LAND AT REBECCA ROAD, PERSHORE

AGRICULTURAL LAND CLASSIFICATION AND CONSIDERATIONS

September 2024

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Appendices

Plans

1 INTRODUCTION

1.1 This report considers the agricultural land quality and other relevant considerations of a Site at Rebecca Road, Pershore.

1.2 The Site extends to 5.3ha is shown outlined in red on the aerial image below.

Insert 1. The Site (boundary approx.)

1.3 A detailed Agricultural Land Classification was carried out at the Site in August 2024 the survey found that the Site comprising of Grade 2 land quality.

1.4 However, of the area surveyed, only 3ha of this will be developed.

1.5 This report:

(i) describes the Site and the agricultural land quality in section 2;
(ii) sets out planning policy of relevance in section 3;
(iii) provides an assessment in section 4; and
(iv) summarises the points in section 5.

1.6 This report has been prepared by Kernon Countryside Consultants Ltd (KCC), who specialise in assessing the effects of development proposals on agricultural land and businesses.

2 RELVEANT PLANNING POLICY AND GUIDANCE

National Planning Policy

2.1 The National Planning Policy Framework (NPPF) (2023), paragraph 180 notes that planning policies and decisions should contribute to enhance the natural and local environment by, inter alia, recognising **"the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land"**.

2.2 The best and most versatile (BMV) agricultural land is defined in Annex 2 of the NPPF as land which is of Grade 1, 2 and Subgrade 3a of the Agricultural Land Classification.

2.3 Paragraph 181 of the NPPF discusses plan making. It requires plans to, inter alia, allocate land with the least environmental or amenity value, where consistent with other policies in the Framework. Footnote 62 of the NPPF identifies that **"where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be preferred to those of a higher quality"**.

2.4 There is no definition of what constitutes "significant" development. However, the "Guide to assessing development proposals on agricultural land" (Natural England, February 2021) advises local planning authorities to **"take account of smaller losses (under 20ha) if they're significant when making your decision"**, suggesting that 20ha is a suitable threshold for defining "significant" in many cases.

2.5 The December 2023 amendments to the NPPF added the requirement to consider the availability of land for food production to the plan making paragraph 181, via an expanded footnote 62.

2.6 In July 2024 a consultation regarding the revision of the NPPF was made public. The consultation is due to end in September 2024. Part of the revisions include the removal of footnote 62 which requires consideration to be made regarding food production.

Local Plan

2.7 Within the South Worcestershire Development Plan (SWDP) (adopted February 2016) part H of SWDP 13 (Effective land use) refers to the loss of best and most versatile land. Stating the following:

"Windfall development proposals which would result in the loss of more than two hectares of Best and Most Versatile (BMV) agricultural land will be required to demonstrate that:

- **i) The proposed development cannot be reasonably accommodated on non BMV land; and**
- **ii) The benefits of the development significantly outweigh the loss of BMV agricultural land.**

2.8 Part I of the policy also goes on to state:

"In addition, the effect of the loss of BMV agricultural land on farm economics and management will be considered. Where development would fragment farm holdings, planning permission will be granted only where mitigation is possible e.g. the land can be incorporated into surrounding holdings and where there is no severance of agricultural buildings from the land".

Guidance

2.9 Natural England's "Guide to Assessing Development Proposals on Agricultural Land" (February 2021) describes the ALC process and sets out guidance on managing soils. It advises on the consultation process where more than 20ha of BMV land is involved.

2.10 The Institute of Environmental Management and Assessment (IEMA) produced a Guide "A New Perspective on Land and Soil in Environmental Impact Assessment" in February 2022. Whilst this refers to EA development, it identifies in table 3 (page 49) the magnitude of the impacts on soil resources. Losses of less than 5ha are minor and losses of 5 - 20ha are considered to be moderate. Only losses over 20ha are considered to be major.

3 AGRICULTURAL LAND QUALITY OF THE SITE

The ALC System

3.1 The Agricultural Land Classification (ALC) system provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long term limitations on the agricultural use of the site. The ALC system divides agricultural land into five grades. Grade 1 of the ALC is described as being of excellent quality and Grade 5, at the other end of the scale, is described as being of very poor quality. The current guidelines and criteria for the ALC were published by the Ministry of Agriculture, Fisheries and Food (MAFF) in 1988.

3.2 The ALC system is further described in Natural England's Technical Information Note TIN049 which can be found reproduced in **Appendix KCC1**.

Detailed ALC Survey Results

3.3 An ALC survey was carried out in August 2024. The survey included five auger inspection sites. Two of these samples were sent for laboratory analysis to determine the percentage of sand, silt and clay within the soil.

3.4 One soil pit was dug to measure the stoniness and to better describe the soil profiles.

3.5 The full Agricultural Land Classification is set out in **Appendix KCC2**.

3.6 The results of the survey which covers the Proposed Development Site can be seen in the table below.

Table 1. KCC1 ALC Results

ALC Grade	Description	Area (ha)	Proportion (%)
Grade 2	Very Good	5.3	100
Total	**-**	**5.3**	**100**

3.7 The distribution of grading can be seen on the extract of the ALC plan below. The full plan can be found at the back of this report (**Plan KCC3725/02**).

Insert 2. Extract of the ALC Plan

KEY	
	Grade 1
	Grade 2
	Grade 3a
	Grade 3b
	Grade 4
	Grade 5
	Non-agricultural
	Urban
	Not surveyed

4 POLICY ASSESSMENT

4.1 The NPPF (2023) identifies land of Grades 1, 2 and 3a as the best and most versatile agricultural land and requires, in the context of plan making, that where significant development of such land is demonstrated to be necessary, poorer quality land is to be used in preference.

4.2 The SWDP states that where more than 2ha of land are being developed that is needs to be assessed as to whether the proposal could be reasonably accommodated on non-BMV land and whether the proposed benefits would outweigh the loss of the BMV land.

4.3 The SWDP also requests that farm economics and management are considered alongside whether there is any severance of land from agricultural buildings as a result of the proposal.

Whether this is "Significant" Development

4.4 This proposal would not be considered to be "significant" development of agricultural land in the context of the NPPF.

4.5 Footnote 62 to paragraph 181 of the NPPF considers whether poorer quality land is available with the trigger for an assessment being that the proposal involves "**significant development of agricultural land"**. This paragraph is in the context of plan making, not decision making. **"Significant Development"** is not defined in the NPPF. One threshold for determination of what is significant is the threshold for consultation with Natural England, which is set at the loss of 20ha or more of BMV land (as can be seen in the TIN049 in **Appendix KCC1**). This has been the threshold for consultation with MAFF since 1987.

4.6 Whilst the full extent of the site is 5.3ha only 3ha of this will be developed. However, it is acknowledged that the land surrounding the developable area, will not be able to be practically farmed. Therefore, the assessment will look at the loss of the full area (5.3ha). At 5.3ha the quantum of BMV is under 27% of the threshold for consultation with Natural England. Therefore, this quantum is not "significant development".

4.7 The "Guide to assessing development proposals on agricultural land" (Natural England, 5th February 2021) (**Appendix KCC3**) does not define a threshold but does provide some guidance. This adds to our view that 20ha is a reasonable threshold for defining what is significant development:

- Paragraph 6 states **"you should take account of smaller losses (under 20ha) if they are significant when making your decision"**, which suggests that losses of under 20ha would not be significant unless there are particular local circumstances. What those particular local circumstances are, is not defined but it would be reasonable consider that the loss of 20ha may be significant in an area where BMV land is rare, for example. This would differ to the area around this Site, which the predictive maps show a large population to be of 20% - 60% BMV quality; and
- Paragraph 7.1 states that you can use Natural England's chargeable discretionary advice system **"if your proposal is large, for example 20ha or more, and requires more detailed advice"**. The definition of large as being more than 20ha suggests that a site under 20 ha is considered small, and hence, not significant.

4.8 This is not significant development of BMV land. Therefore, the requirement to consider if poorer quality land is available under footnote 62 is not triggered. However, for completeness, they are assessed below.

Land Quality in the Area Generally and Whether Poorer Quality Land is Available

4.9 The significance of development involving agricultural land needs to be considered in context. Across England it is estimated that 42% of farmland is of Grade 1, 2 and 3a quality (see TIN049, **Appendix KCC1**).

