BELVOIR SOLAR FARM,
LAND OFF MUSTON LANE,
EASTHORPE

AGRICULTURAL EVIDENCE
AND
SOIL RESOURCES MANAGEMENT
PLAN

Volume 2: Appendices

March 2024

KERNON
COUNTRYSIDE
CONSULTANTS
LIMITED

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LAND OFF MUSTON LANE,
EASTHORPE

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March 2024

Authorised By APK 03/24

Greenacres Barn, Stoke Common Lane, Purton Stoke, Swindon SN5 4LL
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*Consultants – **Ellie Chew** BSc(Hons), **Amy Curtis** BSc(Hons)*

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Appendices

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APPENDIX KCC1

Curriculum Vitae

CURRICULUM VITAE

ANTHONY PAUL KERNON

SPECIALISMS

- Assessing the impacts of development proposals on agricultural land and rural businesses
- Agricultural building and dwelling assessments
- Equestrian building and dwelling assessments (racing, sports, rehabilitation, recreational enterprises)
- Farm and estate diversivification and development
- Inputs to Environmental Impact Assessment
- Expert witness work

SYNOPSIS

Tony is a rural surveyor with 35 years experience in assessing agricultural land issues, farm and equestrian businesses and farm diversification proposals, and the effects of development proposals on them. Brought up in rural Lincolnshire and now living on a small holding in Wiltshire, he has worked widely across the UK and beyond. He is recognised as a leading expert nationally in this subject area. Married with two children. Horse owner.

Tony's specialism is particularly in the following key areas:

- assessing the need for agricultural and equestrian development, acting widely across the UK for applicants and local planning authorities alike;
- farm development and diversification planning work, including building reuse and leisure development, Class Q, camping etc;
- assessing development impacts, including agricultural land quality and the policy implications of losses of farmland due to residential, commercial, solar or transport development, and inputs to Environmental Assessment;
- and providing expert evidence on these matters to Planning Inquiries and Hearings, court or arbitrations.

QUALIFICATIONS

Bachelor of Science Honours degree in Rural Land Management, University of Reading (BSc(Hons)). 1987. Awarded 2:1.
Diploma of Membership of the Royal Agricultural College (MRAC).
Professional Member of the Royal Institution of Chartered Surveyors (MRICS) (No. 81582). (1989).

OTHER PROFESSIONAL ACTIVITIES

Co-opted member of the Rural Practice Divisional Council of the Royal Institution of Chartered Surveyors. (1994 - 2000)
Member of the RICS Planning Practice Skills Panel (1992-1994)
Member of the RICS Environmental Law and Appraisals Practice Panel (1994 - 1997).
Fellow of the British Institute of Agricultural Consultants (FBIAC) (1998 onwards, Fellow since 2004).
Secretary of the Rural Planning Division of the British Institute of Agricultural Consultants (BIAC) (1999 – 2017).
Vice-Chairman of the British Institute of Agricultural Consultants (2019 – 2020)
Chairman of the British Institute of Agricultural Consultants (2020 – 2022)

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EXPERIENCE AND APPOINTMENTS

1997 ------> **Kernon Countryside Consultants.** Principal for the last 25 years of agricultural and rural planning consultancy specialising in research and development related work. Specialisms include essential dwelling and building assessments, assessing the effects of development on land and land-based businesses, assessing the effects of road and infrastructure proposals on land and land-based businesses, and related expert opinion work. Tony specialises in development impact assessments, evaluating the effects of development (residential, solar, road etc) on agricultural land, agricultural land quality, farm and other rural businesses.

1987 - 1996 **Countryside Planning and Management**, Cirencester. In nearly ten years with CPM Tony was involved in land use change and environmental assessment studies across the UK and in Europe. From 1995 a partner in the business.

1983 - 1984 **Dickinson Davy and Markham**, Brigg. Assistant to the Senior Partner covering valuation and marketing work, compulsory purchase and compensation, and livestock market duties at Brigg and Louth.

RECENT RELEVANT EXPERIENCE

TRAINING COURSES

Landspreading of Non Farm Wastes. Fieldfare training course, 24 – 25 November 2009
Foaling Course. Twemlows Hall Stud Farm, 28 February 2010
Working with Soil: Agricultural Land Classification. 1 – 2 November 2017

TRANSPORT ENVIRONMENTAL ASSESSMENT CONTRIBUTIONS

1992 Port Wakefield Channel Tunnel Freight Terminal, Yorkshire
1993 A1(M) Widening, Junctions 1-6 (Stage 2)
1994 - 1995 A55 Llanfairpwll to Nant Turnpike, Anglesey (Stage 3)
1994 - 1995 A479(T) Talgarth Bypass, Powys (Stage 3)
1995 Kilkhampton bypass (Stage 2)
1997 A477 Bangeston to Nash improvement, Pembroke
2000 Ammanford Outer Relief Road
2001 A421 Great Barford Bypass
2001 Boston Southern Relief Road
2003 A40 St Clears - Haverfordwest
2003 A470 Cwmbrach – Newbridge on Wye
2003 A11 Attleborough bypass
2003 - 2008 A487 Porthmadog bypass (Inquiry 2008)
2004 A55 Ewloe Bypass
2004 A40 Witney – Cogges link
2005 – 2007 A40 Robeston Wathen bypass (Inquiry 2007)
2005 – 2007 East Kent Access Road (Inquiry 2007)
2006 M4 widening around Cardiff
2007 – 2008 A40 Cwymbach to Newbridge (Inquiry 2008)
2007 A483 Newtown bypass
2008 – 2009 A470/A483 Builth Wells proposals
2009 – 2017 A487 Caernarfon-Bontnewydd bypass (Inquiry 2017)
2009 – 2010 North Bishops Cleeve extension
2009 – 2010 Land at Coombe Farm, Rochford
2009 – 2011 A477 St Clears to Red Roses (Inquiry 2011)
2010 – 2011 Streethay, Lichfield
2010 – 2012 A465 Heads of the Valley Stage 3 (Inquiry 2012)
2013 – 2016 A483/A489 Newtown Bypass mid Wales (Inquiry 2016)
2013 - 2016 High Speed 2 (HS2) rail link, Country South and London: Agricultural Expert for HS2

Ltd
2015 – 2017 A487 Dyfi Bridge Improvements
2016 – 2018 A465 Heads of the Valley Sections 5 and 6 (Inquiry 2018)
2017 - 2018 A40 Llanddewi Velfrey to Penblewin
2017 – 2018 A4440 Worcester Southern Relief Road
2019 – 2020 A40 Penblewin to Red Roses
2019 – 2020 A55 Jn 15 and 16 Improvements

NSIP/DCO SOLAR INPUTS

2020 – 2023 Heckington Fen
Mallard Pass
Penpergwm
Parc Solar Traffwll
Alaw Môn
Parc Solar Caenewydd
Tween Bridge Solar Farm
Gate Burton
Great North Road Solar
Helios Renewable Energy Project
Dean Moor
Oaklands Solar

