



Ministry of
Agriculture
Fisheries
and Food

STATEMENT OF PHYSICAL CHARACTERISTICS
AND
AGRICULTURAL LAND CLASSIFICATION
EXTENSION TO RIPLINGHAM CHALK QUARRY
NORTH HUMBERSIDE
FEBRUARY 1995

ADAS
Leeds Statutory Group

Job No:- 57/95
MAFF Ref:- EL 10650
Commission No:- 1635

SUMMARY

A detailed Agricultural Land Classification and Statement of Physical Characteristics survey of 3.0 ha of land at Riplingham ("Extension to Riplingham Chalk Quarry, North Humberside") was carried out in February 1995.

At the time of survey all of the land was under permanent grass and all falls in Subgrade 3b. The soils are well drained and consist of medium-textured topsoils and thin subsoils overlying weathering chalk at around 30cm depth. Severe soil droughtiness limits the land to Subgrade 3b as do, in places, soil depth and slope.

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STATEMENT OF PHYSICAL CHARACTERISTICS AND AGRICULTURAL LAND CLASSIFICATION REPORT ON THE PROPOSED CHALK QUARRY EXTENSION AT RIPLINGHAM, NORTH HUMBERSIDE

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

The site lies approximately 10km south-west of Beverley town centre, around Grid Reference SE 956 337. It covers a total area of 3.0 ha. Survey work was carried out in February 1995 when the soils were examined by hand auger borings at 100m intervals predetermined by the National Grid. Four soil pits were dug to allow a full profile description to be made, and to confirm depth to bedrock. The 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 survey all of this site was under permanent grass.

The site is gently to strongly sloping (2-11°) with a north-westerly or south-westerly aspect. Site altitude varies between 107m AOD in the north and west and 120m AOD in the east.

1.3 Climate

Grid Reference	: SE 956 337
Altitude (m)	: 110
Accumulated Temperature above 0°C (January - June)	: 1278 day °C
Average Annual Rainfall (mm)	: 696
Climatic Grade	: 2
Field Capacity Days	: 163
Moisture Deficit (mm) Wheat	: 93
Moisture Deficit (mm) Potatoes	: 80

1.4 Geology, Soils and Drainage

This site is underlain by Middle Chalk over which lie thin medium-textured soils. The profiles are well drained, falling in Wetness Class I, and consist of medium silty clay loam topsoils and subsoils overlying hard chalk at between 25cm and 40cm depth. Topsoils are very slightly to slightly stony, containing 4-6% subrounded chalks and angular flints, while subsoils are slightly stony, with around 15% chalks and flints.

1.5 Soil Properties

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

- (a) Soil Type 1:- Shallow medium-textured soils (Unit T1/S1/Chalk)
(Full Profile Description, Table 1)

This soil, formed on weathering chalk, occurs over the whole site. It is characterised by medium-textured topsoils and thin subsoils overlying hard chalk within 40cm depth.

1.6 Soil Resources

(i) Topsoils

Unit T1 occurs over the whole site. It is medium-textured (usually medium silty clay loam) and very slightly to slightly stony, containing 4-6% small and medium subrounded chalks and angular flints. It has a strongly developed medium subangular blocky structure and a median unit depth of 20cm.

(ii) Subsoils

Unit S1 also occurs over the whole site. It is medium-textured (medium silty clay loam) and slightly stony, containing around 15% very small to large subrounded chalks and angular flints. This subsoil has a strongly developed medium subangular blocky structure and a mean depth of 10cm.

2. SOIL PROFILE DESCRIPTION

Table 1 Shallow medium-textured soil, T1/S1

Profile Pit (Near auger boring 2)

Slope:- 3° NW
Land use:- Permanent Grass
Weather:- Cool, windy

Depth cm	Horizon Description
0-20	Dark brown (10YR 4/3) medium silty clay loam; no mottles; very slightly stony, containing around 4% very small to medium subrounded chalks and angular flints; slightly moist; strongly developed medium subangular blocky structure; friable; moderately porous; abundant very fine fibrous roots; moderately sticky; moderately plastic; non-calcareous; clear, smooth boundary
20-42	Strong brown (7.5YR 4/6) medium silty clay loam; no mottles; slightly stony, containing around 15% very small to large subrounded chalks and angular flints; slightly moist; strongly developed medium subangular blocky structure; friable; moderately porous; many very fine fibrous roots; moderately sticky; moderately plastic; non-calcareous; gradual irregular boundary
42+	White (10YR 8/1) weathering chalk, few very fine fibrous roots in interstices in upper layers

3. 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		
3b	3.0	100.0
4		
5		
(Sub total)	(3.0)	(100.0)
Urban		
Non Agricultural		
Woodland - Farm		
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Sub total)		
 TOTAL	 <u>3.0</u>	 <u>100</u>

3.1 Subgrade 3b

All of this site has been mapped as Subgrade 3b. The soils are well drained, falling in Wetness Class I, and consist of medium silty clay loam topsoils and thin subsoils overlying hard chalk deposits at around 30cm depth. Soil droughtiness limits the land to Subgrade 3b, as does soil depth where the chalk outcrops to within less than 30cm of the soil surface. Slopes of 9-11° in the north and west of the site also limit some areas to Subgrade 3b.

RPT File: 2 FCS 10676
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MAPS