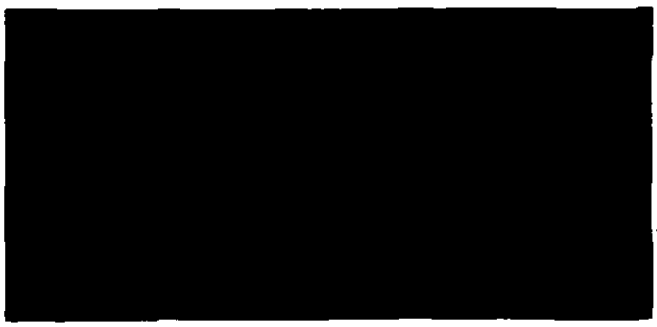

MAFF Ministry of Agriculture Fisheries and Food

AGRICULTURAL LAND CLASSIFICATION
BERWICK DISTRICT WIDE LOCAL PLAN
ALC SURVEY OF DEVELOPMENT SITES
(SITES AROUND BERWICK)
NORTHUMBERLAND
FEBRUARY 1995

ADAS
Leeds Statutory Group

Job No:- 15-18/95
MAFF Ref:- EL 31/13
Commission No:- 1570

SUMMARY

A detailed Agricultural Land Classification survey of 31 ha of land on four sites around Berwick-upon-Tweed ("Berwick District Wide Local Plan, ALC Survey of Development Sites") was carried out in February 1995.

Site 1 (Policy W15) consists of 11.1 ha of Subgrade 3a land. Medium-textured topsoils overlie very light to medium-textured subsoils. Where they occur slowly permeable layers begin at around 55cm depth. Soil wetness, a pattern limitation and exposure all limit this land to Subgrade 3a.

Site 2 (Policy S23/25) consists of 2.7 ha of Subgrade 3a land and 2.8 ha of Subgrade 3b land. In the case of the former medium-textured topsoils and upper subsoils overlie medium to heavy-textured lower subsoils. Where they occur slowly permeable layers begin at around 55cm depth. Soil wetness and a pattern limitation restrict the ALC grade of this land. In the case of the latter subgrade slopes of 8-11° limit the land to Subgrade 3b, or medium-textured topsoils overlie slowly permeable medium to heavy-textured subsoils at around 30cm depth. In this case soil wetness limits the land to Subgrade 3b.

Site 3 (Policy W16) consists of 3.1 ha of Subgrade 3a land and 4.5 ha of Subgrade 3b land. Medium-textured topsoils and, in places, upper subsoils, overlie slowly permeable heavy clay loam or clay at between 30cm and 55cm depth. Varying degrees of soil wetness are the factor limiting the ALC grade in each case.

Site 4 (Policy S23/25) consists of 5.5 ha of Subgrade 3a land and 1.3 ha of Urban land. The Subgrade 3a land consists of light to medium-textured topsoils over very light to heavy-textured subsoils. Either soil wetness (where slowly permeable heavy textured subsoils occur at around 40cm depth) or soil droughtiness (where light textured subsoils occur) limit this land to Subgrade 3a.

CONTENTS

AGRICULTURAL LAND CLASSIFICATION REPORT ON LAND AROUND BERWICK (BERWICK DISTRICT WIDE LOCAL PLAN, ALC SURVEY OF DEVELOPMENT SITES)

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location and Survey Methods

Land at four sites around Berwick-upon-Tweed was surveyed in February 1995, when the soils were examined by hand auger borings at 100m intervals predetermined by the National Grid. One soil pit was dug on each site to allow full profile descriptions to be made and 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).

The land quality on each of these sites is described in the following sections of this report.

1.2 Geology, Soil and Drainage

Site 1 is underlain by Lower Carboniferous Limestone while Site 2 is underlain by Silurian (Llandovery) shales. Site 3 is underlain by Lower Carboniferous Fell Sandstone and Site 4 is underlain by Fell Sandstone (in the north) and Lower Carboniferous Scremerston Coal Group deposits (in the south). All four sites are overlain by deposits of boulder clay although isolated pockets of lighter-textured drift occur on Sites 1, 2 and 4.

