M Scott Properties Ltd
Proposed Residential Development
Land West of Watling Street, Park Street
Technical Note of Support - Agricultural Land Classification Report

July 2024

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25th July 2024

Dear Sirs,

Technical Note of Support - Agricultural Land Classification Report
Watling Street, Park Street, St Albans

1. We understand that further clarification is required for the Agricultural Land Classification report produced by Ceres Rural LLP on the land at Watling Street, Park Street, St Albans.

2. For background, I have been a qualified agricultural consultant and agronomist for over ten years, specialising in crop production, farm management and land classification in the East of England. This has given me a broader understand of agricultural production, which I can utilise within Agricultural Land Classification reports.

Historic Farming Use

3. It was noted in the Rule 6 Party's Statement of Case that the land at Watling Street, Park Street, St Albans has been 'farmed for decades'. Unfortunately, this does not constitute the land as best and most versatile. Substantial areas of the UK are currently farmed, despite them not being classified as Best and Most Versatile. I'm afraid that this cannot be used as an argument for or against the classification of land between each grade. For instance, many upland areas of the UK are used for grazing livestock and growing of grass, despite them being Grade 4 or below.

Government Food Strategy & Land Classification

4. It was noted in the Rule 6 Party's Statement of Case that the development would risk 'breach the objectives' of the Government Food Strategy paper, published in 2022.

5. Interestingly, there is no mention of increasing food production in the Government Food Strategy paper, published on 13th June 2022. The paper notes that the UK is already mostly self-sufficient in wheat (p. 13), noting we already produce 88% of the domestic requirement (p. 14). What is crucial

however, is ensure the Best and Most Versatile (BMV) land isn't removed from production, which Grade 3b is not. Growing crops on land not capable of growing high yielding crops is inefficient, contributing to higher greenhouse gas emissions (GHG) per ton of wheat produced, than wheat produced on more fertile land. This is because lower performing crops generally require the same artificial fertiliser and agrochemical input, but with a limited yield potential.

6. It was also noted in the Rule 6 Party's separate appeal analysis document (which was subsequently withdrawn) that there is 'minimal difference' between 3a and 3b grades of land. Unfortunately, this is not the case. The reason the subgrade was introduced to classification is to make this distinction, because the range of land type being loosely classified as 'Grade 3' can be incredibly varied.

7. In the UK, agricultural land is classified using the Agricultural Land Classification (ALC) system, which categorizes land based on its quality and potential for agricultural use. The ALC system ranges from Grade 1 (excellent quality) to Grade 5 (very poor quality). Within Grade 3, there is a further subdivision into Grade 3a and Grade 3b, which helps distinguish between lands of good and moderate quality.

8. Put simply, the key differences between Grade 3a and Grade 3b land are as follows;

9. Grade 3a Land: Good Quality Agricultural Land

    1. Soil Quality and Depth: Grade 3a land generally has better soil quality and greater soil depth, making it more suitable for a wider range of crops and more intensive farming practices.
    2. Climate: The climate conditions on Grade 3a land are typically more favorable for crop growth, with fewer limitations from factors like temperature or precipitation extremes.
    3. Slope and Topography: The land is often more level or gently sloping, which helps reduce the risk of erosion and simplifies cultivation.
    4. Drainage: Grade 3a land usually has better natural drainage, reducing the risk of waterlogging and allowing for a wider variety of crops.
    5. Agricultural Use: This grade is considered good quality agricultural land, capable of producing consistent yields of a wide range of crops, including cereals, root crops, and pasture.

10. Grade 3b Land: Moderate Quality Agricultural Land

    1. Soil Quality and Depth: Grade 3b land typically has lower soil quality and/or shallower soil depth compared to Grade 3a. This can limit the types of crops that can be grown and may require more intensive management to achieve good yields.
    2. Climate: Climate conditions may pose more significant challenges, such as a higher risk of frost or drought, affecting crop choice and productivity.
    3. Slope and Topography: Grade 3b land may have more pronounced slopes, which can increase the risk of soil erosion and complicate cultivation.
    4. Drainage: The drainage on Grade 3b land might be less effective, leading to potential issues with waterlogging or drought stress, depending on the soil type.
    5. Agricultural Use: This grade is classified as moderate quality agricultural land, suitable for less demanding crops and less intensive agricultural use. It may still support arable farming but might be more suited to pasture or forage crops.

11. General Considerations

- Versatility and Productivity: Grade 3a land is generally more versatile and productive than Grade 3b. Farmers on Grade 3a land have more options regarding the types of crops they can cultivate (such as sugar beet, potatoes and other root crops), and are likely to achieve higher yields.
- Management Requirements: Grade 3b land often requires more careful management to achieve good yields, such as improved drainage, soil fertility management, and erosion control measures.

Impact of Stoniness on Land Classification

12. It was noted in the Rule 6 Party's Statement of Case that the difference between Grade 3a and 3b was due to 'one or two more stones', and that this 'makes no difference to crop production'. Unfortunately, this is not the case. A higher stone content is the basis for distinction of several classification grades.

