



November 2024

**Bloor Homes Ltd**

# **Agricultural Land Classification and Soil Resources**

at

**Land South of Mortimers Lane, Fair Oak**

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Long Toll, Woodcote,  
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## 1. Introduction

- 1.1. Reading Agricultural Consultants Ltd (RAC) is instructed by Bloor Homes Ltd to investigate the Agricultural Land Classification (ALC) and soil resources of land south of Mortimers Lane, Fair Oak by means of a detailed survey of site and soil characteristics.
- 1.2. Guidance for assessing the quality of agricultural land in England and Wales is set out in the Ministry of Agriculture, Fisheries and Food (MAFF) revised guidelines and criteria for grading the quality of agricultural land<sup>1</sup>, and summarised in Natural England's Technical Information Note (TIN) 049<sup>2</sup>.
- 1.3. Agricultural land in England and Wales is graded between 1 and 5, depending on the extent to which physical or chemical characteristics impose long-term limitations on agricultural use. The principal physical factors influencing grading are climate, site conditions and soil which, together with interactions between them, form the basis for classifying land into one of the five grades.
- 1.4. Grade 1 land is excellent quality agricultural land with very minor or no limitations to agricultural use. Grade 2 is very good quality agricultural land, with minor limitations which affect crop yield, cultivations or harvesting. Grade 3 land has moderate limitations which affect the choice of crops, timing and type of cultivation, harvesting or the level of yield, and is subdivided into Subgrade 3a (good quality land) and Subgrade 3b (moderate quality land). Grade 4 land is poor quality agricultural land with severe limitations which significantly restrict the range of crops and/or level of yields. Grade 5 is very poor quality land, with severe limitations which restrict use to permanent pasture or rough grazing.
- 1.5. Land which is classified as Grades 1, 2 and 3a in the ALC system is defined as best and most versatile (BMV) agricultural land.
- 1.6. As explained in Natural England's TIN049, the whole of England and Wales was mapped from reconnaissance field surveys in the late 1960s and early 1970s to provide general strategic guidance on agricultural land quality for planners. This Provisional Series of maps was published

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<sup>1</sup> **MAFF (1988).** *Agricultural Land Classification of England and Wales. Revised guidelines and criteria for grading the quality of agricultural land.* MAFF Publications.

<sup>2</sup> **Natural England (2012).** *Technical Information Note 049 - Agricultural Land Classification: protecting the best and most versatile agricultural land,* Second Edition.

on an Ordnance Survey base at a scale of One Inch to One Mile (1:63,360). The Provisional ALC map shows the site as Grade 4. However, TIN049 explains that:

*"These maps are not sufficiently accurate for use in assessment of individual fields or development sites, and should not be used other than as general guidance. They show only five grades: their preparation preceded the subdivision of Grade 3 and the refinement of criteria, which occurred after 1976. They have not been updated and are out of print. A 1:250 000 scale map series based on the same information is available. These are more appropriate for the strategic use originally intended ..."*

- 1.7. TIN049 goes on to explain that a definitive ALC grading should be obtained by undertaking a detailed survey according to the published guidelines, at an observation density of one boring per hectare. This survey follows the detailed methodology set out in the ALC guidelines.

## **2. Site and climatic conditions**

### **General features, land form and drainage**

- 2.1. The site extends to 11.05ha of agricultural grassland. It is bordered to the north by Mortimers Lane, to the east by the East Horton Golf Club and to the west by residential properties and land under development. Other recent development borders the site to the south along with an area of woodland and a large pond.
- 2.2. Topography across the site slopes gently from the north to the south, with elevations ranging from approximately 58m to 42m above Ordnance Datum (AOD).
- 2.3. Land drains downslope to the large pond located just outside the southern boundary of the site.

### **Agro-climatic conditions**

- 2.4. Agro-climatic data for the site have been interpolated from the Meteorological Office's standard 5km grid point dataset at representative altitude of 50m AOD. The data are given in Table 1. The climate is warm and is wet. Crop moisture deficits are moderate to moderately large. The number of Field Capacity Days (FCD) is larger than is average for lowland England (150) and is unfavourable for providing opportunities for agricultural field work. There is however no overriding climatic limitation to agricultural land quality.

**Table 1:** Local agro-climatic conditions

| Parameter                          | Value      |
|------------------------------------|------------|
| Average Annual Rainfall            | 829 mm     |
| Accumulated Temperatures >0°C      | 1,495 day° |
| Field Capacity Days                | 177 days   |
| Average Moisture Deficit, wheat    | 104 mm     |
| Average Moisture Deficit, potatoes | 97 mm      |

### Soil parent material and soil type

- 2.5. The bedrock geology mapped by the British Geological Survey (BGS)<sup>3</sup> across the site is the London Clay Formation which comprises poorly laminated, blue-grey or grey-brown, slightly calcareous, silty to very silty clay, clayey silt and sometimes silt, with some layers of sandy clay.
- 2.6. The Whitecliff Sand Member of the London Clay Formation is mapped separately by the BGS in a band across the centre of the site orientated east-west, pinching out before the eastern boundary.
- 2.7. There are no superficial deposits mapped at the site.
- 2.8. The Soil Survey of England and Wales soil association mapping<sup>4</sup> (1:250,000 scale) shows the Windsor association across the site, which is characterised by slowly permeable clayey soils mostly with brown subsoils. The association also includes some fine loamy over clayey and fine silty over clayey soils. Soil profiles are typically assessed as poorly drained in Wetness Class (WC) IV although improvement to WC III is possible where drainage measures are successful<sup>5</sup>.