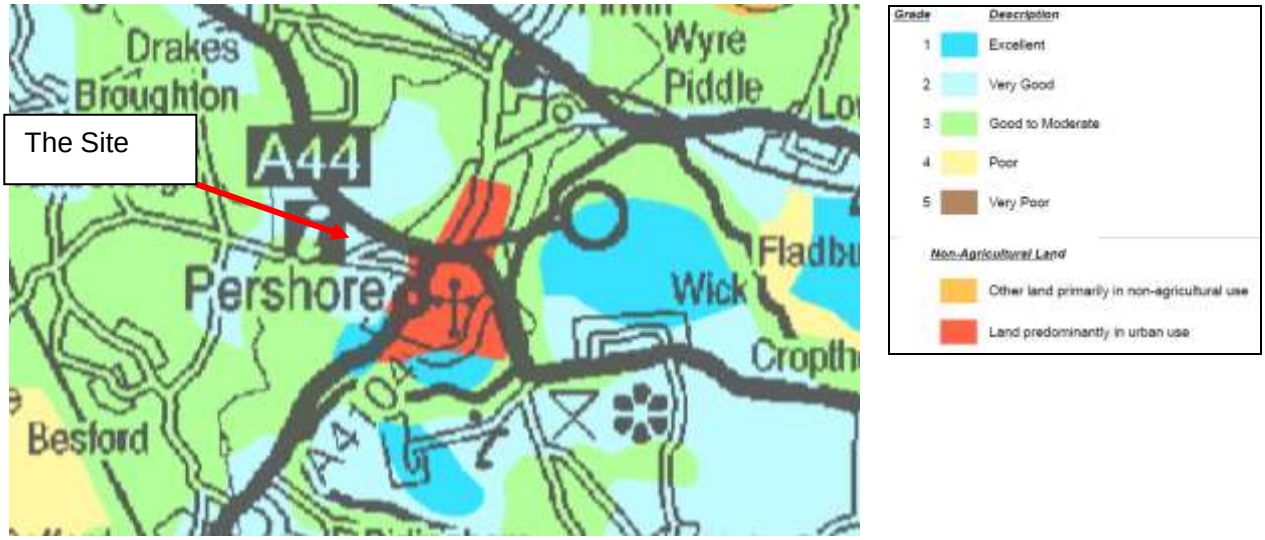
4.10 The Utilised Agricultural Area (UAA) of England, which is less than the total amount of agricultural land, was 8.8 million hectares in 2023 (Agricultural Land Use in England on 1 June 2023, DEFRA, updated 9 November 2023). This suggests that 3.7 million hectares of BMV land is in active agricultural use.

4.11 Statistically about 40% of Grade 3 land falls within Subgrade 3a. However, in parts of the country the proportion of Subgrade 3a is expected to be much higher, as there are large areas of the country where land is poor (eg Lake District, Pennines, Dartmoor etc).

4.12 Therefore, it is not considered that BMV quality is a rare resource.

4.13 On the 'provisional' ALC maps from the 1970's the land is shown as Grade 2 and undifferentiated Grade 3. This can be seen on the below map.

Insert 3. Provisional ALC Map



4.14 The map shows that land around the Site also is mapped as Grade 2 and undifferentiated Grade 3 land. With small pockets of land being indicated to be Grade 1. Therefore, it can be seen that land within the immediate proximity of the Site is predicted to be of BMV quality.

4.15 There are limitations with the "provisional" maps, which are described in TIN049 (**Appendix KCC1**). In 2017 Natural England produced predictive likelihood of best and most versatile maps. These estimate the proportion of land within an area that is of BMV quality. There are three categories which are low (<20% area BMV), moderate (20-60% area BMV), and high (>60% area BMV).

4.16 The predictive BMV likelihood maps predict that the land falls within an area of moderate (20-60% area BMV) and high (>60% area BMV). This can be seen on the insert below.

Insert 4. Predictive BMV Map

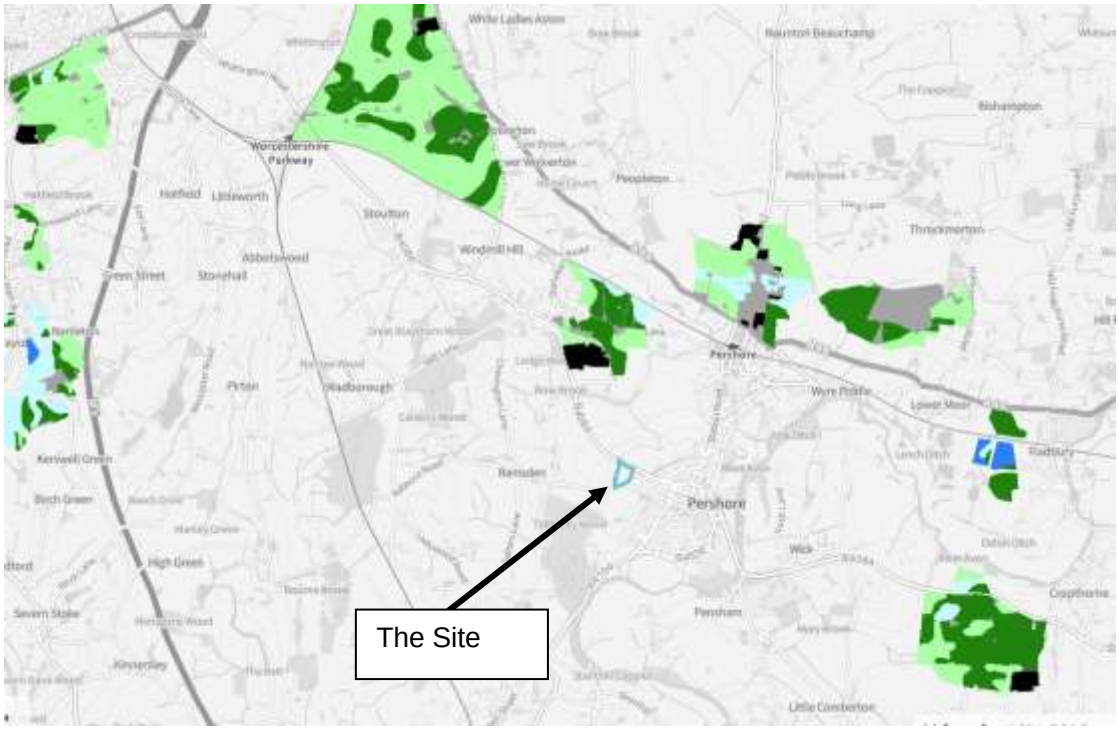
4.17 It can be seen from the above that land which is around the Site also falls within these categories. Whilst it is acknowledged that there is a small section shown as falling within the low likelihood of BMV, this area is the riverbank running alongside the River Avon.

4.18 Therefore any land which is of a higher quality would likely be limited on grading due to wetness classification.

4.19 It can be determined from the information that is available through the predictive and provisional mapping, that best and most versatile land quality is not a rare resource within the area, with areas around also likely to be of high quality.

4.20 This is also supported through survey results for Sites within the area. The available results, as published on www.magic.gov.uk are reproduced below.

Insert 5. Survey results within the area



4.21 This shows that land which has been surveyed to the north and east of the Site has been found to contain large proportions of BMV quality land. With small areas to the east and west been found to contain Grade 1 land quality.

4.22 Thus confirming, best and most versatile land quality, is not a rare resource within the area.

4.23 The quantity of BMV land within the area has meant that meeting housing needs for South Worcestershire is unachievable without utilising small proportions of land that contain BMV land quality.

Economic Benefits

4.24 There is no research available that we are aware of that seeks to analyse the productive economic advantages of BMV to non-BMV land.

4.25 In the absence of any empirical data, an economic assessment is inevitably crude. Taking standard budgeting textbooks, such as the John Nix Pocketbook for Farm Management (extracts which have been reproduced in **Appendix KCC4**), it is possible to show the difference between moderate and high yields as an illustration between crops.

4.26 Taking that crude measure and applying it to winter wheat and oilseed rape, the differences are shown below.

Table 2. Assessment of Economic of Farmed Land

Item	Winter Wheat		Oilseed Rape	
	Average	High	Average	High
Yield (t/ha)	8.3t/ha	9.5t/ha	3.5t/ha	4.0t/ha
Output (£)	£1,765/ha	£1,993/ha	£1,488/ha	£1,700/ha
Gross Margin (£)	£1,110/ha	£1,338/ha	£906/ha	£1,118/ha
Uplift (£)	-	£228/ha	-	£212/ha

John Nix Pocketbook for Farm Management, September 2024

4.27 The economic benefits of the 5.3ha of BMV land to non-BMV land would be £1,208 (£1,124 - £1,208 on 2024 budgets). Hence the economic benefits of a land parcel of this size are moderately limited.

4.28 It is not considered that the Proposed Development will have a significant impact on a fulltime farm business and would not cause any severance or alienation of land.

Food Production

4.29 Whilst this area of policy is under consultation, at present footnote 62 requires that the availability of land for food production be considered. Using the crude assessment in Table 2, the annual increased production from 5.3ha of BMV would be of the order of 7 tonnes (5.3 x 1.4 t/ha). That needs to be considered in the context of the UK's production in 2023 of almost 22 million tonnes (Cereal and Oilseed Production in the United Kingdom 2023, Defra (21st December 2023)).

Conclusion

4.30 A survey of the Site was carried out in August 2024. This identified that the Site was made up of Grade 2 land.

4.31 At approximately 5.3ha of BMV land the Site is under 27% of the threshold for consultation with Natural England. Therefore, the quantum of BMV is not significant.

4.32 The BMV area of land is thought to produce a minimum of 7 tonnes of cereals, which in the context of the UK food production is a negligible amount.

4.33 Overall, it is not considered that BMV land is a rare recourse within South Worcestershire but in fact is prevalent such that meeting housing needs will regularly involve land which contains BMV quality land.

5 SUMMARY AND CONCLUSION

5.1 The Proposed Development Site extends to 5.3ha.

5.2 The land has been classified as comprising of 5.3ha (100%) of Grade 2 quality land. Therefore, the Site contains a small proportion of best and most versatile agricultural land.

5.3 The NPPF requires economic benefits to be considered. The economic benefits of this Site are limited at £1,208 per annum over the BMV land.

5.4 In terms of the NPPF, this is not considered significant development of agricultural land. Accordingly, poorer quality land does not need to be considered in preference.

