AGRICULTURAL LAND CLASSIFICATION
WEAR VALLEY LOCAL PLAN
COUNTY DURHAM

SEPTEMBER 1992

AGRICULTURAL LAND CLASSIFICATION

ADAS

LEEDS STATUTORY GROUP

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AGRICULTURAL LAND CLASSIFICATION

SUMMARY

A total of 150 ha. of land was surveyed on 17 sites around 8 towns and villages within the Wear Valley area. 144 ha. of this is agricultural land of which almost 30 ha. falls in Subgrade 3a, the remainder falling largely in Subgrade 3b.

Two main soil types occur. The first and by far the most widespread is a poorly drained (Wetness Class IV) medium over heavy textured soil formed on boulder clay. This land is restricted to either Subgrade 3a or Subgrade 3b (depending on depth to slowly permeable subsoil) by soil wetness. The second which occurs only on the Permian limestone east of Bishop Auckland is a medium textured soil typically consisting of a medium clay loam topsoil overlying weathering limestone bedrock. These profiles are well drained (Wetness Class I) and the land is restricted to Subgrade 3b by droughtiness.

A summary of soil types, ALC grades and limitations can be found in the Appendix.

WEAR VALLEY LOCAL PLAN

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WEARVAL.ALC/MT

WEAR VALLEY LOCAL PLAN

AGRICULTURAL LAND CLASSIFICATION REPORTS

INTRODUCTION

Land covering an area of approximately 150 hectares was surveyed on 17 sites around 8 towns and villages within the Wear Valley area. Agricultural land quality on each of these sites, numbered or lettered according to local authority plans, is described in the following parts of this report.

Survey work was carried out in August 1992 when soils were examined at points pre-determined by the National Grid. The overall survey density was approximately one or two borings per hectare, additional borings being made, where necessary, to refine grade boundaries and to check soil variability.

All assessments of agricultural land quality were made using the methods described in the Agricultural Land Classification of England and Wales (MAFF 1988).

Climate

One climatic datapoint was used for sites at Etherley Grange, Coundon and Leeholme and Bishop Auckland. Separate climatic datapoints were used for the remaining sites.

Land Use

At the time of survey sites at Bishop Auckland, Howden-Le-Wear, Crook and Etherley Grange were in permanent pasture. Leeholme and Coundon were in arable production as was Hunwick. South Church was under mixed arable and permanent pasture as was Willington.

Geology and Soils

Apart from a small area of site C5 and parts of C2 and Ce at Coundon where Lower Magnesian Limestone occurs close to the surface all the sites surveyed are covered with boulder clay and undifferentiated drift which forms a thick cover over the

underlying Carboniferous Coal Measures. Soils formed on these deposits are predominantly heavy and in general consist of poorly drained medium or heavy clay loam topsoils over heavy clay loam or clay subsoils.

Part 1. Sites around Hunwick

Sites Ha and Hb are located around National Grid Reference NZ185321, approximately 1 km south of Hunwick centre, adjacent to the B6286.

The two sites cover an area of approximately 15 hectares. Site Ha is all in urban use and site Hb all in agricultural use. At the time of the survey all the agricultural land on site Hb was in arable use. The urban land on site Ha consists of private housing and gardens along with a nursery area.

Climate

Site Name:	Hunwick
Grid Reference:	NZ185321
Altitude (m):	160
Accumulated Temperature Above °C (January - June):	1195
Average Annual Rainfall (mm):	757
Climatic Grade:	3a
Field Capacity Days:	195
Moisture Deficit Wheat (mm):	77
Moisture Deficit Potatoes (mm):	60

Geology and Soils

Boulder clay and undifferentiated drift forms a thick cover over the underlying Carboniferous coal measures.

The whole site is covered by medium clay loam topsoils. These overlie slowly permeable heavy clay loam and clay subsoils in the north and south of the site. Better drained subsoils containing some light sandy material occur in a band running from east to west across the centre of the site.