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<sup>3</sup> **British Geological Survey (2024).** *Geology of Britain viewer*, <http://mapapps.bgs.ac.uk/geologyofbritain/home.html>

<sup>4</sup> **Soil Survey of England and Wales (1984).** *Soils of South East England* (1:250,000), Sheet 6.

<sup>5</sup> **Jarvis et al (1984).** *Soils and Their Use in South East England*. Soil Survey of England and Wales Bulletin 15, Harpenden.

### **3. Agricultural land quality**

#### **Soil survey methods**

- 3.1. Eleven soil profiles were examined across the site using an Edelman (Dutch) auger at an observation density of one per hectare in accordance with the established recommendations for ALC surveys<sup>2</sup>. Three observation pits were also excavated to examine subsoil structures. The locations of observations are shown on Figure RAC/10214/1. At each observation point the following characteristics were assessed for each soil horizon up to a maximum of 120cm or any impenetrable layer:
- soil texture;
  - stone content;
  - colour (including localised mottling);
  - consistency;
  - structural condition;
  - free carbonate; and
  - depth.
- 3.2. One topsoil sample was submitted for laboratory determination of particle size distribution, pH, organic matter content and nutrient contents (P, K, Mg). Results are presented in Appendix 1.
- 3.3. Soil WC was determined from the matrix colour, presence or absence of, and depth to, greyish and ochreous gley mottling, and slowly permeable subsoil layers at least 15cm thick, in relation to the number of Field Capacity Days at the location.
- 3.4. Soil droughtiness was investigated by the calculation of moisture balance equations (given in Appendix 2). Crop-adjusted Available Profile Water (AP) is estimated from texture, stoniness and depth, and then compared to a calculated moisture deficit (MD) for the standard crops wheat and potatoes. The MD is a function of potential evapotranspiration and rainfall. Grading of the land can be affected if the AP is insufficient to balance the MD and droughtiness occurs.

## **Agricultural land classification and site limitations**

- 3.5. Assessment of land quality has been carried out according to the revised ALC guidelines<sup>1</sup>. Soil profiles have been described according to Hodgson<sup>6</sup> which is the recognised source for describing soil profiles and characteristics according to the revised ALC guidelines.
- 3.6. Agricultural land quality within the site is limited by wetness to mostly Subgrade 3b, with a smaller area of Subgrade 3a. There are two soil types present across the site.

### Soil Type 1 – medium clay loam topsoil over slowly permeable clay or heavy clay loam subsoil

- 3.7. Soil Type 1 is the most prevalent and is present across the south and north. The topsoil comprises dark grey (10YR4/1 in the Munsell soil colour charts<sup>7</sup>) or dark greyish brown (10YR4/2) medium clay loam. The topsoil is stoneless to very slightly stony, at 0-3% by volume. The topsoil has a medium subangular blocky structure and a friable consistency. Ochreous mottling is commonly observed in the topsoil indicating prolonged periods of wetness.
- 3.8. The upper subsoil comprises greyish brown (10YR5/2) or brown (10YR5/3) or light brownish grey (10YR6/2) heavy clay loam or clay. The upper subsoil is mostly stoneless with a few recordings of slight levels up to 5% by volume. The upper subsoil contains ochreous mottling and is firm. Where this horizon is slowly permeable, soil structure is coarse prismatic with more angular peds recorded mid slope. Where this horizon is permeable, peds are predominantly medium to coarse subangular blocky.
- 3.9. The lower subsoil comprises greyish brown (10YR5/2) or brown (10YR5/3) stoneless clay. This horizon contains ochreous mottling and has a firm, coarse prismatic to massive structure. The lower subsoil clay is slowly permeable.
- 3.10. Profiles with these characteristics are assessed as WC IV and are restricted to Subgrade 3b by soil wetness.

### Soil Type 2 – sandy clay loam/medium clay loam topsoil over permeable clay loam subsoil

- 3.11. Soil Type 2 is present in an east-west orientated band at the centre of the site. The topsoil comprises dark grey (10YR4/1) or dark greyish brown (10YR4/2) sandy clay loam or medium clay loam. Stone content is very slight, at 1-3%. The topsoil has a medium subangular blocky

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<sup>6</sup> **Hodgson, J. M. (Ed.) (1997).** *Soil survey field handbook*. Soil Survey Technical Monograph No. 5, Silsoe.

<sup>7</sup> **Munsell Color (2009).** *Munsell Soil Color Book*. Grand Rapids, MI, USA

structure and the consistency is friable. Ochreous mottling is commonly observed within the topsoil.

- 3.12. The upper subsoil comprises dark yellowish brown (10YR4/4), brown (10YR5/3) or yellowish brown (10YR5/4) medium clay loam, heavy clay loam or sandy loam. Stone content is very slight to slight, at 2-5%. The upper subsoil has a fine to medium subangular blocky structure and is friable. Ochreous mottling is observed in the upper subsoil of Observation 8.
- 3.13. The lower subsoil comprises brown (10YR5/3) or strong brown (7.5YR5/6) sandy clay loam or heavy clay loam. Stone content is stoneless to very slight, up to 3%. The lower subsoil has a medium to coarse subangular blocky structure and is mostly friable. Ochreous mottling is observed within this horizon.
- 3.14. Soils with these characteristics are assessed as WC II and are restricted to Subgrade 3a by soil wetness within this field capacity regime.
- 3.15. The ALC distribution at the site is shown in Figure RAC/10214/2 and the areas of each grade are given in Table 2.

