

Agricultural land grades for Land West of Westbury Road

Objection.

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1.The Magic Map

The assumption has been made that the land covered by this application is mainly grade 3b with some grade 3a land thrown in.

That assumption has been made with reference to the Magic Map which is recommended for planners as a tool. Unfortunately the Magic Map has been used without taking a closer look at how the grading was derived.

Unfortunately for this site the gradings are simply wrong.

The Magic Map uses data more than half a century old and reached a conclusion in this particular case, without taking any soil samples. It was observational only.

As you will see in our conclusion at section 7, the Magic Map is wrong. The land is grade 3a or grade 2 land aside from a small corner of grade 4 land in the north west of the site.

2.The land gradings system

Let me explain how it works.

All agricultural land is divided into 5 grades, according to its usefulness for growing crops or as arable land. Grade 1 is the best land, grade 5 the worst. Grade 3 land has been split between 3a and 3b.

The grades mean the following:

- Grade 1 (Excellent Quality): High-yielding land with no or very minor limitations; supports a wide range of agricultural/horticultural crops.
- Grade 2 (Very Good Quality): Minor limitations affecting cultivation or yields, but still highly productive.
- Grade 3 (Good to Moderate Quality): Moderate limitations on crop choice or timing. Divided into Subgrade 3a (good quality, BMV) and 3b (moderate quality).

- Grade 4 (Poor Quality): Severe limitations that significantly restrict the range of crops or yield levels.
- Grade 5 (Very Poor Quality): Very severe limitations, typically restricted to permanent pasture or rough grazing.

3. Two maps to choose from

The way land is classified is by reference to 2 maps:

- the Natural England Agricultural Land Classification map – South West
- the Magic Map

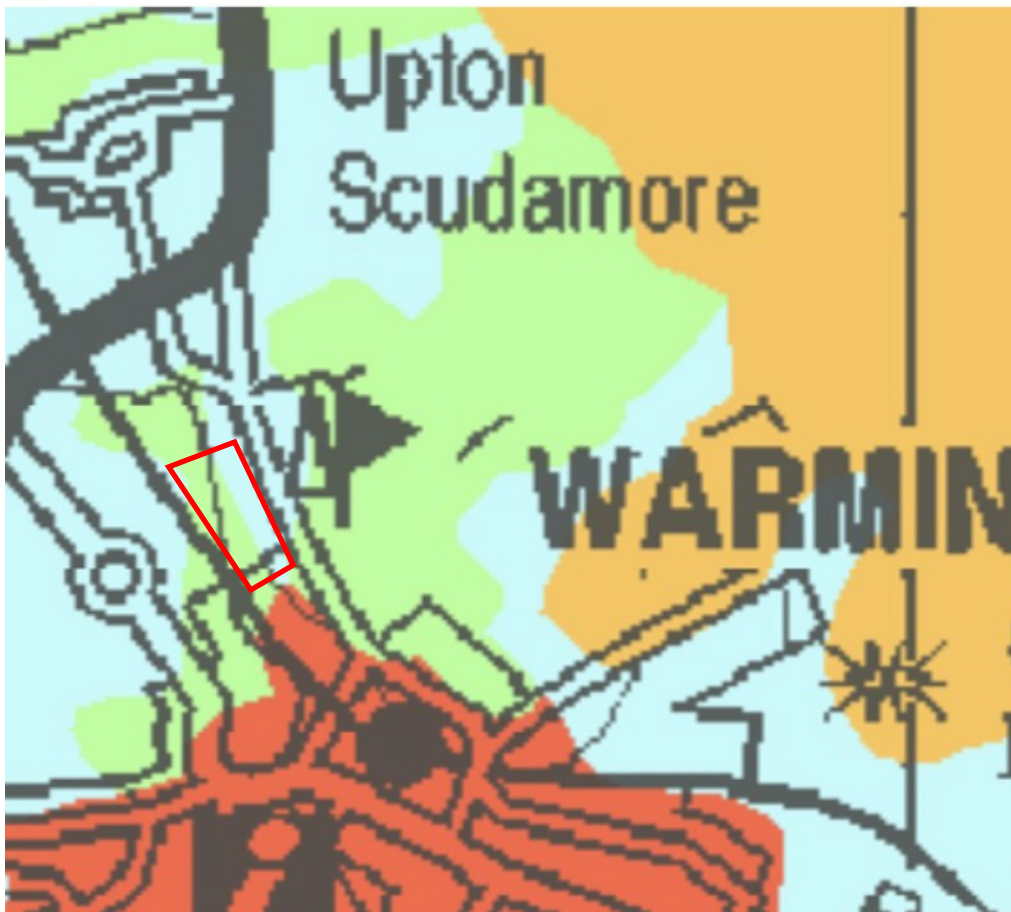
The Natural England map shows Grade 2 land at the east of the site and grade 3 land at the west (this map does not split grade 3 into a and b).

