

LAND AT BARTON IN FABIS, NOTTINGHAMSHIRE

AGRICULTURAL LAND CLASSIFICATION AND STATEMENT OF PHYSICAL CHARACTERISTICS

August 2023

Daniel Baird Soil Consultancy Ltd and PDE Consulting Limited

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APPENDICES

Appendix 1 Laboratory Report Certificate dated 11 July 2023
Appendix 2 The Soil Resources and Agricultural Land Classification Survey and Report Dated April 2017

1. INTRODUCTION

- 1.1 This report has been prepared by PDE Consulting and Daniel Baird Soil Consultancy Ltd (Baird Soil). It provides an assessment of the agricultural land quality and soil resource for agricultural land within the proposed minerals site, Land at Barton in Fabis (the Site).
- 1.2 The application area totals approximately 85.15 hectares (ha) in area, with the extraction area amounting to approximately 40.90 ha.
- 1.3 The Nottinghamshire Minerals Local Plan adopted March 2021 has allocated the land at Mill Hill near Barton in Fabis as a new sand and gravel quarry with an estimated reserve of three million tonnes. This reserve estimate excludes land within the administrative boundary of Nottingham City which is in the order of 500,000 tonnes.
- 1.4 An original agricultural land quality assessment was made in 2017 by a consultant who has subsequently retired. This subsequent assessment work by Baird Soil reviews the original assessment report and has revisited the Site to add an area omitted by the first assessment which comprises of a single field to the east of the proposed Extraction Area, Identified Drawing Reference KD.MHL.1.D.040.

Relevant Policy and Guidance

- 1.5 This appraisal of agricultural land quality is consistent with the direction given by the National Planning Policy Frameworkⁱ (NPPF) (Ministry of Housing Communities and Local Government, revised December 2023). Relevant text in Paragraph 180 states:-

*“Planning policies and decisions should contribute to and enhance the natural and local environment by:
b) recognising the intrinsic character and beauty of the countryside, and the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land, and of trees and woodland;”*
- 1.6 The glossary of the NPPF gives the following definition:

“Best and most versatile agricultural land: Land in grades 1, 2 and 3a of the Agricultural Land Classification.”
- 1.7 Accordingly, a detailed assessment of the Site was undertaken in July 2020 using the Ministry of Agriculture Fisheries and Food (MAFF) revised guidelines and criteria for Agricultural Land Classificationⁱⁱ (ALC) published October 1988.
- 1.8 Use of the ALC methodology is also supported by Natural England Technical Advice Note 049iii (TIN049) updated December 2012.
- 1.9 The Minerals Plan for Nottinghamshire County Council was adopted in March 2021^{iv}. Policies SP5; DM3 and DM12 are reproduced below.

Policy SP5: The Built, Historic and Natural Environment

All mineral development proposals will be required to deliver a high standard of environmental protection and enhancement to ensure that there are no unacceptable impacts on the built, historic and natural environment. The consideration of impacts will include effects on:

- Best and most versatile agricultural land and soils.

Policy DM3: Agricultural Land and Soil Quality

Agricultural land

1. Proposals for minerals development located on the best and most versatile agricultural land (grades 1, 2 and 3a) will be supported where it can be demonstrated that:

a. Proposals will not affect the long-term agricultural potential of the land or soils; or

b. There is no available alternative and the need for development outweighs the adverse impact upon agricultural land quality.

2. Where alternative options are limited to varying grades of best and most versatile land, the development should be located within the lowest grade.

Soil quality

3. Measures will be taken to ensure that soil quality will be adequately protected and maintained throughout the life of the development and, in particular, during stripping, storage, management and final placement of soils, subsoils and overburden arising's as a result of site operations.

Policy DM12: Restoration, aftercare and after-use

All proposals will be required to make provision for the retention or replacement of soils, as appropriate.

- 1.10 Rushcliffe Borough Council adopted the Local Plan Part 2: Land and Planning Policies on 08 October 2019. Policy 1 is reproduced below.

Policy 1: Development Requirements

Planning permission for new development, changes of use, conversions or extensions will be granted provided that, where relevant, the following criteria are met:

12. Development should have regard to the best and most versatile agricultural classification of the land, with a preference for the use of lower quality over higher quality agricultural land. Development should also aim to minimise soil disturbance as far as possible.

