ENVIRONMENTAL STATEMENT

VOLUME 1

NON-TECHNICAL SUMMARY

(REVISED)

LAND AT HARTNOLLS FARM,

TIVERTON

PREPARED FOR

WADDETON PARK LIMITED

JULY 2023

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Contents

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1.0 Introduction

Overview

EIA Process

1.1 The Planning Practice Guidance (PPG) provides guidance on EIA procedures and the preparation of ES.

Screening and Scoping

1.2 Prior to the preparation of this ES the applicant sought an EIA Screening/Scoping both an EIA Screening Matrix and Scoping Opinion has been provided by Mid Devon District Council (dated 15th October 2021) under Regulation 15 of the EIA Regulations.

1.3 A copy of both the Screening Matrix and Scoping Opinion is provided at Volume 3, Technical Appendix 1.1

1.4 In preparing this ES reference has been made to the PPG and in particular section 6 'Preparing an Environmental Statement' where it states that:

> *"The opinion should be proportionate, tailored to the specific characteristics of the development and the main environmental features likely to be significantly affected."* Paragraph: 036 Reference ID: 4-036-20170728
>
> and;
>
> *"Requests for further information should be limited to the "main" or "significant" environmental effects to which a development is likely*

> *to give rise and must be on relevant matters and directly relevant to reaching a reasoned conclusion on the significant effects of the proposed development on the environment (regulation 26).”* Paragraph: 047 Reference ID: 4-047-20170728

1.5 The discrepancy of scope between the applicant’s assessment of scope, and that of the LPA, should be noted. The applicant has sought to respond, as best as they are able, to the opinion of the LPA but, due to the restricted scope of the application (i.e. its’ outline nature) it’s simply not possible to provide a fulsome assessment across the full scope of environmental components sought by the LPA. We consider the Council’s opinion on scope to not accord with section 6 of the NPPG.

Scoping

1.6 The scope of the ES does respond to the scoping opinion provided by the Council (dated 15/10/21). That letter, on page 5, identifies 14 matters to be considered within the ES. The scoping opinion letter was accompanied by a screening matrix (see appendix 3) that set out the Council’s consideration of the issues/matters raised by the appeal proposals. It should be noted that, in most cases, the Council concurred with the appellant that the appeal proposals will not give rise to a significant effect (see column 3 of appendix 2). In the Council’s own opinion it was only matters 1.1 (Natural Resources), 8.1 (Cultural Heritage/Archaeology) and 12 (Cumulative Effects). In all other respects the Council concurred with the appellant the proposals will not produce a significant effect. The appellant was therefore surprised that, in their scoping opinion letter (dated 15/10/21), that, having regard to the Government policy, set out in the PPG and in particular section 6 ‘Preparing an Environmental Statement’ where it states that:

> *“The opinion should be proportionate, tailored to the specific characteristics of the development and the main environmental features likely to be significantly affected.”* Paragraph: 036 Reference ID: 4-036-20170728
>
> and;
>
> *“Requests for further information should be limited to the “main” or*

> *"significant" environmental effects to which a development is likely to give rise and must be on relevant matters and directly relevant to reaching a reasoned conclusion on the significant effects of the proposed development on the environment (regulation 26)."* Paragraph: 047 Reference ID: 4-047-20170728

that such a broad scope of ES was sought by the Council. The appellant commented on this, (at paragraph 1.5 of the Non Technical Summary [NTS]), pointing out that they would respond to the scope of the Council's scoping opinion as best as they were able having regard to the outline nature of the proposal and the fact that, in the Council's own opinion, most of the 14 matters/issues listed on page 5 of the Council's scoping opinion letter were agreed to be unlikely to produce a significant effect.

1.7 Thus, the appellant produced an ES with 15 chapters, using the following structure (see Table of Contents to Volume 2 of the ES dated October 2022):

1.0 Introduction
2.0 Consideration of Alternatives
3.0 Socio-Economic Effects
4.0 Arboricultural Impacts
5.0 Ecology and Biodiversity
6.0 Archaeology and Cultural Heritage
7.0 Transport & Accessibility
8.0 Flood Risk and Drainage
9.0 Air Quality
10.0 Ground Conditions and Contamination
11.0 Landscape and Visual Impact
12.0 Noise and Vibration
13.0 Waste Management
14.0 Utilities
15.0 Cumulative Effects

1.8 Please note that the NTS (October 2022) has 17 chapters. The discrepancy is that 'Site Description' and 'Description of the Proposed Development'

sections are set out as chapters 2.0 and 3.0 in the NTS, whereas in Volume 2 of the ES those matters are included within Chapter 1.0. There is no difference in content, merely the organisation of that content.

1.9 In order to set out more clearly how the ES has responded to the 14 matters identified in the Council's scoping letter we set out below a table which compares the scope identified by the Council with the scope of the ES prepared by the appellant. That table clearly identifies which of the 14 substantive chapters of the ES have responded to which of the 14 matters identified by the Council in their scoping letter.

Scoping Table

Council List Number	Council Scoping Matter	Chapter Number	Chapter Title
1	Alternative and cumulative effects	2 and 15	Alternatives Cumulative Effects
2	Socio-economic effects (including projected delivery of MDDC Local Plan 2013-2033 allocated employment land)	3	Socio-Economic Effects
3	Arboricultural impacts	4	Arboricultural Impacts
4	Ecology and biodiversity	5	Ecology and Biodiversity
5	Archaeology and cultural heritage	6	Archaeology and Cultural Heritage
6	Transport and accessibility (including any increase associated with required increased capacity to the AD plant)	7	Transport and Accessibility
7	Flood risk and drainage	8	Flood Risk and Drainage
8	Air quality and dust	9	Air Quality
9	Ground conditions and contamination	10	Ground Conditions and Contamination
10	Landscape and visual impact (including physical and topographical changes and impact on Grand Western Canal)	11	Landscape and Visual Impact

11	Noise and vibration	12	Noise and Vibration
12	Scarce resources (above and below ground including land, water, soil)		See text below
13	Waste management.	13	Waste Management
14	Utilities.	14	Utilities

1.10 It is notable that the only area of discrepancy in scope between the appellant and the Council is the matter of Scarce resources. However, it should also be noted that the Council's scoping letter carries on (on pages 6-12) to set out the expected scope of the ES, but that it does not set out anything in relation to the Scarce Resources matter so, reading the Council's scoping opinion as a whole there is no discrepancy. This conclusion is underpinned by the Council's screening matrix (attached as appendix 3) that was attached to the Council's scoping opinion letter (see page 3 of that letter) that identifies the scarce resources matter (item 1.3 in the matrix) as being of no likely significant effect (on the basis that no Grade 1 agricultural land will be lost as a result of this proposal). Thus, there is a discrepancy between the Council's screening position and its' scoping opinion.

1.11 The appellant has considered the matter of impact upon agricultural land in some depth and has produced an additional chapter to the ES to ensure that there can be no question that the ES has not responded to the scope of the Council's scoping opinion (as set out in their letter of 15/10/2021). This additional Chapter is entitled Scarce Resources and is Chapter 16 of Volume 2 of the ES.

Format

1.12 This ES comprises three volumes. This document (Volume 2) provides the main body of the ES. It explains the baseline conditions for the application site, the method statement for the assessment, and the findings of the

assessment. It should be read in conjunction with the accompanying Technical Appendices that are set out in Volume 3.

1.13 The EIA Regulations also require a Non-Technical Summary (NTS) of the ES. The NTS forms Volume 1 of this ES. It explains in brief the main components and findings of the ES for the benefit of those unfamiliar with the EIA process.

Site Description

1.14 The site is located approximately 1.2km to the east of Tiverton and approximately 1.0km to the west of Halberton.

1.15 The site comprises approximately 12.36ha of pastoral land that wraps around the existing Hartnoll Business Centre (HBC), and is bordered by Post Hill to the north and Manley Lane to the west. A copy of the site location plan is provided at Technical Appendix 1.2.

1.16 The site consists of a number of irregular large pastoral fields with generally well-defined hedgerow boundaries including occasional hedgerow trees. At the lowest point of the site, along the southern edge, is the Ailsa Brook, which forms a defensible boundary to the site before further open agricultural land to the south rising up to the Country Park of the Grand Western Canal.

1.17 The site abuts the eastern boundary of the Tiverton Eastern Urban Extension (EUE) area.

1.18 Some 250 metres to the east of the site is an anaerobic digestion (AD) plant within the same ownership as HBC.

1.19 The site is not subject to any international or national designations. The site is located in proximity to the Tidcombe Fen SSSI.

1.20 The site is predominantly located within flood zone 1, aside from a very small area towards the southwest corner of the site which is within flood zone 2, associated with Ailsa Brook.

1.21 Tiverton is the largest settlement in Mid Devon District (with a population of approximately 38,000) providing a broad range of services, facilities and employment. Halberton is a sizeable village (with a population of approximately 900) with a primary school, local shop, farm shop and public houses.

1.22 Specifically, the following services and facilities are provided within 5 km of the site:

- Hospital;
- Schools;
- Supermarkets;
- Doctors Surgeries;
- Pharmacies;
- Dentists;
- Opticians;
- Library;
- Fire Station;
- Police Station;
- Recreation Grounds/Parks; and
- A large number of local shops and public houses.

1.23 The A361, which is easily accessible from the site, is an important road on the strategic highway network providing access to North Devon, the M5 and beyond. The closest bus stops to the site are located along Post Hill, approximately 200m west of the existing Hartnoll Business Centre access. In terms of rail connections, Tiverton Parkway station is served by half hourly services to London Paddington via Taunton and Reading, and to Penzance via Exeter St Davids. The journey time to Exeter is approximately 15 minutes. The station is also served by hourly services to Bristol Temple Meads, Cardiff and Birmingham to name a few.