**Table 2:** ALC areas

| Grade       | Description      | Area (ha) | %   |
|-------------|------------------|-----------|-----|
| Subgrade 3a | Good quality     | 3.1       | 28  |
| Subgrade 3b | Moderate quality | 8.0       | 72  |
| Total       |                  | 11.1      | 100 |

- 3.16. The breakdown of grade by main proposed land use shown on the Development Framework Plan is calculated in Table 3. From this, it is evident that the proposal would use only a small area of BMV land for built development (1.9ha), and that the proposed development would use proportionally less BMV land and more non-BMV land for built development compared to that proposed for public open space, where the soil resources would remain undisturbed.

**Table 3:** ALC areas by proposed land use

| Grade       | Gross Development Area (ha) | Gross Development Area % | Strategic Public Open Space (ha) | Strategic Public Open Space % |
|-------------|-----------------------------|--------------------------|----------------------------------|-------------------------------|
| Subgrade 3a | 1.9                         | 25                       | 1.2                              | 33                            |
| Subgrade 3b | 5.6                         | 75                       | 2.4                              | 67                            |
| Total       | 7.5                         |                          | 3.6                              | 100                           |

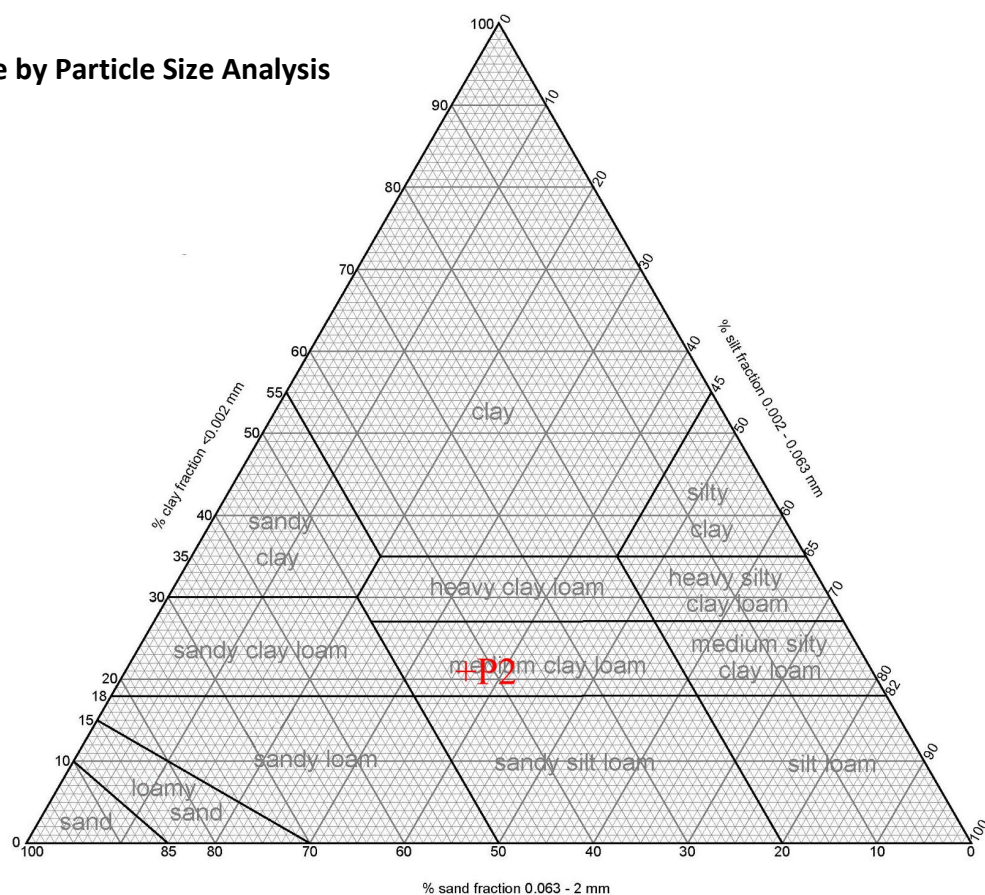
## Appendix 1: Laboratory Data

| Determinand         | Pit 2 Topsoil    | Units |
|---------------------|------------------|-------|
| Sand 2.00-0.063 mm  | 43               | % w/w |
| Silt 0.063-0.002 mm | 36               | % w/w |
| Clay <0.002 mm      | 21               | % w/w |
| Organic Matter      | 3.6              | % w/w |
| Texture             | Medium clay loam |       |