EXPERT EVIDENCE GIVEN AT PUBLIC INQUIRIES AND HEARINGS

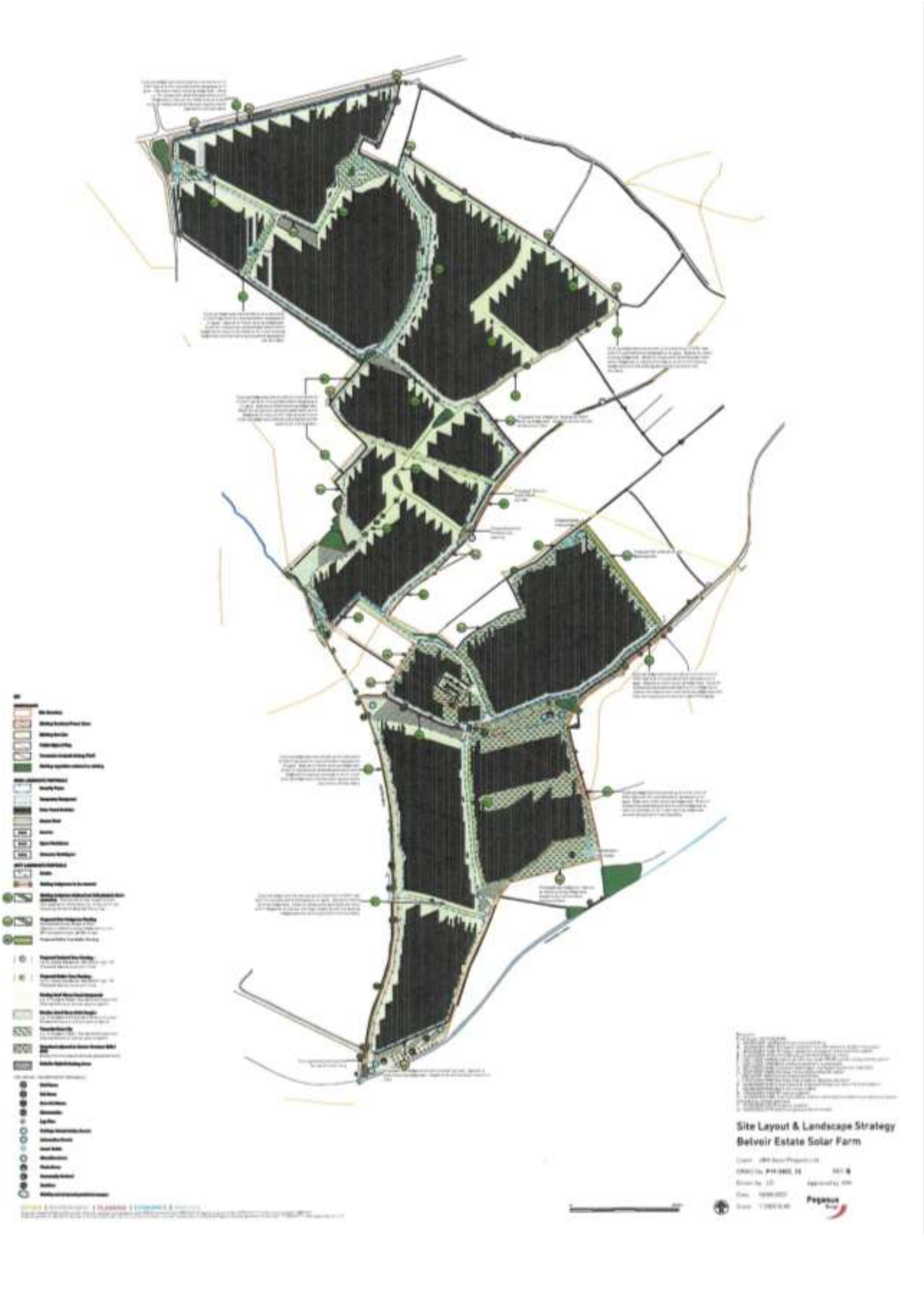
1992	**Brooklands Farm**: Buildings reuse	**Bonehill Mill Farm**: New farm building
	Chase Farm, Maldon: Romoval of condition	
1993	**Haden House**: Removal of condition	**Manor Farm**: New farm dwelling
1994	**Brooklands Farm**: 2nd Inquiry (housing)	**Cameron Farm**: Mobile home
	Barr Pound Farm: Enforcement appeal	**Land at Harrietsham**: Enforcement appeal
	Fortunes Farm Golf Course: Agric effects	
1995	**Village Farm**: New farm dwelling	**Attlefield Farm**: Size of farm dwelling
	Claverdon Lodge: Building reuse	**Bromsgrove Local Plan**: Housing allocation
	Harelands Farm: Barn conversion	**Lichfield Local Plan**: Against MAFF objection
	Castle Nurseries: Alternative site presentation	**Hyde Colt**: Mobile home / glasshouses
1996	**Church View Farm**: Enforcement appeal	**Highmoor Farm**: New farm dwelling
	Flecknoe Farm: Second farm dwelling	**Gwenfa Fields**: Removal of restriction
1997	**Basing Home Farm**: Grain storage issue	**Yatton**: Horse grazing on small farm
	Viscar Farm: Need for farm building / viability	**Newbury Local Plan**: Effects of development
	Lane End Mushroom Farm: Need for dwelling	
1998	**Moorfields Farm**: New farm dwelling	**Two Burrows Nursery**: Building retention
	Maidstone Borough LPI: Effects of dev'ment	**Dunball Drove**: Need for cattle incinerator
	Glenfield Cottage Poultry Farm: Bldg reuse	
1999	**Holland Park Farm**: Farm dwelling / calf unit	**Lambriggan Deer Farm**: Farm dwelling
	Northington Farm: Existing farm dwelling	
2000	**Twin Oaks Poultry Unit**: Traffic levels	**Coldharbour Farm**: Buildings reuse
	Meadows Poultry Farm: Farm dwelling	**Heathey Farm**: Mobile home
	Hazelwood Farm: Beef unit and farm dwelling	**Wheal-an-Wens**: Second dwelling
	Shardeloes Farm: Farm buildings	**Apsley Farm**: Buildings reuse
	Aylesbury Vale Local Plan: Site issues	**Home Farm**: Size of grainstore
	Deptford Farm: Buildings reuse	**A34/M4 Interchange**: Agricultural evidence
2001	**Lambriggan Deer Farm**: Farm dwelling	**Weyhill Nursery**: Second dwelling
	Blueys Farm: Mobile home	**Mannings Farm**: Farm dwelling
2002	**A419 Calcutt Access**: Effect on farms	**Land Adj White Swan**: Access alteration
	Cobweb Farm: Buildings reuse / diversification	**Happy Bank Farm**: Lack of need for building
	Philips Farm: Farm dwelling	**Lower Park Farm**: Building reuse / traffic
	West Wilts Local Plan Inquiry: Dev site	**Stourton Hill Farm**: Diversification

	Manor Farm: Building reuse	
2003	**Fairtrough Farm**: Equine dev and hay barn	**Darren Farm**: Impact of housing on farm
	Hollies Farm: Manager's dwelling	**Greenways Farm**: Farm diversification
	Land at Springhill: Certificate of lawfulness	**Land at Four Marks**: Dev site implications
	Oak Tree Farm: Mobile home	
2004	**Chytane Farm**: Objector to farm dwelling	**Oldberrow Lane Farm**: Relocation of buildings
	Crown East: Visitor facility and manager's flat	**Forestry Building, Wythall**: Forestry issues
	Swallow Cottage: Widening of holiday use	**Lower Dadkin Farm**: Mobile home
	Etchden Court Farm: New enterprise viability	**Villa Vista**: Viability of horticultural unit
	Attleborough Bypass: On behalf of Highways Agency	
2005	**Howells School**: Use of land for horses	**Newton Lane**: Enforcement appeal
	Otter Hollow: Mobile home	**Manor Farm**: Change of use class
	Springfield Barn: Barn conversion	**South Hatch Stables**: RTE refurbishment
	Ashley Wood Farm: Swimming pool	**Trevaskis Fruit Farm**: Farm dwelling
	The Hatchery: Mobile home	**Tregased**: Enforcement appeal
	Stockfields Farm: Building reuse	
2006	**Manor Farm**: Replacement farmhouse	**Bhaktivedanta Manor**: Farm buildings
	Sough Lane: Farm dwelling	**Military Vehicles**: Loss of BMV land
	Whitewebbs Farm: Enforcement appeal	**Ermine Street Stables**: Enforcement appeal
	Land at Condicote: Farm dwelling	**Featherstone Farm**: Replacement buildings
	Rye Park Farm: Enforcement appeal	**Flambards**: Mobile home and poultry unit
	Woodrow Farm: Buildings reuse	**Manor Farm**: Effect of housing on farm
	Rectory Farm: Retention of unlawful bldg	**Goblin Farm**: Arbitration re notice to quit
	Walltree Farm: Retention of structures	**Terrys Wood Farm**: Farm dwelling
	Weeford Island: Land quality issues	**Etchden Court Farm**: Mobile home
	College Farm: Relocation of farmyard	**Hollowshot Lane**: Farm dwelling and buildings
2007	**Woolly Park Farm**: Manager's dwelling	**Barcroft Hall**: Removal of condition
	Park Gate Nursery: Second dwelling	**Kent Access Road**: Effect on farms
	Penyrheol las: Retention of bund	**Greys Green Farm**: Enforcement appeal
	Hucksholt Farm: New beef unit in AONB	**A40 Robeston Wathen bypass**: Underpass
	The Green, Shrewley: Mobile home	**Woodland Wild Boar**: Mobile homes
	Brook Farm: Retention of polytunnels	
2008	**Weights Farm**: Second dwelling	**Whitegables**: Stud manager's dwelling
	Hill Farm: Mobile home	**Balaton Place**: Loss of paddock land
	Relocaton of Thame Market: Urgency issues	**Point to Point Farm**: Buildings / farm dwelling
	Spinney Bank Farm: Dwelling / viability issues	**Norman Court Stud**: Size of dwelling
	Higham Manor: Staff accommodation	**High Moor**: Temporary dwelling
	Robeston Watham bypass: Procedures Hearing	**Land at St Euny**: Bldg in World Heritage Area
	Monks Hall: Covered sand school	**Baydon Meadow**: Wind turbine
	Porthmadog bypass: Road scheme inquiry	
2009	**Claverton Down Stables**: New stables	**Meadow Farm**: Building conversion
	Hailsham Market: Closure issues	**Bishop's Castle Biomass Power Station**: Planning issues
	Gambledown Farm: Staff dwelling	**Foxhills Fishery**: Manager's dwelling
	Oak Tree Farm: Farm dwelling	**Bryn Gollen Newydd**: Nuisance court case
	A470 Builth Wells: Off line road scheme	**Swithland Barn**: Enforcement appeal
	Hill Top Farm: Second dwelling	**Woodrow Farm**: Retention of building
	Sterts Farm: Suitability / availability of dwelling	
2010	**Poultry Farm, Christmas Common**: Harm to AONB	**Stubwood Tankers**: Enforcement appeal
	Wellsprings: Rention of mobile home	**Meridian Farm**: Retention of building
	Redhouse Farm: Manager's dwelling	**Swithland Barn**: Retention of building
	Lobbington Fields Farm: Financial test	
2011	**Fairtrough Farm**: Enforcement appeal	**A477 Red Roses to St Clears**: Public Inquiry