Proposed Development

1.24 The proposed development is an outline application, with all matters except means of access reserved for future consideration. The description of development is as follows:

> *Phased outline application for the extension to the existing business park for up to 3.9ha of employment land and up to 150 residential dwellings with associated open space and infrastructure (with means of access to be determined only).*

1.25 The Illustrative Framework Plan (together with other documentation submitted as part of this outline application) shows how this mixed use development can be delivered in an acceptable manner at the site. A copy of the Illustrative Framework Plan is provided at Technical Appendix 1.3. The proposal shown on the plan has been designed through a thorough understanding of the site (characteristics and features) and was informed by the findings of a range of baseline work. The proposals have therefore been designed to sure that any adverse impacts are avoided or minimised.

1.26 In terms of the proposed land uses and quantity of development, the following is proposed:

- Up to 3.9ha of employment use (Use Class E)
- Up to 150 residential dwellings (Use Class C3)
- Public open space (including informal amenity space, children's play)

Characteristics of the Proposed Development

1.27 The proposal is an outline application where the matters of Scale, Landscaping, Appearance and Layout are reserved for future consideration.

1.28 The physical characteristics of the proposed development are summarised on a Framework Plan that is attached to this letter (as appendix 1 -

reference 0221_001.pdf). This Framework Plan is included as part of the application details (on page 41 of the of the Design and Access Statement). Pages 40 and 41 of the DAS set out the development parameters (and the relevant extract from the DAS is included at appendix 2 to this letter). That Framework plan is also referred to at paragraph 1.5.2, page 12, of Volume 2 of the Environmental Statement (ES) and a copy provided at Technical Appendix 1.3 (of the ES).

1.29 The design parameters are also set out (within Chapter 1 of Volume 2 of the ES, in particular at paragraph 1.5.2).

1.30 Please note that there are no particular proposed decommissioning activities. The baseline conditions for the site (prior to submission of the planning application) was agricultural use (arable). Thus the only 'decommissioning' as such is the cessation of that use.

1.31 In terms of land use change that will involve:

- the cessation of the agricultural use
- the construction process
- the commencement of the mix of uses applied for

2.0 Consideration of Alternatives and Scheme Evolution

2.1 The proposed development is to expand the current business park, predominantly in a southerly direction, and to meet the energy needs of the whole park (including migration of the existing business park) via a low carbon supply. The investment in low carbon future needs would be enabled by an element of residential infill between the business park and the current edge of the allocated Tiverton eastern extension.

2.2 Before the current development was advanced to the application stage, consideration was given to an alternative mix of uses at the site (including greater areas for both employment and residential development, a local centre, primary school and public open space) across a larger area of land, and was promoted for development to the Council through the Local Plan process.

2.3 After further analysis, the decision was taken to omit part of the land to the south and east of the existing business park and to move towards the scheme now proposed, which relates to land situated between the existing business park and allocated land forming the Tiverton Urban Extension (TUE).

2.4 The applicants have undertaken a range of further technical and specialist studies to inform the preparation of more detailed proposals for the site. This process has allowed the environmental constraints and opportunities at the site to be understood. The outcome of this next stage in the evolution of the proposals has been the preparation of an illustrative masterplan.

3.0 Socio Economic Effects

3.1 An assessment of the likely significant direct and indirect socio economic impacts of the development on the local/countywide community and economy has been undertaken.

3.2 The assessment undertaken establishes the socio economic 'baseline' conditions of the study area before considering the impact or change resulting from the proposed development on this existing or 'baseline' condition. The assessment considers methods, where necessary, of mitigating adverse impacts identified before providing details of the residual impacts. All impacts are determined in a qualitative manner using professional judgement.

3.3 The assessment detailed in this chapter has focused on the following key socio economic factors:

- Employment creation during the construction and operational phases
- Housing provision/increased population and associated factors including provision of social infrastructure –education, healthcare community facilities
- Health and wellbeing matters associated with provision of open space and sports provision
- Increased local expenditure associated with the construction and operational phases

3.4 The proposal will contribute towards low carbon/climate change objectives via the use of AD plant to generate electricity and provide surplus heat to the proposed business park.

3.5 All of the socio economic impacts associated with the proposed development have been assessed as being beneficial. On this basis they do not require mitigation.

4.0 Arboricultural Impacts

4.1 The application is made in outline, with details of landscaping reserved for future determination. Having regard to the restricted scope of this proposal it is simply not possible to be entirely specific about the impact of the proposal.

4.2 The illustrative layout provided to support the application demonstrates that there will be significant areas of new planting that will increase tree cover, to a significant extent, over and above existing baseline conditions.

4.3 The areas proposed for development are currently in agricultural use and there are no significant trees located within the fields themselves. The only trees of note are located within the hedgerows and they are, in the main, proposed to be maintained. Therefore the impact of the proposal on baseline conditions will be negligible.

4.4 It is clear that subject to the imposition of suitable conditions there will be a net gain in arboricultural conditions at the site.

5.0 Ecology and Biodiversity

5.1 Engain was commissioned by Waddeton Park Ltd to carry out an ecological survey of a proposed development site known as Hartnoll's Farm near Tiverton in Devon. Engain has surveyed this site extensively in the past, and the purpose of this latest survey was to verify the key findings of previous surveys and undertake targeted protected species surveys in the context of a new development plan which covers a much smaller area than has previously been considered.

5.2 The scope of the appraisal was based on the Guidelines for Preliminary Ecological Appraisal, published in 2012 by the Chartered Institute of Ecology and Environmental Management (CIEEM). This included a desk study to identify any notable or protected sites, habitats or species on or near to the site, a field survey to map and describe the habitats of the site, and an assessment of the site's potential to support any notable or protected species.

5.3 The verification survey and updated protected species surveys has confirmed that the conclusion of the original surveys which covered a much larger area remain valid and are sufficient to inform the design process and the assessment of this proposal.

Ecological Value

5.4 The majority of the site is currently occupied by habitats of low ecological value, and measures have been suggested to ensure that as a result of the development the landscaping and green spaces will provided enhanced opportunities for wildlife in comparison to those already provided by these habitats.

Introduction

5.5 Engain undertook ecological assessments of a proposed development at Hartnolls Farm, which is the subject of an appeal against Mid Devon

Council's decision to refuse planning permission. The Outline planning application (reference 21/01576/MOUT) is for:

> "*Outline for the extension of existing business park for up to 3.9ha of employment land and up to 150 dwellings with associated infrastructure and access with all other matters reserved*".

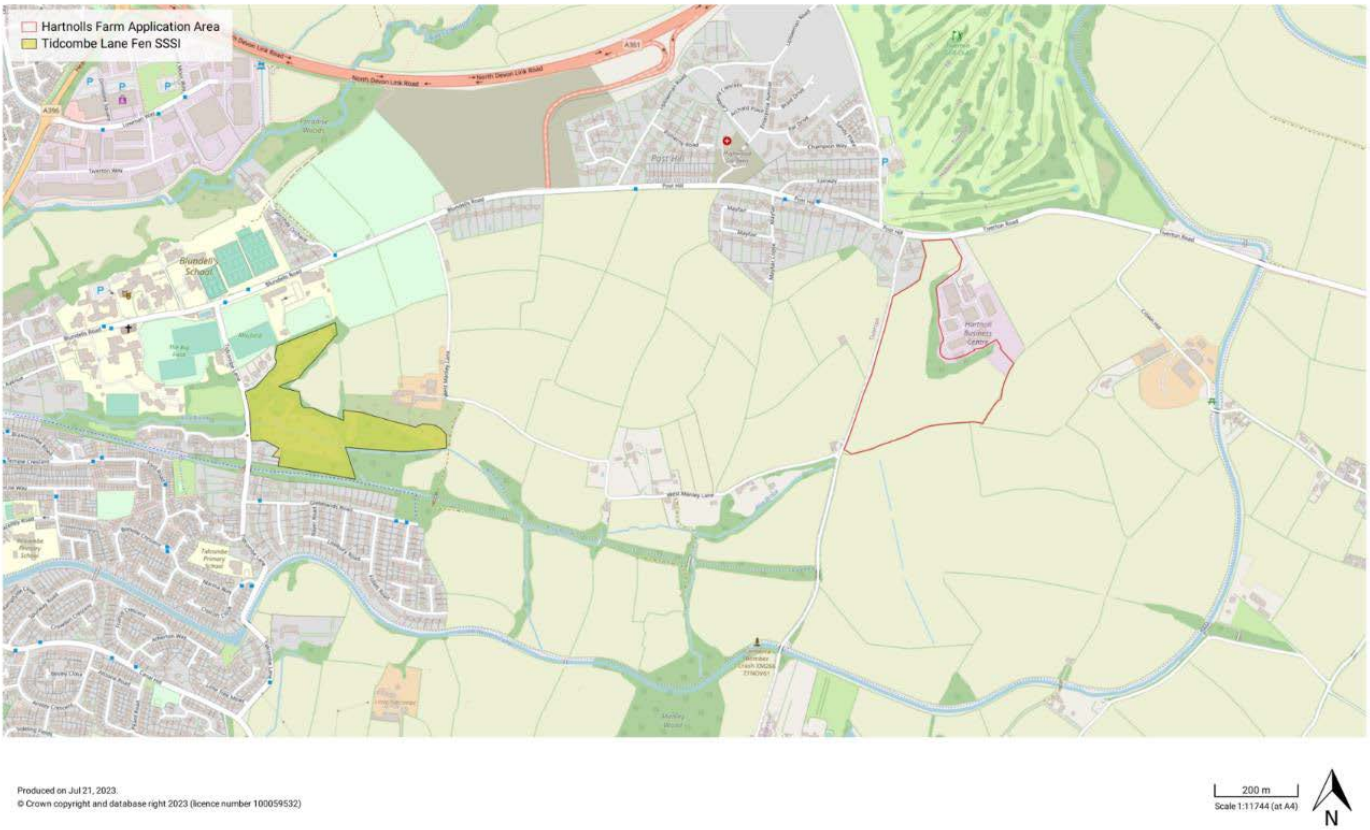
5.6 Following examination of the Environmental Statement accompanying the planning application by the Secretary of State, clarification has been requested regarding the proposed development's potential effects on Tidcombe Lane Fen Site of Special Scientific Interest (SSSI). The letter from the Secretary of State (dated 14th July 2023) requests:

> "*a revised assessment of effects on Tidcombe Lane Fen Site of Special Scientific Interest (SSSI) to include appropriate cross reference between the flood risk / drainage and biodiversity assessment…to resolve the conflict between the flood risk and drainage assessment and the ecology assessment which conclude differently on the existence of a potential link to this site.*"

Revised Assessment of Effects

5.7 The boundary of the proposed development is approximately 990m east of the boundary of Tidcombe Lane Fen SSSI (**Figure 1**).

Figure 1, "Location of the Proposed Development in Relation to Tidcombe Lane Fen SSSI"



5.8 The Ecological Appraisal submitted with the application and included as Appendix 5.1 in Volume 2 of the Environmental Statement (report reference eg18835.002, dated 19th November 2020) concludes in paragraph 5.1 in regard to potential effects on Tidcombe Lane Fen SSSI:

> "*The site is sufficiently distant from Tidcombe Lane Fen that it is not directly hydrologically linked to it. The topography between the site and the Fen includes a shallow valley running east to west, but there is no continuous watercourse linking the two sites. Any proposed development would be bound to follow suitable measures to avoid runoff of soils or other materials into watercourses and therefore no effects are likely to occur*."

5.9 The Flood Risk Assessment submitted with the application as Appendix 8.1 in Volume 2 of the Environmental Statement (report reference: 529/FRA2 V2 – 23.06.21) states in Section 3.5 however that:

> "*Alsa Brook feeds the Tidcombe Lane Fen SSSI and the existing runoff rates should not be reduced greatly or there will be a negative impact on the wetland habitat that is now nationally scarce and rare*

in Devon. The habitat is sensitive to changes in its hydrological catchment and is dependent on a continuous water supply, high water table, occasional flooding and good water quality."

5.10 Whilst the connection between the site and the Alsa Brook is not "continuous" (**Figure 2**), the Flood Risk Assessment correctly identifies the potential for there to be a negative impact on the SSSI if there were to be changes to the water supply or water quality as a result of the development.

Figure 2, "The Proposed Development Boundary in Relation to the Alsa Brook"

5.11 The Flood Risk Assessment sets out the measures that would be required to address these potential impacts, which comprise the use of wetland areas, pipes, swales and porous paving to manage water flow and quality. These measures were carried forward into the illustrative design as set out in the Framework Plan (Drawing Reference DE_425_SK11 Revision D) included as Appendix 1.3 in Volume 2 of the Environmental Statement.

5.12 The Flood Risk Assessment concludes that:

> "*It can be demonstrated that with the input of mitigation measures, the proposed development of the site can deliver similar runoff rates to maintain the flows that feed the Tidcombe Lane Fen SSSI.*"

5.13 The existing arable land use extends up to the southern boundary of the site, leaving the existing watercourse adjacent to the proposed development site's southern boundary un- buffered from agricultural runoff and the soils exposed to the risk of erosion. The measures proposed in the Flood Risk Assessment and the landscaping scheme would create a wide buffer of perennial vegetation and water management features between the developed areas and the southern edge of the proposed development boundary. This will create an ecological corridor for wildlife, protect the soils from erosion and provide a buffer the watercourse from pollution. Research indicates that buffer strips of between 15m and 25m are most effective at removal of nutrient pollution (Tsai *et al.* 2016, Zabronsky, 2016). The proposed landscape buffer between the development and the southern edge of the site is between 15m at its narrowest point and 65m at its widest and is therefore likely to provide an effective buffer against nutrient pollution.

5.14 Natural England provided their consultation response to the application in a letter dated 26th August 2021 (their reference: 364346). Their advice was that, subject to confirmation that the development will connect to the mains sewer and the inclusion of a planning condition requiring the provision of a detailed sustainable drainage scheme (SuDS) to deal with surface water, the proposals would not be likely to adversely affect Tidcombe Lane Fen SSSI. Draft planning conditions were provided in Natural England's response. This approach was endorsed by the Council's Flood and Coastal Risk Management Team in their consultation response dated 23rd September 2021.

Conclusion

5.15 The conclusion of the revised assessment is that there is potential for the proposed development to have an impact on the Tidcombe Lane Fen SSSI, but that the proposed SUDS and landscaping strategies would be sufficient to avoid adverse effects.

5.16 This conclusion is supported by consultation responses provided by Natural England and the Council's Flood and Coastal Risk Management Team.

6.0 Archaeology and Cultural Heritage

6.1 Known and potential archaeological remains identified within the site comprise:

- Buried remains of a Neolithic ring ditch (of potentially moderate-high heritage significance)
- Buried remains of former cultivation activity and field boundaries (of, at most, low heritage significance); and
- Hedgerows/hedge banks bordering and running within the Site (heritage
- assets of low heritage significance)

6.2 The available evidence presented in this heritage assessment does not indicate the presence of archaeological remains which would preclude development of the site.

6.3 A staged approach to further archaeological survey is recommended. Firstly this would appropriately comprise a geophysical survey of the whole site, which will provide further evidence for any further below-ground remains. If potentially significant remains are identified, then the use of other techniques (such as evaluation trial trenches) may be useful in gaining additional information. The results of such staged investigation may then provide proportionate information to inform determination of the application, and any further updates to design and proposed mitigation measures.

6.4 The assessment has included a review of a comprehensive range of available sources, in accordance with key industry guidance, in order to identify known and potential heritage assets located within the site and its environs which may be affected by the proposals. The significance of the identified known and potential heritage assets has been determined, as far as possible, on the basis of available evidence. The potential effects of the proposals on the significance of identified heritage assets, including any potential physical effects upon buried archaeological remains, and

potential non-physical effects resulting from the anticipated changes to the settings of heritage assets, have been assessed in order to inform the developing designs of the proposals.

7.0 Transport and Accessibility

7.1 An assessment has been undertaken of the likely impacts of the proposed development in relation to traffic and accessibility matters during the construction phase and once completed and operational.

7.2 With regards to the accessibility of the development and the minimal impact to the existing operation of the local road network, it is concluded that the proposed development is considered acceptable on transport grounds, in line with NPPF, on the basis that:

i. appropriate opportunities to promote sustainable transport modes can be – or have been – taken up, given the type of development and its location;
ii. safe and suitable access to the site can be achieved for all users; and
iii. any significant impacts from the development on the transport network (in terms of capacity and congestion), or on highway safety, can be cost effectively mitigated to an acceptable degree.

7.3 There would be no unacceptable impact on highway safety, and the residual cumulative impacts on the road network would not be severe.

8.0 Flood Risk and Drainage

8.1 The development site area is currently in agricultural use.

8.2 An area of FZ2 is located on the western boundary. No buildings are proposed in this area.

8.3 Areas of surface water flood risk run through the site centred on the existing ditches, winterbournes, and hedge banks. These areas will not be developed and will remain as ecological corridors and flow routes through which the canal can discharge excess flows when required. Mitigation measures are proposed to reduce any flood risk from a canal breach or minor overtopping.

8.4 The site surface water runoff from the proposed development will drain via wetland ponds and the discharge rates to the Alsa Brook will be maintained as close as possible to existing Greenfield rates.

8.5 The Architects conceptual layout plan includes large areas of public open space and these areas provide suitable locations to include swales and surface water attenuation ponds or basins. There is no reason why this site cannot be developed based on the assessment of existing and potential flood risk.

9.0 Air Quality

9.1 Due to exceedances of the national air quality objectives for nitrogen dioxide (NO2) Mid Devon District Council (MDDC) has declared a number of Air Quality Management Areas (AQMAs) within the district. None of these are located in Tiverton and currently air quality within the town and surrounding area is meeting the relevant air quality objective limits. However, in accordance with the Mid Devon Local Plan1 Policy DM3, any development proposals that are expected to give rise to a significant increase in vehicle movements must be accompanied by a Traffic Pollution Assessment and Low Emission Assessment.

9.2 This report addresses the impact of the proposed development on local air quality in the vicinity of the Site. Potential sources of emissions are identified and assessed in the context of existing air quality and emission sources and the nature and location of receptors.

9.3 The IAQM assessment methodology recommends that significance criteria are only assigned to the identified risk of dust impacts occurring from a construction activity following the application of appropriate mitigation measures. For almost all construction activities, the application of effective mitigation should prevent any significant effects occurring to sensitive receptors and therefore the residual effects will normally be negligible.

10.0 Ground Conditions and Contamination

10.1 Geo Consulting Engineering Ltd (GCEL) has previously undertaken a Phase 1 Desk Study of the proposed site, report reference GCE00528/R1 February 2015. The Landmark historic Ordnance Survey map information from this Phase 1 desk study report has been used within this report, along with an updated Landmark Envirocheck Database report.