5.5 However, the SWDP requires it to be assessed whether proposals could be accommodated on non-BMV land. However, assessments show that BMV land quality is not a rare resource within the area.

5.6 It is also not considered that the proposal will cause a significant impact on the farm business or cause any severance of land or farm holdings that would mean any remaining land parcels could not continue to be farmed.

5.7 It is not considered that BMV land is a rare recourse within South Worcestershire with land surrounding the area predicted to contain BMV land quality. The result of this means that meeting the housing requirements will regularly involve land which contains BMV land quality.

5.8 Based on the above, it is concluded that only minimal weight can be given to this loss of agricultural land.

Appendix KCC1
Natural England's Technical Information Note TIN 049

Natural England Technical Information Note TIN049

Agricultural Land Classification: protecting the best and most versatile agricultural land

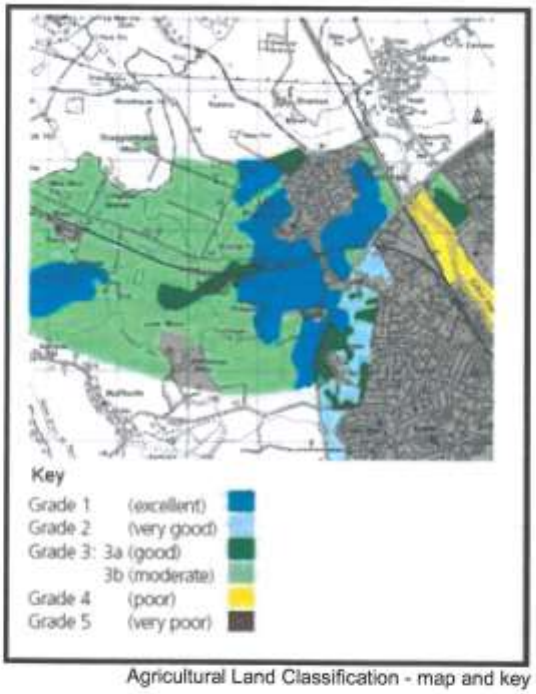
Most of our land area is in agricultural use. How this important natural resource is used is vital to sustainable development. This includes taking the right decisions about protecting it from inappropriate development.

Policy to protect agricultural land

Government policy for England is set out in the National Planning Policy Framework (NPPF) published in March 2012 (paragraph 112). Decisions rest with the relevant planning authorities who should take into account the economic and other benefits of the best and most versatile agricultural land. Where significant development of agricultural land is demonstrated to be necessary, local planning authorities should seek to use areas of poorer quality land in preference to that of higher quality. The Government has also re-affirmed the importance of protecting our soils and the services they provide in the Natural Environment White Paper The Natural Choice:securing the value of nature (June 2011), including the protection of best and most versatile agricultural land (paragraph 2.35).

The ALC system: purpose & uses

Land quality varies from place to place. The Agricultural Land Classification (ALC) provides a method for assessing the quality of farmland to enable informed choices to be made about its future use within the planning system. It helps underpin the principles of sustainable development.



Agricultural Land Classification - map and key

Second edition 19 December 2012
www.naturalengland.org.uk

NATURAL ENGLAND

Agricultural Land Classification: protecting the best and most versatile agricultural land

The ALC system classifies land into five grades, with Grade 3 subdivided into Subgrades 3a and 3b. The best and most versatile land is defined as Grades 1, 2 and 3a by policy guidance (see Annex 2 of NPPF). This is the land which is most flexible, productive and efficient in response to inputs and which can best deliver future crops for food and non food uses such as biomass, fibres and pharmaceuticals. Current estimates are that Grades 1 and 2 together form about 21% of all farmland in England; Subgrade 3a also covers about 21%.

The ALC system is used by Natural England and others to give advice to planning authorities, developers and the public if development is proposed on agricultural land or other greenfield sites that could potentially grow crops. The Town and Country Planning (Development Management Procedure) (England) Order 2010 (as amended) refers to the best and most versatile land policy in requiring statutory consultations with Natural England. Natural England is also responsible for Minerals and Waste Consultations where reclamation to agriculture is proposed under Schedule 5 of the Town and Country Planning Act 1990 (as amended). The ALC grading system is also used by commercial consultants to advise clients on land uses and planning issues.

Criteria and guidelines

The Classification is based on the long term physical limitations of land for agricultural use. Factors affecting the grade are climate, site and soil characteristics, and the important interactions between them. Detailed guidance for classifying land can be found in: *Agricultural Land Classification of England and Wales: revised guidelines and criteria for grading the quality of agricultural land* (MAFF, 1988):

- **Climate:** temperature and rainfall, aspect, exposure and frost risk.
- **Site:** gradient, micro-relief and flood risk.
- **Soil:** texture, structure, depth and stoniness, chemical properties which cannot be corrected.

The combination of climate and soil factors determines soil wetness and droughtiness. Wetness and droughtiness influence the choice of crops grown and the level and consistency of yields, as well as use of land for grazing livestock. The Classification is concerned with the inherent potential of land under a range of farming systems. The current agricultural use, or intensity of use, does not affect the ALC grade.

Versatility and yield

The physical limitations of land have four main effects on the way land is farmed. These are:

- the range of crops which can be grown;
- the level of yield;
- the consistency of yield; and
- the cost of obtaining the crop.

The ALC gives a high grading to land which allows more flexibility in the range of crops that can be grown (its 'versatility') and which requires lower inputs, but also takes into account ability to produce consistently high yields of a narrower range of crops.

Availability of ALC information

After the introduction of the ALC system in 1966 the whole of England and Wales was mapped from reconnaissance field surveys, to provide general strategic guidance on land quality for planners. This Provisional Series of maps was published on an Ordnance Survey base at a scale of One Inch to One Mile in the period 1967 to 1974. 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 and can be downloaded from the Natural England **website**. This data is also available on 'Magic', an interactive, geographical information website **http://magic.defra.gov.uk/**.

Since 1976, selected areas have been re-surveyed in greater detail and to revised

guidelines and criteria. Information based on detailed ALC field surveys in accordance with current guidelines (MAFF, 1988) is the most definitive source. Data from the former Ministry of Agriculture, Fisheries and Food (MAFF) archive of more detailed ALC survey information (from 1988) is also available on **http://magic.defra.gov.uk/**. Revisions to the ALC guidelines and criteria have been limited and kept to the original principles, but some assessments made prior to the most recent revision in 1988 need to be checked against current criteria. More recently, strategic scale maps showing the likely occurrence of best and most versatile land have been prepared. Mapped information of all types is available from Natural England (see *Further information* below).

New field survey

Digital mapping and geographical information systems have been introduced to facilitate the provision of up-to-date information. ALC surveys are undertaken, according to the published Guidelines, by field surveyors using handheld augers to examine soils to a depth of 1.2 metres, at a frequency of one boring per hectare for a detailed assessment. This is usually supplemented by digging occasional small pits (usually by hand) to inspect the soil profile. Information obtained by these methods is combined with climatic and other data to produce an ALC map and report. ALC maps are normally produced on an Ordnance Survey base at varying scales from 1:10,000 for detailed work to 1:50 000 for reconnaissance survey

There is no comprehensive programme to survey all areas in detail. Private consultants may survey land where it is under consideration for development, especially around the edge of towns, to allow comparisons between areas and to inform environmental assessments. ALC field surveys are usually time consuming and should be initiated well in advance of planning decisions. Planning authorities should ensure that sufficient detailed site specific ALC survey data is available to inform decision making.

Consultations

Natural England is consulted by planning authorities on the preparation of all development plans as part of its remit for the natural environment. For planning applications, specific consultations with Natural England are required under the Development Management Procedure Order in relation to best and most versatile agricultural land. These are for non agricultural development proposals that are not consistent with an adopted local plan and involve the loss of twenty hectares or more of the best and most versatile land. The land protection policy is relevant to all planning applications, including those on smaller areas, but it is for the planning authority to decide how significant the agricultural land issues are, and the need for field information. The planning authority may contact Natural England if it needs technical information or advice.

Consultations with Natural England are required on all applications for mineral working or waste disposal if the proposed afteruse is for agriculture or where the loss of best and most versatile agricultural land agricultural land will be 20 ha or more. Non-agricultural afteruse, for example for nature conservation or amenity, can be acceptable even on better quality land if soil resources are conserved and the long term potential of best and most versatile land is safeguarded by careful land restoration and aftercare.

Other factors

The ALC is a basis for assessing how development proposals affect agricultural land within the planning system, but it is not the sole consideration. Planning authorities are guided by the National Planning Policy Framework to protect and enhance soils more widely. This could include, for example, conserving soil resources during mineral working or construction, not granting permission for peat extraction from new or extended mineral sites, or preventing soil from being adversely affected by pollution. For information on the application of ALC in Wales, please see below.

Further information

Details of the system of grading can be found in: *Agricultural Land Classification of England and Wales: revised guidelines and criteria for grading the quality of agricultural land* (MAFF, 1988).