AGRICULTURAL LAND CLASSIFICATION GRADES

The ALC grades occurring on these sites are as follows:-

Grade/Subgrade	Hectares	Percentage of Total/Land
Site Hb		
3a	6.77	54
3b	5.86	46%
TOTAL	12.57	100
Site Ha		
Urban	2.14	100
TOTAL	2.14	100

Subgrade 3a

Subgrade 3a land occurs in a deep band running centrally from east to west across site Hb. Soils consist of stoneless or very slightly stony, unmottled, medum clay loam topsoils over stoneless or very slightly stony mottled and unmottled medium and heavy clay loam subsoils. Sandier material occurs locally. Wetness class varies from I to III depending on whether the soils are slowly permeable or not. However, overall ALC grade is limited to Subgrade 3a by climatic considerations even where soils are freely drained.

Evidence of gravel extraction exists around the centre of the site.

Subgrade 3b

Subgrade 3b land occurs in the north and south of the site on either side of the Subgrade 3a land. Soils consist of very slightly stony unmottled medium clay loam topsoils over stoneless gleyed slowly permeable heavy clam loam or clay subsoils. Profiles are poorly drained and fall within Wetness Class IV. Wetness is the main limiting factor on ALC grade.

Urban

The whole of the site Ha, to the north east of Site Hb consists of private housing, gardens and a nursery area.

Part 2. Site At Crook

Site Ca at Crook is located around National Grid Reference NZ155345 approximately 1½ km south west of Crook town centre.

The site covers an area of approximately 23 hectares, 96% of which is in agricultural use. At the time of survey all agricultural land was in permanent pasture. Urban land includes unmetalled roads and agricultural buildings.

Climate

Site Name:	Crook
Grid Reference:	NZ155345
Altitude (m):	160
Accumulated Temperature Above 0°C (January - June):	1195
Average Annual Rainfall (mm):	732
Climatic Grade:	2
Field Capacity Days:	195
Moisture Deficit Wheat (mm):	79
Moisture Deficit Potatoes (mm):	62

Geology and Soils

Boulder clay and undifferentiated drift covers the site and forms a thick cover over the underlying Carboniferous coal measures. Soils consist of medium clay loam topsoils over slowly permeable heavy clay loam and clay subsoils. These are mainly poorly drained (Wetness Class IV) except for an areas across the centre of the site where drainage is slightly better and profiles fall within Wetness Class III.

AGRICULTURAL LAND CLASSIFICATION GRADES

The ALC grades occurring on this site are as follows:-

Grade/Subgrade	Hectares	Percentage of Total Land
3a	4.04	17.1
3b	18.73	79.5
Subtotal	(22.77)	(96.6)
Urban	0.40	1.7
Agricultural Buildings	0.40	1.7
TOTAL	23.57	100

Subgrade 3a

Land in this subgrade occurs mainly in a band running from the north through the centre to the western side of the site. There is also a small area adjoining High Farm.

Soils mostly consist of very slightly stony, unmottled, medium clay loam topsoils over mottled, very slightly stony slowly permeable heavy clay loam subsoils.

Profiles are slowly permeable at or below 60 m and fall into Wetness Class III (imperfectly drained). Slight soil wetness is the main limiting factor.

Subgrade 3b

Subgrade 3b occurs over the remaining agricultural land on the site. Soils consist of stoneless or very slightly stony ummottled medium clay loam topsoils over stoneless or very slightly stony, gleyed, slowly permeable heavy clay loam or clay subsoils. Slowly permeable layers occur at or above 40 mm placing profiles within Wetness Class IV (poorly drained). Wetness and workability problems are the main factors limiting land of this type to subgrade 3b.

Urban

Urban areas consist of unsurfaced tracks over the site.

Agricultural Buildings

This category includes the farmhouse and outbuildings in the centre of the site.

Part 3. Site at Etherley Grange

Site Bpf at Etherley Grange is located around National Grid Reference NZ188290 approximately 500 m east of Etherley Grange at the Four Lane Ends junction.

The site covers an area of approximately 4 hectares, 98% of which is in agricultural use. At the time of the survey all agricultural land was in permanent pasture. Urban land consists of a small area of private gardens in the south east of the site.