	Etchden Court Farm: Farm dwelling	**Upper Bearfield Farm**: Additional dwelling
	Trottiscliffe Nursery: Mobile home	**North Bishops Cleeve**: Land quality issues
2012	**Tickbridge Farm**: Farm dwelling	**Langborrow Farm**: Staff dwellings
	Blaenanthir Farm: Stables and sandschool	**Heads of the Valley S3**: Improvements
	Land at Stonehill: Eq dentistry / mobile home	**Seafield Pedigrees**: Second dwelling
	Cwmcoedlan Stud: Farm dwelling with B&B	**Beedon Common**: Permanent dwelling
2013	**Barnwood Farm**: Farm dwelling	**Upper Youngs Farm**: Stables / log cabin
	Spring Farm Barn: Building conversion	**Tithe Barn Farm**: Enforcement appeal
	Baydon Road: Agricultural worker's dwelling	**Lower Fox Farm**: Mobile home / building
	Stapleford Farm: Building reuse	**Tewinbury Farm**: Storage barn
	Meddler Stud: Residential development	**Church Farm**: Solar park construction
	Deer Barn Farm: Agricultural worker's dwelling	
2014	**Land at Stow on the Wold**: Housing site	**Land at Elsfield**: Retention of hardstanding
	Allspheres Farm: Cottage restoration	**Queensbury Lodge**: Potential development
	Land at Stonehill: Equine dentistry practice	**Kellygreen Farm**: Solar park development
	Spring Farm Yard: Permanent dwelling	**Spring Farm Barn**: Building conversion
	Land at Valley Farm: Solar park	**Land at Willaston**: Residential development
	Land at Haslington: Residential development	**Bluebell Cottage**: Enforcement appeal
	Manor Farm: Solar farm on Grade 2 land	**Clemmit Farm**: Mobile home
	Penland Farm: Residential development	**Honeycrock Farm**: Farmhouse retention
	Sandyways Nursery: Retention of 23 caravans	**The Mulberry Bush**: Farm dwelling
2015	**The Lawns**: Agricultural building / hardstanding	**Redland Farm**: Residential dev issues
	Harefield Stud: Stud farm / ag worker's dwelling	**Emlagh Wind Farm**: Effect on equines
	Newtown Bypass: Compulsory purchase orders	**Fox Farm**: Building conversion to 2 dwellings
	Barn Farm: Solar farm	**Wadborough Park Farm**: Farm buildings
	Hollybank Farm: Temporary dwelling renewal	**Delamere Stables**: Restricted use
	Five Oaks Farm: Change of use of land and temporary dwelling	
2016	**Clemmit Farm**: Redetermination	**Meddler Stud**: RTE and up to 63 dwellings
	The Lawns: Replacement building	**Land off Craythorne Road**: Housing dev
	Land at the Lawns: Cattle building	**Berkshire Polo Club**: Stables / accomm
2017	**Low Barn Farm**: Temporary dwelling	**Harcourt Stud**: Temporary dwelling
	High Meadow Farm: Building conversion	**Clemmit Farm**: Second redetermination
	Windmill Barn: Class Q conversion	**Stonehouse Waters**: Change of use of lake
	Land at Felsted: Residential development	
2018	**Thorney Lee Stables**: Temporary dwelling	**Watlington Road**: Outline app residential
	Benson Lane: Outline app residential	**A465 Heads of the Valley 5/6**: Agric effects
	Park Road, Didcot: Outline app residential	**The Old Quarry**: Permanent dwelling
	Coalpit Heath: Residential development	**Chilaway Farm**: Removal of condition
2019	**Mutton Hall Farm**: Agric worker's dwelling	**Leahurst Nursery**: Temporary dwelling
	Clemmit Farm: Third redetermination	**Icomb Cow Pastures**: Temp mobile home
	Ten Acre Farm: Enforcement appeal	**Forest Faconry**: Construction of hack pens
	Harrold: 94 Residential dwellings	
2020	**Stan Hill**: Temp dwelling/agric. buildings	**Hazeldens Nursery**: Up to 84 extra care units
	Allspheres Farm: Enlargement of farm dwelling	**Leahurst Nursery**: Agricultural storage bldg
2021	**Ruins:** Dwelling for tree nursery	**Sketchley Lane, Burbage**: Industrial and residential development
2022	**Thornbury**: Local BMV	**Park Solar Traffwl**: Solar Hearing
	Penpergwym: Solar Farm Hearing	
2023	**Mudds Bank**: Equestrian workers dwelling	**Scruton Solar Farm**: Effects on BMV and food
	Mallard Pass NSIP: Issue specific hearing	**Land at East Burnham**: Equestrian facilities
	Bramford Solar: Loss of BMV / food	**Fladbury**: Housing on BMV land
	Gate Burton NSIP: BMV and Food	**Pound Road, Axminster**: BESS and BMV
	Heckington Fen NSIP: Issue Hearing	**Wymondley Solar**: Use of BMV
	Cutlers Green Solar: Use of BMV	

Appendix KCC2

The Proposals (Site Layout and Landscape Strategy P19-2022-10 Rev Q)


Site Layout & Landscape Strategy
Belvoir Estate Solar Farm
Pegasus

Appendix KCC3

Soil Resources Management Plan

BELVOIR SOLAR FARM,

SOIL RESOURCES MANAGEMENT PLAN

March 2024

KERNON
COUNTRYSIDE CONSULTANTS LIMITED

BELVOIR SOLAR FARM,

SOIL RESOURCES MANAGEMENT PLAN

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CONTENTS

Annex

1 INTRODUCTION

1.1 This document provides Soil Resources Management Plan (SRMP) for the Belvoir Solar Farm project (hereafter referred to as 'the Proposed Development').

1.2 The objective of the SRMP is to identify the importance and sensitivity of the soil resource and to provide specific guidance to ensure that there is no significant adverse effect on the soil resource as a result of the Proposed Development.

1.3 The SRMP has been produced following the comments of Natural England to the planning application. In a consultation response of 30th May 2023 Natural England commented that "**any grant of planning permission should be made subject to conditions to safeguard soil resources, including the provision of soil resources information in line with the Defra guidance "Construction Code of Practice for the Sustainable use of Soils in Construction Sites**".

1.4 The SRMP is structured as follows:

(i) section 2 sets out the reasons for and the scope of the SRMP;

(ii) section 3 describes the soil resources and characteristics;

(iii) section 4 sets out key principles;

(iv) sections 5 - 8 set out the soil management requirements for key aspects of the Proposed Development:

- section 5: construction compounds;
- section 6: access tracks and fixed equipment;
- section 7: solar arrays;
- section 8: on-site trenching;

(v) sections 9, 10, and 11 set out operational phase management and the principles required for decommissioning.

1.5 This SRMP draws on professional experience with the installation of solar panels. It also draws on experience with the installation of underground services (especially pipelines), and with soil movement and restoration of agricultural land in connection with roads, quarries and golf courses. It draws from the detailed Agricultural Land Classification (ALC) survey by AMET Property (January 2023), the text of which is at **Attachment A**.

<u>**Summary**</u>

1.6 Subject to planning consent and the discharge of conditions the installation process is expected to commence with initial enabling works in late summer/early autumn 2024. If weather permits this will include creating the access tracks. The bulk of the panel legs will then be installed within 4 to 6 months of commencement, and whilst soils are dry, in spring and summer 2025. The construction phase is expected to last in total about 6 - 9 months, depending upon the start date and winter working restrictions.

1.7 The operators recognise the need to carry out such work when soil conditions are suitable and are committed to that.

Note about Why Soils are Important

1.8 Soils are an important resource. The Environment Agency estimates that UK soils currently store about 10 billion tonnes of carbon, equal to about 80 years of greenhouse gas emissions[1]. Yet many biological processes and soil functions are thought to be under threat. 4 million hectares are at risk of compaction, including grassland areas. Therefore soils need to be managed so as not to damage or lose those important functions.

Advice and Guidance Drawn Upon

1.9 This document has drawn upon:

- Construction Code of Practice for the Sustainable Use of Soils on Construction Sites, Defra (2009);
- Working with Soils Guidance Note on Benefiting from Soil Management in Development and Construction, BSSS (2022);
- Building on Soil Sustainability: principles for soils in planning and construction, Lancaster University and partners (2022);
- Agricultural Good Practice for Solar Farms, BRE (2014).

[1] State of the Environment: Soils, Environmental Agency (2019)

2 SCOPE OF THE SRMP

2.1 This SRMP sets out:

- a description of the soil types and their resilience to being trafficked;
- an outline description of proposed access routes and details of how access will be managed to minimise impacts on soils;
- a description of works and how soil damage will be minimised and ameliorated;
- a methodology for monitoring soil condition, and criteria against which compliance will be assessed;
- and an outline of how soil will be protected at decommissioning.

2.2 The installation of the solar panel framework, and the assembly of the panels, does not require the movement or disturbance of soils. Those works should not, therefore, result in localised disturbance or effects on soils or agricultural land quality. The SRMP however particularly covers vehicle movements and related impacts, as those could result in compaction.

2.3 Trenching works to connect the panels to the infrastructure do have the potential to cause localised effects on soils. Localised damage will be minimised by good practice. This oSMP sets out soil resilience, best practice and monitoring criteria. It considers the effect of trenching works.

2.4 In localised areas there is a need for access tracks or bases for infrastructure and equipment. In those localised areas soil will need to be stripped and moved, for stockpiling for subsequent restoration. This SRMP sets out:

- a description of the soil types and their resilience to being stripped and handled;
- an outline map showing the areas proposed for being moved, soil thickness and type;
- a methodology for creating and managing stockpiles of soil;
- an outline methodology for testing soils prior to restoration, and a methodology for respreading and ameliorating compaction at restoration.

2.5 This SRMP focuses on the construction phase and immediate aftercare, and on the decommissioning phase, especially to set principles to avoid creating compaction. There will be some long-term storage of soil for restoration uses at the decommissioning phase. Any soil removal at construction for future restoration (eg of the tracks) will be stored on site and labelled for subsequent return. This is described.

3 SOIL RESOURCES AND CHARACTERISTICS

Climatic Conditions

3.1 The climatic data for the area was set out in the Agricultural Land Classification. This identified average annual rainfall of 585mm per annum across the site.

3.2 Soils are at field capacity, which is when they are replete with water so that they can absorb no more, for about 119 days per year.