Please note that planning authorities should send all planning related consultations and enquiries to Natural England by e-mail to **consultations@naturalengland.org.uk**. If it is not possible to consult us electronically then consultations should be sent to the following postal address:

Natural England
Consultation Service
Hornbeam House
Electra Way
Crewe Business Park
CREWE
Cheshire
CW1 6GJ

ALC information for Wales is held by Welsh Government. Detailed information and advice is available on request from Ian Rugg (**ian.rugg@wales.gsi.gov.uk**) or David Martyn (**david.martyn@wales.gsi.gov.uk**). If it is not possible to consult us electronically then consultations should be sent to the following postal address:

Welsh Government
Rhodfa Padarn
Llanbadarn Fawr
Aberystwyth
Ceredigion
SY23 3UR

Natural England publications are available to download from the Natural England website: **www.naturalengland.org.uk**.

For further information contact the Natural England Enquiry Service on 0300 060 0863 or e-mail **enquiries@naturalengland.org.uk**.

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Appendix KCC2

Agricultural Land Classification

AGRICULTURAL LAND CLASSIFICATION

1. This section of the report provides the findings of a detailed Agricultural Land Classification (ALC). It is based on a desktop study of relevant published information on climate, topography, geology, and soil, in conjunction with a soil survey. The approximately 5-hectare (ha) Study Area is shown in **Plan KCC3725/01**.

Methodology

2. The work has been carried out by a Chartered Scientist (CSci), who is a Fellow (F. I. Soil Sci) of the British Society of Soil Science (BSSS). This ALC survey has been carried out by a soil scientist who meets the BSSS Professional Competency Standard (PSC) scheme requirements for ALC (see BSSS PCS Document 2 '*Agricultural Land Classification of England and Wales*'[1]). The BSSS PSC scheme is endorsed, amongst others, by the Department for Environment, Food and Rural Affairs (Defra), Natural England, the Science Council, and the Institute of Environmental Assessment and Management (IEMA).

3. This assessment is based upon the findings of a study of published information on climate, geology and soil in combination with a soil investigation carried out in accordance with the Ministry of Agriculture, Fisheries and Food (MAFF) [2] '*Agricultural Land Classification of England and Wales: Revised Guidelines and Criteria for Grading the Quality of Agricultural Land*', October 1988 (henceforth referred to as the 'the ALC Guidelines').

4. The ALC system provides a framework for classifying land according to the extent to which its physical or chemical characteristics impose long-term limitations on agricultural use. The ALC system divides agricultural land into five grades (Grade 1 'Excellent' to Grade 5 'Very Poor'), with Grade 3 subdivided into Subgrade 3a 'Good' and Subgrade 3b 'Moderate'. Agricultural land classified as Grade 1, 2 and Subgrade 3a falls in the '*best and most versatile*' category in Paragraphs 180 and 181 of the National Planning Policy Framework (NPPF), revised on the 19th of December 2023. Further details of the ALC

[1] British Society of Soil Science. Professional Competency Scheme Document 2 'Agricultural Land Classification of England and Wales'. Available online @ https://www.soils.org.uk/sites/default/files/events/flyers/ipss-competency-doc2.pdf Last accessed September 2024

[2] The Ministry of Agriculture, Fisheries and Food (MAFF) was incorporated within the Department for Environment, Food and Rural Affairs (Defra) in November 2001

system and national planning policy implications are set out in Natural England's '*Guide to assessing development proposals on agricultural land'* online[3].

5. A detailed ALC survey of the Study Area was carried out on the 7th of August 2024. The ALC survey involved examination of the soil's physical properties at five auger-bores within the Study Area at a density of one auger-bore per hectare (ha). One soil pit, i.e., Pit 1 located near auger-bore location 4, was excavated with a spade to examine certain soil physical properties, such as stone content and subsoil structure, in more detail. See **Plan KCC3725/01** for the location of auger bores and soil pits.

6. The sample locations were located using a hand-held Garmin E-Trec Geographic Information System (GIS) to enable the sample locations to be relocated for verification, if necessary.

7. The soil profile at each sample location was examined to a maximum depth of approximately 1.2 m by hand using a 5 cm diameter Dutch (Edleman) soil auger. The soil profile at each sample location was described using the '*Soil Survey Field Handbook: Describing and Sampling Soil Profiles*' (Ed. J.M. Hodgson, Cranfield University, 1997). Each soil profile was ascribed a grade following the ALC Guidelines. A log of the soil profiles examined and described on-site is given in **Attachment 1**, and a description of the soil pit is given in **Attachment 2**.

8. A topsoil sample was collected at auger-bore locations 1 and 4 (Pit 1), as shown in **Plan KCC3725/01**. The samples were sent to an accredited laboratory for particle size analysis, i.e., sand, silt, and clay proportions. This is to determine the definitive texture class of the topsoil, especially regarding distinguishing between medium clay loams (i.e., <27% clay) and heavy clay loams (27% to 35% clay). The results of the laboratory particle size (texture) analysis are given in Section 3.0, and a laboratory report is given in **Attachment 3**.

9. As described in the ALC Guidelines, the main physical factors influencing agricultural land quality are:
   - climate;
   - site;
   - soil; and
   - interactive limitations.

[3] Natural England (2022) 'Guide to assessing development proposals on agricultural land'. Available online at https://www.gov.uk/government/publications/agricultural-land-assess-proposals-for-development/guide-to-assessing-development-proposals-on-agricultural-land Last accessed September 2024

10. These factors are considered in turn below.

Climate

11. Table 1 below provides interpolated climate data relevant to determining the ALC grade of land at the Site.

Table 1: ALC Climate Data

Climate Parameter	**Grid Ref: SO937463**
Average Altitude (m)	54
Average Annual Rainfall (mm)	626
Accumulated Temperature above 0˚C (January – June)	1448
Moisture Deficit (mm) Wheat	109
Moisture Deficit (mm) Potatoes	102
Field Capacity Days (FCD)	132
Grade according to climate	1

12. Parameters used for assessing overall climate are accumulated temperature, a measure of relative warmth, and average annual rainfall, a measure of overall wetness. Regarding Figure 1 '*Grade according to climate*' on page 6 of the ALC Guidelines, there is no overall climatic limitation to the quality of agricultural land at the Site. This means that agricultural land at the Site could be graded as ALC Grade 1 in overall climatic terms without any other limiting factor, i.e., site, soil, and/or interactive limitations.

13. The soil profiles across the Study Area are predicted to be at field capacity (i.e., the amount of soil moisture or water content held in the soil after excess water has drained away) for approximately 132 Field Capacity Days (FCD) per year, mainly over the late autumn, winter and early spring. The climate interacts with soil physical properties, i.e., soil texture and wetness class, and can limit agricultural land quality due to soil wetness as per Table 6 of the ALC Guideline 'Grade according to soil wetness'. It should be noted that the number of FCD at this Site falls in the FCD category 126-150 for determining the grade according to wetness.

Site

14. As shown in **Plan KCC3725/01**, the Study Area is located on the north-western edge of Pershore. The approximate centre of the Site is located at British National Grid (BNG) reference SO937463. The Study Area is bordered by Rebecca Road to the south, by residential development to the east, by the B4084 to the north and by agricultural land to the west.

15. Regarding the ALC Guidelines, agricultural land quality can be limited by one or more of three main site factors as follows:

- gradient;
- micro-relief (i.e., complex change in slope angle over short distances); and
- risk of flooding.

Gradient and Micro-Relief

16. The Study Area is located on a gentle, northwest-facing slope at approximately 56 metres (m) Above Ordnance Datum (AOD) at the highest point in the southeast near auger bore 5. It is approximately 52m AOD at the lowest elevation in the northwest near auger bore 1.

17. The quality of agricultural land within the Study Area is not limited by gradient, which does not exceed 7° (refer to Table 1 of ALC Guidelines). Likewise, the quality of agricultural land in the Study Area is not limited by micro-relief, i.e., where complex changes in slope angle and direction over short distances, or the presence of boulders or rock outcrops, even on level ground or gentle slopes, can severely limit the use of agricultural machinery.

Risk of Flooding

18. According to the Government Flood Map for Planning website[4], the land in the Study Area is in Flood Zone 1 at a low risk of flooding. The MAFF ALC Guidelines (1988) take account of the frequency, duration, and timing of flooding in the summer and winter (re Table 2 '*Grade according to flood risk in summer*' and/or Table 3 '*Grade according to flood risk in winter*'). There is no evidence the grade of agricultural land in the Study Area is limited by flood risk during the summer or winter following the ALC Guidelines.

Soil

19. **Geology/Soil Parent Material.** British Geological Survey (BGS) online[5] information has been utilised to identify the Bedrock underlying the Study Area and any Superficial (Drift) Deposits over the Bedrock. This information helps to determine the parent material[6] from and within which a soil has formed.

[4] Government/Environment Agency. 'Get flood risk information for planning in England'. Available online at https://flood-map-for-planning.service.gov.uk/ Last accessed September 2024
[5] British Geological Survey 'Geology of Britain Viewer'. Available online @ http://www.bgs.ac.uk/discoveringGeology/geologyOfBritain/viewer.html Last accessed June 2024
[6] British Geological Survey. A 'parent material' is a soil-science name for a weathered rock or deposit from and within which a soil has formed. In the UK, parent materials provide the basic foundations and building blocks of the soil, influencing their texture, structure, drainage and chemistry. Available online @ Soil Parent Material Model - British Geological Survey (bgs.ac.uk) Last accessed September 2024

20. From the BGS information, the Study Area is underlain by mudstone of the Charmouth Mudstone Formation. The bedrock is not covered by any superficial deposits.

