AGRICULTURAL LAND CLASSIFICATION

PROPOSED A1(M) MOTORWAY
WETHERBY TO WALSHFORD SECTION

ADAS
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AGRICULTURAL LAND CLASSIFICATION REPORT
A1(M) WETHERBY-WALSHFORD MOTORWAY

1. INTRODUCTION AND SITE CHARACTERISTICS

1.1 Location

The 3 alternative routes for the proposed motorway run from the present A1 on the western edge of Wetherby (NGR 411492) in the south to Walshford (NGR 417536) in the north. Although the alternatives are each about 4 km in length the most westerly route (Option A) utilises part of the existing road line and is thus likely to require a smaller amount of agricultural land.

1.2 Survey Methods

Survey work was carried out in October 1990 along a 100 metre wide corridor centred over the alternative routes. Soils were examined by hand auger borings to a depth of 1 metre at 100 m intervals staggered across the width of each corridor. Soil profile pits were also dug, where necessary, to assess soil structural conditions.

All land quality assessments were made using the methods described in "Agricultural Land Classification: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land (MAFF 1988)".

1.3 Land Use

Most agricultural land along the route is in arable use. The main exception is in the south and south east where there is some permanent pasture on the heavier soils which are widespread in these areas.

1.4 Climate

Average Annual Rainfall (AAR) is approximately 684 mm. Accumulated temperatures above 0°C between January and June (ATO) is 1374 day°C and the land is at field capacity for 167 days per year.

Although these figures show no overall climatic limitation on ALC grade summer moisture deficits of 100 mm for winter wheat and 89 mm for potatoes indicate a slight drought risk on the lighter soils occurring along the routes.

1.5 Relief

The proposed routes are mostly level or gently sloping with no gradients over 5°. Average altitude is around 30 metres above Ordnance Datum.

1.6 Geology and Soils

Soils are developed largely on superficial, glacial and post glacial drift which forms a thick cover over the underlying Permian Magnesian Limestones and Mudstones. The drift consists of glaciofluvial terrace deposits, boulder clay and morainic drift.

These deposits have a patchy distribution and soils tend to vary between and along the routes. Along the central part of the most westerly route (Option A) for example, soils consist largely of well drained (Wetness Class I) medium sandy loams sometimes passing into sandy clay loam or heavy clay loam at depth. In the south and north and along the eastern most route (Option C1), however, poorly drained land consisting mainly of medium clay loam topsoils over slowly permeable (Wetness Class IV) heavy clay loam subsoils is much more widespread.

2. AGRICULTURAL LAND CLASSIFICATION GRADES

The ALC grades occurring on the land taken by the three alternative routes within the 100 m survey corridors are as shown below:-

(The 1/10000 scale maps produced with this report show land grades along the entire 100 m corridor along each route option. Maps showing land grades imposed onto each of the actual roadlines have been produced at a scale of 1/2500 and supplied separately to the Department of Transport's agricultural consultants. The statistics produced below relate to these maps.)

Grade	Hectares			Percentage of Total Roadworks		
	Western route (Option A)	Central route (Option C/C2)	Eastern route (Option C/C1)	Western route (Option A)	Central route (Option C/C2)	Eastern route (Option C/C1)
1	9.00	7.62	1.33	22.7	17.5	3.2
2	12.32	5.17	3.72	31.1	11.8	9.0
3a	4.67	14.40	9.55	11.8	33.0	23.0
3b	6.99	10.68	22.07	17.6	24.5	53.1
Woodland	-		0.31	-	-	0.7
Urban	6.55	5.69	4.51	16.5	13.0	10.8
Open Water	0.13	0.10	0.09	0.3	0.2	0.2
Totals	39.66	43.66	41.58	100.0	100.0	100.0

Grade 1

Land in this grade is most common on the western and central routes (Option A and C/C2) around Deightonbank Farm and Hall Garth where soils consist of deep freely drained sandy loams with no droughtiness limitations and thus few limitations on agricultural use.

Grade 2

Grade 2 land is scattered along all the routes, especially the central and northern parts of the western route (Option A). Soils are formed on sandy drifts which are, however, limited to Grade 2 either by slight droughtiness, or by the occurrence of heavier slowly permeable subsoils at between 45 cm and 80 cm depth (Wetness Class III) which cause slight winter wetness restrictions.

Subgrade 3a

Land in subgrade 3a occurs on all three route options, but is most common on the central route between Doctor's and Geldart Woods, north of Loshpot Lane. Topsoils consists of medium sandy loam or medium clay loam over similar or heavier subsoils. These are often gleyed and slowly permeable below 40-50 cm depth. They fall into Wetness Classes III or IV and are limited to the subgrade by slight wetness and workability problems. Also included within this subgrade are several smaller areas of very light textured soil which are restricted to this subgrade by droughtiness.

Subgrade 3b

The largest areas of subgrade 3b land occur in the south and along the most easterly route (Option C/C1). Most land in this subgrade consists of medium clay loam topsoils over gleyed slowly permeable clay loam or clay subsoils, nearly all of which fall within Wetness Class IV. Soil wetness and workability problems are the major limiting factors on land of this type.

Non Agricultural (Woodland)

This consists of a newly planted area including a newly dug pond on the eastern route (Option C/C1) north of Loshpot Lane.

Urban

This category includes public highways crossing the routes, houses and farm buildings.

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