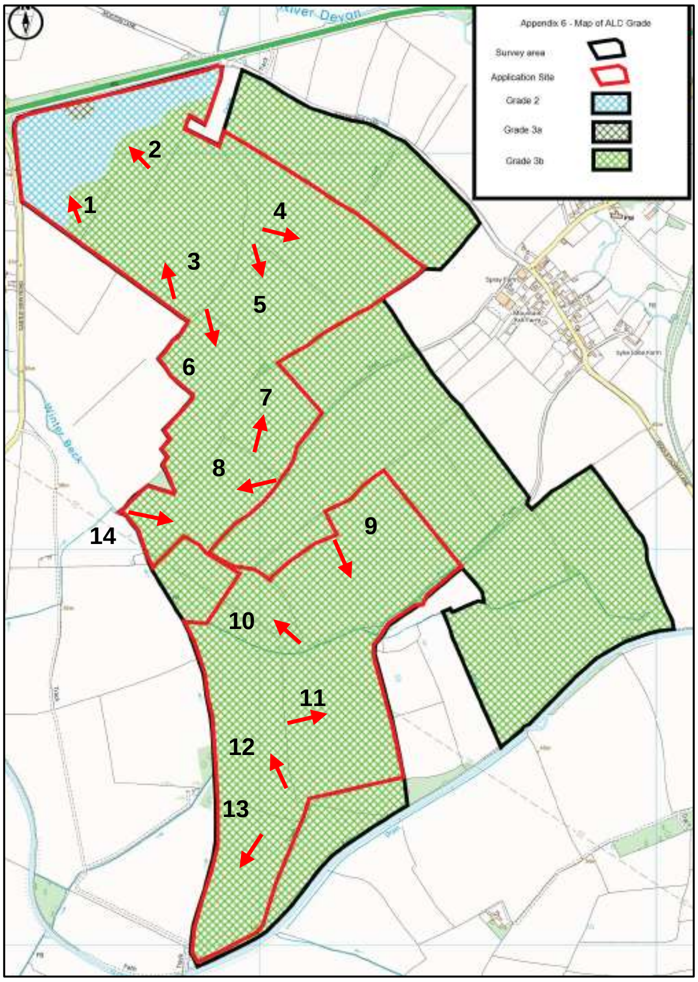
The Site and Land Quality

3.3 The site is all in arable use.

3.4 Photographs of parts of the site are shown in **Attachment B**, located as shown on the ALC plan.

3.5 The site is mostly subgrade 3b, with a small area of Grade 2 (7 ha) and a very small area of subgrade 3a (0.03 ha) along the northern boundary, as shown below.

Insert 1: ALC Results and Photo Location Points



3.6 Examples are shown below.

Photo 1: Viewpoint 3

Photo 2: Viewpoint 6

Photo 3: Viewpoint 9

Soils

3.7 The soils are described in the ALC report.

3.8 The Grade 2 is sandy. A profile, taken from the ALC report, is described below:

"Horizon 1: 0cm to 30cm Dark brown or very dark greyish brown sandy loam or sandy clay loam with a granular structure.

Horizon 2: 30cm to 60cm Yellowish brown sandy clay loam, with a medium angular blocky structure.

Horizon 3 60cm to 120cm Yellowish brown sand with a massive structure".

3.9 The photograph below shows the soils at sample point 126.

Insert 2: Soils at Sample Point 126

3.10 A shallower pit dug by KCC near to auger point 140 is shown below.

Insert 3 & 4: Pit Dug Near Point 140

3.11 The majority of the site is clay. A typical profile from the ALC is shown below.

"**Horizon 1: 0cm to 30cm Very dark greyish brown clay. Despite the literature suggesting that the soils are calcareous there was no visible reaction to the HCl test at any sample point except for occasionally where a small piece of lime/limestone was found in the sample. It is not considered that the soils on site are naturally calcareous.**

Horizon 2: From between 30cm to 60cm Greyish brown, clay with a course angular blocky structure with many ochreous mottles

Horizon 2a (only found in 10 of the samples): 60cm to 90 cm Dark yellowish brown stony clay with a very course platy structure and many ochreous mottles Horizon 3 (Not always present): From 60 cm to 120cm (or 90cm to 120cm where horizon 2a was present) Grey clay with a course prismatic structure many ochreous mottles".

3.12 Examples from the ALC are shown below.

Inserts 5 – 8: Examples from the ALC

4 KEY PRINCIPLES

Terminology

4.1 In this SRMP the following terminology is used:

- soil trafficking, which means vehicular passage over soils, but not physical disturbance;
- soil handling, which describes where soil is physically moved, such as by a mechanical digger.

Overview

4.2 For much of the installation process there is no requirement to handle (ie move or disturb) soils. Soils will need to be moved and disturbed to create temporary working compounds, and to create the tracks and small fixed infrastructure bases. Soils will need to be handled to enable cables to be laid, but those soils will be reinserted shortly after they are lifted out (ie this is a swift process).

4.3 For those small areas where soil needs to be disturbed to create tracks and bases, the soil will be stored in suitably-managed bunds on the site. The soil needs to be looked after because it will be needed at the decommissioning phase to restore the land under the tracks and bases back to agricultural use.

4.4 It is unlikely that subsoil will need to be removed to create the shallow tracks and bases, but if subsoil does need to be moved and stored, it will be stored separately to the topsoil, and clearly marked.

4.5 For the majority of the proposed development soils do not need to be disturbed. The effects on agricultural land quality and soil structure are therefore limited to the effects of vehicle passage (ie trafficking). This is agricultural land, so it is already subject to regular vehicle passage. Therefore the key consideration is to ensure that soils are passed over by vehicles (trafficked) when the soils are in a suitable condition, and that if any localised damage or compaction occurs (which is common with normal farming operations too), it is ameliorated suitably.

4.6 The key principles for successfully avoiding damage to soils are:

- timing;
- retaining soil profiles;
- avoiding compaction;
- ameliorating compaction; and
- retaining and storing soils for subsequent reuse.

Timing

4.7 The most important management decision/action to avoid adverse effects on soils is the timing of works. If the construction work takes place when soil conditions are sufficiently dry, then damage from vehicle trafficking and trenching will be minimal.

4.8 The installation process should take place, so far as possible and at least in terms of track creation and panel installation, between April and October in a normal year. As identified in the ALC report, the top soils are clay and imperfectly drained, and so are susceptible to damage when wet. Accordingly the panels and trenches should mostly, if not all, be installed before the soils become saturated. Final commissioning works are unlikely to create much need to traffic over the land, and could operate outside this window.

4.10 The soils are relatively resilient in summer to vehicle passage.

4.11 Any damage from vehicle trafficking in winter, which will be avoided so far as possible, can generally be made good by mechanical husbandry once the soils start to dry in the spring.

4.12 In winter and early spring there is an increased risk of creating localised damage to soil structure from vehicle passage. There are obviously a great number of variables, such as recent rainfall pattern, whether the ground is frozen or has standing water, inevitable variations in soil condition across single fields, and the size and type of machinery driving onto the land. However, landwork in this period is most likely to result in the need for restorative works post installation and, it is planned, will be avoided.

4.13 As a general rule any activity that requires soil to be dug up and moved, such as cabling works, should be minimised during that period. Soils handled when wet tend to lose some of their structure, and this results in them taking longer to recover after movement, and potentially needing restorative works (eg ripping with tines) to speed recovery of damaged soil structure.

4.14 In localised instances where it is not possible to avoid undertaking construction activities when soils are wet and topsoil damage occurs then soils can be recovered by normal agricultural management, using normal agricultural cultivation equipment (subsoiler, harrows, power harrows etc) once soils have dried adequately for this to take place. There may be localised wet areas in otherwise dry fields, for example, which are difficult to avoid.

Determining if Soils are Suitable

4.15 Soils should ideally be friable when handled or trafficked.

4.16 Basically with clay soils of this type, if you can roll soil into a ball or a sausage easily and the soil holds that shape, it is too wet to travel over or move soils. This is illustrated in the photograph below. It is followed by a photograph indicating the type of physical impression the tractor movement can make in unsuitable conditions.

Inserts 9 and 10: Indication of When Soils are Too Wet

Retaining Soil Profiles

4.17 The successful installation of cabling requires a trench to be dug into the ground. Topsoils vary only slightly across the majority of the site and the coverage is generally 30cm (see Profile/Horizon 1 and 2 described above).

4.18 As set out in the BRE Agricultural Good Practice Guidance for Solar Farms at page 3:

> "**When excavating cable trenches, storing and replacing topsoil and subsoil separately and in the right order is important to avoid long-term unsightly impacts on soil and vegetation structure. Good practice at this stage will yield longer-term benefits in terms of productivity and optimal grazing conditions**".

4.19 In those areas where the soil is dug up (trenching and for compounds and access roads), the soils should be returned in as close to the same order, and in similar profiles, as it was removed.

Avoiding Compaction

4.20 This SRMP sets out when soils should generally be suitable for being trafficked. There may be periods within this window, however, when periodic prolonged rainfall events result in soils becoming liable to damage from being trafficked or worked. In these (likely rare) situations, work should only continue with care, to minimise structural effects on the soils, until soils have dried, usually within 48 hours of heavy rain stopping.

Ameliorating Compaction

4.21 If localised compaction occurs during construction, it should be ameliorated. This can normally be achieved with standard agricultural cultivation equipment, such as subsoilers (if required), power harrows and rolls.

4.22 The amount of restorative work will vary depending upon the localised impact. Consequently where the surface has become muddy, for example in the photograph below, this can be recovered once the soil has dried, with a tine harrow and, as needed, a roller or crumbler bar.

Inserts 11 and 12: Inter-row Ground Restoration

4.23 The construction programme is from spring to autumn 2025, so this type of more extensive soil damage is unlikely to occur.

4.24 If there is any localised problem, the type of machinery involved in restoration is shown below. This shows farming and horticultural versions.

Inserts 13 - 16: Type of Machinery Involved

4.25 If there are any areas where there has been localised damage to the soils due to vehicle passage, for example, a low wet area within a field which despite best efforts could not be avoided, this should be made good and reseeded at the end of the installation stage. This is not uncommon: most farmers will have times when they have to travel around the farm in a tractor in conditions where the tyres make deep impacts. This can happen during harvest time, for example, especially of late crops or in very wet harvest seasons. Whilst this is avoided so far as possible, it occurs and the effects are made good when conditions are suitable.

4.26 The ground surface should be generally levelled prior to any seeding or reseeding.

4.27 Examples of areas that have been cultivated following the installation of panels, are shown below. These are the main vehicle trafficking routes. As can be seen, the area under and mostly between the panels, is not damaged.

Inserts 17 and 18: Localised Repairs

<u>Retaining Soils</u>

4.28 At decommissioning stages the areas that will form the bases for the fixed infrastructure, can be returned to agricultural use. For this to be successful, the soils must have been retained on site, properly recorded or labelled so that they can be returned to the approximate position from where they came and stored properly for the lifetime of the scheme in an appropriately sized and managed bund.

4.29 No soil removed to construct the tracks will be removed from the site. It will all be stored on site for use at the decommissioning phase.