21. **Published Information on Soil.** Soil information on the National Soil Map[7] indicates that land at the Site is covered by soils grouped in the Bishampton 2 Association. As described by the Soil Survey of England and Wales (SSEW)[8], the Bishampton 2 Association consists of stagnoglcyic argillic brown earths, Bishampton and Oxpasture series, and typical stagnogley soils of the Pinder and Wickham series on river terrace drift and other but thinner drift over Jurassic clay or clay shale. Bishampton is the predominant soil and has fine loamy, slightly stony profiles that are waterlogged occasionally in winter. The wetter Pinder soils, formerly called Bow series, have a similar morphology, the wetness usually being caused by slowly permeable layers below 80 cm depth. Oxpasture and Wickham soils have fine loamy or fine silty over clayey profiles with slowly permeable clay within 80 cm depth. Coarse loamy Wick series, and similar but occasionally waterlogged. Arrow soils occur where the river terrace deposits are of coarse texture. Sutton soils are locally a minor constituent on calcareous gravels. Bishampton and Pinder soils are mainly on the terrace flats with Oxpasture and Wickham soils on their convex edges but generally the drift is thin and impermeable.

22. Where undrained, Bishampton soils are occasionally waterlogged (Wetness Class III) and Pinder profiles are generally wet for longer periods (Wetness Class III or IV). Tile drainage improves the soil water regime to Wetness Class II for Bishampton series, but the formation of compacted layers, such as plough pans, may result in surface ponding. Oxpasture and Wickham soils have slowly permeable subsoils and are seasonally waterlogged (Wetness Class III and IV) but respond well to tile drainage.

Soil Survey

23. The soil profiles recorded at each auger-bore location are given in **Attachment 1**. A detailed description of Soil Pit 1 is given in **Attachment 2**. The soil survey determined predominantly non-calcareous (<1% calcium carbonate), medium sandy loam and sandy clay loam topsoil over slightly seasonally waterlogged (Wetness Class II), sandy clay loam upper subsoil, and heavy clay loam lower subsoil.

24. **Topsoil Particle Size Analysis.** To substantiate topsoil texture determined during the ALC survey by hand-texturing, two topsoil samples were collected over the Study Area, i.e., from auger bore locations 1 and 4 (Pit 1), see **Plan KCC3725/01**. The topsoil

[7] Cranfield University (2024) Soil site report, Soil Report for location 393723E, 246288N, 1km x 1km, Cranfield University.
[8] Soil Survey of England and Wales, National Soil Resource Institute, Cranfield University (2023). *The Soils Guide.* Available online at https://www.landis.org.uk/soilsguide/mapunit_list.cfm Last accessed June 2024

samples were sent to an accredited laboratory for particle size distribution (PSD) analysis, based on the British Standard Institution particle size grades. The certificate of analysis is provided as **Attachment 3**. The findings of the PSD analysis are shown in Table 2 below:

Table 2: Topsoil Particle Size Analysis

Topsoil Sample Location (See Fig. 1)	% sand 0.063-2.0 mm	% silt 0.002-0.063 mm	% clay <0.002 mm	ALC Soil Texture Class
1 (Pit 1)	54	23	23	Sandy Clay Loam
4 (Pit 1)	65	20	15	Medium Sandy Loam

Interactive Limitations

25. From the information above, together with the findings of the detailed soil survey (see Soil Profile Log given in **Attachment 1**), it has been determined that the quality of agricultural land at the Site is limited by soil wetness and soil droughtiness, as described below.

26. **Soil Wetness.** From the ALC Guidelines, a soil wetness limitation exists where '*the soil water regime adversely affects plant growth or imposes restrictions on cultivations or grazing by livestock*'. Agricultural land quality at the Site is limited by soil wetness as per Table 3 below (based on Table 6 'Grade According to Soil Wetness – Mineral Soils' in the ALC Guidelines):

Table 3: ALC Grade According to Soil Wetness

Wetness Class	Texture of the Top 25 cm	126-150 Field Capacity Days
I	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam* Heavy Silty Clay Loam/Heavy Clay Loam** Sandy Clay/Silty Clay/Clay	1 1 2 3a (2)
II	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam* Heavy Silty Clay Loam/Heavy Clay Loam** Sandy Clay/Silty Clay/Clay	1 2 3a (2) 3b (3a)
III	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam* Heavy Silty Clay Loam/Heavy Clay Loam** Sandy Clay/Silty Clay/Clay	2 3a (2) 3b (3a) 3b (3a)
IV	Sand, Loamy Sand, Sandy Loam, Sandy Silt Loam Sandy Clay Loam/Medium Silty Clay Loam /Medium Clay Loam* Heavy Silty Clay Loam/Heavy Clay Loam** Sandy Clay/Silty Clay/Clay	3a 3b 3b 3b
Key: * 18% to <27% clay; and ** 27% to 35% clay For naturally calcareous soils with more than 1% CaCO3 and between 18% and 50% clay in the top 25 cm, the grade, where different from that of other soils, is shown *in brackets*		

27. In a climate area with 132 FCD, the quality of agricultural land at the Site is limited by soil wetness to Grade 2 where the topsoil is sandy clay loam.

28. **Soil Droughtiness.** From the ALC Guidelines, a soil droughtiness limitation exists '*in areas with relatively low rainfall or high evapotranspiration, or where the soil holds only small reserves of moisture available to plant roots.*' The ALC grade according to soil droughtiness is shown in Table 4 below (based on Table 8 'Grade According to Droughtiness' in the ALC Guidelines). To be eligible for Grades 1 to 3b the moisture balances (MBs) must be equal to, or exceed, the stated minimum values for both wheat and potatoes. If the MB for either crop is less (i.e., more negative) than that shown for Subgrade 3b, the soil is Grade 4 on droughtiness):

Table 4: ALC Grade According to Soil Droughtiness

Grade/Subgrade	**Moisture Balance (MB) Limits (mm)**	
	Wheat	**Potatoes**
1	+30	+10
2	+5	-10
3a	-20	-30
3b	-50	-55
4	<-50	<-55

29. The Moisture Balance (MB) values and ALC grade according to soil droughtiness per auger-bore are shown in **Attachment 1**. It has been determined that soil droughtiness is sufficient to limit the quality of agricultural land within the Study Area to Grade 2.

ALC Grading at the Site

30. By detailed ALC survey, it has been determined that the quality of agricultural land at in the Study Area is limited to Grade 2 by soil wetness during the wettest months during the Autumn, Winter and Early Spring, and by soil droughtiness during the growing season (January to June).

31. The area and proportion of agricultural land in each ALC grade have been measured from an ALC map given in **Plan KCC3725/02**. The findings are reported in Table 5 below.

Table 5: Agricultural Land Classification

ALC Grade	**Area (Ha)**	**Area (% of Total Site)**
Grade 1 (Excellent)	0	0
Grade 2 (Very Good)	5.3	100
Subgrade 3a (Good)	0	0
Subgrade 3b (Moderate)	0	0
Grade 4 (Poor)	0	0
Grade 5 (Very Poor)	0	0
Non-agricultural / Other land	0	0
Total	**5.3**	**100**

Attachment 1

Soil Pit Log

Point	Grid ref.			Alt (m)	Slope °	Aspect	Land use	Depth (cm)			Matrix	Ochreous Mottles		Grey Mottles		Gley	Texture	Stones - type 1				Stones - type 2				Ped			SUBS STR	CaCO3	Mn C	SPL	Drought			Wet		Final ALC				
	NGR	X	Y					Top	Bttm	Thick	Munsell colour	Form	Munsell colour	Form	Munsell colour			%	> 2cm	> 6cm	Type	%	> 2cm	> 6cm	Type	Strength	Size	Shape					MBw	MBp	Gd	WC	Gw	Limitation 1	Limitation 2	Limitation 3	Grade
1	SO 93611 46453	393611	246453	50	≤7	Level	CER	0	30	30	7.5YR3/3					No	SCL - Sandy clay loam	5	3	1	HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Not Applicable	NON - Non-calcareous (<0.5% CaCO3)	No	No	15	0	2	WC II	1	Wetness			2
								30	40	10							SCL - Sandy clay loam	12			HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Moderate			No									
								40	70	30							SCL - Sandy clay loam	12			HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Moderate			No									
								70	120	50							HCL - Clay loam (heavy)	12			HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Poor			Yes									
2	SO 93611 46353	393611	246353	50	≤7	Level	CER	0	40	40	7.5YR3/3					No	SCL - Sandy clay loam	5	3	1	HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Not Applicable	NON - Non-calcareous (<0.5% CaCO3)	No	No	18	3	2	WC II	2	Droughtiness	Wetness		2
								40	45	5	7.5YR3/3						MSL - Medium sandy loam	12			HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Moderate			No									
								45	70	25							SCL - Sandy clay loam	12			HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Moderate			No									
								70	120	50							HCL - Clay loam (heavy)	12			HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Poor			Yes									
3	SO 93711 46353	393711	246353	54	≤7	Level	CER	0	40	40	7.5YR3/3					No	SCL - Sandy clay loam	5	3	1	HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Not Applicable	NON - Non-calcareous (<0.5% CaCO3)	No	No	18	3	2	WC II	2	Droughtiness	Wetness		2
								40	45	5	7.5YR3/3						SCL - Sandy clay loam	12			HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Moderate			No									
								45	70	25							SCL - Sandy clay loam	12			HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Moderate			No									
								70	120	50							HCL - Clay loam (heavy)	12			HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Poor			Yes									
4	SO 93611 46253	393611	246253	55	≤7	Level	CER	0	40	40	7.5YR3/3					No	MSL - Medium sandy loam	5	4	1	HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Not Applicable	NON - Non-calcareous (<0.5% CaCO3)	No	No	18	3	2	WC II	2	Droughtiness	Wetness		2
								40	45	5	7.5YR3/3						MSL - Medium sandy loam	12			HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Moderate			No									
								45	70	25							SCL - Sandy clay loam	12			HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Moderate			No									
								70	120	50							HCL - Clay loam (heavy)	12			HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Poor			Yes									
5	SO 93711 46253	393711	246253	56	≤7	Level	CER	0	40	40	7.5YR3/3					No	SCL - Sandy clay loam	4	3	1	HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Not Applicable	NON - Non-calcareous (<0.5% CaCO3)	No	No	19	3	2	WC II	2	Droughtiness	Wetness		2
								40	45	5							SCL - Sandy clay loam	12			HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Moderate			No									
								45	70	25							SCL - Sandy clay loam	12			HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Moderate			No									
								70	120	50							HCL - Clay loam (heavy)	12			HR - All hard rocks or stones (i.e. those which cannot be scratched with a finger nail)								Poor			Yes									
	END																																								