13. Stoniness is one of the factors considered in the Agricultural Land Classification (ALC) system because it can significantly impact the agricultural potential and productivity of the land. The presence of stones can affect soil cultivation, plant rooting, overall crop yield, as well as droughtiness (discussed in more detail further along). The points below note how the level of stoniness affects land classification.

14. Cultivation Difficulty:

    - Grade 3a Land: If stones are present, they are generally sparse and do not significantly impede normal agricultural practices. The land can still be easily ploughed, planted, and harvested with standard farming equipment. Thus, Grade 3a land, even with some stoniness, remains classified as "good quality" because the stones do not limit the range of crops that can be grown or the ease of cultivation.
    - Grade 3b Land: In contrast, Grade 3b land may have a greater density or size of stones, which can make cultivation more challenging. Stones can damage machinery, make ploughing difficult, and restrict the choice of crops to those that are less sensitive to soil conditions. As a result, the land is classified as "moderate quality" because the stones can limit agricultural use and productivity.

15. Soil Workability and Rooting:

    - Stones can reduce soil workability, meaning that the soil is harder to manipulate and prepare for planting. This can be more problematic on Grade 3b land, where stoniness may combine with other limiting factors such as shallower soil or poorer drainage, further complicating cultivation.
    - For plant roots, stoniness can restrict growth, reduce the availability of nutrients and water, and impair overall plant health. This impact is typically more pronounced on Grade 3b land, contributing to its classification as lower quality compared to Grade

16. Yield and Crop Selection:

    - On Grade 3a land, the presence of stones generally does not significantly reduce crop yields or restrict crop choice, allowing farmers to maintain a diverse range of agricultural activities.
    - On Grade 3b land, however, stoniness can lead to lower yields and necessitate a focus on crops that are either more tolerant of these conditions or that require less intensive soil preparation.

Stoniness & Drought Considerations

17. Stoniness can influence the soil's ability to retain water, thereby affecting its susceptibility to drought. In the context of the Agricultural Land Classification (ALC) system, this interaction between stoniness and drought risk is an important factor in determining whether land is classified as Grade 3a or 3b.

18. Water Retention and Soil Moisture:

    - Stones and Soil Structure: Stones in the soil can reduce the overall soil volume available to hold water because they occupy space that could otherwise be filled with soil particles and water. Soils with a high stoniness content often have a lower water-holding capacity, which means they dry out more quickly and become more prone to drought conditions.
    - Soil Texture Interaction: The impact of stoniness on drought risk also depends on the underlying soil texture. For instance, sandy soils, which already have low water retention, become even more drought-prone with the presence of stones. Conversely, clay soils, which retain water more effectively, might be less impacted by stones in terms of drought risk, although other issues like drainage could arise.

19. Effects on Agricultural Productivity:

    - Grade 3a Land: For land to be classified as Grade 3a, it generally should not suffer significant limitations from drought risk due to stoniness. If stones are present, they should not reduce the soil's water retention capacity to a point where it limits the types of crops that can be grown or the yields that can be achieved under typical rainfall conditions.
    - Grade 3b Land: In contrast, Grade 3b land may be more susceptible to drought due to higher levels of stoniness, which compromises water retention. This susceptibility can restrict the choice of crops to those that are more drought-tolerant or require less consistent moisture. As a result, the overall agricultural productivity of the land is lower, justifying its classification as moderate quality agricultural land.

20. The distinction between Grade 3a and 3b is influenced by the degree to which stoniness, among other factors, imposes a limitation on agricultural use. If stoniness leads to a significant drought risk that reduces the land's versatility and productivity, it is more likely to be classified as Grade 3b. Conversely, if stoniness has a limited impact on water retention and drought risk, allowing for a wider range of agricultural practices and crops, the land may be classified as Grade 3a.

21. In summary, stoniness affects land classification by influencing the soil's ability to retain water and resist drought conditions. The more stoniness contributes to drought risk and limits agricultural productivity, the more likely the land is to be classified as Grade 3b rather than Grade 3a. The ALC system thus considers stoniness as part of a broader assessment of soil and climatic conditions that determine land suitability for agriculture.

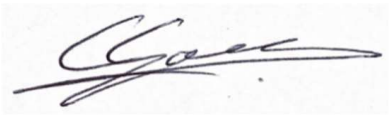
22. As a reminder, the final grades and areas given to the land at Watling Street, Park Street, St Albans, are noted in the table below;

	ALC GRADE FOR LAND AT WATLING STREET, PARK STREET, ST ALBANS		
ALC Grade	**Area (ha)**	**Area (%)**	**Limiting Factor**
1	-	-	-
2	-	-	-
3a	0.67	15%	Stoniness
3b	3.68	85%	Droughtiness/Stoniness
4	-		-
Non agricultural	-	-	-

23. We trust that the technical note above clarifies the content of the Agricultural Land Classification report further, explaining the reasoning for the grades given to the site.

    If you do have any queries, please do contact us at the earliest convenience.

Yours sincerely



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