4.30 The storage bunds will be managed to prevent the growth of woody vegetation.

5 CONSTRUCTION COMPOUNDS

Construction Methodology

5.1 A temporary construction compound will need to be created at the start of construction and reinstated at the end.

5.2 Construction compounds are built by stripping topsoil and storing that in a bund on the edge of the site. A matting is then laid down, and stone imported and levelled, as shown below.

Insert 19: Newly-laid Construction Compound (Elsham-Lincoln Pipeline)

5.3 The matting prevents the stone from mixing with the subsoil, as shown below.

Insert 20: Matting

5.4 Topsoil is stored in a bund, as shown below.

Insert 21: Topsoil Storage Bund

Movement of Soils

5.5 The soils need to be sufficiently dry to handle. The works are scheduled to start in spring 2025, so soils will be dry, although some early works may start in autumn 2024 if conditions are suitable.

5.6 If you can roll soil into a ball or a sausage easily and the soil holds that shape, it is too wet to travel over or move soils. This is illustrated in the photograph below. This will apply to all the subgrade 3b land.

Insert 22: Indication of When Soils are Too Wet

5.7 The sandy loam soils of the Grade 2 area will not roll into a sausage, and will be much less susceptible to damage. As this is a small part of the site, it is suggested that it be worked at the same time as the rest of the site, following the tests above.

5.8 The topsoils will be stripped to a depth of 30cm, and placed in bunds on the edge of the compound, as shown above.

5.9 Short term storage of soil is shown above. If the soil is likely to be stored for in excess of six months then, depending upon timing, it should be seeded with grass. This binds the soil together and minimises erosion.

5.10 Therefore if the construction compound is not to be removed before the wet weather in the autumn, the bunds should be seeded with grass, as per the example below.

Insert 23: Grass-seeded Bund

Removal

5.11 The removal of the construction compound should be timed for dry weather. That may be the following spring.

5.12 At the end of the construction process, the aggregate will be removed. This can be seen in progress below.

Insert 24: Start of Restoration of Construction Compound

5.12 The base area should be loosened when soils are dry and the topsoil then spread over the site to the original depth. This should be lightly cultivated.

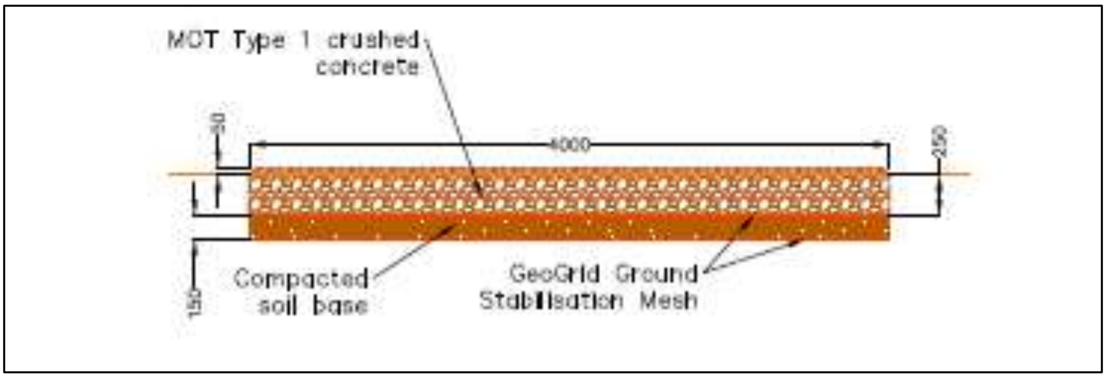
5.13 Panels can then be installed over the construction compound, or the area returned to agricultural use.

6 ACCESS TRACKS AND FIXED EQUIPMENT

Construction Methodology

6.1 The access tracks are created by stripping off some or all of the topsoil (to a depth of 200mm) and then adding an aggregate-based surface. Usually, the aggregate will be placed onto a permeable membrane, which allows water penetration but which prevents the aggregate from mixing with the topsoils or upper subsoils. A typical cross-section is shown below.

Insert 25: Access Track Cross Section



6.2 The small areas of fixed equipment normally stand on a gravel base area, as shown below. As these areas will be restored in the future, the construction is carried out as follows:

(i) topsoil to c 10-15cm is removed. This will be stored in a bund no more than 3m high at an agreed location, for use in future restoration;

(ii) a permeable terram layer is then laid;

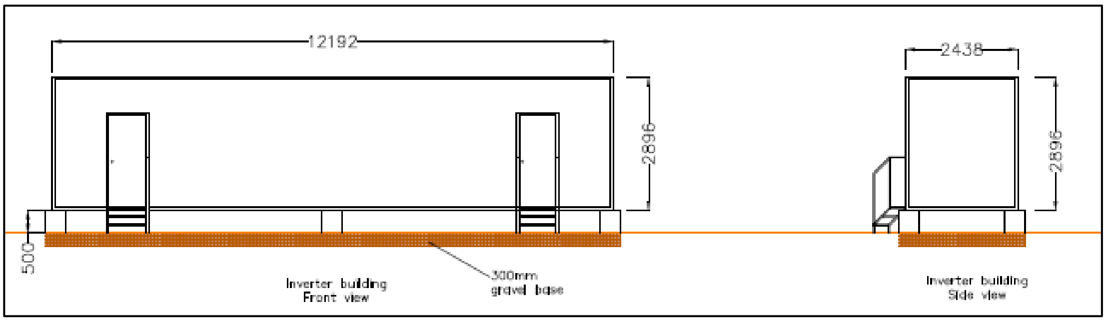
(iii) the base of stone is then added, and forming put around before concrete is poured to create the pad, or stone is added to create the pad;

(iv) the equipment is then placed on top;

(v) further security fencing is added once the cabling and connections are complete.

6.3 A typical example of fixed equipment from an operating solar farm, is shown below.

Inserts 26 and 27: Typical Inverter Container



Soil Management

6.4 Soil should be stripped when the soil is sufficiently dry and does not smear. This is a judgement that is easily made. If the soils can be rolled into a sausage shape in the hand which is not crumbly, or if rubbing a thumb across the surface causes a smudged smooth surface (a smear), the soil is generally too wet to strip or move without risk of structural damage. Topsoil depths are consistent across the site and a stripping depth of 30cm will be a suitable maximum depth for topsoil in most cases, although rarely will it need to be stripped to such a depth.

6.5 Soil stripping should be carried out in accordance with Defra "Construction Code of Practice for the Sustainable Use of Soils on Construction Sites" (Defra, 2009). The removed soil should be stored in bunds in accordance with the Construction Code of Practice.

6.6 The tracks involve the movement of soils. Therefore the soils are more susceptible to damage from mechanical moving. The topsoil will, however, be stored for the duration of the operational period. Accordingly if for operational reasons it is necessary to commence the construction of tracks and bases when soils are not in optimal condition, the soil to be stored should be stored initially in bunds of maximum 3 metres high.

6.7 This will allow the soils to dry. Shallow bunds can then be moved again once they are dry into larger bunds for long-term storage.

6.8 Once the soils are sufficiently dry, typically after two or three weeks, it will be possible to move the soils to long-term storage bunds.

6.9 As a general rule soil should not be moved during or within 24 hours of heavy rain.

Bund Management

6.10 Soil bunds should be no more than 3m in height to prevent anaerobic conditions in the base of the bund. The bund should be sown with a grass mix. This should be managed at least annually to prevent the growth of woody vegetation (eg brambles).

6.11 Examples of bunds are shown below.

Insert 28 and 29: Soil Bund Example

Reinstatement

6.12 Reinstatement of topsoil at the decommissioning phase should involve the following:

(i) removal of the stone from the track, and the membrane;

(ii) subsoiling in dry conditions along the route of the track and base areas to loosen the subsoil;

(iii) replacement of dry topsoil from the bunds, levelled and cultivated;

(iv) a second light compaction alleviation, eg with a tined cultivator, if needed;

(v) sowing with a crop or grass to get rooting into the profile as soon as possible after replacement.

7 SOLAR ARRAYS

The Areas

7.1 The PV Arrays will be distributed across the Solar PV Site as shown on the application plans.

Construction Methodology

7.2 The process involves the following stages:

(i) marking-out and laying out of the framework. For this a vehicle needs to drive across the field possibly with a trailer, from which the legs are off-loaded by hand, or by use of a Bobcat such as that shown below delivering legs;

Insert 30: Bobcat Delivering Legs

(ii) pile driving in the legs. This involves a pile driver, knocking the legs down to a maximum 1.5m. The machinery is shown below;

Inserts 31 - 31: Pile Driving in the Legs

(iii) the frame is then constructed. The frame is brought onsite, bolted together, and the panels bolted on, as per the series of photographs below.

Inserts 34 - 36: Constructing the Frame. Note this is a very low panel

7.3 The installation should be carried out when the ground conditions are suitable (ie the soil is not so wet that vehicles cause tyre marks, such as shown below, deeper than about 10cm when travelling across the land). This will normally be between April and early October. Which is a few weeks after soils should be dry and a few weeks before they would normally become wet. If conditions are suitable, this stage of the installation should create no soil structural damage or compaction, as shown below. Panel installation is scheduled to start in Spring 2025 and last up to 6 months, so this is achievable.

Inserts 37 and 38: Ground After Construction

Soil Management

7.4 As discussed earlier, the sausage test, should be used to determine suitability of the soils for working or access. In simple terms, if the soil is so wet that vehicles cause tyre marks, such as shown below, deeper than about 10cm when travelling across the land, conditions are not yet suitable. As construction is scheduled to start in spring 2025, soils will normally be suitable. Early installation of tracks may be possible.

Insert 39: Track Marks

7.5 In most years work access to the land is not restricted between April and Early October. Between those periods the ground conditions will normally be resilient to vehicle trafficking.