Climate

One central common climatic data point located in the centre of Bishop Auckland was used for all nearby sites at Etherley Grange, Coundon, South Church, Leeholme and Bishop Auckland.

Climatic Point:	Bishop Auckland Centre
Grid Reference:	NZ210290
Altitude (m);	100
Accumulated Temperature Above 0°C (January - June):	1264
Average Annual Rainfall (mm):	703
Climatic Grade:	2
Field Capacity Days:	187
Moisture Deficit Wheat (mm):	87
Moisture Deficit Potatoes (mm):	71

Geology and Soils

Boulder clay and undifferentiated drift covers the underlying Carboniferous Coal Measures. Apart from a small urban area the whole of the site is covered by medium textured clay loam topsoils overlying slowly permeable heavy clay loam and clay subsoils.

AGRICULTURAL LAND CLASSIFICATION GRADES

The ALC grades occurring on this site are as follows:-

Grade/Subgrade	Hectares	Percentage of Total Land
3b	3.98	98.8%
Urban	0.05	1.2
TOTAL	4.03	100

Subgrade 3b

Subgrade 3b soils occur over the whole of the site apart from a small area of urban in the south east. Soils consist of stoneless or very slightly stony unmottled, medium clay loam topsoils over stoneless or very slightly stony, gleyed slowly permeable heavy clay loam and clay subsoils. Profiles are slowly permeable at or above 30 cm and fall within Wetness Class IV (poorly drained).

Soil wetness is the main factor limiting this area to Subgrade 3b.

Urban

Urban land consists of a small area of private gardens in the south east corner of the site.

Part 4. Sites at Bishop Auckland

Sites Bpb and Bpc are located around National Grid References NZ221294 and NZ220291 respectively, approximately 1 km east of Bishop Auckland centre, immediately south of the A689, between Brack's Wood and the dismantled railway.

The two sites cover an area of approximately 20 hectares, 98% of which is in agricultural use. At the time of the survey all agricultural land was in permanent pasture. Urban land consists of paths and tracks running through sites Bpb and Bpc.

Climate

One central common climatic data point located in the centre of Bishop Auckland was used for Etherley Grange, Coundon, South Church, Leeholme and Bishop Auckland.

Climatic Point:	Bishop Auckland centre
Grid Reference:	NZ210290
Altitude (m):	100
Accumulated Temperature Above 0°C (January - June):	1264
Average Annual Rainfall (mm):	703
Climatic Grade:	2
Field Capacity Days:	187
Moisture Deficit Wheat (mm):	87
Moisture Deficit Potatoes (mm):	71

Geology and Soils

Boulder clay and undifferentiated drift covers the Coal Measures underlying both sites. Soils consist mainly of medium clay loam topsoils, over slowly permeable very slightly stony heavy clay loam or clay subsoils.

AGRICULTURAL LAND CLASSIFICATION GRADES

The ALC grades occurring on these sites are as follows:-

Grade/Subgrade	Hectares		Percentage of Total Land	
	Site Bpb	Site Bpc	Site Bpb	Site Bpc
3a	5.08		43.7	
3b	6.32	8.70	54.3	97.2
Subtotal	(11.40)	(8.70)	(98.0)	(97.2)
Urban	0.23	0.25	2.0	2.8
TOTAL	11.63	8.95	100	100

Subgrade 3a

Subgrade 3a land occurs in a central band running west to east on site Bpb. Soils consist of very slightly stony unmottled medium clay loam topsoils over gleyed slowly permeable very slightly stony heavy clay loam and clay subsoils. The soils are slowly permeable at or below 45 cm and thus fall into Wetness Class III (imperfectly drained). Wetness is the main factor limiting ALC grade.

Subgrade 3b

Subgrade 3b land occurs in northern and southern parts of site Bpb and over the whole of site Bpc. Soils consist of very slightly stony unmottled medium clay loam topsoils over very slightly or slightly stony gleyed, slowly permeable, heavy clay loam subsoils. The underlying Carboniferous sandstone occurs at less than 1 m depth in places. Profiles are slowly permeable at or above 30 mm and fall into Wetness Class IV poorly drained. Wetness is the main factor limiting land of this type to Subgrade 3b.