10.2 The historic data review indicates that the site has been in agricultural use since the first available mapping of 1888. A pond is shown to be present on-site on the north boundary of Field G on all the historic maps and was seen during the walkover survey. Several small enclosed areas (possible small ponds) on the east boundary of Field B, south corner of Field C and in the north-west corner of Field E and a former stream channel in Field G were marked on the historic maps and further investigation will be required in these areas to determine the depth and lateral extent if present: Two possible small infilled ponds were located east and north-east of the east boundary of Field E.

10.3 An historic landfill is located 284m south of the site at the infilled railway cutting.

10.4 The British Geological Survey mapping indicates the site is underlain by Permian Tidcombe Sand Member, with a cover of Quaternary Colluvium mapped overlying the bedrock in the lower parts of the site.

10.5 The intrusive investigation comprised: trial pitting, large scale infiltration testing, dynamic sampling boreholes, installation of ground gas and groundwater monitoring wells, groundwater and ground gas monitoring, chemical analysis of soils and geotechnical analysis of soils.

10.6 Ground conditions encountered within the exploratory holes typically comprised a cover of topsoil, localised Made Ground, Colluvium and/ or Head soils over weathered Tidcombe Sand Member comprising medium dense, dense red brown silty sand/ sandy silt and silty clay, with depth

including lithorelics of siltstone and sandstone, which in places was seen to be underlain by weathered sandstone.

10.7 Groundwater and ground gas monitoring wells were installed in DS1 to DS6 and drive-in piezometers were installed adjacent to TP1 to TP4. The groundwater monitoring completed to date has shown measured groundwater levels ranging from 0.89m to 2.47mbgl, with some of the wells recorded as dry.

10.8 A slightly elevated level of Dibenz(a,h)Anthracene was recorded at 0.40mg/kg in DS4 at 0.50m; the S4UL is 0.24mg/kg for 1%SOM. This sample comprises Made Ground and was located towards the base of the slope adjacent the Hartnoll Farm complex. Further investigation and testing in this area are recommended once development details are known.

10.9 Twelve groundwater and ground gas monitoring visits are scheduled to be undertaken and when these are completed the results should be assessed along with a. subsequent risk assessment of ground gas. Additional ground gas and groundwater monitoring wells should be installed in areas where historic ponds were potentially located as seen on the historic Ordnance Survey maps on the east boundary of Field B, south corner of Field C, in the north-west corner of Field E and potentially infilled stream course in Field G.

10.10 Geotechnical analysis has identified the fine-grained soils on site to be of medium volume change potential.

10.11 Limited ground investigation has been undertaken to date and further investigation will be required prior to designing proposed foundations. Preliminary information indicates trench fill foundations bearing in the Head across much of the site. Locally areas have been identified where greater thicknesses of soft ground are present; see Section 8 for further detail.

10.12 Large scale infiltration testing has been carried out in four locations. One test was carried out at all locations, with none of the tests successfully draining to 25% effective depth in 24hours.

10.13 Buried concrete can be designed in accordance with design sulphate class DS-1 ACEC class AC-1 of BRE Special Digest 1(2005), assuming mobile groundwater is present.

11.0 Landscape and Visual Impact

11.1 The landscape and visual appraisal defined the likely landscape impacts of the scheme on the existing attributes of the site and the potential visual impacts on the various receptors identified by the baseline assessment. This lead to the identification of key design considerations, which in turn informed the establishment of the guiding principles for the scheme. Mitigation measures were then incorporated into the proposals to reduce the significance of the residual impacts and to maximise opportunities for enhancements and beneficial impacts.

11.2 The assessment of the potential landscape and visual impacts has been carried out with reference to the guiding principles identified in the County and Mid Devon Landscape Character Assessments and the adopted Masterplan SPD for the Tiverton EUE. Following the establishment of the mitigation measures, it is concluded that the proposals would not result in any significant residual impacts.

11.3 The ‘landscape-led’ approach to the proposals has therefore allowed opportunities to maintain and reinforce local character by the retention and enhancement of the existing landscape pattern within the application site to be maximised. While it is acknowledged that the proposals will inevitably introduce a substantial amount of built development into the landscape, the design of the proposals and the character of the receiving environment mean that the development will not be unduly conspicuous in the landscape and will not result in significant impacts to the character of the rest of the Lowland Plain character area.

11.4 It is anticipated that all the new and existing landscape features within the site would benefit from an agreed programme of management, which would help to secure their long term viability within the landscape and enhance bio-diversity along existing and new wildlife corridors across the site.

11.5 The landscape east of Tiverton is undergoing notable change as a result of planning applications relating to EUE Part A being approved and constructed. This change is set to continue as further planning applications related to the EUE allocation are bought forward and then constructed, to be followed by proposals within EUE Part B. As a result of proposals associated with the EUE, the existing agricultural fields closest to the existing edge of Tiverton are being removed and replaced with land uses more typical of a suburban or peri-urban landscape.

11.6 While currently the rural character of the site and its immediate surroundings is fairly strong and intact, with only distant views of existing built form within Tiverton, this will change as a result of the EUE. Development of residential and employment land uses on the site assessed by this report, would further extend the land uses and character of the emerging proposals within the EUE, and would contribute to an extension of a residential and suburban land use and character, contributing to a change in the existing local landscape character.

11.7 Existing views across the site will be altered by both the proposals within the Hartnoll Farm site, and by proposals within EUE. Although there are few nearby residential receptors, those that there are, on the south eastern edge of Post Hill, and scatted along Manley Lane and Crown Lane, will experience close range views of a new landscape.

11.8 Recreational receptors using the Great Western Canal Towpath to the south of the Site will also experience views of both the development proposed at Hartnoll Farm, and within the EUE. The introduction of employment and residential land use to the view will not in itself be a completely new feature, but the proposals will occupy a larger percentage of views and be more prominent. Although the proposed development would become a new feature of some local views, and alongside the proposals of EUE, will alter the existing landscape character, the scheme has been developed to ensure that key landscape features are retained, to ensure some continuity to landscape character and baseline views.

11.9 The proposals will ensure that the proposed development, while visible as a new landscape feature, will be well integrated to the existing landscape character, and will not appear out of place. While this LVA concludes that the proposals will result in a change to the landscape character and views experienced by sensitive receptors, assuming careful detailed design of the exact orientation, height, materials and colour of the proposed development, and installation of a well-designed and managed landscape framework, the overall effect could be neutral.

12.0 Noise and Vibration

12.1 Traffic noise, from Post Hill represents a low risk of adversely effecting future residents and employing all the elements of good acoustic design at detailed design stage will ensure that good Standards will be achieved.

12.2 There is comparatively little noise coming from the existing Business Park, other than the noise created by infrequent delivery vehicles. Noise from fixed plant was not found to be of significance and no ground borne vibration was observed.

12.3 The Detailed Design of the development will need to consider increasing the height of the bunding around the western boundary of the business park, the inclusion of a substantial green buffer strip, placing residential access roads alongside this buffer strip to maximize separation distances between the employment land and the new housing.

12.4 Sound monitoring has been carried out at four locations on the site, one right by Post Hill (road) and three along the western boundary of the existing Hartnoll Business Park.

12.5 The survey has shown that noise from traffic passing on Post Hill currently presents a negligible to low risk of adverse impacting future residents, however the good acoustic design exercise set out in ProPG should be followed for the northern portion of the site.

12.6 This report sets out the elements, that should be considered, in the detailed design of the site to reduce and minimise commercial noise, such as increasing the bunding, using the width of the buffer zone and placing internal roads along the boundary to provide a good physical separation between the new houses and the business park.

13.0 Waste Management

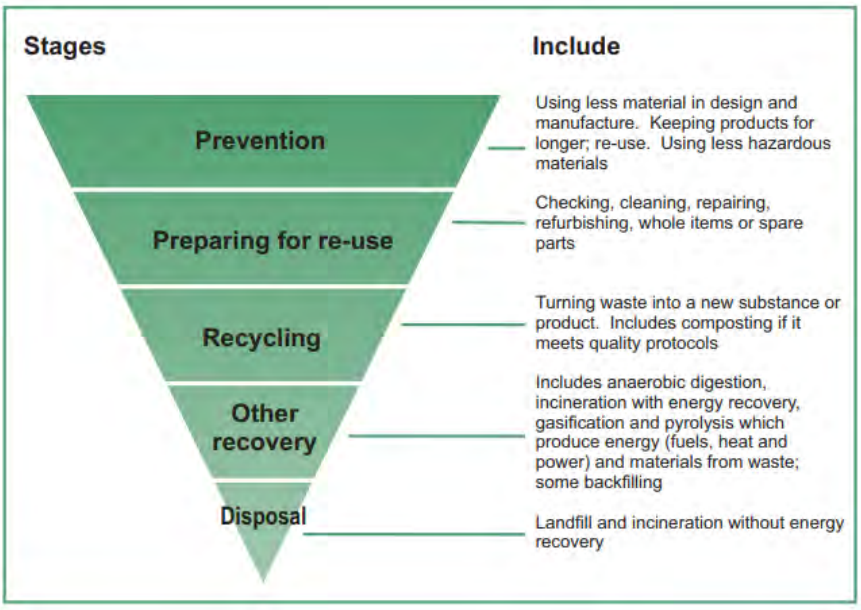
13.1 This chapter assess the effect of the proposed scheme on waste production and management. In particular, it considers the potential effects of waste generation from the construction phase.

