

STATEMENT OF PHYSICAL CHARACTERISTICS
AND
AGRICULTURAL LAND CLASSIFICATION
ALLERTON PARK, QUARRY EXTENSION
KNARESBOROUGH
APRIL 1993

ADAS

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SUMMARY

A Statement of Physical Characteristics and Agricultural Land Classification survey of 3.1 ha of land at Allerton Park was carried out in April 1993.

At the time of the survey all of this was available for agricultural use and all falls into Subgrade 3a. Soils consist mainly of very slightly stony medium clay loam topsoils overlying moderately well-drained (Wetness Class II) very slightly stony gleyed permeable sandy clay loam and heavy clay loam subsoils. Areas of similar but slowly permeable imperfectly and poorly drained (Wetness Classes III IV) and lighter well drained (Wetness Class 1) sandy loam topsoils over sand and loamy sand subsoils also occur at random across the site. Soil wetness and soil variability are the main factors limiting the area to subgrade 3a.

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STATEMENT OF PHYSICAL CHARACTERISTICS AND AGRICULTURAL LAND
CLASSIFICATION REPORT ON THE PROPOSED QUARRY EXTENSION AT ALLERTON
PARK NEAR KNARESBOROUGH, NORTH YORKSHIRE

1. INTRODUCTION AND STATEMENT OF PHYSICAL CHARACTERISTICS

1.1 Location and Survey Methods

The site lies 6.5 km north east of Knaresborough immediately east of the A1 around National Grid Reference SE408602. It covers a total of 3.1 ha. Survey work was carried out in April 1993 when soils were examined by hand auger borings at intervals predetermined by the National Grid. Overall boring density was four per hectare. One soil inspection pit was dug to allow detailed descriptions of soil structure to be made. 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 the site consisted of uncultivated agricultural land. Site altitude is 60m and the area is level (0-1°).

1.3 Climate

| | |
|-----------------------------------|-------------|
| Grid Reference | :SE408602 |
| Altitude (m) | :60 |
| Accumulated Temperature above 0°C | |
| (January - June) | :1336 day°C |
| Average Annual Rainfall (mm) | :663 |
| Climatic Grade | :1 |
| Field Capacity Days | :157 |
| Moisture Deficit (mm) Wheat | :100 |
| Moisture Deficit (mm) Potatoes | :89 |

1.4 Geology, Soils and Drainage

The site is underlain by Triassic Sandstones over which there is a drift cover of loamy boulder clay. Topsoils are generally medium textured (medium clay loam), with occasional lighter medium sandy loams. Subsoils are medium to heavy textured (sandy clay loam and heavy clay loam) and gleyed. Profiles are mainly moderately well drained (Wetness Class II), but with occasional patches of poorly (Wetness Class IV), imperfectly (Wetness Class III), and well drained (Wetness Class I) soil.

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/heavy textured soils (Unit T1/S1)
(Full Profile Description, Table 1)

This soil formed on Loamy boulder clay occurs over the whole of the site.

1.6 Soil Resources

(i) Topsoils

Unit T1 occurs over the whole site. It is medium to light textured and consists mainly of very slightly stony medium clay loam with occasional patches of very slightly stony medium sandy loam, containing 0-2% small to medium sized rounded and subrounded hard stones. This topsoil has a weakly developed medium subangular blocky structure and a median thickness of 25cm.

(ii) Subsoils

Unit S1 occurs over the whole site. It is medium to heavy textured and consists of mixed gleyed sandy clay loam and heavy clay loam. It is very slightly stony, containing 0-2% small and medium sub rounded and rounded hard stones. This subsoil has a weakly developed medium to coarse angular blocky structure and a mean thickness of 80cm.

2 SOIL PROFILE DESCRIPTIONS

Table 1 medium/heavy textured soil, T1/S1

Profile Pit 1 (Near auger boring 6)

Slope: 1°
Land use: Uncultivated
Weather: Overcast

| Depth cm | Horizon Description |
|-------------|---|
| 0-30 | Very dark greyish brown (10YR3/2) medium clay loam; no mottles; very slightly stony (approximately 2% small and medium sized subrounded hard stones); moist; weakly developed medium subangular blocky structure; firm soil strength; moderately porous; many fine, medium and coarse fibrous roots; slightly sticky; slightly plastic; non calcareous; abrupt smooth boundary. |
| 30-120 | Grey (10YR5/1) heavy clay loam; common, medium, clear brownish yellow (10YR6/6) mottles; very slightly stony (approximately 1% small and medium sized subrounded hard stones); moist; weakly developed medium to coarse angular blocky structure; firm soil strength; slightly porous; many fine, medium and coarse fibrous roots; moderately sticky; moderately plastic; non calcareous. |

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 | 3.1 | 100 |
| 3b | | |
| 4 | | |
| 5 | | |
| (Subtotal) | 3.1 | (100) |
| Urban | | |
| Non Agricultural | | |
| Woodland - Farm | | |
| - Commercial | | |
| Agricultural Buildings | | |
| Open Water | | |
| Land not surveyed | | |
| (Subtotal) | | |
| TOTAL | <u>3.1</u> | <u>100</u> |

3.1 Subgrade 3a

Subgrade 3a land occurs over the whole site. Profiles are mainly moderately well drained (Wetness Class II) consisting of very slightly stony medium clay loam topsoils overlying gleyed permeable very slightly stony sandy clay loam subsoils. Patches of similar but poorly drained slowly permeable (Wetness Class IV) heavy clay loam, imperfectly drained (Wetness Class III) and lighter well drained (Wetness Class I) sandy loam over sand and loamy sand also occur at random across the site. Wetness and soil variability therefore limit the land to Subgrade 3a.

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MAPS