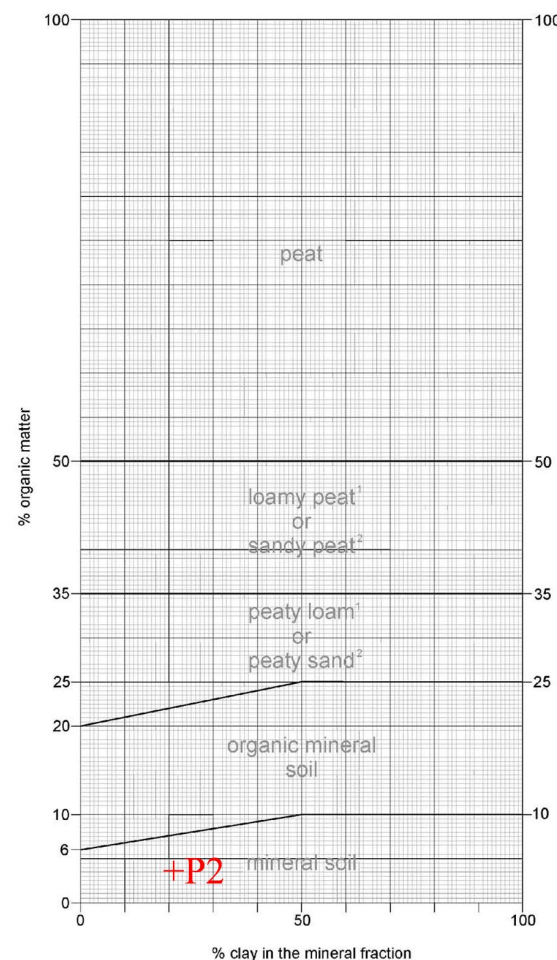
| Determinand    | Pit 2 Topsoil | Units     |
|----------------|---------------|-----------|
| Soil pH        | 6.3           |           |
| Phosphorus (P) | 7.6           | mg/l (av) |
| Potassium (K)  | 60.5          | mg/l (av) |
| Magnesium (Mg) | 51.3          | mg/l (av) |

| Determinand    | Pit 2 Topsoil | Units      |
|----------------|---------------|------------|
| Phosphorus (P) | 0             | ADAS Index |
| Potassium (K)  | 1             | ADAS Index |
| Magnesium (Mg) | 2             | ADAS Index |

Soil Texture by Particle Size Analysis



Organic Matter Class



## Appendix 2: Soil Profile Summaries and Droughtiness Calculations

Wetness / workability limitations are determined according to the methodology given in Appendix 3 of the ALC guidelines, MAFF 1988

Droughtiness calculations are made according to the methodology given in Appendix 4 of the ALC guidelines, MAFF 1988.

Grades are shown for drought, wetness and any other soil or site factors which are relevant. The overall Grade is set by the most limiting factor and shown on the right.

| Stone types |                 |                 | Climate Data |     | Wetness Class Guidelines                                |                |            |             |           | Climate |            |
|-------------|-----------------|-----------------|--------------|-----|---------------------------------------------------------|----------------|------------|-------------|-----------|---------|------------|
| %           | TA <sub>v</sub> | EA <sub>v</sub> | MDwheat      | 104 |                                                         | <i>II</i>      | <i>III</i> | <i>IV</i>   | <i>V</i>  | 1,495   | Limitation |
| hard        | 1               | 0.5             | MDpotato     | 97  |                                                         | >76cm          | 48-76cm    | <48cm       |           |         |            |
| N/A         |                 |                 | FCD          | 177 |                                                         | >63cm          | <63cm      |             |           |         |            |
|             |                 |                 |              |     | No SPL but gleying within 40cm                          | coarse subsoil | <i>I</i>   | other cases | <i>II</i> |         | Grade 1    |
| hard        | flint & pebble  |                 | AAR          | 829 | Maximum depth of auger penetration is <u>underlined</u> |                |            |             |           |         |            |

| Site No.               |                        | Depth cm |     | Texture | CaCO <sub>3</sub> | Colour              | Mottle colour | abund-<br>ance | stone%<br>hard | stone%<br>N/A | Structure | APwheat<br>mm | AP potato<br>mm | Gley | SPL | WC                                  | Wetness<br>grade WE | Final<br>Grade | Limiting<br>Factor(s) |  |  |
|------------------------|------------------------|----------|-----|---------|-------------------|---------------------|---------------|----------------|----------------|---------------|-----------|---------------|-----------------|------|-----|-------------------------------------|---------------------|----------------|-----------------------|--|--|
| 1                      | T                      | 0        | 29  | mCL     | n                 | 10YR4/2             | Fe            | com            | 1              |               |           | 52            | 52              | y    | n   | II                                  | 3a                  | 3a             | WE                    |  |  |
|                        |                        | 29       | 50  | hCL     |                   | 10YR4/4             |               |                | 3              |               |           | 33            | 33              | n    | n   |                                     |                     |                |                       |  |  |
|                        |                        | 50       | 120 | hCL     |                   | 10YR5/6,<br>10YR5/3 | Fe            | com            | 3              |               |           | 68            | 31              | y    | n   |                                     |                     |                |                       |  |  |
|                        |                        |          |     |         |                   |                     |               |                |                |               | Total     | 152           | 115             |      |     |                                     |                     |                |                       |  |  |
|                        |                        |          |     |         |                   |                     |               |                |                |               | MB        | 48            | 18              |      |     |                                     |                     |                |                       |  |  |
| Droughtiness grade(DR) |                        |          |     |         |                   |                     |               |                |                |               |           | 1             | 1               |      |     |                                     |                     |                |                       |  |  |
| 2                      | T                      | 0        | 30  | mCL     | n                 | 10YR4/1             | Fe            | com            | 3              |               |           | 52            | 52              | y    | n   | IV                                  | 3b                  | 3b             | WE                    |  |  |
|                        |                        | 30       | 120 | C       |                   | 10YR5/2             | Fe            | many           | 0              |               | poor      | 75            | 52              | y    | y   | Some sand lenses in clay            |                     |                |                       |  |  |
|                        |                        |          |     |         |                   |                     |               |                |                |               | Total     | 127           | 104             |      |     |                                     |                     |                |                       |  |  |
|                        |                        |          |     |         |                   |                     |               |                |                |               | MB        | 23            | 7               |      |     |                                     |                     |                |                       |  |  |
|                        | Droughtiness grade(DR) |          |     |         |                   |                     |               |                |                |               |           |               | 2               | 2    |     |                                     |                     |                |                       |  |  |
| 3                      | T                      | 0        | 30  | mCL     | n                 | 10YR4/1             |               |                | 0              |               |           | 54            | 54              | n    | n   | IV                                  | 3b                  | 3b             | WE                    |  |  |
|                        |                        | 30       | 120 | C       |                   | 10YR5/2,<br>10YR5/3 | Fe            | many           | 0              |               | poor      | 75            | 52              | y    | y   | Saturated at 40cm<br>Reeds in field |                     |                |                       |  |  |
|                        |                        |          |     |         |                   |                     |               |                |                |               | Total     | 129           | 106             |      |     |                                     |                     |                |                       |  |  |
|                        |                        |          |     |         |                   |                     |               |                |                |               | MB        | 25            | 9               |      |     |                                     |                     |                |                       |  |  |
|                        | Droughtiness grade(DR) |          |     |         |                   |                     |               |                |                |               |           |               | 2               | 2    |     |                                     |                     |                |                       |  |  |
| 4                      | T                      | 0        | 30  | mCL     | n                 | 10YR4/1             | Fe            | com            | 3              |               |           | 52            | 52              | y    | n   | IV                                  | 3b                  | 3b             | WE                    |  |  |
|                        |                        | 30       | 40  | C       |                   | 10YR5/3             | Femn          | many           | 0              |               | poor      | 13            | 13              | y    | y   | Water backfills to 30cm             |                     |                |                       |  |  |
|                        |                        | 40       | 120 | C       |                   | 10YR5/2             | Fe            | many           | 0              |               | poor      | 62            | 39              | y    | y   |                                     |                     |                |                       |  |  |
|                        |                        |          |     |         |                   |                     |               |                |                |               | Total     | 127           | 104             |      |     |                                     |                     |                |                       |  |  |

