

**LAND AT SHEEPBRIDGE LANDFILL SITE EXTENSION, CHESTERFIELD,
DERBYSHIRE**

**RESPONSE TO COMMENTS OF LEIGH ENVIRONMENTAL AND
CL ASSOCIATES ON MAFF SUBMISSION**

1.0 INTRODUCTION

- 1.1 A detailed Agricultural Land Classification (ALC) survey of the proposed extension area to the existing landfill site at Sheepbridge, Chesterfield, Derbyshire was undertaken by ADAS Statutory Resource Planning Team in January 1995. This survey was necessary as the information provided by the applicants on agricultural land quality was inadequate. Additionally concern was expressed by MAFF on the proposals for soil stripping and restoration of the site as put forward by Leigh Environmental Ltd.
- 1.2 Following detailed survey and examination of the proposals put forward by the applicants MAFF responded to the local planning authority. The response included a breakdown of the quality of the agricultural land within the proposed extension site and detailed a number of shortcomings in the information provided on restoration and aftercare of the site.
- 1.3 Subsequently a response has been received from Leigh Environmental Ltd and their consultants CL Associates. This response comments on MAFF's ALC findings and details further information on restoration and aftercare of the proposed site.
- 1.4 This report examines the proposals and comments contained in the Leigh Environmental Ltd response.

2.0 AGRICULTURAL LAND CLASSIFICATION

- 2.1 The original report of CL Associates (Appendix 7 of the Environmental Statement produced by Leigh Environmental Ltd) on the ALC grading of the proposed extension site follows none of the guidelines (MAFF, 1988) for the assessment of agricultural land quality. No attempt was made by CL Associates to assess climatic limitations, wetness class, droughtiness or any of the main parameters likely to limit the ALC grading of the site. Additionally, although soil sample pits were dug by CL Associates there is no description of soil structural development for any of the horizons within any of the pits. It is therefore clear from their original report and the subsequent comments that CL Associates have little understanding of the ALC system.
- 2.2 CL Associates therefore appear to rely solely on the provisional ALC map produced by MAFF (Sheet 111, MAFF 1973) for their grading of the site. This is despite recognising the limitations of the provisional map at paragraph 6 of their original report (p. 12, CL Associates, 1992).
- 2.3 The proposition in the recent comment that the small area in the eastern part of the site of soils 'developed' on opencast backfill material should be downgraded from subgrade 3b to grade 4 does not stand scrutiny. During the ADAS survey particular attention was paid to this area with extra auger borings being carried out to identify the material mapped by CL Associates. However, as stated in the CL Associates report paragraph 4.2 (CL Associates, 1992) "The vegetation and surface characteristics of the ~~soil~~ (my emphasis) do not vary markedly from the other soils on site and it was not possible to distinguish it as restored soil during the walk over survey". The paragraph concludes "The fill material is similar in morphology to the natural topsoils and subsoil". Therefore in the ADAS survey no evidence was found for the area to be treated differently from the surrounding land and it was thus assessed as subgrade 3b using the MAFF guidelines for ALC (MAFF, 1988).

- 2.4 In paragraph 2 ii of the response to MAFF's comments, unspecified areas within the north of the site are said to contain a stone content too high for the grading as assessed by ADAS. However, no estimate of stone content is given for the upper 25 cm of the soil profile for any of the sample locations in the CL Associates survey. During the ADAS survey topsoil samples were riddled to provide an estimate of stone contents. In only a small area in the north of the site was stone content found to be the overriding limiting factor for the ALC grade of the area. To limit the ALC grading of the site to that of grade 4 as proposed by CL Associates then the stone content of the upper 25 cm would need to be in excess of 35% or 20% for stones larger than 2 cm or 6 cm respectively. At no sample location in the ADAS survey were stone contents found to be so high.
- 2.5 The statement in paragraph 3 of the response to MAFF's comments shows a lack of understanding of the nature of the provisional ALC maps and the ALC system.
- 2.6 The remainder of the response by Leigh Environmental to MAFF's comments are contained in their paragraph 4 and subparagraphs. This response will therefore comment on relevant subparagraph numbers.
- 4.3 The MAFF soils report identifies three soil units which are broadly related to the grade of the land. However, no mixing of the soils in the north of the site, identified as soil type 1, but graded as subgrades 3a and 3b with soils of areas of similar grades but different soil types should take place.
- 4.10 There should be no traversing of the replaced soils by earthmoving equipment which should follow clearly defined haul routes.

The testing of the bulk density at 500 mm depth to ascertain the requirement for sub-soiling is likely to be highly impractical.

- 4.11 - 4.13 The suggestions put forward for ripping and stone picking are sensible.
- 4.38 To minimise traffic movements over replaced subsoil it may be preferable to work on a system of replacing soils in strips with both topsoil and subsoil replaced prior to restoring the next strip. This would alleviate the need to traverse the newly laid subsoil to replace the topsoil.
- 4.41 - 4.42 Transport routes should only be on previously stripped areas and not merely maximising the use of such land.
- 4.45 The presence of long term gas management facilities may prevent the land being utilised to its full potential with possible hindrance to all agricultural operations.
- 4.46 It is likely that the site will require underdrainage and it is important for the development of soil structure that any underdrainage is installed as soon as possible following restoration. It is also important that the design of the gas management system and the underdrainage system are considered at the planning stage.

Soil Stripping Proposals

No indication is given in the soil stripping information provided as to the areas or thickness of each soil type and/or horizon to be stripped, merely the total volume. This is of particular concern as the subsoil of the soil type in the north of the site is very variable in thickness. Additionally the lower subsoil horizons may contain a great many sandstone fragments if too thick a layer is stripped, to the detriment of the overall soil quality. Therefore information on stripping thicknesses and methodology are very important.

Agricultural Restoration and Soil Requirements

It is unclear if the figures in the table provided refer to only the agricultural restoration area or the total restoration area. If these figures refer only to agricultural areas then it is also unclear as to the source of soil for the remainder of the restoration area.

The estimate of the areas to be restored appear small in relation to the area of the proposed extension site. The total area shown in the table for restoration, including the existing site, is only 12.28 ha whereas the total area for the extension site alone was almost 19 ha. There is therefore considerable doubt as to the validity of the proposed thicknesses of topsoil and subsoil within each of the fields on restoration and the total volume of soil required.

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REFERENCES

MAFF (1973). Provisional ALC map, Sheet 111. Scale 1:63 360.

MAFF (1988). Agricultural Land Classification of England and Wales. Revised
Guidelines and Criteria for Grading the Quality of Agricultural Land.