Scope of the Assessment

- 1.11 A previous Soils Resources and ALC assessment has been made of this site. A copy of this April 2017 report is attached. As the current ALC methodology was printed in 1988 the results of the 2017 assessment do not need to be updated. The author of the 2017 report, Rodney Burton, is now retired.
- 1.12 This previous ALC assessment found predominantly Grade 3b land. Smaller areas of land in Grades 2, 3a and 4 are also present, broken up into several small parcels. Grade 2 land covers half a hectare with Grade 3a land extending over a total of 10.2ha.

- 1.13 The surveyed area covers approximately 4.9ha. Difficulty with access prevented inclusion of this land in the original survey work.

2. AGRICULTURAL LAND CLASSIFICATION

Methodology

- 2.1 The MAFF ALC system of grading land quality for use in land use planning purposes divides farmland into five grades, with the degree of limitation imposed upon land use by the inherent physical characteristics of climate, site and soils. Grade 1 land is of an excellent quality, whilst Grade 5 land has very severe limitations for agricultural use. The ALC system is designed to be independent of land management so that there is no incentive for poor management of land to facilitate development consent. Best and most versatile agricultural land that through sustained arable cropping has become exhausted, with diminished organic matter degrading the structural stability of the topsoil, is not downgraded in the ALC system.
- 2.2 The MAFF revised guidelines and criteria for ALC of October 1988 require that the following factors be investigated:
- Climate: Average Annual Rainfall (AAR) and Accumulated Temperature above 0°C between January and June (AT0)
 - Site: Gradient, Micro Relief and Flooding
 - Soils: Texture Structure, Depth, Stoniness, and Chemical Toxicity
 - Interactive Factors: Soil Wetness, Soil Droughtiness and Liability to Erosion

Agricultural Land Classification Assessment

- 2.3 The attached 2017 ALC report describes in detail the factors limiting ALC grade at the site and the distribution of ALC grades within the site. One field was left un-surveyed by the 2017 assessment. This site was revisited in 2023 to assess ALC Grade on the previously un-surveyed area.
- 2.4 The previously un-surveyed field is under unimproved pasture and is predominantly strongly sloping (8 to 11°).
- 2.5 Prominent microtopography is present across the field which appears to have been the site of numerous borrow pits in the past. This microtopography would prevent the effective use of most agricultural implements such as seed drills, cultivators and mowers.
- 2.6 Soils within the field have a clay textured topsoil and subsoil, the subsoil impeding drainage of excess water down through the profile. On the laboratory report certificate contained within Appendix 1 the first column is for a topsoil sample from this field confirming the clay texture. Columns 2 to 4 are not related to this site. Soils are commonly wet (Wetness Class IV) and limited to ALC Grade 3b by soil wetness.
- 2.7 ALC Grade for this field is therefore limited to Grade 3b by gradient, microtopography and soil wetness.
- 2.8 Combining this 4.9ha area of previously un-surveyed land with the findings of the 2017 survey gives the following ALC Grade distribution:

Table 1. ALC Grade Distribution for Land at Barton in Fabis

ALC Grade	Area (hectares)	Area (%)
2	0.5	0.6
3a	10.2	11.6
3b	64.4	73.2
4	2.7	3.1
NA	10.2	11.6
Total	88.0	100

- 2.9 Although the site does contain best and most versatile agricultural land, at approximately 10.7ha in total and broken up into three separate parcels, it is present only as small areas distributed across the site. Referring back to the Nottinghamshire County Minerals Plan policy DM3, it is clear that the agricultural potential area of best and most versatile land is constrained by its small size and fragmentation. The weight afforded to the conservation of this best and most versatile land in the planning balance should therefore be limited.

3. SOIL RESOURCE AND LAND RESTORATION

- 3.1 Policy DM3 of the Nottinghamshire County Minerals Plan seeks to ensure the conservation and beneficial reuse of soil resources, not just the agricultural land resource. For the proposed minerals site, the soil resource will be retained on site and reused for restoration of the land.
- 3.2 Topsoil and subsoil material should be handled and stored separately owing to the higher organic matter content of topsoil. If topsoil is stored in overly tall bunds, oxygen consumption by the elevated biomass outstrips exchange with the air resulting in anaerobic conditions developing in the soil that are toxic to most crop roots.
- 3.3 The 2017 report contained within Appendix 2 provides appropriate guidance for the handling of soils using backhoe excavator and dump trucks. The MAFF 2000 soil handling guide referenced forms the basis of the current Institute of Quarrying Good Practice Guide for Handling Soils in Mineral Workings.