13.2 Surplus material and waste may occur where material supply exceeds on-site demand. Surplus materials and waste could arise from existing site materials e.g. excavation of materials from earthworks, which cannot be used in the proposed scheme, or from materials that are brought to site but are not fully utilised for their original purpose, which can result in waste through damage, off-cuts and surplus products.

13.3 The National Planning Policy Framework (NPPF, 2021) does not provide specific guidance on planning policy relating to waste and states that “the Framework should be read in conjunction with the Government’s planning policy for waste” (paragraph 4)

13.4 The waste hierarchy (shown in figure 13.1 below) sets out a priority order to be applied to waste management legislation and policy to encourage waste management options that deliver the best overall environmental outcome. The levels of the waste hierarchy in descending order of preference are: prevention, preparation for reuse, recycling, other recovery and disposal.

Figure 13.1 – Waste Hierarchy



13.5 The waste hierarchy has been implemented in England and Wales by the Waste (England and Wales) Regulations 2011 (as amended). These regulations require that an establishment or undertaking that imports, produces, collects, transports, recovers or disposes of waste must take reasonable steps to apply the waste hierarchy when waste is transferred or disposed of.

13.6 This assessment has been carried out as a desk-based study, involving a review of applicable guidance and the quantification, where practicable, of estimated materials consumption and solid waste generation. It is concluded that no significant environmental effects will arise.

14.0 Utilities

Sewerage

14.1 It is proposed to serve the development via a connection to the mains sewer. SWW records show public foul (or combined) sewers running parallel to Post Hill. It is proposed to connect to this sewer. SWW have a legal duty to accept the connection and, if necessary, to carry out any improvements to the existing system that the connection necessitates.

Water Supply

14.2 A mains water supply is available (again running parallel to Post Hill) and will be provided via an extension of the existing mains supply in the locality.

Gas

14.3 There are gas service pipes in the existing residential area. There is an Intermediate and Low Pressure system locally. Gas supply for the proposed new employment floorspace will be via an extension of the existing mains provision.

Electricity

14.4 Western Power Distribution records show underground and over ground cables of various voltages High and Low in the area. The residential development is proposed to be served via an extension of the existing main supply whilst the new employment area will be supplied via a new underground pipeline connection to the existing Anerobic Digester that is located on adjacent land.

14.5 Surplus heat from the AD plant will be piped to serve the new employment area.

Telecommunications

14.6 British Telecommunications records show overhead and underground cables within the area. No capacity issues serving the development proposal have been identified.

15.0 Cumulative Effects

15.1 The schemes included (unless specifically stated otherwise in a technical chapter) for the assessment of cumulative effects are identified in Chapter 2, Table 1.1.

15.2 In relation to cumulative effects, this ES contains an assessment of two types of effect:

- The combination of individual effects (e.g. noise, dust, traffic, visual) from the development on a particular receptor; and
- Effects from several developments, which individually might be insignificant, but when considered together would create a significant cumulative effect.

15.3 The first type of cumulative effects are dealt with solely in this Chapter. In terms of second type of effects these are dealt within each of the technical chapters (Chapters 3 to 14).

15.4 The receptors which are expected to experience an impact that is created by way of a combination of individual effects from the proposed development are existing residential properties/premises that are within close proximity of the site (within 1km).

Construction

15.5 During the construction phase it is predicted that these receptors will be exposed to a range of individual impacts from noise, dust, visual impacts and construction traffic. As a result it is expected that the receptors would experience a temporary adverse cumulative effect during the construction phase.

15.6 Mitigation in response to this includes the agreement and implementation of a CEMP and adherence to best/good practice in terms of construction methods, to ensure impacts are effectively controlled and reduced. In

terms of noise and vibration effects these can be adequately mitigated against using Best Practical Means, as defined in section 72 of the Control of Pollution Act and also by following the general principles of BS5228:1990. With regard to dust and air quality effects, best practice measures based on Building Research Establishment (BRE) guidance and other bodies must be used to mitigate any impacts.

15.7 Once operational it is predicted that the local receptors will be subject to a cumulative impact that relates to a range of individual impacts that include increased traffic, emissions, and visual and landscape impact.

15.8 The mitigation identified in relation to these impacts within each of the topic chapters will help reduce the cumulative effect on these local receptors.

16.0 Scarce Resources

APPENDICES

KCC1 Natural England's TIN049
KCC2 MAFF ALC Report and Plan
KCC3 Extracts from the Pocketbook for Farm Management

Introduction

16.1 Planning application 21/01576/MOUT for "**the extension of existing business park for up to 3.9 ha of employment land and up to 150 dwellings with associated infrastructure and access**" was refused by Mid Devon District Council on 19th January 2023.

16.2 Reason for Refusal No 1 states as follows:

> *"By reason of the site's location, which is defined as countryside, on Grade 1 BMV agricultural land, beyond a settlement boundary identified within strategic policies S10-S13 of the adopted Local Plan, and because the Local Planning Authority can demonstrate an up to date housing 5 year land supply, the proposed development of 150 dwellings is contrary to Policies S1, S2, S3, S4 & S14 of the Mid Devon Local Plan 2013-2033 and guidance within the National Planning Policy Framework".*

16.3 A contributing factor is the assessment by the case officer that the site contains Grade 1 Best and Most Versatile (BMV) agricultural land. This will have formed part of the balancing of planning issues.

16.4 The site is not, in fact, Grade 1 agricultural land. It is a mixture of Grades 2 and 3a, with some urban land.

16.5 This chapter sets out the factual matters relating to the land quality, and assesses that in the context of land quality locally, and planning policy in the National Planning Policy Framework (NPPF) and the Local Plan. This evidence then expresses an opinion on the weight that should be accorded to agricultural matters.

Planning Policy of Relevence

National Planning Policy

16.6 The National Planning Policy Framework (NPPF) (2021) paragraph 174 notes that planning policies and decisions should contribute to and enhance the natural and local environment by, inter alia, recognising "**the wider benefits from natural capital and ecosystem services – including the economic and other benefits of the best and most versatile agricultural land**".

16.7 The best and most versatile (BMV) agricultural land is defined in Annex 2 of the NPPF as that in grades 1, 2 and 3a of the Agricultural Land Classification.

16.8 Paragraph 175 deals with plan making. It requires plans to, inter alia, allocate land with the least environmental or amenity value, where consistent with other policies in the Framework. Footnote 58 of the NPPF identifies that "**where significant development of agricultural land is demonstrated to be necessary, areas of poorer quality land should be prepared to those of a higher quality**".

16.9 There is no definition of what constitutes "significant" development. However the "Guide to assessing development proposals on agricultural land" (Natural England, February 2021) advises local planning authorities to "**take account of smaller losses (under 20 hectares) if they're significant when making your decision**", suggesting that 20 ha is a suitable threshold for defining "significant" in many cases.

Local Plan

16.10 Reason for Refusal 1 refers to Mid Devon Local Plan 2013-2033 (July 2020) policies S1, S2, S3, S4 and S14.

16.11 Policy S1 criterion j) requires development to support the creation of sustainable communities by encouraging "**the effective use of land,**

taking into account the economic and other benefits of the best and most versatile agricultural land".

16.12 Policy TIV 1 sets out the policy for the Tiverton Eastern Urban Extension (TEUE), a 153 ha site. Paragraph 3.10 notes that this policy "**necessitates the loss of some Grade 2 agricultural land**". The Appeal site is to the immediate east of the TEUE.

The Proposals and The Site

16.13 It is proposed to develop 12.7 ha of mostly agricultural land for the development described in the application.

16.14 The site is shown edged red on the Google Earth image below.

Insert 1: The Site on Google Earth

16.15 The site comprises two fields and part of two others and wraps around the western and southern side of the Hartnoll Business Centre.

16.16 The site needs to be considered in its context. To the north is a golf course and residential development, recently extended. To the west is land allocated for development as part of the Tiverton Eastern Urban Extension.

16.17 Agricultural land lies to the south and east.

Agricultural Land Quality

16.18 In this section I set out:

(i) the old provisional ALC map information;