Generally the soils on all four sites are imperfectly or poorly drained, falling in Wetness Classes III and IV, and consist of medium-textured topsoils and, in many cases, upper subsoils, overlying gleyed and slowly permeable heavy-textured horizons. However, where lighter-textured drift occurs the soils are well or moderately well drained, falling in Wetness Classes I or II, with medium-textured topsoils overlying very light to medium-textured subsoils in most cases.

2.1 SITE 1 (POLICY W15)

2.1.1 Location

This site lies approximately 2½ km north of Berwick town centre, between the A1 (T) and the main east coast railway line. It covers a total area of 11.1 ha.

2.1.2 Climate

Grid Reference	: NT 990 553
Altitude (m)	: 55
Accumulated Temperature above 0°C (January - June)	: 1265 day °C
Average Annual Rainfall (mm)	: 633
Climatic Grade	: 2
Field Capacity Days	: 158
Moisture Deficit (mm) Wheat	: 93
Moisture Deficit (mm) Potatoes	: 79

2.1.3 Land Use and Relief

At the time of survey all of this site was sown to winter cereals. Altitude varies from 45m AOD in the east to 65m AOD in the west and the land is gently sloping (2-3°) with a north-easterly aspect.

2.1.4 AGRICULTURAL LAND CLASSIFICATION - SITE 1

The ALC grades occurring on this site are as follows:

Grade/Subgrade	Hectares	Percentage of Total Area
1		
2		
3a	11.1	100.0
3b		
4		
5		
(Sub total)	(11.1)	(100.0)
Urban		
Non Agricultural		
Woodland - Farm		
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Sub total)		
TOTAL	11.1	100

2.1.5 Subgrade 3a

All of this site falls in Subgrade 3a. The soils are typically either well drained (Wetness Class I) with medium clay loam topsoils overlying sandy clay loam, sandy loam or loamy sand subsoils, or imperfectly drained (Wetness Class III) with medium clay loam topsoils overlying permeable medium or heavy clay loam upper subsoils and reddish gleyed, slowly permeable heavy-textured lower subsoils which begin at around 55cm depth.

Soil wetness restrictions and a pattern limitation prevent this land being graded higher than Subgrade 3a and, in addition, its close proximity to the coast and its north-easterly aspect mean that exposure is also a significant factor in limiting the ALC grade.

2.2 SITE 2 (POLICY S23/25)

2.2.1 Location

This site lies 1½km north-west of Berwick town centre and covers a total area of 5.5 ha.

2.2.2 Climate

Grid Reference	: NT 987 541
Altitude (m)	: 60
Accumulated Temperature above 0°C (January - June)	: 1260 day °C
Average Annual Rainfall (mm)	: 642
Climatic Grade	: 2
Field Capacity Days	: 161
Moisture Deficit (mm) Wheat	: 92
Moisture Deficit (mm) Potatoes	: 78

2.2.3 Land Use and Relief

At the time of survey all of this site was under permanent grass. Site altitude varies from 70m AOD in the west to 60m AOD in the centre and the land is gently to strongly sloping (2-11°) with variable aspect. Much of the centre of the site exceeds 7° and is, thus, restricted to Subgrade 3b.

2.2.4 AGRICULTURAL LAND CLASSIFICATION - SITE 2

The ALC grades occurring on this site are as follows:

Grade/Subgrade	Hectares	Percentage of Total Area
1		
2		
3a	2.7	49.0
3b	2.8	51.0
4		
5		
(Sub total)	(5.5)	(100.0)
Urban		
Non Agricultural		
Woodland - Farm		
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Sub total)		
TOTAL	5.5	100

2.2.5 Subgrade 3a

Subgrade 3a land occurs in the centre and west of this site. The soils vary between well drained (Wetness Class I) and imperfectly drained (Wetness Class III) and consist of medium clay loam topsoils and upper subsoils overlying medium or heavy clay loam lower subsoils. Where they occur slowly permeable layers begin at around 50cm depth and it is soil wetness and a pattern limitation which restricts these areas to Subgrade 3a.

2.2.6 Subgrade 3b

Land in this subgrade occurs in the north and east. In the far east of the site the soils are poorly drained (Wetness Class IV) with medium clay loam topsoils overlying slowly permeable reddish sandy clay loam or heavy clay loam subsoils at around 30cm depth. Soil wetness restricts this area to Subgrade 3b. Other land in this subgrade consists of strongly sloping areas in the centre and east where slopes of 8-11° limit the use of some types of agricultural machinery.