Attachment 2

Soil Pit Description

Project	Location	Date	Surveyor(s)	Company
C1116	KCC3725 Rebecca Road, Pershore	07-Aug-24	RDM	Askew Land and Soil

Pit	WC	Grade	Limitation(s)	Notes
1	II	2	droughtiness	common faint mottles at 50cm ; no mottling above 40cm and no spl above 50cm WC II ; difficult to spade dig and auger 50cm+ stone

Grid Ref.			Altitude	Nearest	Topography				Flora		Weather and conditions			
Square	East	North		point	Gradient	Aspect	Slope form	Surface	Cultivation type	Vegetation types	Temp	Sky	Wind	Precipitation
SO	936	462	55m	4										

Horizon	Depth		Matrix			Gleying			Mottles			Stone content					Calc.	Mn C	Ped/soil structure				Horizon boundary		Biopores	SPL
	Top	Bttm	Texture	Colour	Munsell	Gley	Colour	Munsell	Form	Colour	Munsell	%	H	Type	S	Type			Dev.	Size	Structure	Strength	Distinct	Form		
1	0	30	msl		7.5YR3/3							5	HR				non		wk	f	sab					
2	30	50	scl		7.5YR4/3									10% hard					wk	m	sab	friable			>	n
3	50	55	scl		7.5YR4/4				comm		10YR5/6			10% hard					wk	m	sab	friable			>	n

Pit	WC	Grade	Limitation(s)	Notes

Grid Ref.			Altitude	Nearest	Topography				Flora		Weather and conditions			
Square	East	North		point	Gradient	Aspect	Slope form	Surface	Cultivation type	Vegetation types	Temp	Sky	Wind	Precipitation

Horizon	Depth		Matrix			Gleying			Mottles			Stone content					Calc.	Mn C	Ped/soil structure				Horizon boundary		Biopores	SPL
	Top	Bttm	Texture	Colour	Munsell	Gley	Colour	Munsell	Form	Colour	Munsell	%	H	Type	S	Type			Dev.	Size	Structure	Strength	Distinct	Form		

Attachment 3

Laboratory Analysis

ANALYTICAL REPORT

Report Number	46278-24	P248	SARAH KERNON
Date Received	05-AUG-2024		KERNON COUNTRYSIDE
Date Reported	23-AUG-2024		CONSULTANTS LTD
Project	SOIL		GREENACRES BARN
Reference	SARAH KERNON		PURTON STOKE
Order Number			WILTSHIRE SN5 4LL

Laboratory Reference		SOIL706750	SOIL706751
Sample Reference		KCC3725 PIT 1	KCC3725 1
Determinand	**Unit**	**SOIL**	**SOIL**
Sand 2.00-0.063mm	% w/w	65	54
Silt 0.063-0.002mm	% w/w	20	23
Clay <0.002mm	% w/w	15	23
Textural Class **		SL	SCL

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.

** Please see the attached document for the definition of textural classes.

Reported by: *Teresa Clyne*
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

Technical Information

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.

Appendix KCC3

Natural England's "Guide to Assessing Development Proposals on Agricultural Land

GOV.UK

Home > Agricultural land: assess proposals for development

(https://www.gov.uk/government/organisations/natural-england)

Guidance

Guide to assessing development proposals on agricultural land

Updated 5 February 2021

Applies to England

Contents

This publication is available at https://www.gov.uk/government/publications/agricultural-land-assess-proposals-for-development/guide-to-assessing-development-proposals-on-agricultural-land

1. Policies to protect agricultural land and soil

Developers and local planning authorities (LPAs) should refer to the following government policies and legislation when considering development proposals that affect agricultural land and soils. They aim to protect:

- the best and most versatile (BMV) agricultural land from significant, inappropriate or unsustainable development proposals
- all soils by managing them in a sustainable way

Natural England uses these policies to advise on development proposals as a statutory consultee (https://www.gov.uk/guidance/consultation-and-pre-decision-matters#Statutory-consultees) in the planning process.

1.1 A Green Future: Our 25 Year Plan to improve the Environment 2018

A Green Future: Our 25 Year Plan to Improve the Environment (https://www.gov.uk/government/publications/25-year-environment-plan) sets out the government's 25-year plan to improve the health of the environment by using natural resources more sustainably and efficiently. It plans to:

- protect the best agricultural land
- put a value on soils as part of our natural capital
- manage soils in a sustainable way by 2030
- restore and protect peatland

1.2 National Planning Policy Framework (NPPF)

LPAs should use the NPPF to make decisions about the natural and local environment to:

- protect and enhance landscapes, biodiversity, geology and soils
- recognise soils as a natural capital asset that provide important ecosystem services
- consider the economic and other benefits of BMV agricultural land, and try to use areas of poorer quality land instead of higher quality land
- prevent soil, air, water, or noise pollution, or land instability from new and existing development

Read Chapter 15: Conserving and enhancing the natural environment (https://www.gov.uk/guidance/national-planning-policy-framework/15-conserving-and-enhancing-the-natural-environment) for full details.

1.3 Town and Country Planning (Development Management Procedure (England) Order) (DMPO) 2015

Planning authorities must consult Natural England on all non-agricultural applications that result in the loss of more than 20 hectares (ha) of BMV land if the land is not included in a development plan (https://www.gov.uk/guidance/national-planning-policy-framework/3-plan-making). For example, this includes the likely cumulative loss of BMV land from the proposed development if it's part of a phased development.

This is required by schedule 4(y) of the Order (http://www.legislation.gov.uk/uksi/2015/595/schedule/4/made).

1.4 Planning Practice Guidance for the Natural Environment

Paragraphs 001 and 002: Planning Practice Guidance for the Natural Environment (https://www.gov.uk/guidance/natural-environment#brownfield-land-soils-and-agricultural-land) explain why planning decisions should take account of the value of soils and agricultural land classification (ALC) to enable informed choices on the future use of agricultural land within the planning system.

2. LPAs: consult Natural England

You must consult Natural England for development proposals that are both:

- likely to cause the loss (or likely cumulative loss) of 20ha or more of BMV land
- not in accordance with an approved development plan

Natural England will advise you on the level of impact the proposal may have on BMV agricultural land. Natural England will take into account the type of development and its likely long-term effects.

Email consultations@naturalengland.org.uk or write to:

> Natural England consultation service
> Hornbeam House
> Electra Way
> Crewe Business Park
> Crewe
> Cheshire
> CW1 6GJ

3. LPAs: how to use agricultural land classification (ALC)

You can use ALC to help inform decisions on the appropriate sustainable development of land.

ALC uses a grading system to enable you to assess and compare the quality of agricultural land in England and Wales.

A combination of climate, topography and soil characteristics and their unique interaction determines the limitation and grade of the land. These affect the:

- range of crops that can be grown
- yield of crop
- consistency of yield
- cost of producing the crop

4. About ALC grades

ALC is graded from 1 to 5.

The highest grade goes to land that:

- gives a high yield or output
- has the widest range and versatility of use
- produces the most consistent yield
- requires less input

BMV agricultural land is graded 1 to 3a.

4.1 Grade 1 – excellent quality agricultural land

Land with no or very minor limitations. A very wide range of agricultural and horticultural crops can be grown and commonly includes:

- top fruit, for example tree fruit such as apples and pears
- soft fruit, such as raspberries and blackberries
- salad crops
- winter harvested vegetables

Yields are high and less variable than on land of lower quality.

4.2 Grade 2 – very good quality agricultural land

Land with minor limitations that affect crop yield, cultivations or harvesting. A wide range of agricultural and horticultural crops can usually be grown. On some land in the grade there may be reduced flexibility due to difficulties with the production of the more demanding crops, such as winter harvested vegetables and arable root crops. The level of yield is generally high but may be lower or more variable than grade 1.

4.3 Grade 3 – good to moderate quality agricultural land

Land with moderate limitations that affect the choice of crops, timing and type of cultivation, harvesting or the level of yield. Where more demanding crops are grown yields are generally lower or more variable than on land in grades 1 and 2.