The Magic Map by contrast shows the site as 3b on the east with a band of grade 3a going through the centre (see page 3).

Clearly they cannot both be right.

Looking at the application site in the flesh as it were, the land appears visually to be good quality arable land. It comprises three fields and slopes down across the site from east to west such that the west side by the railway line is at the bottom of the slope. The fields have been used to grow cereal crops in recent years.

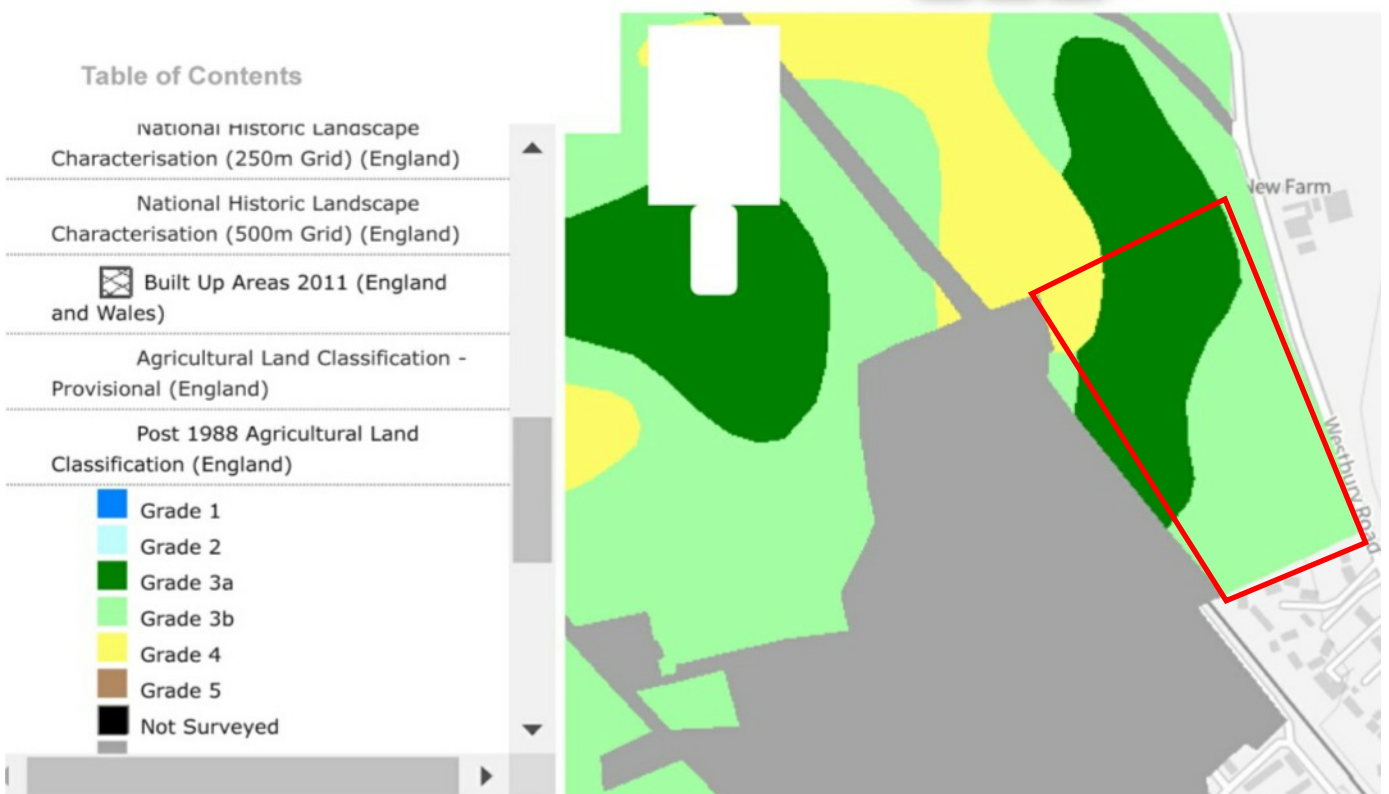
Planners are advised that where there is conflict they should use the Magic map. The planning assumption being that the Magic map is up to date, based on evidence and therefore a reliable guide to the quality of the land.