7.6 Between October and April the soils are more likely to be saturated and the propensity to being damaged, albeit in a way capable of rectification, is greatest. As a general rule, vehicular travel in these periods should be limited as much as possible. It is recognised that rainfall is the factor that wets the soils, so a dry spring will offer different conditions to a wet spring, and this may mean that soil structural damage will inevitably result. This is outside the projected construction period.

7.7 Occasionally in this country we experience prolonged rainfall in the summer months that saturate soils. If following a rainfall incident installation is causing rutting deeper than 10cm, activity should be minimised so far as possible to allow soils to dry.

7.8 It is very unlikely that trafficking during construction when soils are relatively dry will result in compaction sufficient to require amelioration. However, if rutting has resulted the soil should be levelled by standard agricultural cultivation equipment such as tine harrows, once the conditions suit, and prior to seeding. This can be done with standard agricultural machinery, or with small horticultural-grade machinery such as is shown below.

Inserts 40 and 41: Horticultural Machinery

7.9 The objective is to get the surface to a level tilth for seeding/reseeding as necessary, as was shown earlier.

7.10 Grass growth will then recover or establish rapidly.

8 INSTALLATION OF ON-SITE TRENCHING

The Areas

8.1 This section refers to the cabling running within the consented area. It does not refer to the Grid Connection Cable.

Construction Methodology

8.2 Cabling is done mostly with either a mini digger or a trenching machine. Trenches will be at depths of up to 1.2m where soil depth permits, although the CCTV trenching around the periphery could be shallower. An example trench, with the topsoil, placed on one side (0-30cm) and subsoil on the other (below 30cm), is shown below, and with the soil put back after cable installation.

Inserts 42 and 43: Cable Installation

8.3 It is important that topsoils are placed separately to the subsoils, and that they are then put back in reverse order, ie subsoils first.

8.4 The type of machinery used for trenching is shown below, taken from the BRE National Solar Centre "Agricultural Good Practice Guidance for Solar Farms" (2013).

Insert 44: Machinery Used (extract from BRE Good Practice Guidance)

Cable trenching, showing topsoil stripped and set to one side, with subsoil placed on the other side ready for reinstatement (photo courtesy of British Solar Renewables)

8.5 The trenches are narrow (mostly 40-70cm, as shown on the application plans). If the topsoil was from grassland the grass will probably recover rapidly without the need to reseed. In bare soils the trench can be cultivated with the wider area for seeding to grass post installation.

Insert 45: Grass After 4 Weeks (natural recovery)

(The photos in this section were taken on heavy, clay soils with poorly draining subsoil, and the work was photographed in July and August 2015)

<u>Soil Management</u>

8.6 All trenching work will be carried out when the topsoil is dry and not plastic (ie it can be moulded into shapes in the hand).

8.7 The top 30cm will be dug off and placed on one side of the trench, for subsequent restoration. There is no need to strip the grass first.

8.8 The subsoils will then be dug out and placed on the other side of the trench, as per the example below.

Insert 46: Subsoils Dug out of the Trench

8.9 Once the cable has been laid, the subsoils will be placed back in the trench. Where there is a clear colour difference within the subsoils, so far as practicable the lower subsoil will be put back first and the upper subsoil above that, which is likely to happen anyway as the lower soil is at the top of the pile.

8.10 If dry and lumpy the subsoils will be pressed down by the bucket to speed settlement. If the soils are settling well no pressing-down is required.

8.11 The topsoil will then be returned onto the top of the trench. It is likely, and right, that the topsoil will sit a few centimetres higher than the surrounding level. This should be left to allow it to settle naturally as the soils become wetter.

8.12 If there is a surplus of topsoil this may be because the lower subsoils were dry and blocky and there are considerable gaps in the soil. These will naturally restore once the lower soils become wet again. If the trench backfilling will result in the soil being more than 5-10cm proud of surrounding levels, which is unlikely but possible, the topsoil should not be piled higher. It should be left to the side, and the digger would return once the trench has settled and add the rest of the topsoil onto the trench at that point.

8.13 Any excess topsoil should not be piled higher than 5 – 10cm above ground level.

8.14 If considered appropriate, a suitable grass seed mix could be spread by hand over any parts of the trenches that would seem likely to benefit from extra grass.

9 OPERATIONAL PHASE: LAND MANAGEMENT

Solar PV Arrays

9.1 The land around the Solar PV Arrays will be managed including potentially by the grazing of sheep.

9.2 Panels grazed by sheep tend to be free of weeds, as shown below.

Insert 47: Sheep Grazing Under Panels

9.3 Any localised weed treatment can be carried out at the appropriate time of the year using a quad-mounted sprayer, or by hand using a strimmer or knapsack sprayer.

Ongoing Maintenance

9.4 There are many different cleaners on the market, some tractor based and some operated from smaller machines, such as below.

Insert 48: Cleaning of Solar Arrays

9.5 All the fields are wet in places, and therefore the cleaning should be timed so far as possible to avoid the October to April period for the site. This is normal, as the cleaning generally takes place in spring, to maximise solar absorption potential over the summer months.

9.6 If vehicles, including farm vehicles, cause ruts in the soil these will naturally repair in time, especially as the land is grazed by sheep and their feet are excellent at levelling land. Alternatively a light harrow or rolling will restore the ruts, when the soil is still soft enough to roll but hard enough to not rut more.

Insert 49: Ruts Caused by Vehicles

9.7 If vehicles have caused rutting it is probably, as per the example above, only localised. In the photograph above this is a wet spot, and on the land either side of the ruts within the row there is no evidence of wheel indentation. If these areas are not levelled they will tend to sit with water in them.

9.8 Localised, small rutting should be repaired by either treading-in the edges with feet, by light rolling or harrowing, or adding a small amount of soil simply to fill-in the depression so that water does not collect there.

9.9 Deeper rutting will require either light harrowing in the drier period, or some soil adding, or both, before reseeding.

<u>Emergency Repairs</u>

9.10 For the duration of the operational phase there should be only localised and infrequent need to disturb soils, such as for repair of a cable. Any works involving trenching should be carried out, ideally, when the soils are dry but recognising that any works will be those of emergency repair, that may not be possible.

9.11 Accordingly if new cabling is needed and has to be installed in wet periods, it can be expected that the trench will look unsightly initially, such as the example below.

Insert 50: Trench During Wet Period

9.12 Any area disturbed should be harrowed or raked level once the soils have dried, and be reseeded. These areas will be small, and this can probably be done by hand.

10 OPERATIONAL PHASE: SOIL STORAGE

10.1 The critical part of successful long-term storage of soils is to place the soils into storage bunds when the soils are dry.

10.2 Ongoing maintenance should ensure that the bunds remain free from woody vegetation (eg brambles, elder) and that the soil bunds do not erode. For this reason the bunds should be seeded with a grassland mix, as the roots of the grasses will help bind the surface and prevent water channels forming.

10.3 At least once per year the bund should be managed, ideally by mowing or strimming.

10.4 An example of a bund that is seven years old, is shown below.

Insert 51: Soil Bund Example

11 DECOMMISSIONING PRINCIPLES

11.1 Given the length of time before decommissioning it is likely that the ALC methodology will have been amended by then. Further, unless we are successful as a world, climate change may have altered the seasons and rainfall patterns. Therefore this guidance is prefaced with a requirement for a suitably qualified soil scientist to revisit the site prior to decommissioning, and to update the guidance and timing.

11.2 The objective is to remove panels and restore all fixed infrastructure areas to return the land to the same ALC grade and condition as it was when the construction phase commenced.

Removal of Panels

11.3 A qualified soil scientist should advise prior to decommissioning time. The effects of climate change in 40 years time may mean that these dates, applicable in 2023, are no longer applicable.

11.4 Once the panels have been unbolted and removed, the framework will then be a series of legs, as shown below.

Inserts 52 and 53: The Framework

11.5 These will be removed by low-ground pressure machines, in a reverse operation to the installation. These machines will provide a pneumatic tug-tug-tug vertically upwards. This will break the seal between soil and leg, and once that surface tension is released the leg will come out easily.

11.6 The legs will be loaded onto trailers and removed.

11.7 There will be no significant damage to the soils, and no significant compaction.

Removal of Cables

11.8 Cables buried less than 1 metre deep will be removed. This is likely to need a trench to be dug. This will be done is done mostly with either a mini digger or a trenching machine. Cabling will mostly be at depths of 0.8m where soil depth permits, although the CCTV trenching around the periphery could be shallower. An example trench, with the topsoil placed one side (30cm) and subsoil on the other (below 30cm), is shown below, and with the soil put back after cable installation.

Insert 54: Example Trench

Insert 55: Topsoil Replaced

11.9 The type of machinery used for trenching is shown below, taken from the BRE National Solar Centre "Agricultural Good Practice Guidance for Solar Farms" (2013).

Insert 56: Machinery Used for Trenching

Cable trenching, showing topsoil stripped and set to one side, with subsoil placed on the other side ready for reinstatement (photo courtesy of British Solar Renewables)

11.10 Once the trench has been backfilled it can be left for cultivation with the rest of the field post removal of panels.

Removal of Fixed Infrastructure

11.11 Switchgear, such as that shown below, will need to be removed.

Insert 57: Switchgear

11.12 Low ground pressure vehicles, and cranes, will be needed to lift the decommissioned units onto trailers, and removed from site. An example is shown below.

Insert 58: Example of Low Ground Vehicles

Case Steiger Quadtrac used to deliver inverters and other heavy equipment to site under soft ground conditions (photo courtesy of British Solar Renewables)

11.13 Any concrete bases will need to be broken up. This will most likely involve breaking with a pneumatic drill to crack the concrete, after which it can be dug up and loaded onto trailers and removed.

11.14 The ground beneath the base may then benefit from being subsoiled, to break any compaction. This can be done by standard tractor-mounted equipment, such as the following examples.

Inserts 59 and 60: Example of Tractor Mounted Equipment

Tracks

11.15 The tracks will be the last fixed infrastructure removed. The tracks will have been used for vehicle travel during the decommissioning stage. The tracks will also be used for removal of material from the tracks themselves, which will be removed from the furthest point first.