ⁱ National Planning Policy Framework. Ministry of Housing, Communities and Local Government, December 2022

https://assets.publishing.service.gov.uk/media/65a11af7e8f5ec000f1f8c46/NPPF_December_2023.pdf

ⁱⁱ Agricultural Land Classification of England and Wales: Revised guidelines and criteria for grading the quality of agricultural land. Ministry of Agriculture Fisheries and Food, October 1988.

<http://archive.defra.gov.uk/foodfarm/landmanage/land-use/documents/alc-guidelines-1988.pdf>

ⁱⁱⁱ Agricultural Land Classification: protecting the best and most versatile agricultural land (TIN049). Natural England, January 2009. <http://publications.naturalengland.org.uk/publication/35012>

^{iv} Nottingham County Council Adopted Minerals Local Plan, 25 March 2021

<https://www.nottinghamshire.gov.uk/planning-and-environment/minerals-local-plan/adopted-minerals-local-plan>

^v British Geological Survey Geology of Britain viewer. <https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/>

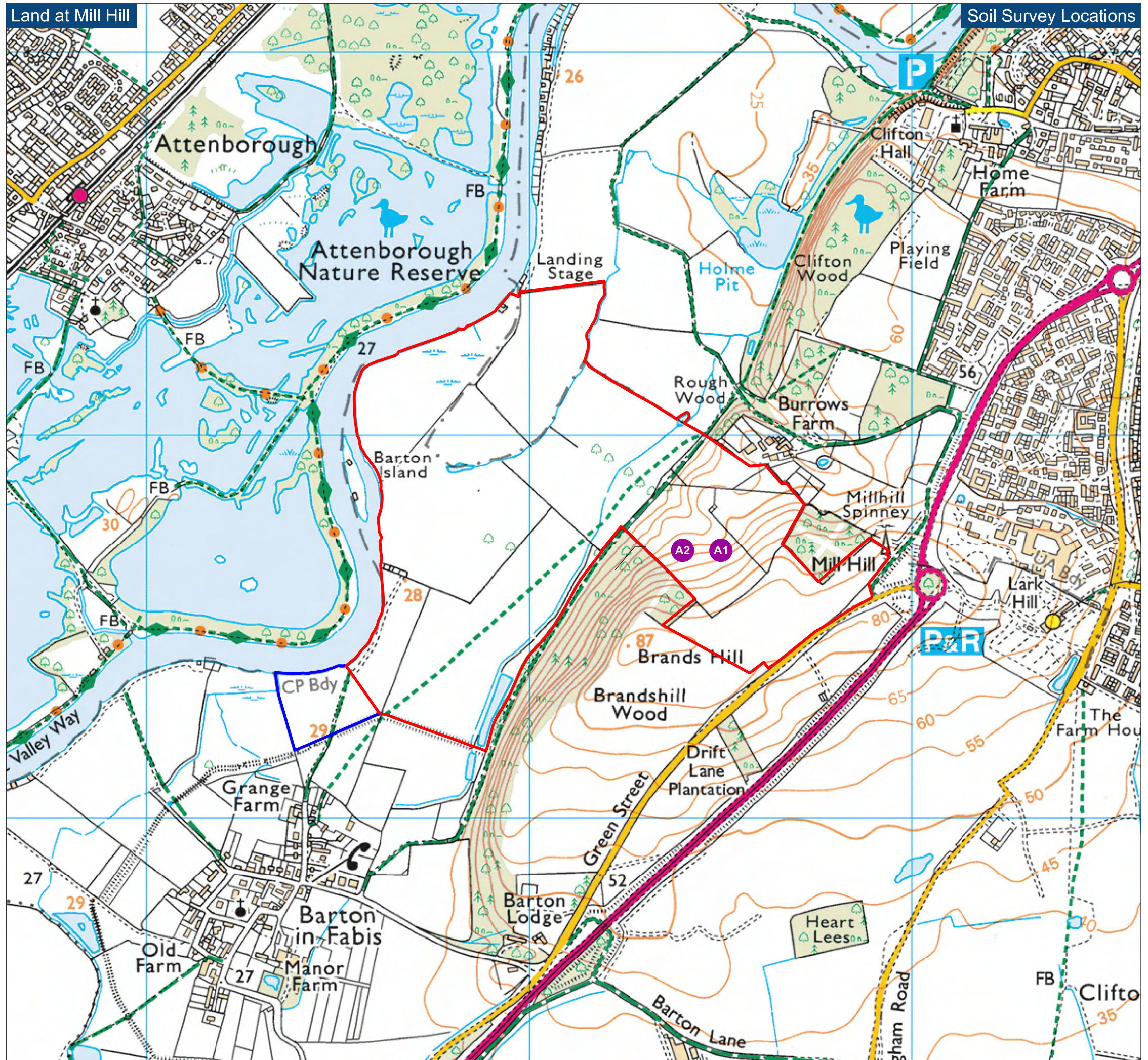
DBS308 Barton in Fabis

DRAWINGS

Drawing Number KD.MHL.1.D.040

Soils Survey Locations

Scale 1:10,000@A3



Legend

- Planning Application Boundary
- Other Land Under the Control of the Applicant
- A1 Soil Survey Locations:
A1 SK 53500 33700
A2 SK 53400 33700