The Natural England map uses light blue for Grade 2 land and green for grade 3 land

The approximate area of the application is outlined in red.

The Magic Map with index showing the colour coding for land grades. Again the approximate application site area is outlined in red.



4. But what happens when the map is simply wrong?

The Magic Map is supposed to be based on surveys.

The survey for this area of Warminster was first **published** on 14 March 2016. However the actual work was **carried out** in 1996 as the title of the survey report clearly indicates: “Agricultural Land Classification detailed Post 1988 ALC survey 1996”

So the first thing you need to take away from this, is that the survey on which planners are basing their assessment of agricultural land is 30 years old.

However that is not the whole story. Because the way that soil was classified was by reference to base data for climate to assess its wetness and “stickiness”.

The base data used to assess soil and soil types is as per the following table.

Table 9 **Limitation factors and associated agroclimatic parameters**

Limitation Factor	Parameter	Observation period
Climate	Average Annual Rainfall (AAR)	1941 - 1970
	Median Accumulated Temperature above 0°C, January to June (AT0)	1961 - 1980
Soil Wetness	Median Duration of Field Capacity Days (FCD)	1941 - 1970
Soil Droughtiness	Average Summer Rainfall, April to September (ASR)	1941 - 1970
	Median Accumulated Temperature above 0°C, April to September (ATS)	1961 - 1980

So the important thing to grasp here, is that the soil types have been determined by grading them against data that is anything from 45 years to over 75 years out of date.

If our climate was consistent and unchanging, that might not matter. But as over the past 25 years the UK has gone through a period of unprecedented climate change, this data is simply irrelevant. Climate patterns have changed, there is far greater volatility with extremes of weather being more common place.

Nor is that the only problem with this site.

For this area of Warminster it is not just that the data used was out of date, the survey was an observational one and no soil samples were taken. Where soil samples are taken, notes on them are recorded along side the observational survey. In this case there are none.

In short the picture painted by the Magic Map is not just unreliable, it is based on a survey for which no hard evidence was taken.

Let's now take a look at what the land is like in the flesh, rather than what the Magic Map says it should be like.

5. Observational findings

The land that the applicant is asking you to build on, is evidently good quality agricultural land. It has been used to grow cereal crops for the last five year and most recently to grow wheat.

To assess the grade of soil, it is possible to get a better picture by looking at the success of the crop grown on it.

The question of agricultural land type comes down to yield.

Grade 3a land is defined as: Land capable of consistently producing moderate to high yields of a narrow range of arable crops, especially cereals....

Grade 3b land is defined as: Land capable of producing moderate yields of a narrow range of crops

So if the Magic Map was right, with a single crop of cereals across three fields we should expect a visible yield differential. The Magic Map says yields should be higher on the west side of the field (3a land) and lower at the top of the field (Grade 3b land)

In the summer of 2024 a group of us undertook a study of the cropping of the three fields. Looking at the crop in July and August both at ground level and looking down from Arn Hill it was visually obvious that there was a consistent crop yield across the site before rain damaged some of the crop in August.

We took the three fields covered by this application and numbered them 1 to 3 with 1 being the most southerly (adjoining The Woodlands).



At ground level the cropping appeared even across the three fields. However when photographed from on Arn Hill, although fields 1 and 2 again showed consistent cropping, field 3 did not (see next page).



Seen from Arn Hill (looking from the east side of the field) it is clear that the west side of the field on the right hand side is showing poorer quality yields. The land has bare patches and there is visual evidence of lower yields.

Looking at photos of the fields and numbering them 1 to 3 with 1 being the most southerly, only in field 3 was there clear evidence that on the north west side of the field was there a reduction in cropping.

Ironically that is an area which the Magic Map classification shows as 3a land.

6. Evidence based results

Clearly visual observation is not enough, although in fact it was all that was used to produce the Magic Map data for this area.