11.16 The stone will be removed and any matting removal. The base will then be loosened by subsoiler or deep tine cultivators, depending on specific advice given by the soil expert at the time following and analysis of soil compaction and condition.

Reinstatement of Soils

11.17 Topsoil from the storage bunds will then be returned and spread to the depth removed (typically 10-15cm). The area will then be cultivated, probably in combination with the whole of each field.

Fences and Gates

11.18 This will be removed in the summer months, after the panels have been removed. This will involve a tractor and trailer. The CCTV cabling is shallow buried and will probably pull out without the need for trenching, but if required tranches will be dug, as described above, and replaced in order once the cables have been removed.

Cultivation

11.19 The fields will be handed back to the farmers. Whether they are handed back as grassland or sprayed off and cultivated, will be determined in discussions with each landowner.

Attachment A

Agricultural Land Classification Report (Amet Property) (Text Only)

Agricultural Land Classification
Belvoir Solar Farm

Client: JBM Solar Projects 10 Ltd
Project: Belvoir Solar Farm
Date: 9th January 2023 – Issue 9
Issued By: James Fulton MRICS FAAV

Contents

1. EXECUTIVE SUMMARY

1.1 This report assesses the Agricultural Land Classification (ALC) grading of 161.3Ha, of agricultural land at Belvoir.

1.2 The limiting factor found to be soil wetness, a combination of the climatic regime, soil water regime and texture of the top 25cm of the soil on the majority of the site and droughtiness on a small area to the north of the site.

1.3 The land is graded as follows:

Grade 2:	7.0Ha
Grade 3a:	0.3Ha
Grade 3b:	154Ha

1.4 During the planning process the site has been substantially redesigned with the site area reduced to **99.95Ha**. Following these revisions to the scheme the site is graded as follows:

Grade 2:	**7.0Ha**
Grade 3a:	**0.3Ha**
Grade 3b:	**92.6Ha**

2. INTRODUCTION

2.1 Amet Property Ltd have been instructed by JBM Solar Projects 10 Ltd to produce an Agricultural Land Classification (ALC) report on a 161.3-hectare site on land to the southwest of Muston. The ALC report is being prepared to accompany a planning application to be submitted for a solar farm on 103.5 hectares of the site.

2.2 The report was originally drafted in 2020 and while updating to take account of the amended site area it is also being updated to take account of the requirements set out in the BSSS 2022 guidance[1].

2.3 The report's author is James Fulton BSc (Hons) MRICS FAAV who has worked as a chartered surveyor, agricultural valuer, and agricultural consultant since 2004, has a degree in agriculture which included modules on soils and over 10 years' experience in advising farmers on soil structure and cultivation methods and in producing agricultural land classification reports. Additional information on authors experience is found at ***appendix A***.

2.4 The report is based on a site visit conducted by James Fulton and 2 assistant surveyors on the 3rd January 2020 during which the conditions were overcast in the morning and sunny in the afternoon; a further site visit by James Fulton and one assistant surveyor on the 17th July 2020 when conditions were hot and sunny; and a final site visit by James Fulton on the 3rd October 2022 during which the conditions were dry and sunny to get samples for lab testing. Following a third party review of the report an additional visit was made by James Fulton and one assistant surveyor on the 5th January 2023 to check auger boring results and obtain photographs.

2.5 During the inspections three trial pits were dug to a depth of 120cm. In addition to the trial pits an augur was used to take approximately one sample per hectare on the proposed development site to a depth of 120cm with smaller trial pits at some of these locations to confirm soil structure and colour where it was not clear from the augur samples. A plan of augur points and trial pit locations can be found at ***appendix 1***. The trial pit locations were selected as they were representative of the soils found on site. Where subsoils were inspected with a spade, descriptions of structure have been recorded based on the soil survey field handbook[2]; where an augur has been used the structure is described as good, moderate or poor based on figure 9,10 and 11 in the MAFF[3] guidance. Colours are described using Munsell Colours[4].

2.6 Due to the amount of rain that had fallen in the weeks prior to the January 2020 site visit there were areas that were extremely wet. While there were some very

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[1] British Society of Soil Science (2022) – Guidance Document 1 – Working with Soil Guidance Note on Assessing Agricultural Land Classification Surveys in England and Wales.
[2] Hodgson, JM (1997) Soil Survey Field Handbook
[3] MAFF (1988) - *Agricultural Land Classification of England and Wales. Revised guidelines and criteria for grading the quality of agricultural land.* MAFF Publications
[4] Munsell Color (2009) Munsell Soil Color Charts

wet areas the site as a whole was dry enough to be surveyed. Prior to the site visit in July 2020 there had been very little rain and so the ground was extremely hard making it impenetrable in places. The areas outlined red on the plan at appendix 1 were surveyed in January 2020 and the areas outlined blue were surveyed in July 2020.

2.7 The soil conditions for the 2020 surveys had not been ideal and no lab tests had been conducted and so an additional visit was made in 2022 to check subsoil structures. For the October 2022 visit conditions were very good with soils moistening well and allowing structures to be easily identified. The trial pits at sample points 15, 85 and 126 were re-dug in October 2022 and the soil samples collected for lab testing.

2.8 The site is described in literature as likely to be calcareous and so hydrochloric acid was used to test in field for a reaction that would indicate calcareous soils.

2.9 The surveyed area extends to 161.3Ha of arable land spread cross 22 fields in an arable rotation. The land is to the West of Muston, South of the A52 and is approximately 2km from North to South and 1.6km West to East and has sample points with an elevation ranging from 36m to 50m above ordnance datum (AOD).

2.10 Further information has been obtained from the MAGIC website, the Soil Survey of England and Wales, the British Geological Survey, the Meteorological Office and 1:250,000 series Agricultural Land Classification maps.

2.11 The collected information has been judged against the Ministry of Agriculture Fisheries and Food Agricultural Land Classification of England and Wales revised guidelines and criteria for grading the quality of agricultural land.

2.12 The principal factors influencing agricultural production are climate, site and soil and the interaction between them MAFF (1988) & Natural England (2012)[5].

3. PUBLISHED INFORMATION

3.1 The British Geological Survey 1:50,000 scale map shows the bedrock geology across the majority of the site to be Beckingham Member – Limestone and Mudstone Interbedded; Stubton Limestones Bed – Limestone; and Foston Member – Mudstone and Limestone Interbedded. Superficial deposits are largely unrecorded with the exception of a small area in the northwest corner

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[5] MAFF (1988) - *Agricultural Land Classification of England and Wales. Revised guidelines and criteria for grading the quality of agricultural land.* MAFF Publications

Natural England (2012) - *Technical Information Note 049 - Agricultural Land Classification: protecting the best and most versatile agricultural land*, Second Edition of the site identified as River Terrace Deposits (undifferentiated) – Sand and Gravel.

3.2 The soils on the majority of the site are identified as being in the Evesham 2 Association described as slowly permeable calcareous clayey soils. An area to the south of the site is identified as being in the Denchworth Association described as slowly permeable seasonally waterlogged clayey soils with similar loamy over clayey soils. The area to the northwest of the site is identified as being in the Arrow Association described as course loamy soils affected by groundwater.

3.3 The 1:250,000 series Agricultural Land Classification maps show the land to be Grade 3. These plans are of strictly limited value, using an out-of-date methodology at a very small scale (low detail) level of survey. Further information on the limits of their use can be found in TIN049.

4. CLIMATE

4.1 Climate has a major, and in places overriding, influence on land quality affecting both the range of potential agricultural uses and the cost and level of production.

4.2 There is published agro-climatic data for England and Wales provided by the Meteorological Office, such data for the subject site is listed in the table below.

Agro-Climatic Data – Full details can be found at ***appendix 2***

Grid Reference	482180 337159
Altitude (ALT)	45.1
Average Annual Rainfall (AAR)	585
Accumulated Temperature - Jan to June (ATO)	1397
Duration of Field Capacity (FCD)	119
Moisture Deficit Wheat	113
Moisture Deficit Potatoes	106

4.3 The main parameters used in assessing the climatic limitation are average annual rainfall (AAR), as a measure of overall wetness; and accumulated temperature (ATO), as a measure of the relative warmth of a locality.

4.4 The AAR and ATO provide no climatic limitation to grade.

4.5 The site is shown to be in flood zone 1 – areas with a less than 1 in 1000 annual chance of flooding. There was no evidence of flooding seen during the site visit and it is considered that will not result in a limitation to land grade.

5. Stoniness

5.1 There were no notable stones found on site. Stoniness is not considered a limiting factor to land grading.

6. Gradient

6.1 The steepest areas of the site are only a gentle slope with gradient never representing the most limiting factor to land grade.

7. Soils

7.1 The soils found on site largely follow the expectations set by the national soils map. Full information on the sample points along with trial pit descriptions and photographs and lab test results can be found at ***appendix 3***.

7.2 The Northwest corner of the site varied significantly from the rest or the site. This area is the area recorded by the British geological survey as having superficial deposits of River Terrace Deposits (undifferentiated) – Sand and Gravel and as being in the Arrow soil association with a typical sample point in this area described as follows:

Horizon 1: 0cm to 30cm Dark brown or very dark greyish brown sandy loam or sandy clay loam with a granular structure

Horizon 2: 30cm to 60cm Yellowish brown sandy clay loam, with a medium angular blocky structure

Horizon 3 60cm to 120cm Yellowish brown sand with a massive structure

7.3 The rest of the site (whether described in the literature as Denchworth or Evesham 2) was very consistent with a typical sample point described as follows:

Horizon 1: 0cm to 30cm Very dark greyish brown clay. Despite the literature suggesting that the soils are calcareous there was no visible reaction to the HCl test at any sample point except for occasionally where a small piece of lime/limestone was found in the sample. It is not considered that the soils on site are naturally calcareous.