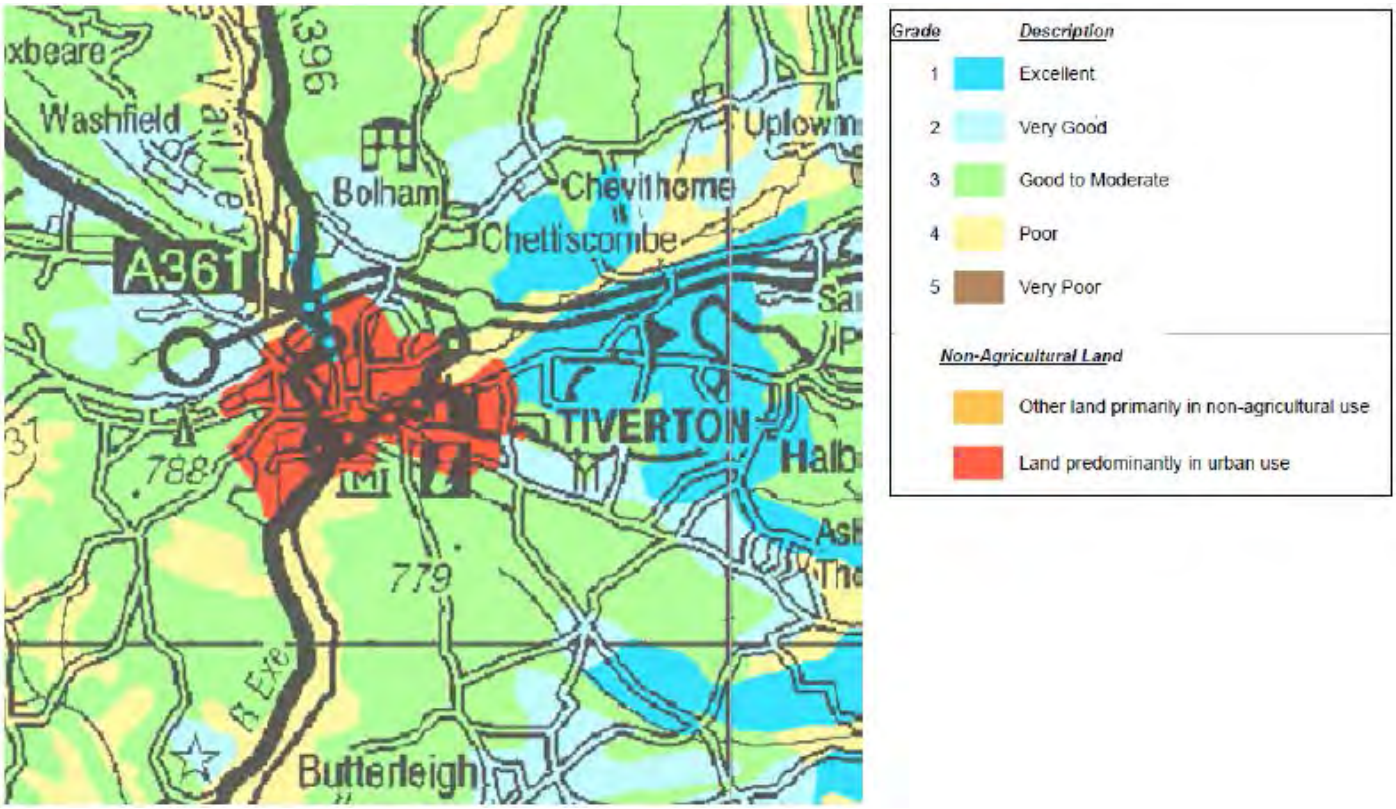
(ii) detailed ALC survey information;

(iii) the information available to the Council at the determination date.

Provisional ALC Maps

16.19 The provisional ALC maps from the 1970's show the site as falling into ALC Grade 1. This is excellent quality land. An extract from the map is reproduced below.

Insert 2: Provisional ALC Map Extract

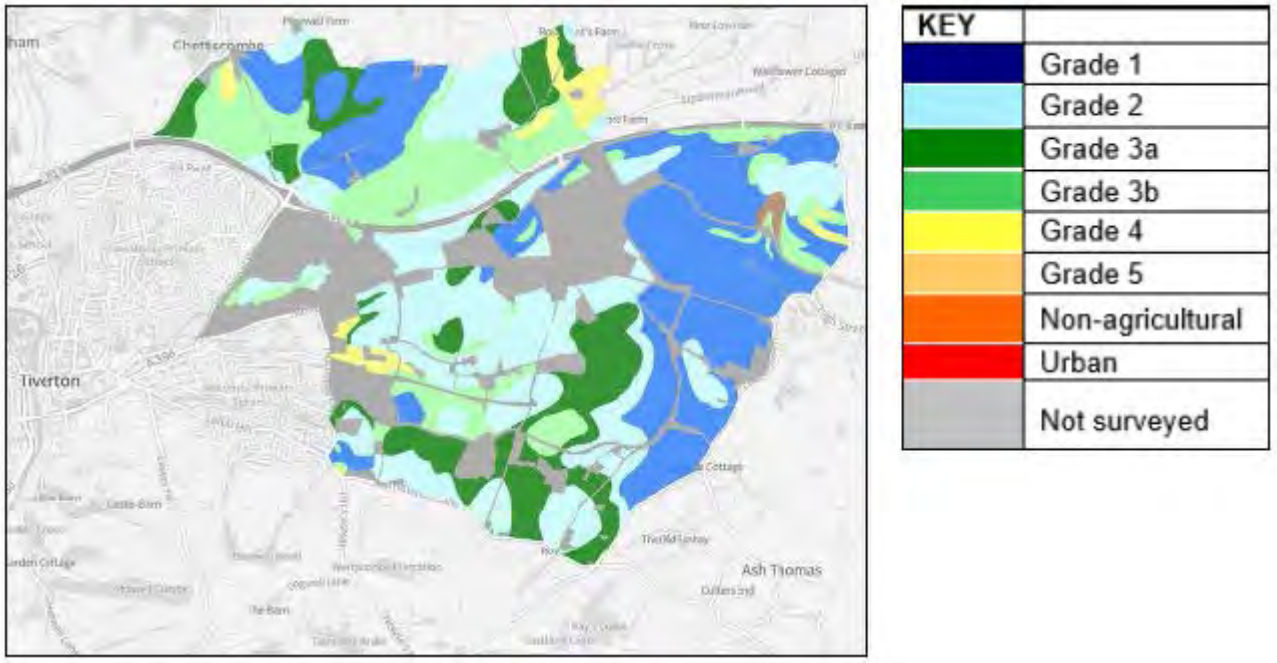


16.20 As set out in Natural England's Technical Information Note 049 (**Appendix KCC1**) these maps are not to be relied upon for site specific site analysis.

Detailed ALC Survey Information

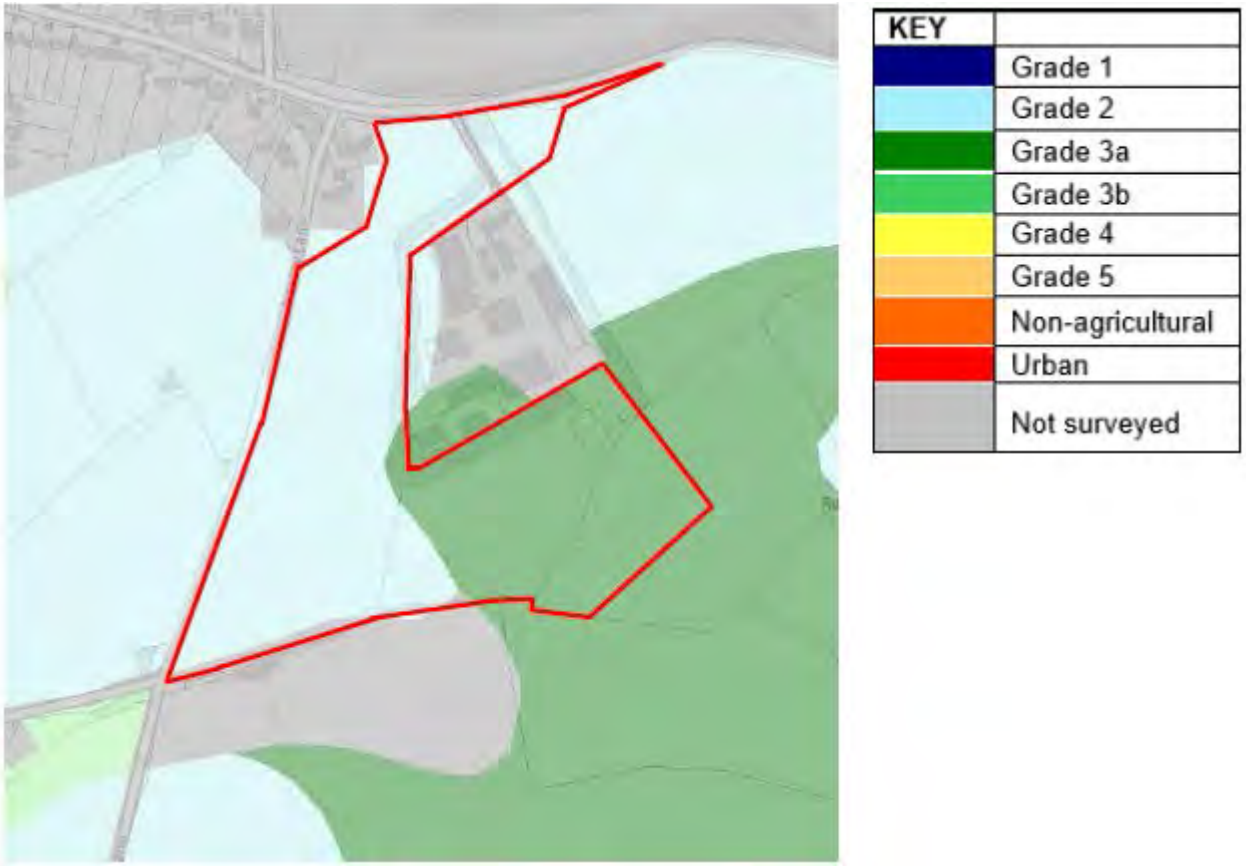
16.21 Where a Government agency has carried out an Agricultural Land Classification survey this is available on the www.magic.gov.uk website. Most of the eastern side of Tiverton has been surveyed, as shown below.

Insert 3: www.magic.gov.uk ALC Records



16.22 The site is edged red (approximately) on the extract below. The original MAFF ALC report and plan are reproduced in **Appendix KCC3**.

Insert 4: Site Edged on ALC Map



16.23 We estimate the ALC of the appeal site as follows. Please note that we have recorded the built areas of the Business Centre shown as built as "urban" rather than 3a, as shown below and in the table.

