

**AGRICULTURAL QUALITY
OF LAND EAST OF HAWKERIDGE ROAD
WESTBURY**

Report 2805/1

20th April 2026

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**AGRICULTURAL QUALITY
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Report 2805/1
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SUMMARY

An agricultural land quality survey has been undertaken of 14.0 ha of land east of Hawkeridge Road, Westbury during April 2026.

The soils of the site are slowly permeable clays, with significant drainage restrictions. Wetness limits land quality to Subgrade 3b.

1.0 Introduction

- 1.1 This report provides information on the agricultural quality of 14.0 ha of land east of Hawkeridge Road, Hawkeridge, Westbury. The report is based on a survey of the land in April 2026.

SITE ENVIRONMENT

- 1.2 The survey area (Site) comprises two blocks of land, to the north and south of Hawke Ridge Business Park. The Site is bordered to the west by Hawkeridge Road, and on other sides by woodland.
- 1.3 The land is gently undulating, at an average elevation of approximately 50 m AOD.
- 1.4 At the time of survey the land was either under winter wheat cropping or recently ploughed.

PUBLISHED INFORMATION

- 1.5 British Geological Survey 1:50,000 scale information records the underlying geology as Oxford Clay Formation, with overlying alluvial deposits in the south and east.
- 1.6 The National Soil Map (published at 1:250,000 scale) records most of the land as Denchworth Association: slowly permeable clays formed in mudstone. Evesham 1 Association is recorded in the south: mainly deep calcareous slowly permeable clays formed over mudstone, with some shallower soils over limestone bands¹.

¹Findley, D.C *et al.*, (1984). *Soils and their use in South Western England*. Soil Survey of England and Wales Bulletin No. 14, Harpenden.

2.0 Soils

- 2.1 A soils and agricultural quality survey was carried out in April 2026 in accordance with Defra/Welsh Government (2025) Agricultural Land Classification Guidelines². It was based on observations at intersects of a 100 m grid, giving a density of one observation per hectare. During the survey, soils were examined by hand augerings and pits to a maximum depth of 1.2 m. A log of the sampling points and a map (Map 1) showing their location is in an appendix to this report.
- 2.2 The soils were found to comprise stoneless to very slightly stony slowly permeable clays and fine loams over clays. The upper layers are mainly decalcified but the lower layers are often strongly calcareous.
- 2.3 The soils show gleying³ as evidence of seasonal waterlogging to shallow depth. In places a thin permeable upper subsoil layer is present but generally the soils have slowly permeable layers at less than 40 cm depth. These soils are judged poorly-draining (Soil Wetness Class IV) under the local climate. One observation (point 13 of Map 1), on slightly elevated in the south had an unmottled upper subsoil layer and is judged imperfectly-draining (Soil Wetness Class III).

²Defra/Welsh Government, (2025). *Joint Publication 069: Agricultural Land Classification of England and Wales: Guidelines for Grading the Quality of Agricultural Land*.

³Gleying – greyish and pale soil colours with ochreous mottles, resulting from reduction and mobilisation of iron compounds under anaerobic conditions

3.0 Agricultural land quality

- 3.1 To assist in assessing land quality, the Ministry of Agriculture, Fisheries and Food (MAFF) developed a method for classifying agricultural land by grade according to the extent to which physical or chemical characteristics impose long-term limitations on agricultural use for food production. The ALC system classifies land into five grades numbered 1 to 5, with grade 3 divided into two subgrades (3a and 3b). The system was devised and introduced in the 1960s, revised in 1988 and updated in 2025.
- 3.2 The agricultural climate is an important factor in assessing the agricultural quality of land and has been calculated using the Climatological Data for Agricultural Land Classification⁴.
- 3.3 The relevant site data for an average elevation of 50 m and a central point at grid reference ST 865,533 is given below.
- Average annual rainfall: 764 mm
 - January-June accumulated temperature >0°C 1494 day°
 - Field capacity period 171 days
 - Summer moisture deficits for: wheat: 105 mm
potatoes: 97 mm
- 3.4 The survey described in the previous section was used in conjunction with the agro-climatic data above to classify the site using the Guidelines for ALC issued in 2025 by Defra/Welsh Government⁵. There are no climatic limitations at this locality.