4.4 Subgrade 3a – good quality agricultural land

Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals, or moderate yields of crops including:

- cereals
- grass
- oilseed rape
- potatoes
- sugar beet
- less demanding horticultural crops

4.5 Subgrade 3b – moderate quality agricultural land

Land capable of producing moderate yields of a narrow range of crops, principally:

- cereals and grass
- lower yields of a wider range of crops
- high yields of grass which can be grazed or harvested over most of the year

4.6 Grade 4 – poor quality agricultural land

Land with severe limitations which significantly restrict the range of crops or level of yields. It is mainly suited to grass with occasional arable crops (for example cereals and forage crops) the yields of which are variable. In moist climates, yields of grass may be moderate to high but there may be difficulties using the land. The grade also includes arable land that is very dry because of drought.

4.7 Grade 5 – very poor quality agricultural land

Land with very severe limitations that restrict use to permanent pasture or rough grazing, except for occasional pioneer forage crops.

5. LPAs: carry out ALC assessments to support your planning decisions

For an overview of ALC use:

- 1:250,000 scale regional ALC maps (http://publications.naturalengland.org.uk/category/5954148537204736) (grade 3 land is not divided into subgrades 3a and 3b)
- 1:250,000 scale regional maps predicting the likelihood of BMV agricultural land (http://publications.naturalengland.org.uk/category/5208993007403008)

These maps are not at a scale suitable or accurate for assessment of individual fields or sites.

You can assess if a development proposal is likely to affect BMV agricultural land by using the post 1988 ALC Magic map (http://magic.defra.gov.uk/MagicMap.aspx?chosenLayers=dudleystampIndex,backdropDIndex,backdropIndex,europeIndex,vmlBWIndex,25kBWIndex,50kBWIndex,250kBWIndex,miniscaleBWIndex,baseIndex&box=449447:459357:467834:470294&useDefaultbackgroundMapping=false) and detailed site survey reports (http://publications.naturalengland.org.uk/category/6249382855835648).

If no site survey reports are available, a new detailed survey may be necessary.

6. Use ALC to support your planning decisions

Use ALC survey data to assess the loss of land or quality of land from a proposed development. You should take account of smaller losses (under 20ha) if they're significant when making your decision. Your decision should avoid unnecessary loss of BMV land.

6.1 Protect soil

You should make sure development proposals include plans to:

- manage soils in a sustainable way during construction (https://www.gov.uk/government/publications/code-of-practice-for-the-sustainable-use-of-soils-on-construction-sites)

- avoid peat extraction
- protect soils from contamination
- reclaim land after mineral working or landfilling (https://www.gov.uk/government/publications/reclaim-minerals-extraction-and-landfill-sites-to-agriculture)

6.2 Carry out new surveys

If there's not enough information from previous data, you may need to have a new field survey to plan for development or to inform a planning decision. You should use soil scientists or experienced soil specialists to carry out new surveys. They should be:

- members of the British Society of Soil Science, the British Institute of Agricultural Consultants or similar professional body
- knowledgeable about the ALC 1988 guidelines (http://publications.naturalengland.org.uk/publication/6257050620264448)
- experienced in soil description and ALC assessments

6.3 Survey requirements

For a detailed ALC assessment, a soil specialist should normally make boreholes:

- every hectare on a regular grid on agricultural land in the proposed development area
- up to 1.2m deep using a hand-held auger

They should:

- dig small inspection pits by hand to a minimum depth of 1m to add supporting evidence to the borehole data
- dig pits where there's a change in main soil type and ALC grade to provide a good depiction of the site
- combine the survey results with local climate and site data to plot on an Ordnance Survey (OS) base map
- use a base map at an appropriate scale for detailed work, such as 1:10,000 scale

7. Developers: check if your proposal affects agricultural land

Use the post 1988 ALC Magic map (http://magic.defra.gov.uk/MagicMap.aspx?chosenLayers=dudleystampIndex,backdropDIndex,backdropIndex,europeIndex,vmlBWIndex,25kBWIndex,50kBWIndex,250kBWIndex,miniscaleBWIndex,baseIndex&box=449447:459357:467834:470294&useDefaultbackgroundMapping=false) and detailed site survey reports (http://publications.naturalengland.org.uk/category/6249382855835648) to help you assess whether a development proposal is likely to affect BMV agricultural land. If no suitable data exists, you may need to carry out a detailed survey to support your planning application.

7.1 Free and chargeable advice

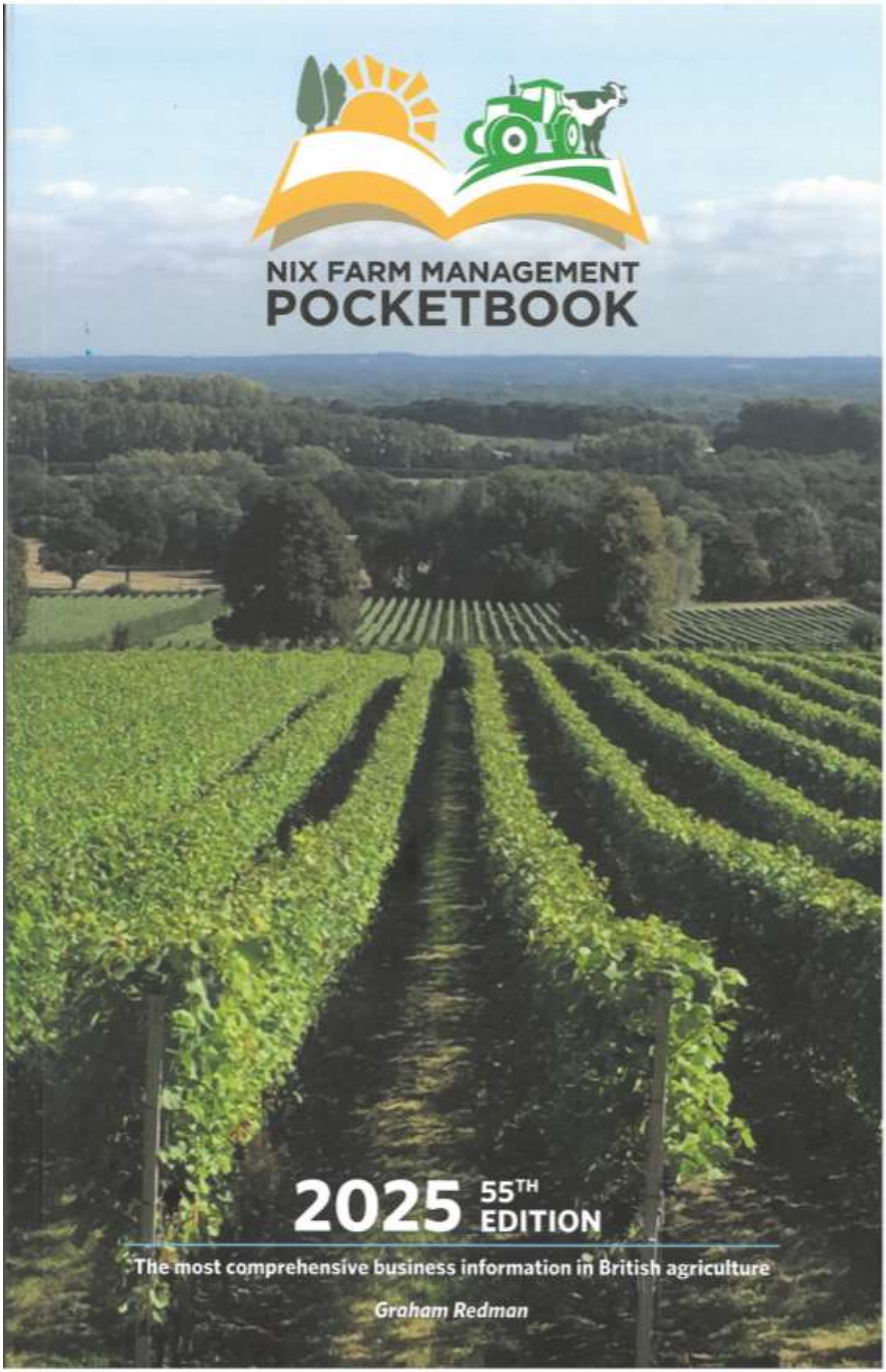
Natural England offers advice for proposals. Some initial advice is free. More detailed advice is chargeable (https://www.gov.uk/guidance/developers-get-environmental-advice-on-your-planning-proposals#when-you-can-pay-for-agency-advice), for example if your proposal is 20ha or more and requires more detailed advice.

Email: consultations@naturalengland.org.uk

↑ Back to top

Appendix KCC4

John Nix Pocketbook for Farm Management (55th Ed) Extracts


NIX FARM MANAGEMENT
POCKETBOOK
2025 55TH EDITION
The most comprehensive business information in British agriculture
Graham Redman

WHEAT

Feed Winter Wheat

Production level	Low	Average	High	
Yield: t/ha (t/ac)	7.1 (2.9)	8.3 (3.4)	9.5 (3.8)	
	£	£	£	£/t
Grain at £190/t	1,349	1,577 (639)	1,805 (731)	
Straw in Swath	188 (76)	188 (76)	188 (76)	
Total Output	**1,537 (622)**	**1,765 (715)**	**1,993 (807)**	***213***
Variable Costs £/ha *(£/ac)*:				
Seed		82 (33)		*10*
Fertiliser		295 (119)		*36*
Sprays		278 (112)		*33*
Total Variable Costs		655 (265)		*79*
Gross Margin £/ha (ac)	**882** (357)	**1110** (449)	**1,338** (542)	***134***

Fertiliser Basis 8.3t/ha

Nutrient	Kg/t	Kg/Ha	£/Ha
N	*23*	190	£184
P	7.0	58	£58
K	10.5	87	£52

Seed:

£/t C2	£515
Kg/Ha	175
% HSS	30%
£/t HSS	£354

prays £/ha:

Herbicides	£121
Fungicides	£110
Insecticides	£3
PGRs	£16
Other	£27

1. *Yields*. The average yield is for all winter feed wheat, i.e. all varieties and 1st and subsequent wheats. See over for First and Second Wheats. The yield used for feed and milling wheats including spring varieties is 8.18t/ha (overall 10-year average *Defra)*.