Insert 5: ALC Measurement

Table 1: ALC Measurement

ALC Grade	Description	Ha	%
2	Very good	7.0	55
3a	Good	4.1	32
Urban	Buildings and screening	1.6	13
Total		**12.7**	**100**

16.24 As a matter of fact, therefore, the land is not Grade 1, as described in the Reasons for Refusal. It is a mixture of Grade 2, subgrade 3a and some urban land.

Information Available to the Council

16.25 The Scoping Opinion produced by the Council on 15th October 2021 scoped in agricultural land.

16.26 Under 9 "Ground Conditions and Contamination" the Council commented as follows:

> *"Assessment of ground conditions should also refer to soil and agricultural land quality. It should include reference to the degree to which best and most versatile land (grades 1, 2 and 3a) is to be involved and assess the impact of the development upon such land availability. Further information may be gained from Natural England".*

16.27 The ES and its Appendix did not provide any ALC information.

16.28 Natural England, a key consultee, however did provide information. Their response of 26th August 2021 provided the following information:

> *"Soils and Land Quality*
> *Available Agricultural Land Surveys (ALC) indicate that the development site is classed as Grade 2 and 3a 'best and most versatile' agricultural land. ALC surveys are now available through Natural England's public geographic data at https://www.gov.uk/guidance/how-to-access-natural-englands-maps-and-data.*
>
> *We consider this application falls outside the scope of the Development Management Procedure Order (as amended) consultation arrangements, as the proposed development would not lead to the loss of over 20 ha 'best and most versatile' agricultural land (paragraph 170 and 171 of the National Planning Policy Framework).*
>
> *For this reason we do not propose to make any detailed comments in relation to agricultural land quality and soils except to advise that if the development proceeds, the developer uses an appropriately experienced soil specialist to advise on and supervise soil handling, including identifying when soils are dry enough to be handled and how to make best use of the different soils on site.*
>
> *Further guidance is available in the Defra Construction Code of Practice for the Sustainable Use of Soils on Construction Sites (including accompanying Toolbox Talks) and we recommend that this is followed".*

16.29 Therefore the Council was informed that the site contained ALC grades 2 and 3a and not Grade 1.

Assessment of the Issues

Land Quality and Losses

16.30 As set out above, the site involves a mixture of land of Grade 2 and subgrade 3a and Urban ALC grades.

16.31 The Framework Plan shows that the proposals involve open space and woodland planting, as well as gardens. Therefore there will be a need for soils to be retained for use within the development. The Framework Plan is reproduced in part below.

Insert 6: Extract from the Framework Plan

16.32 In respect of future agricultural use, none of the site will be available for use. Accordingly the "loss" of agricultural land is as set out in the table as follows:

Insert 7: Land Lost

ALC Grade	Description	Ha	%
2	Very good	7.0	55
3a	Good	4.1	32
Urban	Buildings and screening	1.6	13
Total		**12.7**	**100**

16.33 In respect of the soil resource, however, this can be retained within the development.

The Economic and Other Benefits

16.34 The economic benefits of BMV land on this site are modest. In the absence of any empirical data, any economic assessment is inevitably crude. Taking standard budgeting textbooks, such as the John Nix Pocketbook for Farm Management (extracts from which are reproduced in **Appendix KCC4**), it is possible to show the difference between moderate and high yields, as an illustration, between crops.

16.35 Taking that crude measure for winter wheat and oilseed rape, the differences are shown below.

Table 2: Assessment of Economics of Farmed Land

Item	Winter Wheat		Oilseed Rape	
	Average	High	Average	High
Yield (t/ha)	8.6t/ha	10.0t/ha	3.5t/ha	4.0t/ha
Output (£/ha)	2,108	2,423	1,803	2,060
Gross Margin (£/ha)	1,200	1,515	1,066	1,323
Uplift (£/ha)	-	315	-	257

John Nix Pocketbook for Farm Management, September 2023

16.36 For the 11.1 ha of BMV within the site the economic benefits of BMV land to non-BMV land would be £2,852 - £3,496. Hence the economic benefits are modest.

16.37 There are no farm buildings or other agricultural infrastructure owned within the site.

16.38 The Appeal development will consequently not have a significant adverse effect on a full-time farm business, nor will it result in any other agricultural land being affected or becoming unfarmable. Other land can continue to be managed as it is now.

16.39 An amendment to NPPF footnote 58 is currently out for consultation. This sets out, in the context of plan making, that the availability of land used for food production should be considered, alongside other policies, when deciding what sites are most appropriate for development. Using the two crops of winter wheat and oilseed rape used for the economic assessment, the comparable food production would be as follows:

- increase in yield of wheat 1.4t/ha;
- increase for 11.1 ha BMV 15.5t;
- increase in yield of oilseed rape 0.5t/ha;
- increase for 11.1 ha BMV 5.5t.

16.40 Hence the production benefits are modest.

16.41 Soil has other important benefits. In the Environment Agency's 2019 report "**The State of the Environment: Soil**" it was recorded that the UK's soils currently store about 10 billion tonnes of carbon, roughly equal to 80 years of current annual greenhouse gas emissions. The retention of soil for use within the development will retain this benefit. Natural England's response (see 4.12 above) advises on the use of a soil specialist to advise on how to make best use of the soils within the site. This could be covered by a planning condition.

Whether This is "Significant" Development

16.42 There is no definition of what constitutes "significant" development of agricultural land in the context of the NPPF. As set out earlier, the threshold for consultation with Natural England on losses of BMV land, is 20 ha. The loss in this case is 11.1 ha.

16.43 Natural England did not object to the development, as it falls outside the scope of the consultation arrangements.

16.44 Whether 11.1 ha is "significant" or not is normally a balanced decision taking into account factors such as the prevalence of BMV in the area.

16.45 The utilised agricultural area of England in June 2022 was 8.9 million hectares, 69% of the total land area. Arable crops were planted over 4.9 million ha (Agricultural Land Use in England at 1 June 2022, Defra, 29 September 2022). Natural England estimate that 42% of farmland falls within the BMV category (see TIN 049, **Appendix KCC1**). About half of this falls within Grades 1 and 2. Therefore nationwide there is of the order of 1.87 million ha of grades 1 and 2 and 1.87 million ha of subgrade 3a.

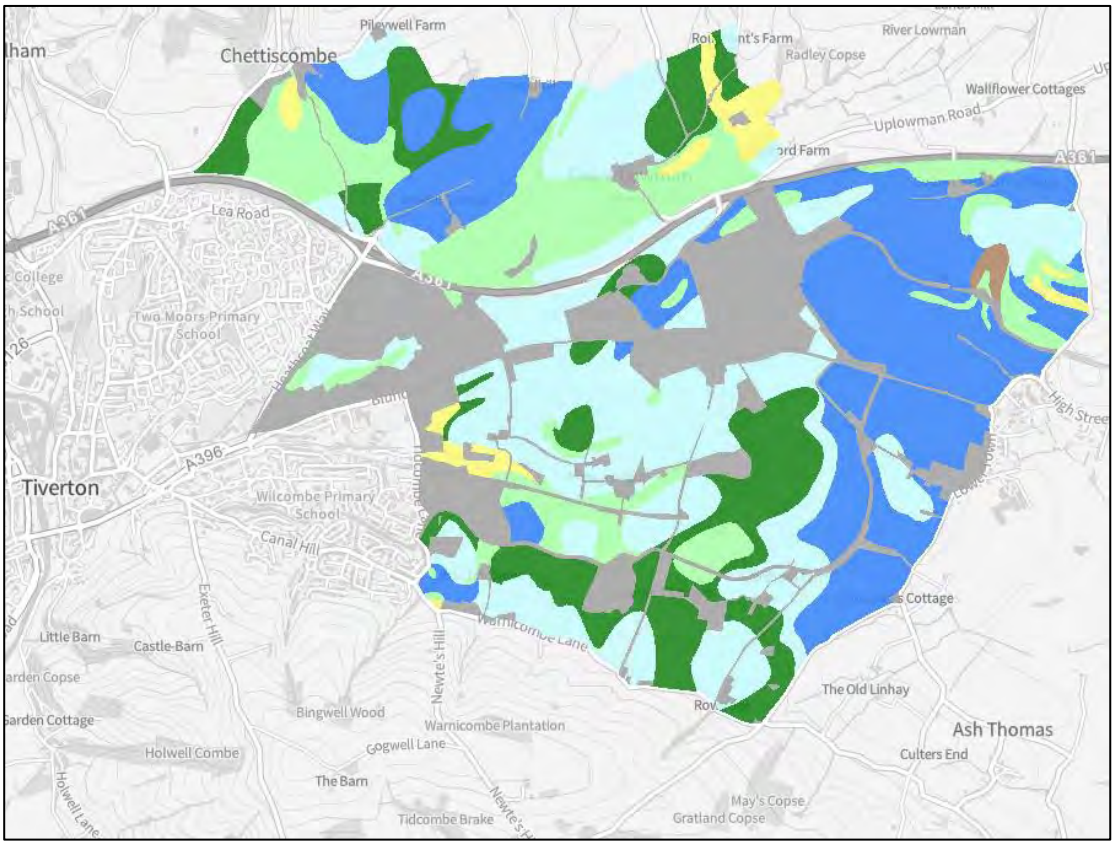
16.46 As shown on Insert 3, BMV land is prevalent locally. It is not a rare resource in the context of Tiverton.

Whether Poorer Quality Land is Available

16.47 If the development is not "significant" development, then the NPPF footnote 58 is not triggered and the availability of poorer quality land is not relevant.

16.48 In the case of Tiverton, there is considerable available detailed ALC information, as set out earlier. This is shown again on the ALC survey details published on www.magic.gov.uk.