SURVEY RESULTS

- 3.5 The agricultural quality of the land is variably determined by wetness. Other factors have been assessed but do not affect the land grade. Land of Grade 3 has been identified.

Subgrade 3b

- 3.6 All of the land has high topsoil clay content and poor or imperfect drainage (Soil Wetness Class IV or III). This combination means that the land is usually too wet for spring machinery land access, and arable cropping is therefore largely limited to autumn sowings.

Grade areas

- 3.7 The land grade is shown on Map 2 and the area occupied shown below.

⁴Meteorological Office, (1989). *Climatological Data for Agricultural Land Classification*.

⁵Defra/Welsh Government, (2025). *Joint Publication 069: Agricultural Land Classification of England and Wales: Guidelines for Grading the Quality of Agricultural Land*.

Table 1: Areas occupied by the different land grades

<i>Grade/subgrade</i>	<i>Area (ha)</i>	<i>% of the land</i>
Subgrade 3b	14.0	100
Total	14.0	100

APPENDICES:

1. SOIL AUGER LOG

2. SOIL PIT DESCRIPTIONS

3. MAPS

Land near Hawke Ridge Business Park: Soil auger log (see Map 1 for locations)

Obs	Topsoil			Upper subsoil			Lower subsoil			Slope	Wetness	Agricultural quality	
No	Depth (cm)	Texture	Stones >20 mm (%)	Depth (cm)	Texture	Mottling	Depth (cm)	Texture	Mottling	(°)	Class	Grade	Main limitation
1	0-25	C ca	5-10	<u>25</u> -90+	C ca	xxx				2	IV	3b	W
2	0-24	HCL	<5	24-34	C	o	<u>34</u> -90+	C	xxx	3	IV	3b	W
3	0-21	C	<5	<u>21</u> -49	C	xxx	<u>49</u> -90+	C ca	xxx	3	IV	3b	W
4	0-21	C	<5	<u>21</u> -90+	C	xxx				1	IV	3b	W
5	0-27	C vslca	<5	<u>27</u> -60	C	xxx	<u>60</u> -90+	C ca	xxx	3	IV	3b	W
6	0-30	C	<5	<u>30</u> -60+	C	xxx				1	IV	3b	W
7	0-33	C/HCL	<5	<u>33</u> -70+	C	xxx				2	IV	3b	W
8	0-28	C	<5	<u>28</u> -90+	C	xxx				2	IV	3b	W
9	0-20	C	<5	<u>20</u> -60	C	xxx	<u>60</u> -90+	C ca	xxx	0	IV	3b	W
10	0-28	HCL	<5	<u>28</u> -90+	C	xxx				3	IV	3b	W
11	0-27	C	<5	<u>27</u> -53	C	xxx	<u>53</u> -70+	C ca	xxx	2	IV	3b	W
12	0-24	HCL	<5	<u>24</u> -45	HCL	xxx	<u>45</u> -90+	C	xxx	3	IV	3b	W
13	0-26	C	<5	26-51	C	o	<u>51</u> -90+	C ca	xxx	3	III	3b	W

Soil log key

Gley indicators¹

o	unmottled
x	1-2% ochreous mottles and brownish matrix (or a few to common root mottles (topsoils)) ³
xx	>2% ochreous mottles and brownish matrix and/or dull structure faces (slightly gleyed horizon)
xxx	>2% ochreous mottles and greyish or pale matrix (gleyed horizon) or reddish matrix and >2% greyish, brownish or ochreous mottles and pale ped faces
xxxx	mottles or f-m concentrations (gleyed horizon) dominantly blueish/greenish matrix, often with some reddish mottles (gleyed horizon)