SCALE
1km



PROJECT
Land at Mill Hill

DRAWING TITLE
Soil Survey Locations

DATE
January 2024

SCALE
1:10,000 @ A3

DRAWING No.
KD.MHL.1.D.040

DRAWING STATUS
FINAL



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APPENDICES

Appendix 1 Laboratory Report Certificate dated 11 July 2023



ANALYTICAL REPORT

Report Number	79021-23	P723	DANIEL BAIRD SOIL	Client	DANIEL BAIRD SOIL
Date Received	11-JUL-2023		CONSULTANCY LTD		CONSULTANCY LTD
Date Reported	21-JUL-2023		14 STEPSTAIRS LANE		
Project	SOIL		CIRENCESTER		
Reference	DANIEL BAIRD SOIL		GL7 1LA		
Order Number					

Laboratory Reference		SOIL635191	SOIL635192	SOIL635193	SOIL635194					
Sample Reference		MILL HILL BARTON-FAB	DBS315 2	DBS315 A1	DBS315 10					
Determinand	Unit	SOIL	SOIL	SOIL	SOIL					
Coarse Sand 2.00-0.63mm	% w/w	1	1	6	3					
Medium Sand 0.63-0.212mm	% w/w	10	21	21	19					
Fine Sand 0.212-0.063mm	% w/w	10	12	9	14					
Silt 0.063-0.002mm	% w/w	29	27	29	30					
Clay <0.002mm	% w/w	50	39	35	34					
Neutralising Value as CaCO ₃ eq.	% w/w	2.9	1.9	5.7	1.3					
Neutralising Value as CaO eq.	% w/w	1.6	1.0	3.2	<1					
Stones % >2.0mm	%	0.6	0.9	2.5	2.4					
Organic Carbon by DUMAS	%	3.7	5.0	9.0	2.8					
Organic Matter [calculation]	%	6.3	8.7	15.5	4.8					
Textural Class **		C	C	C/HCL	HCL					

Notes	
Analysis Notes	The sample submitted was of adequate size to complete all analysis requested. The results as reported relate only to the item(s) submitted for testing. The results are presented on a dry matter basis unless otherwise stipulated.
Document Control	This test report shall not be reproduced, except in full, without the written approval of the laboratory.

Reported by	** Please see the attached document for the definition of textural classes. <i>Myles Nicholson</i> Natural Resource Management, a trading division of Cawood Scientific Ltd. Coopers Bridge, Braziers Lane, Bracknell, Berkshire, RG42 6NS Tel: 01344 886338 Fax: 01344 890972 email: enquiries@nrm.uk.com
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ADAS (UK) Textural Class Abbreviations

The texture classes are denoted by the following abbreviations:

Class	Code
Sand	S
Loamy sand	LS
Sandy loam	SL
Sandy Silt loam	SZL
Silt loam	ZL
Sandy clay loam	SCL
Clay loam	CL
Silt clay loam	ZCL
Clay	C
Silty clay	ZC
Sandy clay	SC

For the *sand*, *loamy sand*, *sandy loam* and *sandy silt loam* classes the predominant size of sand fraction may be indicated by the use of prefixes, thus:

- vf Very Fine (more than 2/3's of sand less than 0.106 mm)
- f Fine (more than 2/3's of sand less than 0.212 mm)
- c Coarse (more than 1/3 of sand greater than 0.6 mm)
- m Medium (less than 2/3's fine sand and less than 1/3 coarse sand).

The subdivisions of *clay loam* and *silty clay loam* classes according to clay content are indicated as follows:

- M medium (less than 27% clay)
- H heavy (27-35% clay)

Organic soils i.e. those with an organic matter greater than 10% will be preceded with a letter O.

Peaty soils i.e. those with an organic matter greater than 20% will be preceded with a letter P.

APPENDICES

Appendix 2 The Soil Resources and Agricultural Land Classification Survey and Report Dated April 2017