Urban

Urban land consists of paths and tracks on both sites.

Part 5. Sites At Willington

The areas at Willington consist of three separate sites. Site Wd is located around National Grid Reference NZ191356, 500 m north west of Willington centre, due north of West Road. Site Wc is located around National Grid Reference NZ191535, 500 m west of Willington and due south of West Road. Site Wa is located around National Grid Reference NZ193346, 1 km due south of Willington centre, off Hunwick Lane.

The 3 sites cover a total area of approximately 15 hectares, all of which is in agricultural use. At the time of the survey sites Wd and Wc were in permanent pasture and site Wa under cereals.

Climate

One central climatic data point was used for all three sites.

Site Name:	Willington
Grid Reference:	NZ192355 (Central point between the 3 sites)
Altitude (m):	100
Accumulated Temperature Above °C (January - June):	1262
Average Annual Rainfall (mm):	695
Climatic Grade:	2
Field Capacity Days:	182
Moisture Deficit Wheat (mm):	88
Moisture Deficit Potatoes (mm):	73

Geology and Soils

Boulder clay and undifferentiated drift covers the underlying Carboniferous coal measures. All three sites are covered with medium clay loam topsoils. Subsoils on site Wd north of West Road and site Wa off Hunwick Lane consist of slowly permeable heavy clay loams or clay. Lighter medium clay loam and sandy loam subsoils occur on the lower site Wc, south of West Road.

AGRICULTURAL LAND CLASSIFICITION GRADES

The ALC grades occurring on these sites are as follows:-

Grade/Subgrade	Hectares			Percentage of Total Land		
	Site Wa	Site Wc	Site Wd	Site Wa	Site Wc	Site Wd
3a		2.88			73.9	
3b	5.84	1.06	5.62	100	26.1	100
TOTAL	5.84	3.94	5.62	100	100	100

Subgrade 3a

Subgrade 3a land occurs over the central and western portion of site Wc south of West Road. Soils consist of very slightly stony, unmottled, medium clay loam topsoils over well drained (Wetness Class I) very slightly stony, mottled, sandy loam, sandy clay loam or medum clay loam subsoils. Profiles of this type are slightly droughty and this part of the site is limited to Subgrade 3a for this reason.

Subgrade 3b

Subgrade 3b land is found over the whole of sites Wd and Wa, and the eastern part of site Wc. Soils consist of stoneless or very slightly stony unmottled medium clay loam topsoils over, on sites Wa and Wd, stoneless or very slightly stony, gleyed slowly permeable heavy clay loam and clay subsoils. Profiles are slowly permeable at

less than 40 cm depth and fall within Wetness Class IV (poorly drained). Subsoils on site Wc are lighter textured and well drained but are limited to Subgrade 3b by gradients of 8 - 11°.

Wetness and, on site Wc gradient, are thus the main factors limiting these parts of the sites to Subgrade 3b.

Part 6. Site At South Church

The site Bpe is located around National Grid Reference NZ 220281 approximately 1 km south east of Bishop Auckland centre, adjacent to the A6072.

The site covers an area of approximately 7 hectares, 85% of which is in agricultural use. At the time of the survey the majority of agricultural land was in arable use the remainder being permanent pasture. Urban land consists of a cemetery with access road and a public pathway along the northern edge of the site.

Climate

One central climatic data point located in the centre of Bishop Auckland was used for Etherley Grange, Coundon, South Church, Leeholme and Bishop Auckland.

Climatic Point:	Bishop Auckland Centre
Grid Reference:	NZ210290
Altitude:	100
Accumulated Temperature Above °OC (January - June):	1264
Average Annual Rainfall (mm):	703
Climatic Grade:	2
Field Capacity Days:	187
Moisture Deficit Wheat (mm):	87
Moisture Deficit Potatoes (mm):	71

Geology and Soils

Boulder clay forms a cover of variable thickness over the underlying Carboniferous coal measures which occur at less than 1 m from the surface in some southern parts of the site. Topsoils over most of the area consist of medium clay loam. Subsoils are formed mainly of gleyed slowly permeable heavy clay loam or clay which in the south often passes into weathering sandstone at depth.

