AGRICULTURAL LAND CLASSIFICATION

PROPOSED TEMPLE SOWERBY BY-PASS
A66, PENRITH, CUMBRIA

ADAS
Leeds Regional Office

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C O N T E N T S

AGRICULTURAL LAND CLASSIFICATION REPORT: LAND AFFECTED BY THE PROPOSED TEMPLE SOWERBY BY-PASS, PENRITH, CUMBRIA

1.1 Introduction

The village of Temple Sowerby is situated in the Eden Valley approximately 9 km NW of Appleby on the A66. The agricultural land survey covers two alternative routes to the north east and south west of the village.

Survey work was carried out in December 1991 when soils were examined by hand auger borings at 100 metre intervals at points pre-determined by the National Grid to a depth of 1 metre.

All assessments were made 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

Most of the land is in permanent grass or a grass arable rotation supporting sheep, beef and dairy cattle.

1.3 Climate

Average Annual Rainfall (AAR) is approximately 822 mm. Accumulated temperature above 0°C between January and June (ATO) is 1267 day °C, and the land is at field capacity for 210 days a year. The rainfall and temperature values impose an overall climatic limitation of Grade 2 on all agricultural land in the area. Flooding is frequent in winter on parts of the Eden flood plain, and imposes an overall restriction of subgrade 3a on affected land.

1.4 Relief

Altitude varies between 98 and 129 metres above Ordnance Datum. Land affected by the proposed alternative routes is gently undulating except close to the River Eden where there are moderate and steep slopes down to the flat river flood plain. In places these reach 25-30° and impose an overall slope limitation of Grade 5 on agricultural land

1.5 Geology and Soils

Alluvial deposits varying from sandy loam to silt loam or silty clay loam occur on the low lying flood plain adjoining the River Eden. Soils formed on this material vary from freely drained deep sandy loams to mixed sandy, silty and clay loam soils. Away from the river, soils are generally light and consist of well drained sometimes stony sandy loam topsoils over similar or lighter subsoils. Heavier subsoils occur at depth in a number of places, especially in the east adjoining The Moss. Here, reddish slowly permeable boulder clay, usually of medium clay loam texture is common below about 50 cm depth and restricts drainage of the overlying lighter topsoil and upper subsoil. Stone content of soils throughout the site is variable. Except for the alluvial soils close to the river, which can be stoneless, most vary from slightly to moderately stony. The Moss, adjoining the proposed north eastern route, is a site of Special Scientific Interest (SSSI) consisting of peat deposits.

2 AGRICULTURAL LAND CLASSIFICATION

The ALC grades on the site are as follows:-

Grade/Subgrade	Hectares	Percentage of Total Area
2	17.1	9.6
3a	119.2	67.1
3b	16.1	9.1
4	0.6	0.4
5	1.9	1.1
Agricultural Buildings	1.2	0.7
Non-Agricultural	4.6	2.6
Urban	16.6	9.4
TOTAL	177.3	100%

2.1 Grade 2

Land in this grade occurs on the river flood plain and at the eastern and western ends of the proposed route. Soils are generally light, consisting mainly of sandy loams and sandy clay loams over similar subsoils. These soils are mostly freely drained (Wetness Class I) and limited to Grade 2 only by the overall climatic limitation applying to the whole area. The areas of Grade 2 within the river flood plain are also limited by a slight winter flood risk. (The areas of the flood plain with a more frequent flood risk are down graded to 3a and described below).

2.2 Subgrade 3a

Subgrade 3a land is widespread on both the higher undulating land around the village and on lower lying parts of the river flood plain. Soils along the river flood plain vary from freely drained (Wetness Class I) sandy loams to heavier medium silty clay loam profiles. All of this, especially near Eden Bridge is limited to subgrade 3a by a winter flood risk. Elsewhere on the higher ground around the village soils consisting of medium sandy loam topsoils over loamy medium sand subsoils are common. These soils are generally slightly stony and well drained (Wetness Class I), but are also slightly droughty and limited to subgrade 3a for this reason.

Land with light topsoils over slightly heavier, sometimes slowly permeable reddish sandy clay loam or medium clay loam subsoils occurs in places, especially towards the south eastern end of the route. Profiles of this type are often imperfectly drained (Wetness Class III) and limited to subgrade 3a by slight winter wetness.

2.3 Subgrade 3b

Subgrade 3b land is widespread in the area adjoining The Moss. Here, soils are poorly drained (Wetness Class IV) and consist of medium sandy loam or sandy clay loam topsoils over gleyed slowly permeable sandy clay loam subsoils. Land of this type is limited to this subgrade by soil wetness problems. Elsewhere subgrade 3b land contains slopes of around 10° which limit the use of agricultural machinery. These areas, which are common to the west of the river, are restricted to subgrade 3b for this reason.

2.4 Grade 4

The land immediately adjoining The Moss is permanently waterlogged. This very poorly drained area falls within the Wetness Class V and is limited to Grade 4 by the severe wetness problems.

2.5 Grade 5

These areas adjoining the river flood plain are limited to Grade 5 by very steep slopes of 25-30°.

2.6 Agricultural Buildings

This category consists of the various farm buildings scattered along the edge of the village.

2.7 Non-Agricultural

Small areas of woodland along the routes are placed within this category.

2.8 Urban

This includes all built-up areas within the two corridors surveyed along with roads and access tracks.

MAP

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