

APPENDIX 13.2

ECONOMIC PRODUCTIVITY ASSESSMENT



Economic Productivity Assessment

Ford Airfield

Reference No: 1050313

Date: December 2019

Submitted to:
Barton Willmore
7 Soho Square
London
W1D 3QB

Prepared by:
RSK ADAS Ltd
11D Park House
Milton Park
Abingdon
OX14 4RS
Tel: 01235 438900

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Quality Assurance

Author (s)	Checked	Approved
<i>Geoffrey Fairfoull</i> <i>BSc (Hons), FBIAC</i>	<i>Ian Snowden</i> <i>BSc (Hons.), CMgr</i>	<i>Nisha Rehm</i> <i>BA(Hons), MSc, PIEMA</i>

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1 Executive Summary

The Agricultural Land Classification (ALC) of approximately 86.63ha of land on the old Ford Airfield, was assessed by ADAS in August 2018. Of the 86.63ha of land, a total of 66.78ha (77.1%) is classified as Grade 2 (very good quality agricultural land) and 7.69ha (8.9%) as Grade 3a (good quality agricultural land).

Using a methodology for assessing land gross margins, the value of the agricultural land has been calculated on a per hectare basis according to its ALC grade.

The total of the loss of Average Annual Gross Margin (AAGM) for the Site is estimated to be approximately £53,853 per annum equating to the value of the loss of agricultural productivity at the Site. This is using figures taken from the *Soil and Agricultural Land Assessment Study, Arun District Council*.

2 Introduction

ADAS was instructed by Barton Wilmore, on behalf of the Applicant, to undertake an Assessment of Annual Average Gross Margins (AAGM) on a site situated west of Yapton on the disused Ford Airfield, to inform a planning application for residential development.

The assessment of AAGM has been undertaken in accordance with the methodology published in the *Soil and Agricultural Land Assessment Study, Arun District Council*ⁱ.

The relevance of the application of 2013 data to 2019 has been assessed by means of a comparative analysis of crop gross margins in 2013 and 2019.

3 Methodology

3.1 Assessing Land Gross Margins

The methodology applied is laid out in the *Soil and Agricultural Land Assessment Study, Arun District Council*ⁱ. The methodology calculates the value of agricultural land on a per hectare basis, using two values: high and average, which refer to the potential crop yields obtainable from the land. The study assumes that land of agricultural quality Grades 1 and 2 (excellent to very good quality land) will produce high crop yields, and that land of Subgrades 3a and 3b (good to moderate quality land) will produce average crop yields.

The methodology derives the values of crops from *the John Nix Farm Management Pocketbook* 43rd edition (2013)ⁱⁱ, which gives gross margin values for high and average yields of crops per hectare grown. For comparative purposes the John Nix 2013 crop gross margins have been compared against the John Nix 2019 crop gross marginsⁱⁱⁱ (Appendix 1).

4 Agricultural Land Classification (ALC) and Present Land Use

4.1 Agricultural Land Classification (ALC)

The land has been classified by ADAS using the system outlined in the Ministry of Agriculture, Fisheries and Food (MAFF now Defra) publication *Agricultural Land Classification of England and Wales – Revised Guidelines for grading the quality of agricultural land*^{iv}. The land has been classified as either Grade 2, Grade 3a or other land as per Table 1 below.

Table 1: Agricultural Land Classification Measurements

Grade	Total Area (ha)	Agricultural Land Area (ha)	% of Total Area
2	66.78	66.78	77.1
3a	7.69	7.69	8.9
Other land	12.16	N/A	14.0
Total	86.63	74.47	100.0

4.2 Present Land Use

The *Soil and Agricultural Land Assessment Study, Arun District Council*ⁱ describes the land use at the Site as being in arable agricultural use.

At the time of the ADAS survey in August 2018, the agricultural land supported stubbles after the recent harvest. Within the boundary of the Site the disused runways and hangers were in industrial use or used as car parks.

5 Economic Productivity

The *Soil and Agricultural Land Assessment Study, Arun District Council*ⁱ gives the value of high yielding land at the Ford Site to be worth approximately £750/ha and the average yielding land to be worth approximately £490/ha¹. Based on these values the calculated AAGM are shown in Table 2 below.

¹ Soil and Agricultural Land Assessment Study, Arun District Council, paragraph 6.3.6.