AGRICULTURAL LAND CLASSIFICATION GRADES

The ALC grades occurring on this site are as follows:-

Grade/Subgrade	Hectares	Percentage of Total Land
3a	2.95	42.8
3b	2.88	41.8
Subtotal	(5.83)	(84.6)
Urban	1.06	15.4
TOTAL	6.89	100

Subgrade 3a

Subgrade 3a land occurs mainly over the southern part of the site. There is also a narrow band running along the north eastern edge next to Dene Beck. The narrow strip next to the Beck consists of medium silty clay loam topsoils over gleyed, slowly permeable (Wetness Class III) heavy silty clay loam subsoils. The larger area Subgrade 32a in the southern part of the site, consists of a mixture of very slightly stony medium clay loam topsoils over gleyed, permeable (Wetness Classes I and II) and gleyed slowly permeable (Wetness Class IV) stoneless heavy clay loam subsoils. Weathering sandstone occurs in places at depths of between 35 cm and 65 cm. The deeper profiles containing heavy clay loam subsoils are limited to Subgrade 3a by

wetness. Those with sandstone at less than 65 cm are restricted to the subgrade by slight droughtiness.

Subgrade 3b

Subgrade 3b land is widespread in the northern part of the site. Soils consist of very slightly stony medium clay loam topsoils, over very slightly stony or stoneless gleyed, slowly permeable heavy clay loam or clay subsoils. The slowly permeable layer occurs at 30 cm depth or less and places profiles within Wetness Class IV (poorly drained). The eastern edge of this area is also limited to Subgrade 3b by gradients of 8 - 11°. Soil wetness is the main limitation on ALC grade over this part of the site along with gradient restrictions on the eastern edge.

Urban

Urban land consists of the cemetery in the centre of the site, the access road leading to it and a track along the northern edge.

Part 7. Sites At Leeholme And Coundon

The six sites surveyed in the Leeholme and Coundon areas are located around the following National Grid References.

Site	Location	Grid Reference
Ca	Leeholme	NZ244304
Cb	Leeholme	NZ238302
Cc	Leeholme	NZ234301
Ce	Coundon	NZ235295
C2	Coundon	NZ241294
C5	Coundon	NZ247293

Some other sites in these areas could not be surveyed because of access problems. The sites cover total area of approximately 55 hectares, 86% of which is in agricultural use overall. Agricultural use on individual sites varies from 44% on site C2 at Coundon to 100% on sites Ca and Cc at Leeholme. At the time of surve4y all agricultural land was in arable use.

Climate

One central common climatic data point located in the centre of Bishop Auckland was used for Etherley Grange, Coundon and Leeholme and Bishop Auckland.

Climatic Point:	Bishop Auckland Centre
Grid Reference:	NZ210290
Altitude (m):	100
Accumulated Temperature Above 0°C (January - June):	1264
Average Annual Rainfall:	703

Climatic Grade:	2
Field Capacity Days:	187
Moisture Deficit Wheat (mm):	87
Moisture Deficit Potatoes (mm):	71

Geology and Soils

Site C5 and the southern parts of sites C2 and Ce at Coundon directly overlie Lower Magnesian Limestone on which there is no significant drift cover. The remainder of the sites contain boulder clay which forms a thick cover over the underlying Carboniferous Coal Measures.

All of the sites are covered with medium clay loam topsoils. Subsoils on site C5 and parts of C2 and Ce consist of very stony medium clay loam over weathering lower magnesian limestone. Subsoils on the remainder of the sites consist of gleyed slowly permeable heavy clay loam or clay or occasionally sandy clay loam.