Horizon 2: From between 30cm to 60cm Greyish brown, clay with a course angular blocky structure with many ochreous mottles

Horizon 2a (only found in 10 of the samples): 60cm to 90 cm Dark yellowish brown stony clay with a very course platy structure and many ochreous mottles

Horizon 3 (Not always present): From 60 cm to 120cm (or 90cm to 120cm where horizon 2a was present) Grey clay with a course prismatic structure many ochreous mottles

INTERACTIVE FACTORS

8. WETNESS

8.1 An assessment of the wetness class of each sample point was made based on the flow chart at Figure 6 in the MAFF guidance. The wetness class and topsoil texture were then assessed against Table 6 of the MAFF guidance to determine the ALC grade according to wetness. The wetness assessment can be found at ***appendix 4***.

8.2 The slowly permeable gleyed horizon from 30cm along with the FCD of 118.17 result in a wetness class of III based on Figure 7 in the MAFF guidance.

8.3 Table 6 with less than 126 FCD, wetness class III and clay topsoil results in a grade 3b limitation.

8.4 Wetness was found to be the limiting factor across the majority of the survey area.

9. DROUGHTINESS

9.1 Droughtiness limits are defined in terms of moisture balance for wheat and potatoes using the formula:

MB (Wheat) = AP (Wheat) - MD (Wheat)

and

MB (Potatoes) = AP (Potatoes) - MD (Potatoes)

Where:
MB = Moisture Balance
AP = Crop Adjusted available water capacity
MD = Moisture deficit

9.2 Moisture deficit for wheat and potatoes can be found in the agro-climatic data and are as follows:

MD (Wheat) = 113.21
MD (Potatoes) = 99.92

9.3 Crop adjusted available water is calculated by reference to the total available water and easily available water which is calculated by reference to soil texture and structural condition and the stone content. The moisture balance was calculated for the trial pit locations and locations where droughtiness was considered to be a potential limiting factor. This assessment can be found at ***appendix 4***.

10. AGRICULTURAL LAND CLASSIFICATION

10.1 The Agricultural Land Classification provides a framework for classifying land according to which its physical or chemical characteristics impose long-term limitations on agricultural use. The limitations can operate in one or more of four principle ways: they may affect the range of crops that can be grown, the level of yield, the consistency of yield and the cost of obtaining it.

10.2 The principle physical factors influencing agricultural production are climate, site and soil and the interactions between them which together form the basis for classifying land into one of 5 grades; grade 1 being of excellent quality and grade 5 being land of very poor quality. Grade 3 land, which constitutes approximately half of all agricultural land in the United Kingdom is divided into 2 subgrades – 3a and 3b. A full definition of all of the grades can be found at ***appendix 5.***

10.3 This assessment sets out that the site is limited by both wetness and droughtiness.

10.4 The breakdown of land by classification is:

Grade 2:	7.0Ha
Grade 3a:	0.3Ha
Grade 3b:	154Ha

10.5 A plan of the land grading can be found at ***appendix 6***.

Attachment B

Photographs of the Site

PHOTOGRAPHS OF THE SITE

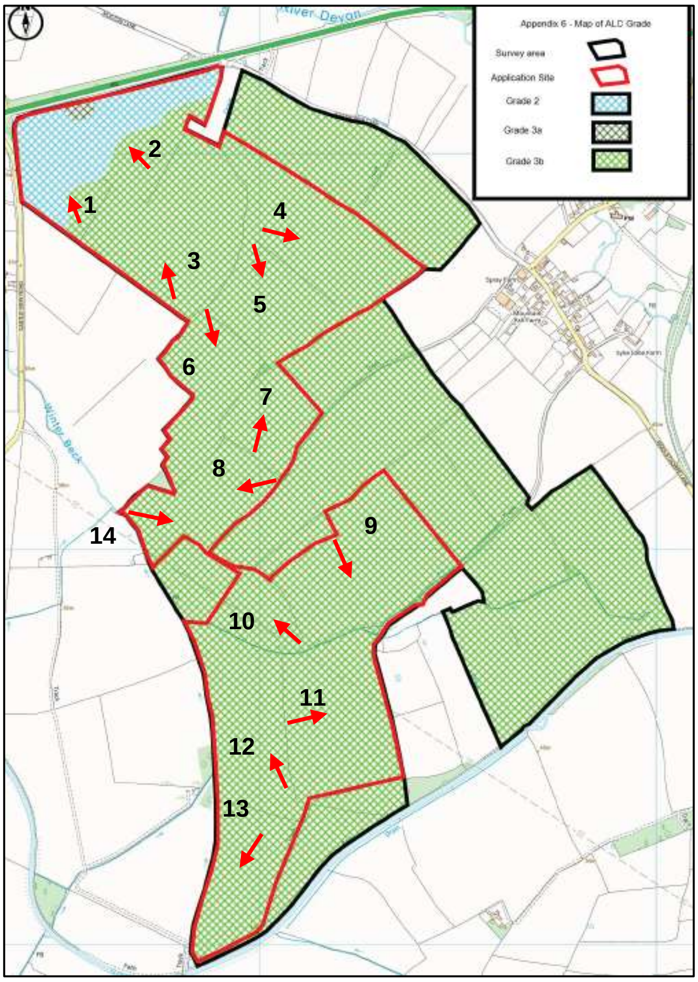


Photo 1

Photo 2

Photo 3

Photo 4

Photo 5

Photo 6

Photo 7

Photo 8

Photo 9

Photo 10

Photo 11

Photo 12

Photo 13

Photo 14

Appendix KCC4

Natural England's TIN 049 (2012)

Natural England Technical Information Note TIN049

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

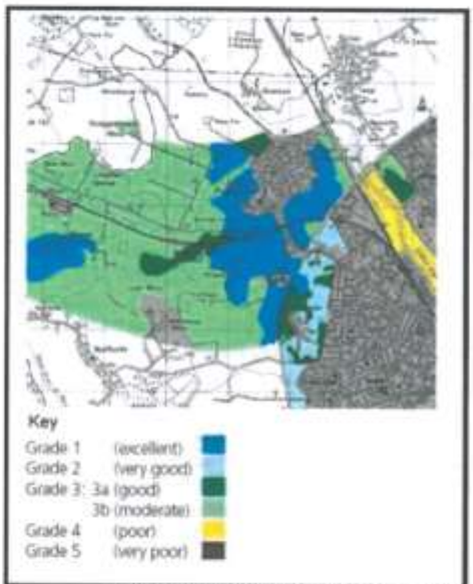
Most of our land area is in agricultural use. How this important natural resource is used is vital to sustainable development. This includes taking the right decisions about protecting it from inappropriate development.

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.

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

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 KCC5

Description of ALC Surveys

AGRICULTURAL LAND CLASSIFICATION

The ALC System

Agricultural land is measured under a system of Agricultural Land Classification (ALC). This grades land based on the long-term physical limitations of land for agricultural use, including climate (temperature, rainfall, aspect, exposure and frost risk), site (gradient, micro-relief and flood risk) and soil (texture, structure, depth and stoniness) criteria, and the interactions between these factors determining soil wetness, droughtiness and utility. The system is described in Natural England's Technical Information Note TIN049 (2012).

Land is divided into five grades, 1 to 5. Grade 3 is divided into two subgrades. Land falling into ALC Grades 1, 2 and Subgrade 3a is the "**best and most versatile**" (BMV) (as defined in the National Planning Policy Framework (2021), Annex 2). Natural England estimate that 42% of agricultural land in England is of BMV quality (see TIN049.

ALC Methodology

A detailed ALC requires examination of the soils on a regular 100m grid line, to sample at a density of one per hectare. The use of a regular grid seeks to avoid any selective bias.

If the 100m gridline falls on a location that cannot be surveyed, such as within a hedgeline or on a farm track, the auger point will be moved to the closest possible location.

The ALC methodology requires soils to be examined down to, if achievable, 1.2 metres. This is done using a soil auger, such as the example shown below, recording soils as they are removed. Examples are shown below.

Example of Auger Sampling

Periodic pits are dug to determine stoniness and to better describe soil profiles. The size of the pit will depend upon the type of soil. Two examples are shown below.

Examples of Soil Pits

Soil pits are dug at locations considered to represent the soil types found.

Samples of soils that represent the main soil types found may be sent to a laboratory for particle size distribution, to determine the proportion of sand, silt and clay.

Following survey the results are analysed against the criteria in the ALC Guidelines (Agricultural Land Classification of England and Wales: revised guidelines and criteria for assessing the quality of agricultural land, MAFF (October 1988)).

Once the grade of each auger point has been calculated, these are plotted on a map. The surveyor then reviews the patterns, decides if any points are anomalies that are discounted due to pattern limitation, and then estimates the boundaries between the grades.

The areas of each grade are then measured.

Appendix KCC6

Countryside Stewardship Scheme

& Government Biomass Strategy

Countryside Stewardship Scheme

The following table shows the areas (in ha) funded under the Countryside Stewardship Scheme (CSS) for the tiers listed, which are all arable areas being funded for mostly non-food uses (Countryside Stewardship and Environmental Stewardship Option Summaries at 1 April 2023, Defra (31 August 2023)).

Option Code	Description	Amount in agreement (ha)
AB1	Nectar flower mix	13,900
AB2	Unharvested cereal headland	2,800
AB3	Beetle banks	200
AB5	Nesting plots for lapwing and curlew	1,600
AB8	Flower rich margin and plots	40,000
AB10	Unharvested cereal headland	2,800
AB15	Two-year sown legume fallow	62,400
SW1	4-6m buffer stirp on cultivated land	19,400
SW3	In-field grass strips	7,600
SW4	12-24 watercourse buffer on cultivated land	2,600
SW7	Arable reversion to grassland with low fertilizer input	7,700
Total		**161,000**

Government Biomass Strategy

In August 2023 Government published its Biomass Strategy[2]. This strategy aims to encourage increased biomass production from agricultural land. Currently 121,000 ha is in biomass production. The fact that Government is prioritising non-food land uses is important. It shows that food production is not a concern or key objective of Government.

[2] Department for Energy Security and Net Zero, Biomass Strategy (10th August 2023)

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