Table 2: Annual Average Gross Margins

ALC Grade	Area (ha)	Grade 2 (High Yields) £750/ha	Grade 3a (Average Yields) £490/ha	TOTAL (£)
Grade 2	66.78	50,085.00	N/A	50,085.00
Grade 3a	7.69	N/A	3,768.10	3,768.10
Other	12.16	N/A	N/A	N/A
TOTAL	86.63	50,085.00	3,768.10	53,853.10

In total, agricultural productivity at the Site, using the AAGM, is approximately £53,853 per annum.

As this assessment is relying on data applicable to 2013 a comparative analysis has been undertaken (Appendix 1) to compare the 2013 crop gross margin data with 2019 crop gross margin data.

The analysis shows that the gross margins for Wheat, Winter Barley and Oats have increased, whilst the gross margin for Spring Barley has decreased. The increase in gross margin for Wheat has increased by £30/ha (high yield) and £44/ha (average yields), whilst the increase for Winter Barley is £10/ha (high yield) and £1/ha (average yields) and for Oats is £29/ha (high yield) and £36/ha (average yield). The reduction in gross margin for Spring Barley is £24/ha (high yield) and £12/ha (average yield). The application of gross margins in 2019 estimates the loss of productivity at the Site to be approximately £57,431 (Table 3). This is an additional loss of productivity of the Site of approximately £3,578.

Table 3: Annual Average Gross Margins Adjusted to 2019 Data

ALC Grade	Area (ha)	Grade 2 (High Yields) £787/ha ²	Grade 3a (Average Yields) £634/ha ³	TOTAL (£)
Grade 2	66.78	52,555.86	N/A	52,555.86
Grade 3a	7.69	N/A	4,875.46	4,875.46
Other	12.16	N/A	N/A	N/A
TOTAL	86.63	52,555.86	4,875.46	57,431.32

² Average Gross Margin for High Yield of Wheat, Winter Barley, Spring Barley and Oats, based on John Nix 2019.

³ Average Gross Margin for Average Yield of Wheat, Winter Barley, Spring Barley and Oats, based on John Nix 2019.

6 Conclusion

- *The ALC of the Site identifies that the land quality is predominantly Grade 2 (very good quality) with some Grade 3a (good quality) land.*
- *The total area of Grade 2 is 66.78ha (77.1%) and Grade 3a is 7.69ha (8.9%).*
- *An assessment of land gross margins, in accordance with the methodology set out in the 'Soil and Agricultural Land Assessment Study, Arun District Council' estimates agricultural loss of productivity at the Site to be approximately £53,853 per annum.*
- *The application of gross margins in 2019 estimates the loss of productivity at the Site to be approximately £57,431 per annum and additional loss of productivity of the Site of approximately £3,578 per annum.*

Appendix 1: Comparative Gross Margin Analysis

	Wheat 2013	Wheat 2019*	Change 2013/19	Winter Barley 2013	Winter Barley** 2019	Change 2013/19	Spring Barley 2013	Spring Barley 2019	Change 2013/19	Oats 2013	Oats 2019	Change 2013/19
HIGH YIELD												
Crop GM per ha (£)	959	989	+30	751	761	+10	738	714	-24	655	684	+29
AVERAGE YIELD												
Crop GM per ha (£)	743	787	+44	608	609	+1	600	588	-12	515	551	+36

Note: *Milling Winter Wheat **Winter Feed Barley

Source: 2013 Reading Agricultural Consultants (2013), Soil and Agricultural Land Assessment Study, Arun District Council, Appendix 1.

2019 Redman, G. (2018), The John Nix Farm Management Pocketbook 2019 49th edition

Appendix 2: References

ⁱ Reading Agricultural Consultants (2013), *Soil and Agricultural Land Assessment Study*, Arun District Council.

ⁱⁱ Redman, G. (2012), *The John Nix Farm Management Pocketbook 2013*. 43rd Edition. Agro Business Consultants Ltd.

ⁱⁱⁱ Redman, G. (2018), *The John Nix Farm Management Pocketbook 2019*. 49th Edition. Agro Business Consultants Ltd.

^{iv} MAFF (1988), *Agricultural Land Classification of England and Wales - Revised Guidelines and Criteria for Grading the Quality of Agricultural Land*.