|   |   |   |    |     |   |         |      |     |   |                        |       |    |                    |     |    |    |    |    |                                                                   |  |          |      |      |    |        |    |    |   |   |
|---|---|---|----|-----|---|---------|------|-----|---|------------------------|-------|----|--------------------|-----|----|----|----|----|-------------------------------------------------------------------|--|----------|------|------|----|--------|----|----|---|---|
|   |   |   |    |     |   |         |      |     |   | MB                     | 23    | 7  | Reeds around point |     |    |    |    |    |                                                                   |  |          |      |      |    |        |    |    |   |   |
|   |   |   |    |     |   |         |      |     |   | Droughtiness grade(DR) | 2     | 2  |                    |     |    |    |    |    |                                                                   |  |          |      |      |    |        |    |    |   |   |
| 5 | T | 0 | 30 | mCL | n | 10YR4/2 |      |     | 2 |                        | 53    | 53 | n                  | n   | /V | 3b | 3b | WE |                                                                   |  |          |      |      |    |        |    |    |   |   |
|   |   |   |    |     |   |         |      |     |   |                        | /P1   |    | 30                 | 46  |    |    |    |    | hCL                                                               |  | 10YR5/3  | Fe   | com  | 2  |        | 25 | 25 | y | n |
|   |   |   |    |     |   |         |      |     |   |                        |       |    | 46                 | 70  |    |    |    |    | C                                                                 |  | 10YR5/3  | Fe   | many | 0  | poor   | 19 | 31 | y | y |
|   |   |   |    |     |   |         |      |     |   |                        |       |    | 70                 | 120 |    |    |    |    | C                                                                 |  | 10YR5/2  | Fe   | many | 0  | poor   | 35 | 0  | y | y |
|   |   |   |    |     |   |         |      |     |   |                        | Total |    | 132                | 109 |    |    |    |    |                                                                   |  |          |      |      |    |        |    |    |   |   |
|   |   |   |    |     |   |         |      |     |   | MB                     | 28    | 12 |                    |     |    |    |    |    |                                                                   |  |          |      |      |    |        |    |    |   |   |
|   |   |   |    |     |   |         |      |     |   | Droughtiness grade(DR) | 2     | 1  |                    |     |    |    |    |    |                                                                   |  |          |      |      |    |        |    |    |   |   |
| 6 | T | 0 | 32 | mCL | n | 10YR4/2 |      |     | 3 |                        | 56    | 56 | n                  | n   | /V | 3b | 3b | WE |                                                                   |  |          |      |      |    |        |    |    |   |   |
|   |   |   |    |     |   |         |      |     |   |                        | /P2   |    | 32                 | 44  |    |    |    |    | hCL                                                               |  | 10YR5/2  | Femn | com  | 3  |        | 19 | 19 | y | n |
|   |   |   |    |     |   |         |      |     |   |                        |       |    | 44                 | 120 |    |    |    |    | C                                                                 |  | 10YR5/3  | Fe   | many | 0  | poor   | 57 | 34 | y | y |
|   |   |   |    |     |   |         |      |     |   |                        | Total |    | 131                | 108 |    |    |    |    |                                                                   |  |          |      |      |    |        |    |    |   |   |
|   |   |   |    |     |   |         |      |     |   |                        |       |    |                    |     |    |    |    |    |                                                                   |  | MB       | 27   | 11   |    |        |    |    |   |   |
|   |   |   |    |     |   |         |      |     |   | Droughtiness grade(DR) | 2     | 1  |                    |     |    |    |    |    |                                                                   |  |          |      |      |    |        |    |    |   |   |
| 7 | T | 0 | 29 | SCL | n | 10YR4/2 |      |     | 3 |                        | 48    | 48 | n                  | n   | // | 3a | 3a | WE |                                                                   |  |          |      |      |    |        |    |    |   |   |
|   |   |   |    |     |   |         |      |     |   |                        | /P3   |    | 29                 | 57  |    |    |    |    | mSL                                                               |  | 10YR5/4  |      |      | 3  |        | 38 | 41 | n | n |
|   |   |   |    |     |   |         |      |     |   |                        |       |    | 57                 | 120 |    |    |    |    | SCL                                                               |  | 7.5YR5/6 | Fe   | com  | 0  |        | 63 | 20 | n | n |
|   |   |   |    |     |   |         |      |     |   |                        | Total |    | 149                | 108 |    |    |    |    | Water backfills to 50cm<br>Wetness assessed in line with Table 11 |  |          |      |      |    |        |    |    |   |   |
|   |   |   |    |     |   |         |      |     |   |                        |       |    |                    |     |    |    |    |    |                                                                   |  |          | MB   | 45   | 11 |        |    |    |   |   |
|   |   |   |    |     |   |         |      |     |   | Droughtiness grade(DR) | 1     | 1  |                    |     |    |    |    |    |                                                                   |  |          |      |      |    |        |    |    |   |   |
| 8 | T | 0 | 32 | SCL | n | 10YR4/1 | Fe   | com | 3 |                        | 53    | 53 | y                  | n   | // | 3a | 3a | WE |                                                                   |  |          |      |      |    |        |    |    |   |   |
|   |   |   |    |     |   |         |      |     |   |                        |       |    | 32                 | 40  |    |    |    |    | mCL                                                               |  | 10YR5/3  | Fe   | com  | 5  |        | 12 | 12 | y | n |
|   |   |   |    |     |   |         |      |     |   |                        |       |    | 40                 | 120 |    |    |    |    | hCL                                                               |  | 10YR5/3  | Fe   | many | 2  |        | 84 | 47 | y | n |
|   |   |   |    |     |   |         |      |     |   |                        | Total |    | 149                | 112 |    |    |    |    |                                                                   |  |          |      |      |    |        |    |    |   |   |
|   |   |   |    |     |   |         |      |     |   |                        |       |    |                    |     |    |    |    |    |                                                                   |  | MB       | 45   | 15   |    |        |    |    |   |   |
|   |   |   |    |     |   |         |      |     |   | Droughtiness grade(DR) | 1     | 1  |                    |     |    |    |    |    |                                                                   |  |          |      |      |    |        |    |    |   |   |
| 9 | T | 0 | 35 | mCL | n | 10YR4/1 | Femn | few | 3 |                        | 61    | 61 | n                  | n   | /V | 3b | 3b | WE |                                                                   |  |          |      |      |    |        |    |    |   |   |
|   |   |   |    |     |   |         |      |     |   |                        |       |    | 35                 | 45  |    |    |    |    | C                                                                 |  | 10YR5/3  | Fe   | com  | 5  | m/poor | 14 | 14 | y | n |
|   |   |   |    |     |   |         |      |     |   |                        |       |    | 45                 | 120 |    |    |    |    | C                                                                 |  | 10YR5/3  | Fe   | many | 0  | poor   | 56 | 33 | y | y |
|   |   |   |    |     |   |         |      |     |   |                        | Total |    | 131                | 108 |    |    |    |    |                                                                   |  |          |      |      |    |        |    |    |   |   |
|   |   |   |    |     |   |         |      |     |   |                        |       |    |                    |     |    |    |    |    |                                                                   |  | MB       | 27   | 11   |    |        |    |    |   |   |
|   |   |   |    |     |   |         |      |     |   | Droughtiness grade(DR) | 2     | 1  |                    |     |    |    |    |    |                                                                   |  |          |      |      |    |        |    |    |   |   |