2.3 SITE 3 (POLICY W16)

2.3.1 Location

Site 3 lies 2 km south-west of Berwick town centre, on the north side of the A698 road. It covers a total area of 7.6 ha.

2.3.2 Climate

Grid Reference	: NT 982 519
Altitude (m)	: 30
Accumulated Temperature above 0°C (January - June)	: 1295 day °C
Average Annual Rainfall (mm)	: 640
Climatic Grade	: 2
Field Capacity Days	: 162
Moisture Deficit (mm) Wheat	: 97
Moisture Deficit (mm) Potatoes	: 84

2.3.3 Land Use and Relief

At the time of survey all of this land was under winter cereals. Site altitude varies from 30m AOD in the centre to 25m AOD in the east and west and the land is gently sloping (typically 2°) with variable aspect.

2.3.4 AGRICULTURAL LAND CLASSIFICATION - SITE 3

The ALC grades occurring on this site are as follows:

Grade/Subgrade	Hectares	Percentage of Total Area
1		
2		
3a	3.1	40.8
3b	4.5	59.2
4		
5		
(Sub total)	(7.6)	(100.0)
Urban		
Non Agricultural		
Woodland - Farm		
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Sub total)		
TOTAL	7.6	100

2.3.5 Subgrade 3a

The north-west of this site falls in Subgrade 3a. The soils are imperfectly drained (Wetness Class III) and consist of medium clay loam topsoils and upper subsoils overlying reddish, slowly permeable heavy clay loam or clay lower subsoils at around 55cm depth. Soil wetness limits this land to Subgrade 3a.

2.3.6 Subgrade 3b

The remainder of the site falls in Subgrade 3b. Profiles are poorly drained (Wetness Class IV) and consist of medium clay loam topsoils overlying reddish, slowly permeable heavy clay loam or clay subsoils at around 30cm depth. A more severe soil wetness limitation than on the adjoining Subgrade 3a land further limits this land to Subgrade 3b.

2.4 SITE 4 (POLICY S23/25)

2.4.1 Location

Site 4 lies 2 km south-south-west of Berwick town centre and covers a total area of 6.8 ha.

2.4.2 Climate

Grid Reference	: NT 992 508
Altitude (m)	: 65
Accumulated Temperature above 0°C (January - June)	: 1255 day °C
Average Annual Rainfall (mm)	: 647
Climatic Grade	: 2
Field Capacity Days	: 161
Moisture Deficit (mm) Wheat	: 94
Moisture Deficit (mm) Potatoes	: 80

2.4.3 Land Use and Relief

At the time of survey 5.5 ha of this site was under permanent grass or was agriculturally derelict. The remainder consists of Urban land in the west and north-east. Site altitude varies from 55m AOD in the west to 75m AOD in the south-east and the land is typically gently sloping (2-3°) with a northerly or north-westerly aspect.

2.4.4 AGRICULTURAL LAND CLASSIFICATION - SITE 4

The ALC grades occurring on this site are as follows:

Grade/Subgrade	Hectares	Percentage of Total Area
1		
2		
3a	5.5	80.9
3b		
4		
5		
(Sub total)	(5.5)	(80.9)
Urban	1.3	19.1
Non Agricultural		
Woodland - Farm		
- Commercial		
Agricultural Buildings		
Open Water		
Land not surveyed		
(Sub total)	(1.3)	(19.1)
TOTAL	6.8	100

2.4.5 Subgrade 3a

All of the agricultural land on this site has been mapped as Subgrade 3a. The soils vary from well drained to poorly drained (Wetness Classes I to IV) and consist of medium sandy loam or sandy clay loam topsoils overlying clay, sandy clay loam, loamy sand or sand subsoils. The medium and heavy-textured subsoils typically become slowly permeable at around 40cm depth, in which case soil wetness limits the land to Subgrade 3a, whilst soil droughtiness is the limiting factor where the very light-textured subsoils occur.

2.4.6 Urban

This category includes asphalted roads in the west and north-east and an area of disturbed land in the north-east.

RPT File: 2 FCS 10631-4
Leeds Statutory Group