AGRICULTURAL LAND CLASSIFICATION GRADES

The ALC grades occurring on these sites are as follows:-

Grade	Hectares						Percentage of Total Land					
	Site						Site					
	Ca	Cb	Cc	Ce	C2	C5	Ca	Cb	Cc	Ce	C2	C5
3a	2.18	1.26		2.24	1.47		26.7	6.7		28.4	17.6	
3b	5.97	15.40	1.63	4.84	2.23	9.37	73.3	81.8	100	61.4	26.7	95.9
Subtotal	(8.15)	(16.66)	(1.63)	(7.08)	(3.70)	(9.37)	(100)	(88.5)	(100)	(89.8)	(44.3)	(95.9)
Non-Ag.				0.55	4.25					7.0	50.8	
Urban		2.17		0.25	0.41	0.40		11.5		3.2	4.9	
TOTAL	8.15	18.83	1.63	7.88	8.36	9.77	100	100	100	100	100	100

Subgrade 3a

Subgrade 3a soils occur in the south east of part site Ca, in the south of site Cb, on the west of site Ce and the east of site C2. Soils consist of very slightly stony medium clay loam topsoils over gleyed heavy clay loam subsoils. Slowly permeable layers occur between 50 - 60 cm depth resulting profiles being imperfectly drained (Wetness Classs III) and this limited to Subgrade 3a by slight soil wetness problems.

Subgrade 3b

Apart from areas of non-agricultural and urban land the remaining parts of all 6 sites at Leeholme and Coundon fall within Subgrade 3b. Soils on site C5 and the

southern parts of C2 and Ce consist of very slightly stony medium clay loam topsoils over extremely stony (80%) medium clay loam passing to weathering Lower Magnesian Limestone at shallow depth. Droughtiness problems limit these areas to Subgrade 3b.

Soils on the remaining areas consist of stoneless or very slightly stony medium clay loam topsoils overlying gleyed slowly permeable stoneless or very slightly stony heavy clay loam or clay subsoils. These soils are slowly permeable at or above 40 cm and fall into Wetness Class IV (poorly drained). Wetness is thus the limiting factor on much of this land along with gradient (8-11°) on parts of site Cb.

Non-Agricultural

Non-agricultural land consists of areas of allotments on sites C2 and Ce.

Urban

Urban land consists of roads and tracks along with an area of developed land on site Cb.

Part 8. Site At Hargill Farm, Howden-Le-Wear

Hargill farm is located around National Grid Reference NZ159332 approximately ½ km south of Howden centre, adjacent to Hargill road.

The site covers an area of approximately 11 hectares, 95% of which is in agricultural use. At the time of the survey all agricultural land was under permanent pasture. A Agricultural buildings cover a small area in the north of the site.

Climate

Site Name:	Hargill Farm
Grid Reference:	NZ159332
Atltitude (m):	130
Accumulated Temperature Above 0°C (January - June):	1229
Average Annual Rainfall (mm):	726
Climatic Grade:	2
Field Capacity Days:	194
Moisture Deficit Wheat (mm):	83
Moisture Deficit Potatoes (mm):	66

Geology and Soils

Boulder clay forms a thick cover over the underlying Carboniferous Coal Measures. The whole of the site is covered with stoneless or very slightly stony medium clay loam topsoils. Subsoils consist of stoneless or very slightly stony gleyed, slowly permeable heavy clay loam or clay. There is evidence of soil disturbance in some parts of the site.

AGRICULTURAL LAND CLASSIFICATION GRADES

The ALC grades occurring on this site are as follows:-

Grade/Subgrade	Hectares	Percentage of Total Land
3b	10.41	95.0
4	0.13	1.2
Subtotal	(10.54)	(96.2)
Agricultural Building	0.42	3.8
TOTAL	10.96	100

Subgrade 3b

Apart from a small area of grade 4 and agricultural buildings Subgrade 3b land covers the whole site. Soils consist of stoneless or very slightly stony faintly mottled medium clay loam topsoils, over, gleyed slowly permeable heavy clay loam or clay subsoils. Evidence of the land disturbance can be found in the westernmost field on the site. Profiles over the whole site are slowly permeable at or above 25 cm and fall into Wetness Class IV (poorly drained). They are limited to Subgrade 3b by wetness and workability problems.

Grade 4

A narrow strip of Grade 4 land runs from east to west along the southern part of the site. Topsoils have been removed to allow the land to be used as a track for greyhound training. Subsoils consist of gleyed slowly permeable very slightly stony clay (Wetness Class IV). Lack of topsoil resources limits this area to Grade 4.

