

**SEFTON UNITARY DEVELOPMENT PLAN  
SITE E, CROWLAND ST, SOUTHPORT**

**Agricultural Land Classification  
ALC Map and Report**

**April 1999**

**Resource Planning Team  
Northern Region  
FRCA Wolverhampton**

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**AGRICULTURAL LAND CLASSIFICATION REPORT  
SEFTON UNITARY DEVELOPMENT PLAN  
SITE E, CROWLAND ST, SOUTHPORT**

**INTRODUCTION**

1. This report presents the findings of a detailed Agricultural Land Classification (ALC) survey of 25.7 ha of land south of Crowland Street, on the south eastern periphery of Southport. The survey was carried out during September 1998 and March 1999.
2. The survey was undertaken by the Farming and Rural Conservation Agency (FRCA)<sup>1</sup> on behalf of the Ministry of Agriculture, Fisheries and Food (MAFF). The survey was carried out in connection with MAFF's statutory input to the Sefton Unitary Development Plan. This survey supersedes any previous ALC information for this land.
3. The work was conducted by members of the Resource Planning Team in the Northern Region of FRCA. The land has been graded in accordance with the published MAFF ALC guidelines and criteria (MAFF, 1988). A description of the ALC grades and subgrades is given in Appendix I.
4. At the time of survey the land on the site was being used for turf cultivation. The areas mapped as 'Other land' include a trackway and part of the Crowland Street industrial estate.

**SUMMARY**

5. The findings of the survey are shown on the enclosed ALC map. The map has been drawn at a scale of 1:10 000. It is accurate at this scale but any enlargement would be misleading.
6. The area and proportions of the ALC grades and subgrades on the surveyed land are summarised in Table 1.

**Table 1: Area of grades and other land**

Grade/Other land	Area (hectares)	% surveyed area	% site area
1	-	-	-
2	1.2	5	4
3a	-	-	-
3b	23.8	95	93
4	-	-	-
5	-	-	-
Agricultural land not surveyed	-	N/A	-
Other land	0.7	N/A	3
Total surveyed area	25.0	100	-
Total site area	25.7	-	100

<sup>1</sup> FRCA is an executive agency of MAFF and the Welsh Office

7. The fieldwork was conducted at an average density of 1 boring per hectare of agricultural land. A total of 26 borings and 3 soil pits was described.
8. The agricultural land on this site has been classified as Grade 2 (very good quality) and Subgrade 3b (moderate quality). The key limitations to the agricultural use of this land are topsoil texture and soil wetness.
9. The very good quality land is located in the south of the site. The soils have either a peaty sand or peaty loam topsoil texture overlying peat. Occasionally, at depths below 90cm silty clay is to be found.
10. The area of moderate quality land is mapped over the majority of the site. To the north west of Fine Jane's Brook the soils have a sand topsoil texture which overlies sand and peat to depth. The soils in the remainder of this unit are variable in acidity, depths, texture and organic matter content. The topsoils are predominantly of an organic heavy clay loam texture, overlying waterlogged horizons of organic silty clay, peat and sandy silt loam. The subsoil horizons are strongly acidic below a depth of 40 to 60 cm. These soils have been placed in Wetness Class III.

## FACTORS INFLUENCING ALC GRADE

### Climate

11. Climate affects the grading of land through the assessment of an overall climatic limitation and also through interactions with soil characteristics.
12. The key climatic variables used for grading this site are given in Table 2 and were obtained from the published 5km grid datasets using the standard interpolation procedures (Met. Office, 1989).

Table 2: Climatic and altitude data

Factor	Units	Values	
Grid reference	N/A	SD 363 162	SD 363 162
Altitude	m, AOD	2	5
Accumulated Temperature	day°C (Jan-June)	1445	1442
Average Annual Rainfall	mm	856	862
Field Capacity Days	days	195	196
Moisture Deficit, Wheat	mm	89	88
Moisture Deficit, Potatoes	mm	76	75
Overall climatic grade	N/A	Grade 1	Grade 1

13. The climatic criteria are considered first when classifying land as climate can be overriding in the sense that severe limitations will restrict land to low grades irrespective of favourable site or soil conditions.

14. The main parameters used in the assessment of an overall climatic limitation are average *annual rainfall (AAR)*, as a measure of overall wetness, and *accumulated temperature (ATO, January to June)*, as a measure of the relative warmth of a locality. The site is climatically Grade 1.