|                        |   |                        |     |     |   |         |    |      |   |        |    |    |     |     |                 |    |    |    |  |
|------------------------|---|------------------------|-----|-----|---|---------|----|------|---|--------|----|----|-----|-----|-----------------|----|----|----|--|
| 10                     | T | 0                      | 29  | mCL | n | 10YR4/1 | Fe | com  | 2 |        | 51 | 51 | n   | n   | /V              | 3b | 3b | WE |  |
|                        |   | 29                     | 43  | hCL |   | 10YR6/2 | Fe | many | 0 | m/poor | 20 | 20 | y   | n   |                 |    |    |    |  |
|                        |   | 43                     | 120 | C   |   | 10YR5/3 | Fe | many | 0 | poor   | 58 | 35 | y   | y   |                 |    |    |    |  |
|                        |   | Total                  |     |     |   |         |    |      |   |        |    |    | 129 | 106 | Fully saturated |    |    |    |  |
|                        |   | MB                     |     |     |   |         |    |      |   |        |    |    | 25  | 9   |                 |    |    |    |  |
| Droughtiness grade(DR) |   |                        |     |     |   |         |    |      |   |        | 2  | 2  |     |     |                 |    |    |    |  |
| 11                     | T | 0                      | 31  | mCL | n | 10YR4/2 | Fe | few  | 3 |        | 54 | 54 | n   | n   | /V              | 3b | 3b | WE |  |
|                        |   | 31                     | 120 | C   |   | 10YR5/2 | Fe | many | 0 | poor   | 74 | 51 | y   | y   |                 |    |    |    |  |
|                        |   | Total                  |     |     |   |         |    |      |   |        |    |    | 128 | 105 |                 |    |    |    |  |
|                        |   | MB                     |     |     |   |         |    |      |   |        |    |    | 24  | 8   |                 |    |    |    |  |
|                        |   | Droughtiness grade(DR) |     |     |   |         |    |      |   |        |    |    | 2   | 2   |                 |    |    |    |  |