Slowly permeable layers⁴

a depth underlined (e.g. 50) indicates the top of a slowly permeable layer

A wavy underline (e.g. 50) indicates the top of a layer borderline to slowly permeable

Texture²

C	clay
ZC	silty clay
SC	sandy clay
CL	clay loam (H-heavy, M-medium)
ZCL	silty clay loam (H-heavy, M-medium)
SZL	sandy silt loam (F-fine, M-medium, C-coarse)
LS	loamy sand (F-fine, M-medium, C-coarse)
SL	sandy loam (F-fine, M-medium, C-coarse)
S	sand (F-fine, M-medium, C-coarse)
SCL	sandy clay loam
P	peat (H-humified, SF-semi-fibrous, F-fibrous)
LP	loamy peat; PL - peaty loam

Wetness Class⁵

I (freely drained) to VI (very poorly drained)

Limitations:

W	wetness/workability
D	droughtiness
De	depth
F	flooding
St	stoniness
G	gradient
T	topography/microrelief
C	Climate

Suffixes & prefixes:

o - organic

(vsl, sl, m, v, x)**st** – (very slightly, slightly, moderately, very, extremely) **stony**⁶

(vsl, sl, v, x)**ca**
(very slightly, slightly, very, extremely) **calcareous**⁷

Other abbreviations

fmn	ferri-manganiferous concentrations
dist	disturbed soil layer; chky - chalky
R	bedrock (CH – chalk, SST – sandstone)
LST	limestone, MST – Mudstone)
r-reddish, gn	greenish

¹Gley indicators in accordance with Hodgson, J.M., 1997. Soil Survey Field Handbook (third edition). Soil survey technical monograph No. 5

²Texture in accordance with particle size classes in Hodgson (1997)

³ Occasionally recorded in the texture box

⁴Permeability is estimated for auger borings and must be confirmed by full pit observations in accordance with the definitions in: Revised Guidelines for grading the quality of Agricultural Land (Maff 1988)

⁵Soil Wetness Classes are defined in Hodgson (1997)

⁶stoniness classes as defined in Hodgson (1997)

⁷calcareous classes as defined in Hodgson (1997)

Grades shown as intergrade e.g. **3a/3b** are close to the grade boundary. The estimate of which side of the boundary the grading falls is the shown first (in bold here) grades in brackets eg. (3a) raised by one grade due to calcareous topsoil