Agricultural Buildings

These consist of buildings situated in the north of the site.

APPENDIX I

Summary of ALC grades on sites surveyed for Wear Valley Local Plan.

Subgrade 3a

Location	% of Total Site Area	Soil Types	Limiting Factor
Hunwick			
Site: Hb	54.0	Medium clay loam topsoils over imperfectly to well drained heavy and medium clay loam subsoils.	Wetness and Climate.
Crook			
Site: Ca	17.1	Medium clay loam over imperfectly drained heavy clay loam or medium clay loam.	Wetness and droughtiness.
Bishop Auckland			
Site: Bpb	43.7	Medium clay loam over imperfectly drained heavy clay loam and clay.	Wetness.
Willington			
Site: Wc	73.9	Well drained medium clay clay loam topsoils over sandy loam and sandy clay loam subsoils.	Droughtiness.

Location		% of Total Site Area	Soil Types	Limiting Factor
South Church Bpe		42.8	Medium silty clay loam over heavy silty clay loam and medium clay loam over heavy clay loam and clay. Some medium soft sandstone at depth. Imperfectly drained.	Wetness and droughtiness.
Leeholme/Coundon				
Site:	Ca	26.7	Medium clay loam over heavy clay loam. Imperfectly drained.	Wetness.
	Cb	6.7		
	Ce	28.4		
	C2	17.6		

Location	% of Total Site Area	Soil Types	Limiting Factor
Subgrade 3b			
Hunwick			
Site: Hb	46.0	Medium clay loam topsoils over poorly drained heavy clay loam and clay subsoils.	Wetness.
Crook			
Site: Ca	79.5	Medium clay loam topsoils over poorly drained heavy clay loam and clay subsoils.	Wetness
Etherley Grange			
Site: Bpf	98.8	Medium clay loam topsoils over poorly drained heavy clay loam and clay subsoils	Wetness.
Bishop Auckland			
Site Bpb	54.3	Medium clay loam topsoils over poorly drained heavy clay loam and clay with some weathering sandstone found.	Wetness and droughtiness.
Bpc	97.2		

Location	% of Total Site Area	Soil Types	Limiting Factor
Subgrade 3b			
Willington			
Site: Wa	100.0	Medium clay loam topsoils over poorly drained heavy clay loam and clay subsoils; some both drained medium textured subsoils.	Wetness and gradiant
Wd	100.0		
Wc	26.1		
South Church			
Site: Bpe	41.8	Medium clay loam topsoils over poorly drained heavy clay loam and clay subsoils.	Wetness, gradient
Leeholme/Coundon			
Site: Ca	73.3	Medium clay loam topsoils over lower magnesian limestone or poorly drained heavy clay loam and clay subsoils.	Wetness, droughtiness
Cb	81.8		
Cc	100.0		
Ce	61.4		
C2	26.7		
C5	95.9		

Location	% of Total Site Area	Soil Types	Limiting Factor
Subgrade 3b			
Hargill Farm Howden-le-Wear	95.0	Medium clay loam topsoils over poorly drained heavy clay loam and clay subsoils.	Wetness.

Grade 4

Location	% of Total Site Area	Soil Types	Limiting Factor
Howden-Le-Wear	1.2	No topsoil resources. Poorly drained heavy clay loam and clay subsoil.	Lack of topsoil.
NON AGRICULTURAL			
Leeholme/Coundon			
Site: Ce	7.0	N/A	N/A
C2	50.8	N/A	N/A
URBAN AND AGRICULTURAL BUILDINGS			
Hunwick			
Site: Ha	100.0		
Crook			
Site: Ca	1.7		
Etherley Grange			
Site: Bpf	1.2		
Bishop Auckland	2.0		

Location	% of Total Site Area	Soil Types	Limiting Factor
South Church			
Site: Bpe	15.4		
Leeholme/Coundon			
Site: Cb	11.5		
Ce	3.2		
C2	4.9		
C5	4.1		
Hargill Farm			
Howden-Le-Wear	3.8	N/A	