MAFF Ministry of Agriculture Fisheries and Food

STATEMENT OF PHYSICAL CHARACTERISTICS AND AGRICULTURAL LAND CLASSIFICATION BURLEY-IN-WHARFEDALE BYPASS DISPOSAL OF SURPLUS MATERIAL NORTH YORKSHIRE JULY 1995

ADAS
Leeds Statutory Group

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SUMMARY

An Agricultural Land Classification and Statement of Physical Characteristics Survey was carried out on 2.5 ha of land north-east of Burley-in-Wharfedale in July 1995.

At the time of the survey 1.7 ha of the site were in agricultural use and the remaining 0.8 ha were being used for storing soil from the existing borrow pit to the south.

Grade 2 land covers 1.4 ha. The soils are well drained, with medium textured topsoils overlying similar textured slightly stony subsoils. This land is limited to Grade 2 by slight soil wetness and workability restrictions.

Subgrade 3b covers 0.3 ha. Soils are similar to those on Grade 2 land, but are limited by a gradient of 10°.

The remaining 0.8ha remains unsurveyed, as at the time of the survey it was being used to store soil.

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1. INTRODUCTION AND STATEMENT OF PHYSICAL CHARACTERISTICS

1.1 Location and Survey Methods

The site lies approximately 1km north-east of Burley-in-Wharfedale and is centred around National Grid Reference SE 172 467. This is directly north of a borrow pit surveyed in November 1993. It covers 2.5 ha, of which 1.7 ha was in agricultural use at the time of the survey.

Soils were examined by hand auger borings at 50m intervals predetermined by the National Grid. One soil pit was dug to assess soil structure and stoniness. 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).

1.2 Land Use and Relief

At the time of the survey all the agricultural land was in permanent pasture. The remaining land consists of a soil storage mound to the west. Site altitude varies from 60m AOD to 70m AOD and most of the land is level to gently sloping (0-2°). A small area to the south is strongly sloping (10°).

1.3 Climate

Grid Reference	: SE 172 467
Altitude (m)	: 65
Accumulated Temperature above 0°C (January - June)	: 1341 day °C
Average Annual Rainfall (mm)	: 820
Climatic Grade	: 1
Field Capacity Days	: 207
Moisture Deficit (mm) Wheat	: 89
Moisture Deficit (mm) Potatoes	: 75

1.4 Geology, Soils and Drainage

The site is underlain by Millstone grit, over which there are drift deposits of river terrace.

Soils consist of well drained (Wetness Class I) medium clay loam and sandy clay loam topsoils over similar slightly stony subsoils, with occasional heavily clay loam lenses.

1.5 Soil Properties

One main soil type occurs on this site, descriptions of which are given below. Topsoil and subsoil resources are also shown on the accompanying maps, along with soil thickness and volume information.

a) Soil Type 1: Medium textured soil (Unit T1/S1)
(Full Profile Description in Table 1)

This soil, formed on river terrace deposits, occurs over the whole of the site. It is characterised by very slightly stony medium textured topsoils over slightly stony medium textured subsoils, containing occasional heavy clay loam lenses.

1.6 Soil Resources

i) Topsoils

Unit T1 occurs over the whole of the surveyed area. The unit consists of medium textured material, typically medium clay loam and sandy clay loam, containing 2-3% small and medium hard subrounded and rounded hard stones. The topsoil has a mean thickness of 30cm.

ii) Subsoils

Unit S1 occurs of the whole of the surveyed area. Soils are medium textured, generally consisting of medium clay loam and sandy clay loam, containing 12-15% small, medium and large rounded and subrounded hard stones. Occasional lenses of heavy clay loam also occur through this unit. This unit has mean thicknesses of 90cm.

2. SOIL PROFILE DESCRIPTIONS

Table 1 Medium textured soil, T1/S1

Profile Pit 1 (Near auger boring 6)

Slope: 1° south
Land Use: Permanent grass
Weather: Warm, overcast

Depth (cm)	Horizon Description
0-30	Dark brown 10YR3/3 sandy clay loam; no mottles; very slightly stony (3% total rounded hard stones); well developed medium subangular blocky structure; dry; firm; moderately porous; slightly sticky; slightly plastic; many fine fibrous roots; non calcareous; clear wavy boundary
30-120	Brown 10YR4/3 sandy clay loam; no mottles; slightly stony (12-15% small, medium and large rounded hard stones); moderately developed medium angular blocky structure; dry; firm; moderately porous; slightly sticky; slightly plastic; common fine fibrous roots; non calcareous.

3. AGRICULTURAL LAND CLASSIFICATION

The ALC grades occurring on this site are as follows:

Grade/Subgrade	Hectares	Percentage of Total Area
1		
2	1.4	56
3a		
3b	0.3	12
4		
5		
(Sub total)	(1.7)	(68)
Urban	0.8	32
Non Agricultural		
Woodland - Farm		
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Sub total)	(0.8)	(32)
TOTAL	2.5	100

3.1 Grade 2

Most of the agricultural land on this site falls into Grade 2. Soils consist of well drained (Wetness Class I), very slightly stony, medium clay loam and sandy clay loam topsoils, over similar slightly stony (12-15% total hard stones) subsoils. This land is limited to Grade 2 by slight soil wetness and workability restrictions, resulting from the high annual average rainfall received in this area.

3.2 Subgrade 3b

The remainder of the agricultural land to the far south of the site falls into this subgrade. Although soil physical characteristics are similar to the Grade 2 land, a gradient of 10° limits these soils to Subgrade 3b.

3.3 Not surveyed

This area to the east of the site consists of a soil storage mound approximately 3 metres high, preventing any surveying of soils underneath.

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MAPS