#### **Site**

15. The site is relatively level, with the highest land adjoining Crowland Street in the north and the lowest land adjoining Boundary Brook in the south.
16. The three site factors of gradient, microrelief and flooding are considered when classifying the land.
17. These factors do not impose any limitations on the agricultural use of this land.

#### **Geology and soils**

18. The solid geology of the area is comprised of Singleton Mudstone. This is overlain with deposits of peat and blown sand - British Geological Survey (1989).
19. The soils that have developed on this geology are generally of a sandy or a peaty nature (SSEW 1984, 1987).

### **AGRICULTURAL LAND CLASSIFICATION**

20. The details of the classification of the site are shown on the attached ALC map and the area statistics of each grade are given in Table 1, page 1.

#### **Grade 2**

21. Land of very good quality occupies 1.2 hectares (5%) of the site area and is found in the south of the site.
22. The main limitation to the agricultural use of this land is soil wetness.
23. The soils have a peaty sand or peaty loam topsoil texture overlying peat. Occasionally at depths below 90cm silty clay is to be found. The depth to waterlogging and the presence of water at a depth of approximately 50 cm in Pit Three (March 1999) indicated that this unit should be assessed as Wetness Class III.

#### **Subgrade 3b**

24. Land of moderate quality occupies 23.8 hectares (93%) of the site area and is mapped across the majority of the site.
25. The main limitation to the agricultural use of this land is topsoil texture and soil wetness

26. The soils to the north west of Fine Jane's Brook have a medium sand topsoil texture overlying medium sand, peaty sand and peat to depth. The topsoil texture limits these soils to Subgrade 3b.
27. The soil horizons in the remainder of this unit are variable in acidity, depths, texture and organic matter content. The topsoils are predominantly of an organic heavy clay loam texture, overlying waterlogged horizons of organic silty clay, peat and sandy silt loam. The subsoil horizons are strongly acidic below a depth of 40 to 60 cm. These soils have been placed in Wetness Class III.

Martin Wood  
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## SOURCES OF REFERENCE

British Geological Survey (1989) *Sheet No. 74, Southport Solid and Drift Edition, Scale 1: 50 000*.  
BGS: London.

Ministry of Agriculture, Fisheries and Food (1988) *Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land*.  
MAFF: London.

Met. Office (1989) *Climatological Data for Agricultural Land Classification*.  
Met. Office: Bracknell.

Soil Survey of England and Wales (1984) *Sheet 3, Map of Midland and Western England*.  
SSEW: Harpenden.

Soil Survey of England and Wales (1984) *Soils and their Use in Midland and Western England*  
SSEW: Harpenden

Soil Survey of England and Wales (1987) *Soils of the Liverpool District (Sheet 108)*  
SSEW: Harpenden

## APPENDIX I

### DESCRIPTIONS OF THE GRADES AND SUBGRADES

#### **Grade 1: Excellent Quality Agricultural Land**

Land with no or very minor limitations to agricultural use. A very wide range of agricultural and horticultural crops can be grown and commonly includes top fruit, soft fruit, salad crops and winter harvested vegetables. Yields are high and less variable than on land of lower quality.

#### **Grade 2: Very Good Quality Agricultural Land**

Land with minor limitations which affect crop yield, cultivations or harvesting. A wide range of agricultural or horticultural crops can usually be grown but on some land of this grade there may be reduced flexibility due to difficulties with the production of the more demanding crops such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than Grade 1 land.

#### **Grade 3: Good to Moderate Quality Land**

Land with moderate limitations which affect the choice of crops, the timing and type of cultivation, harvesting or the level of yield. When more demanding crops are grown, yields are generally lower or more variable than on land in Grades 1 and 2.

#### **Subgrade 3a: Good Quality Agricultural Land**

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of a wide range of crops including cereals, grass, oilseed rape, potatoes, sugar beet and the less demanding horticultural crops.

#### **Subgrade 3b: Moderate Quality Agricultural Land**

Land capable of producing moderate yields of a narrow range of crops, principally cereals and grass, or lower yields of a wider range of crops or high yields of grass which can be grazed or harvested over most of the year.

#### **Grade 4: Poor Quality Agricultural Land**

Land with severe limitations which significantly restrict the range of crops and/or the level of yields. It is mainly suited to grass with occasional arable crops (e.g. cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties in utilisation. The grade also includes very droughty arable land.

#### **Grade 5: Very Poor Quality Agricultural Land**

Land with severe limitations which restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.