SOIL PIT DESCRIPTIONS

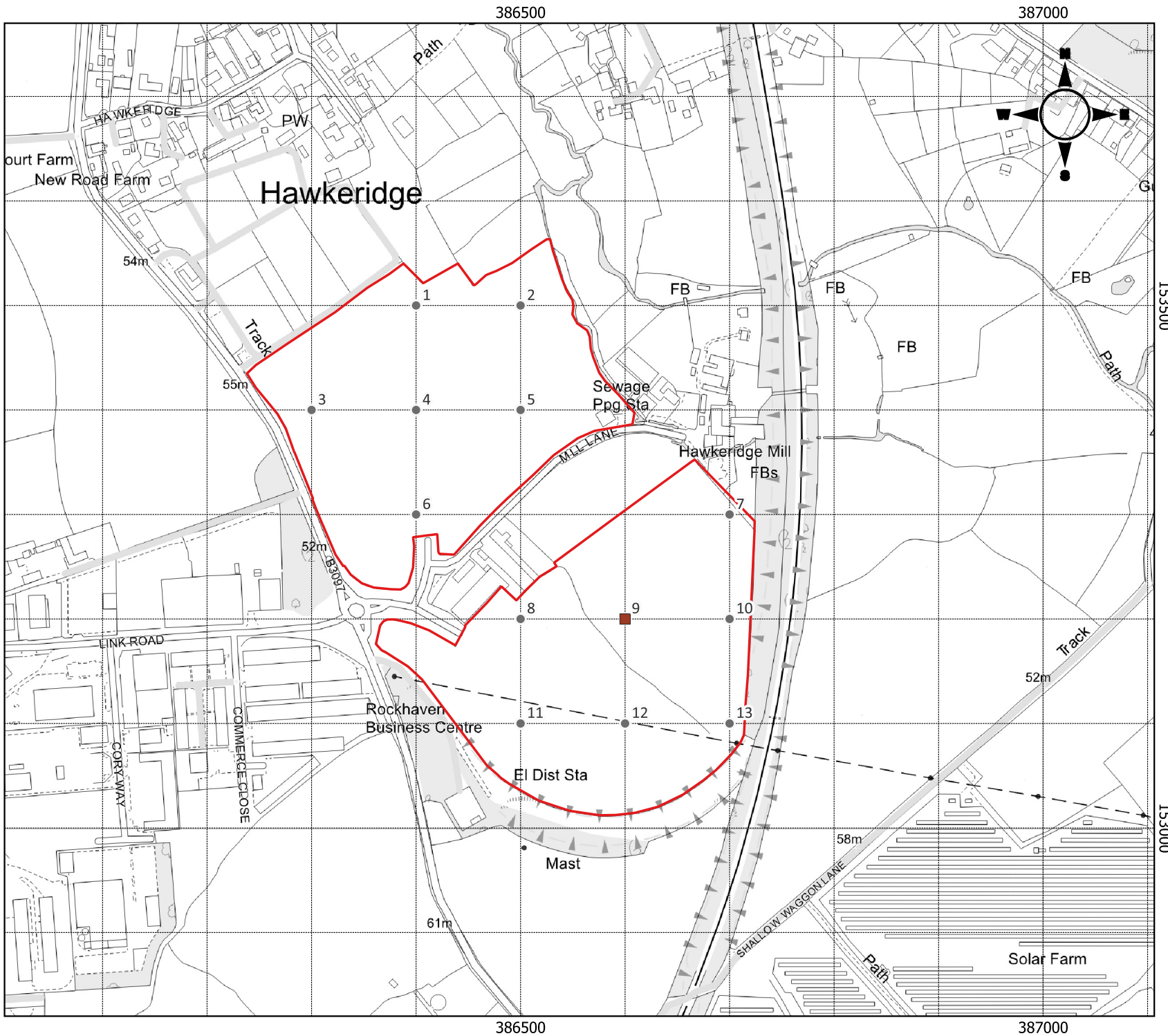
Observation 9 (see Map 1)

Land use: ploughed

0-20 cm	Dark greyish brown (10YR 4/2) clay; stoneless; moderately developed very coarse angular blocky structure; firm; non-calcareous; smooth clear boundary to:
20-35 cm	Greyish brown (10YR 5/2) clay with 20% fine reddish yellow (7.5YR 6/8) mottles; stoneless; weakly developed very coarse angular blocky structure; very firm; <0.5% macropores; non-calcareous; smooth gradual boundary to:
35-60 cm	Grey (N 5/0) clay with 30% fine and medium strong brown (7.5YR 5/8) mottles; stoneless; moderately developed coarse angular blocky structure; firm; <0.5% macropores; non- calcareous; smooth gradual boundary to:
60-100 cm+	Blueish grey (10B 67/1) clay with 20% medium strong brown (7.5YR 5/8) mottles; stoneless; structureless (massive); very firm; <0.5% macropores; calcareous; few fine secondary carbonate nodules.