### Appendix 3: Soil Pit Photographs



Pit 1 overview



Mottled topsoil



Brown clay subsoil



Subsoil mottling observed by auger



Pit 2 profile



Topsoil arisings



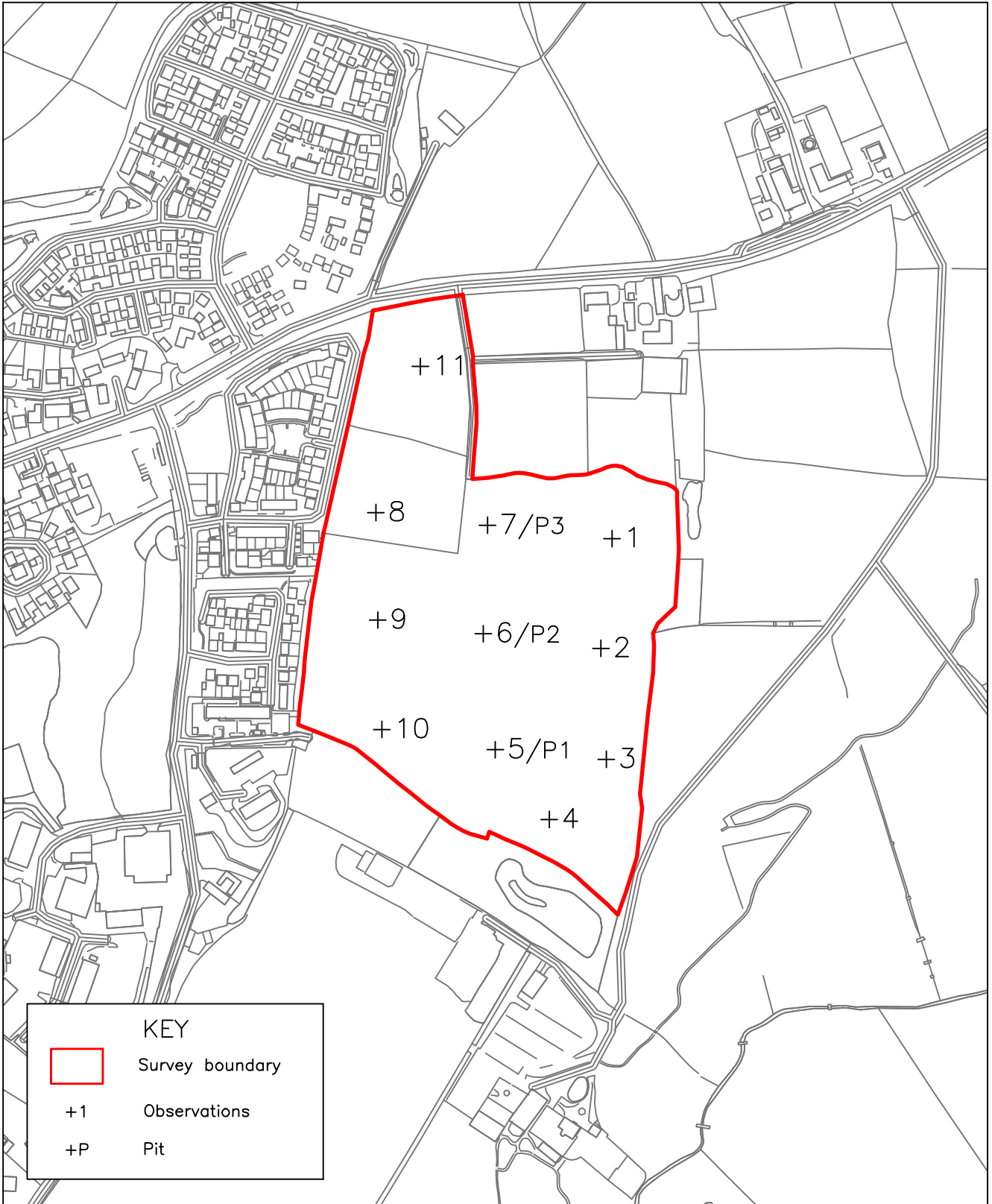
Mottled clay subsoil



Pit 3 soil profile



Pit arisings

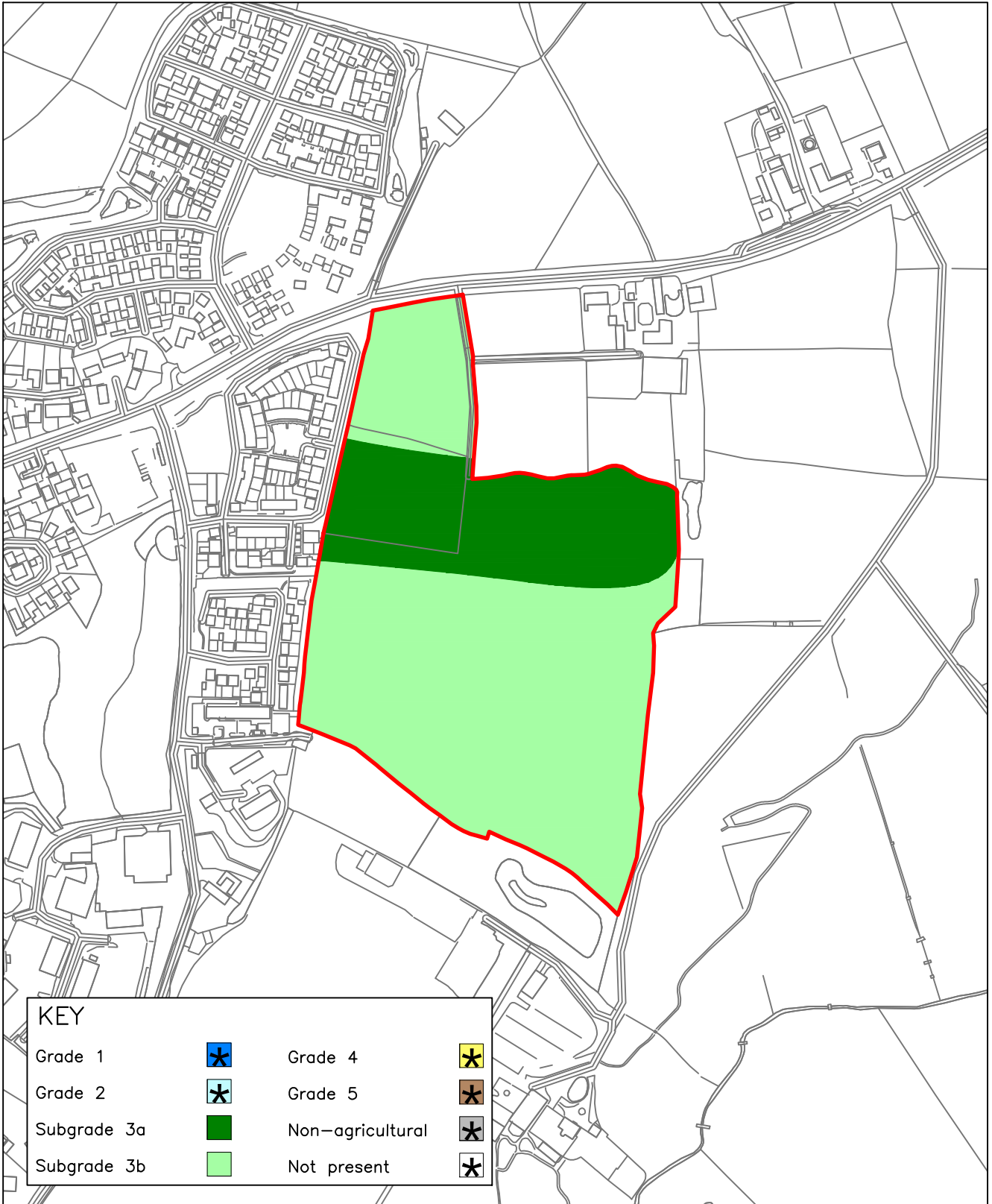


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1:5,000



|                                                          |                      |                   |      |         |      |                                                                                                                                                 |
|----------------------------------------------------------|----------------------|-------------------|------|---------|------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Drawing title<br>OBSERVATION MAPPING                     | Ref.<br>RAC/10214/1  | Rev.              |      |         |      | Reading Agricultural Consultants Ltd<br>Gate House<br>Beechwood Court<br>Long Toll<br>Woodcote<br>RG8 0RR<br>01491 684233<br>www.reading-ag.com |
| Contract<br>LAND SOUTH OF MORTIMERS<br>LANE,<br>FAIR OAK | Scales<br>AGM        | Checked by<br>AIF |      |         |      |  <b>READING<br/>AGRICULTURAL<br/>CONSULTANTS</b>           |
|                                                          | Scales<br>1:5,000@A4 | Date<br>01/2024   | Rev. | Comment | Date |                                                                                                                                                 |



### KEY

|             |  |                  |  |
|-------------|--|------------------|--|
| Grade 1     |  | Grade 4          |  |
| Grade 2     |  | Grade 5          |  |
| Subgrade 3a |  | Non-agricultural |  |
| Subgrade 3b |  | Not present      |  |

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1:5,000



0 100m 200m

|                                                          |                      |                   |      |         |      |                                                                                                                                                 |
|----------------------------------------------------------|----------------------|-------------------|------|---------|------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Drawing title<br>AGRICULTURAL LAND<br>CLASSIFICATION     | Ref.<br>RAC/10214/2  | Rev.              |      |         |      | Reading Agricultural Consultants Ltd<br>Gate House<br>Beechwood Court<br>Long Toll<br>Woodcote<br>RG8 0RR<br>01491 684233<br>www.reading-ag.com |
| Contract<br>LAND SOUTH OF MORTIMERS<br>LANE,<br>FAIR OAK | Scales<br>AGM        | Checked by<br>AIF |      |         |      |  <b>READING<br/>AGRICULTURAL<br/>CONSULTANTS</b>           |
|                                                          | Scales<br>1:5,000@A4 | Date<br>01/2024   | Rev. | Comment | Date |                                                                                                                                                 |