Soils formed on outwash deposits are generally light to very light textured, with medium sandy loam or loamy fine sand topsoils overlying subsoils consisting of medium sandy loam, loamy medium sand or medium sand. These soils are well drained, falling within Wetness Class I.

Soils in a small area to the north-west of Walton village hall consist of medium silty clay loam topsoils, overlying silt loam upper subsoils and gleyed medium silty clay loam lower subsoils. These soils are well drained, falling within Wetness Class I.

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	1.4	2.0
3a	39.1	56.6
3b	26.9	38.9
4		
5		
(Sub total)	(67.4)	(97.5)
Urban	0.3	0.4
Non Agricultural	0.8	1.2
Woodland - Farm	0.2	0.3
- Commercial		
Agricultural Buildings	0.4	0.6
Open Water		
Land not surveyed		
(Sub total)	(1.7)	(2.5)
	<hr/>	<hr/>
TOTAL	69.1	100
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2.1 Grade 2

A small area of land to the north-west of Walton village hall falls within Grade 2. These soils are well drained, falling within Wetness Class I. Soil profiles consist of medium sandy loam or medium silty clay loam topsoils over medium sandy loam, silt loam or medium clay loam subsoils. Slight soil droughtiness limits this land to Grade 2.

2.2 Subgrade 3a

Land in Subgrade 3a lies in three areas in central and southern parts of the site. Soils are variable, but there are two main soil types. The first consists of light to medium textured topsoils (typically medium sandy loam, sandy clay loam or medium clay loam) overlying similarly textured subsoils which are frequently gleyed within 40cm and slowly permeable within 30 to 60cm. These soils are imperfectly or poorly drained (Wetness Classes III or IV) and the land is limited to Subgrade 3a by soil wetness and workability restrictions. Some of these soils have moderately to extremely stony subsoils which are impenetrable below approximately 40 to 60cm, and in this case the land is limited to Subgrade 3a by soil droughtiness.

The second main soil type consists of well drained (Wetness Class I) light textured soils with medium sandy loam topsoils over loamy medium sand or medium sand subsoils. This land is limited to Subgrade 3a by soil droughtiness.

2.3 Subgrade 3b

The remaining agricultural land on the site falls within Subgrade 3b. Two main soil types fall within this subgrade. Poorly drained (Wetness Class IV) soils cover north-eastern and western parts of the site. Topsoils consist of sandy clay loam, medium clay loam or heavy silty clay loam and overlie slowly permeable subsoils consisting of heavy clay loam or heavy silty clay loam. This land is limited to Subgrade 3b by soil wetness and workability restrictions.

Soils on the Subgrade 3b land in the south and east of the site are generally well drained (Wetness Class I). Soil profiles consist of medium sandy loam or loamy fine sand topsoils over loamy medium sand or medium sandy loam subsoils which are impenetrable below about 35cm depth. This land is limited to Subgrade 3b by severe droughtiness. A small

area of land in the centre of the site is strongly sloping (8-10°) and restricted to Subgrade 3b by gradient limitations.

2.4 Urban

This refers to land around a house in the north of the site.

2.5 Non-Agricultural

Two areas of thorny scrubland occur on the site, one in the north and one in the south.

2.6 Farm Woodland

A small area in the south of the site is occupied by a conifer plantation.

2.7 Agricultural Buildings

This refers to sheds and barns in the north of the site.

MAP