Soil Wetness Class: IV

ALC: Subgrade 3b (Wetness)



Key

- Pits
- Auger observations
- Survey boundary

Location:

Land east of Hawkeridge Road
Westbury

Map:

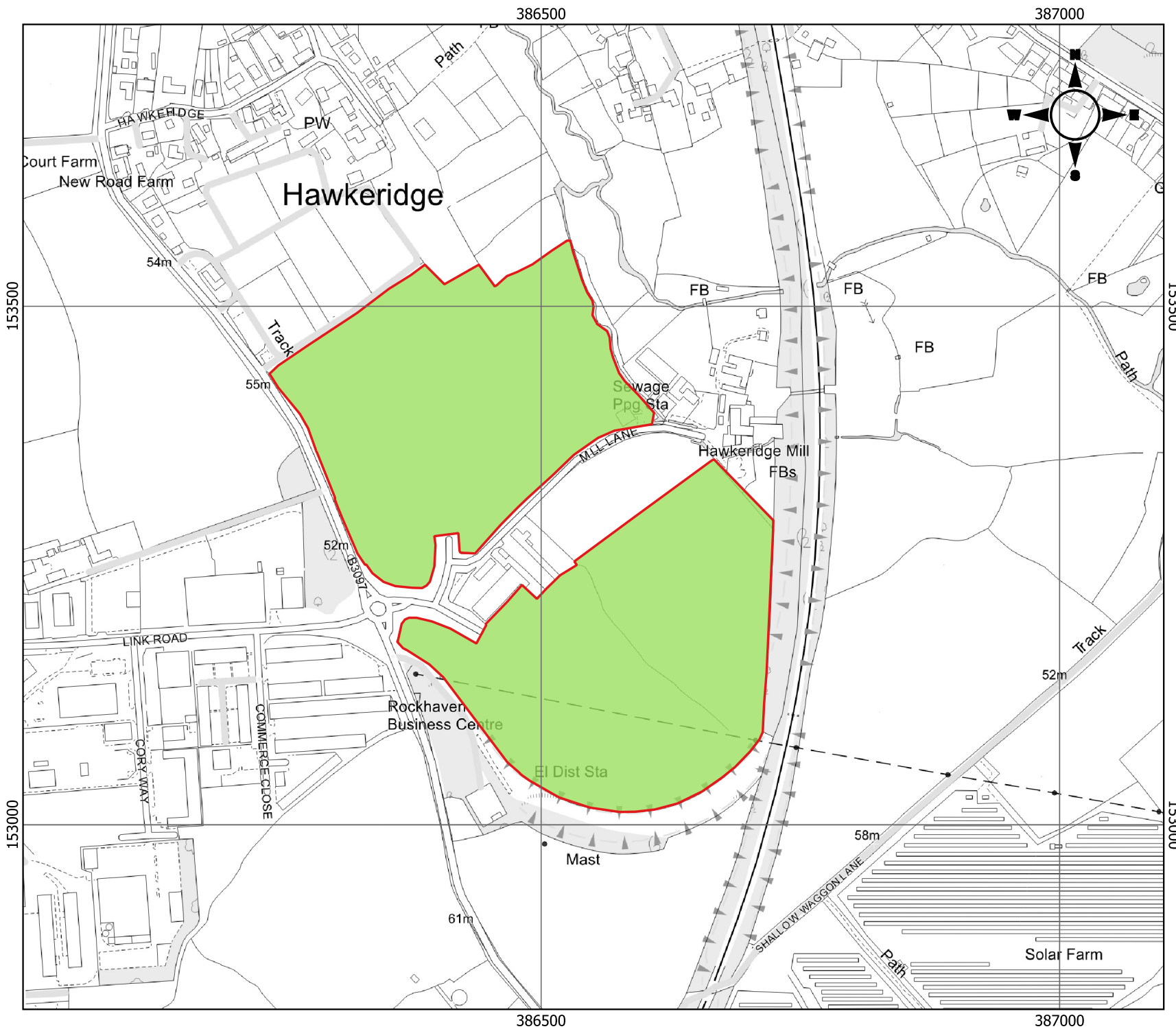
Map 1: Observations

Date: 17/04/2026

Scale: 1 : 5,000 at A4

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Key

- Subgrade 3b
- Survey boundary

Site:
Land east of Hawkeridge Road
Westbury

Map:
Map 2 - Agricultural Land
Classification

Date: 17/04/2026

Scale: 1 : 5,000 at A4

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