   The table below offers a weighted estimate of yield variations according to wheat type based on a national yield of 8.4t/ha. Percentages compare yield categories with 'all wheat'. These yields are used in the gross margins.

   Calculation of spread of 'average yields depending on wheat type –

	Yield Adjustment	Winter	1st WW	2nd WW	spring	Total
t/ha		101%	102%	93%	85%	100%
Total	100%	8.27	8.40	7.61		**8.18**
Feed	101%	8.35	8.48	7.69		8.27
Bread	93%	7.69	7.81	7.08	6.02	7.61
Biscuit	99%	8.18	8.32	7.54		8.10

2. *Straw* is sold in the swath. Assuming 1 hectare is worth 2.5 tonnes baled straw at 4.2t/ha. So £75/tonne baled = £188/ha for winter wheat.
3. *Seed* is costed with a single purpose dressing. Up to a third of growers require additional seed treatments, specifically to supress BYDV. This can add £170/t of seed (£30/ha). This has not been added in the gross margins.
4. This schedule does not account for severe *grass weed infestations* such as Black Grass or Sterile Brome. Costs associated with managing such problems can amount to up to £190/hectare additional agrochemical costs. Yield losses increase as infestation rises:

OILSEED RAPE

Winter Oilseed Rape

Production level	Low	Average	High	
Yield: t/ha (t/ac)	3.0 (1.2)	3.50 (1.4)	4.0 (1.6)	
	£	£	£	£/t
Output at £425/t	1275 (516)	1,488 (602)	1,700 (689)	*425*
Variable Costs £/ha *(£/ac)*:				
Seed		73 (29)		*21*
Fertiliser		257 (104)		*73*
Sprays		252 (102)		*72*
Total Variable Costs		582 (236)		*166*
Gross Margin £/ha (ac)	**693** (281)	**906** (367)	**1,118** (453)	***259***

Fertiliser Basis 3.5t/ha				Seed:		Sprays:	
Nutrient	Kg/t	Kg/Ha	£/Ha	£/Ha C	43	Herbicides	£124
N	54	190	£184	£/Ha Hy	88	Fungicides	£68
P	14	49	£49	£/Ha HSS	29	Insecticides	£16
K	11	39	£23	C:Hy:HSS	20:20:60	PGRs	£0
	Seed write-off		8%	Kg/Ha	5.5	Other	£44

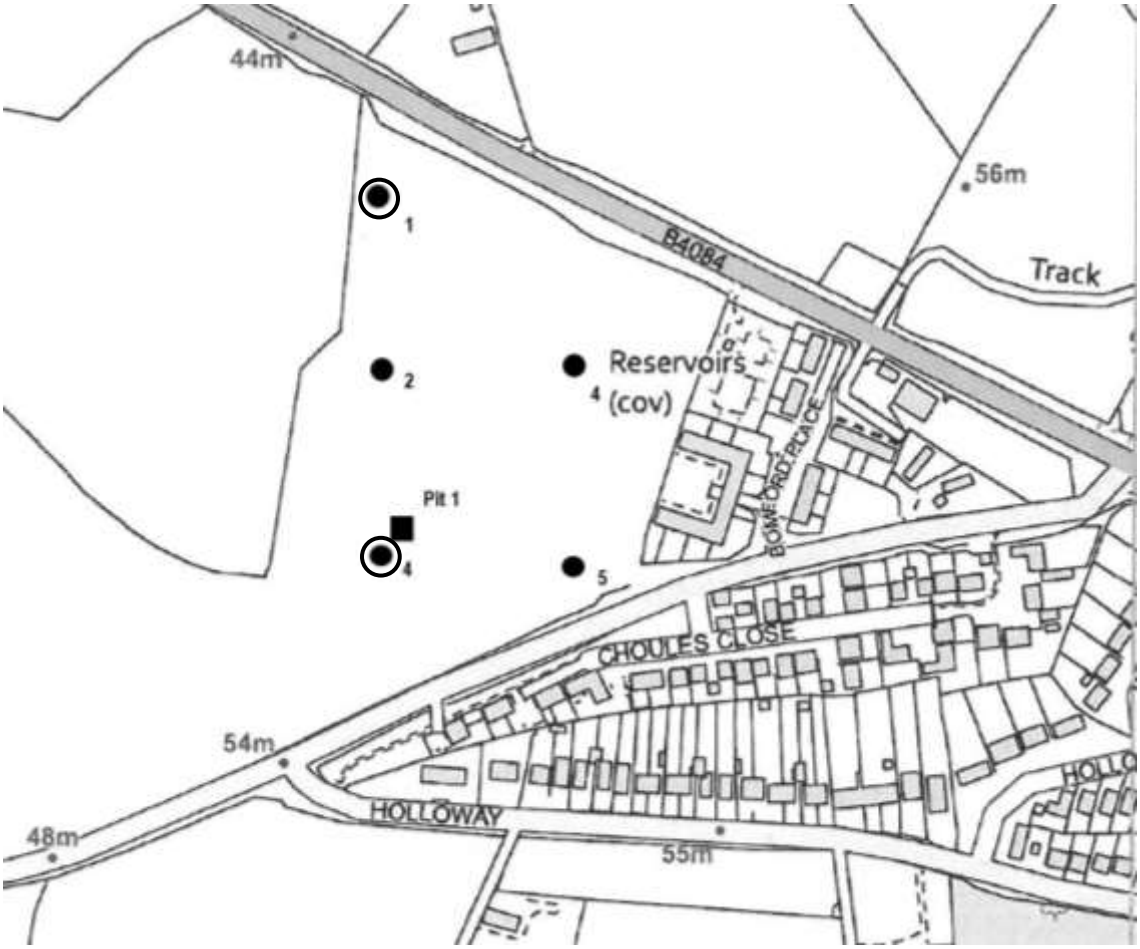
Spring Oilseed Rape

Production level	Low	Average	High	
Yield: t/ha (t/ac)	1.9 (0.8)	2.25 (0.9)	2.6 (1.1)	
	£	£	£	£/t
Output at £425/t	808 (327)	956 (387)	1,105 (448)	*425*
Variable Costs £/ha *(£/ac)*:				
Seed		69 (28)		*31*
Fertiliser		115 (47)		*51*
Sprays		131 (53)		*58*
Total Variable Costs		316 (128)		*140*
Gross Margin £/ha (ac)	**492** (199)	**641** (259)	**789** (320)	***285***

1. *Prices*. The price used is £399/t plus oil bonuses at 44% oil content making £425/. The bonus is paid on the percentage of oil over 40%, at 1.5 times the sale value of the crop and an equal but opposite penalty below 40%. For example, in this case, the bonus is on 4% oil x £410 x 1.5 = £25.
2. *Spring OSR Inputs: Seed* as per WOSR, but 35% conventional, 5% HSS, 60% hybrid. *Fertiliser:* N/P/K at 70/32/25 kg/ha. *Sprays,* Herbicides. £50, Fungicides, £41, Insecticides £13, and Others £27/ha
3. *Winter Versus Spring*: As little as 8,000 hectares of spring OSR are grown in the UK which is 2.5% of the entire crop. The financial reward is slim compared with other combinable crops.

Plan KCC725/01

Auger Point Plan



KEY				
●	Auger sample location	**PLAN**	**KCC3725/01**	
○	Topsoil sample	**TITLE**	**Auger Points Plan**	
■	Pit	**SITE**	Rebecca Rd, Pershore	
		CLIENT	Lioncourt Homes Ltd	
		NUMBER	**KCC3725/01 09/24hr**	
		DATE	September 2024	**SCALE** NTS

KERNON COUNTRYSIDE CONSULTANTS LTD
GREENACRES BARN, PURTON STOKE, SWINDON,
WILTSHIRE SN5 4LL
Tel 01793 771 333 Email: info@kernon.co.uk

Plan KCC3725/02

Agricultural Land Classification Plan

KEY		Ha	%	PLAN	KCC3723/02		
	Grade 1			TITLE	Agricultural Land Classification Plan		
	Grade 2	5.3	100	SITE	Rebecca Rd, Pershore		
	Grade 3a			CLIENT	Lioncourt Homes		
	Grade 3b			NUMBER	KCC3725/02 09/24hr		
	Grade 4			DATE	September 2024	SCALE	NTS
	Grade 5			KERNON COUNTRYSIDE CONSULTANTS LTD GREENACRES BARN, PURTON STOKE, SWINDON, WILTSHIRE, SN5 4LL Tel 01793 771 333 Email: info@kernon.co.uk			
	Non-agricultural						
	Urban						
	Not surveyed						

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