The three fields that form the bulk of this application site have been cropped with cereals for the past five years and with wheat in 2024.

We undertook testing of the density of the wheat crop to ascertain what sort of yield was being produced across the three fields. This testing was also carried out in August before heavy rains damaged some of the crops.

The Agriculture and Horticulture Development Board describes a good yield for wheat as being 460 shoots per square metre assuming each to contain an ear of wheat.

We measured sample blocks of a square metre at the top and bottom of each of the the three different fields and counted the stalks in each block.

We were looking for two things.

- Firstly to see if there was any significant variation in yield.
- And secondly how the yield ,measured up in terms of the 460 shoots that defines a “good yield”.

In each field we took 3 samples on the east side and three sample on the west side to see if yields varied.



The samples were recorded manually across the course of a single day in August 2024 to keep everything consistent. Stalks were only counted if they had an ear attached to them. These were the results collated from across the three fields:

Field 1	East side	623 stalks	646 stalks	618 stalks
Field 1	West side	632 stalks	648 stalks	628 stalks
Field 2	East side	631 stalks	616 stalks	685 stalks
Field 2	West side	627 stalks	676 stalks	665 stalks
Field 3	East side	645 stalks	696 stalks	667 stalks
Field 3	West side	576 stalks	543 stalks	498 stalks

The results show three things.

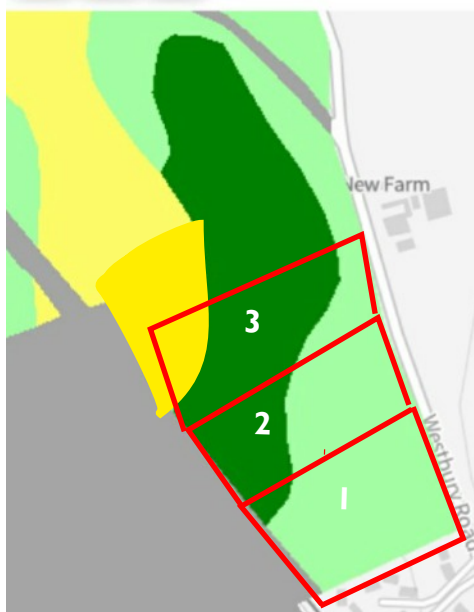
- There is not a significant change in yield from one side of the field to the other in fields 1 and 2.
- The yields are consistently above the Agriculture and Horticulture Development Board norm.
- Only in field 3 is there any suggestion of a marked difference in cropping from the east to the west side of the field.

7 Conclusion

In conclusion I suggest to you that the evidence clearly points of the Magic Map being wrong and it is in any case, self evidently out of date.

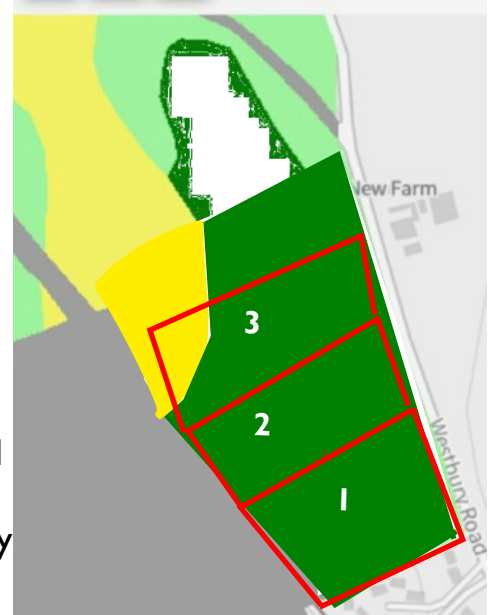
By contrast there is evidence to suggest that the land is materially better quality than the grades given by the Magic Map, at least grade 3a and arguably grade 2.

In planning terms the result of our work clearly shows that whether grade 2 or grade 3b, the vast majority of this site is Best and Most Versatile land.



Left: Magic map showing land grade for each field

Right: The map of the fields based on the evidence of our own field work. Aside from field 3 all the land is at least grade 3a and possibly grade 2.



The significance of this being nearly all Best and Most Versatile land is this. **NPPF 180 b) asks planners to recognise the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural (BMV land) land, and of trees and woodland;**

In short, developing on this land must be considered a harm when assessing the tilted balance.