Insert 8: ALC Data Near Tiverton



16.49 It can be seen that there is no poorer quality land available on the eastern side of the town.

The Council's Approach

16.50 The Council's approach to plan making, which NPPF footnote 58 relates to has been to recognise that development east of Tiverton requires the loss of BMV land. Local Plan policy TIV 1, involving an area of the order of 153 ha and mostly agricultural land of Grade 2, the Local Plan acknowledges that there was a balance **"involving the loss of some Grade 2**". In quantitative terms, the loss for the TEUE is of the order of 14 times the quantum involved in this site, which is also only partly of Grade 2 quality.

16.51 Therefore:

(i) the site is a mix of Grade 2 and subgrade 3a, not grade 1 as considered in the Council's decision;

(ii) there is of the order of 11.1 ha of agricultural land that will be

irreversibly developed;

(iii) the economic benefits of this quantum of land are modest;

(iv) the food production benefits relative to poorer quality land, are minimal;

(v) the benefits of the soil in respect of carbon storage, will not be lost;

(vi) this is not significant development of agricultural land in the context of the NPPF;

(vii) even if it were, there is no poorer quality land available on this side of Tiverton;

(viii) the Council, in allocating 153 ha of development on grade 2 land, via policy TIV 1, recognise this.

Summary and Conclusions

16.52 The site extends to 12.7 ha.

16.53 This contains 1.6 ha of urban land/woodland, 7.0 ha of Grade 2 "very good" quality land and 4.1 ha of subgrade 3a "good" quality land.

16.54 The site does not involve Grade 1 agricultural land as set out in Reason for Refusal No 1.

16.55 Grade 2 and subgrade 3a land falls within the definition of "best and most versatile" agricultural land set out in the NPPF, and is accorded a degree of protection in the NPPF and Local Plan.

16.56 BMV land is not a rare resource. Natural England estimate that 42% of agricultural land is BMV, and in 2022 that equates to about 3.74 million hectares of BMV land in active agricultural use.

16.57 To the east of Tiverton most of the land is of BMV quality. This is recognised by the Council. The Tiverton Urban Extension Area involves of the order of 153 ha and is mostly Grade 2.

16.58 Only limited weight should be given to the loss of 11.1 ha of BMV agricultural land in this case. That is because:

(i) the land is not Grade 1 as assessed by the Council;
(ii) the economic benefits are modest;
(iii) the food production benefits are minimal;
(iv) the benefits of soils for holding carbon can be preserved with good soil management and use;
(v) in policy terms this is not "significant development" of agricultural land;
(vi) even if it were, poorer quality land is not available on this side of Tiverton.

Appendix KCC1

Natural England's TIN049

Natural England Technical Information Note TIN049

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

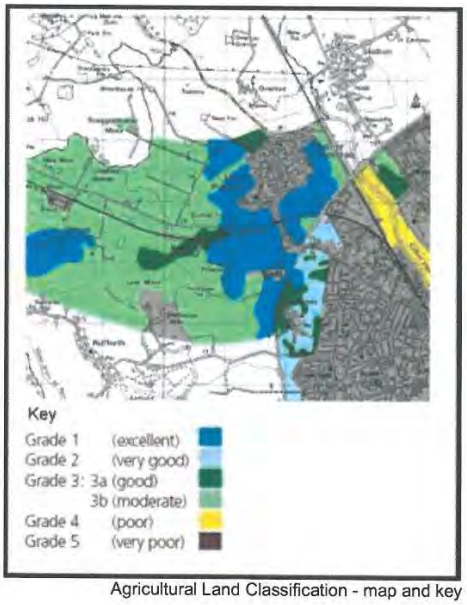
Most of our land area is in agricultural use. How this important natural resource is used is vital to sustainable development. This includes taking the right decisions about protecting it from inappropriate development.

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

Natural England Technical Information Note TIN049

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.

Natural England Technical Information Note TIN049

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

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Appendix KCC2

Agricultural Land Quality Report (text and plans only)

TIVERTON EAST

AGRICULTURAL LAND CLASSIFICATION SURVEY

CONTENTS

TIVERTON EAST

AGRICULTURAL LAND CLASSIFICATION SURVEY

INTRODUCTION

1. This report presents the findings of a semi-detailed Agricultural Land Classification (ALC) survey of 1078 ha of land at Tiverton. Field survey was based on 408 auger borings and 19 soil profile pits, and was completed in December 1996.

2. The survey was conducted by the Resource Planning Team of ADAS Taunton Statutory Group on behalf of MAFF Land Use Planning Unit in its statutory role in the preparation of Mid Devon Local Plan.

3. Information on climate, geology and soils, and from previous ALC surveys was considered and is presented in the relevant section. Apart from the published regional ALC map (MAFF 1977), which shows the site at a reconnaissance scale as mainly Grade 1 with other lower grades, the only part of the site which had been surveyed previously was the route of the North Devon Link Road which was surveyed at a scale of 1:25 000 (ADAS 1984).

4. Within the current survey area a total of 116 ha in six separate sites have been surveyed previously at detailed intensity in connection with the Tiverton Local Plan at that time (ADAS 1991). This survey shows mainly Grade 2 and both this and the current survey can be combined into a composite map with only minor modification. Although the 1984 survey for the North Devon Link Road shows a similar pattern of grades to the current survey, the two cannot be totally reconciled, partly because the current survey was conducted at lower intensity but more particularly because the 1984 survey used the previous guidelines for ALC criteria which have now been superseded, particularly in relation to the assessment of wetness and droughtiness. The current survey uses the Revised Guidelines and Criteria for grading the quality of agricultural land (MAFF 1988) and grade descriptions are summarised in Appendix I.

5. At the time of survey land cover was mainly grass and cereals for mixed dairy farming with maize for silage and a small area of potatoes. The only horticultural unit was Abbots Hood Fruit Farm at Halberton. Other non-agricultural land which was not surveyed included the golf course, industrial and residential land, roads and the canal and small areas of woodland and wetland.

SUMMARY

6. The distribution of ALC grades is shown on the accompanying 1:20 000 scale ALC map. The detail of information shown at this scale is appropriate to the intensity of field survey but could be misleading if enlarged or applied to small areas. Areas are summarised in the Table 1.

Table 1: *Distribution of ALC grades: Tiverton East*

Grade	Area (ha)	% Surveyed Area (707 ha)
1	252	36
2	171	24
3a	115	16
3b	140	20
4	25	3
5	4	1
Other land	214	
Total site area	921	

7. 76 % of the area was found to be best and most versatile. This was mainly Grade 1, red soils with no significant limitation although otherwise similar soils on the same deposits were found to be medium clay loam with a lower sand content in the topsoil and are therefore classified as Grade 2 with a minor limitation due to workability. Other good quality soils, mainly on the lower slopes, show a moderate limitation mainly due to wetness and are classified as Subgrade 3a.

8. Soils on the lower lying land frequently show a more serious moderate limitation due to wetness and are mapped mainly as Subgrade 3b. However, these mapping units also contain scattered borings of other grades, particularly Grade 4 with a severe wetness limitation. Where such observations occur consistently in a distinct area, this is shown as a Grade 4 mapping unit. Throughout the area there are several scattered short banks with stronger slopes which are shown as Subgrade 3b with a more serious moderate limitation due to gradient, but small areas of Grades 4 and 5 due to gradient are found only on the hills north of Halberton.

CLIMATE

9. Estimates of climatic variables for this site were derived from the published agricultural climate dataset "Climatological Data for Agricultural Land Classification" (Meteorological Office, 1989) using standard interpolation procedures. Data for key points around the site are given in Table 2 below.

10. *Since the ALC grade of land is determined by the most limiting factor present, overall* climate is considered first because it can have an overriding influence by restricting land to a lower grade despite more favourable site and soil conditions. Parameters used for assessing overall climate are accumulated temperature, a measure of relative warmth and average annual rainfall, a measure of overall wetness. The results shown in Table 2 indicate that over most of the area there is no overall climatic limitation but in two isolated small areas, one near Chettiscombe and the other above Sellake there is an overall climatic limitation which limits the land to Grade 2.

11. Climatic variables also affect ALC grade through interactions with soil conditions. The most important interactive variables are Field Capacity Days (FCD) which are used in assessing soil wetness and potential Moisture Deficits calculated for wheat and potatoes, which are compared with the moisture available in each profile in assessing soil droughtiness limitations. These are described in later sections.

Table 2: Climatic Interpolations: Tiverton East

Grid Reference		SS 971132	SS 985147	ST 007139
Altitude (m)		75	107	135
Accumulated Temperature (day °C)		1505	1467	1435
Average Annual Rainfall (mm)		1022	1043	1043
Overall Climatic Grade		1	1	2
Field Capacity Days		210	212	210
Moisture deficit (mm):	Wheat	89	85	83
	Potatoes	78	73	69

12. Although exposure and frost risk may cause a limitation in local areas around the site, they are not considered to be the primary limitation at any point.

RELIEF

13. Altitude ranges from 70 metres at Cowley Moor to 135 metres above Halberton with mainly level to moderate slopes which are not limiting. However, there are isolated short banks with strong slopes which are shown mainly as Subgrade 3b. The only moderately steep and steep slopes are found in small areas on the hills above Halberton. These are shown as Grades 4 and 5.

14. A risk of flooding is identified from local knowledge in the valley of the River Lowman from Bradford Farm to Little Gornhay. This is reported to affect perhaps one field on each side of the river, mainly in winter and flooding to a depth of several inches can be expected around six times a year, with each event lasting for a matter of hours rather than days. Although this seems to fit with the ALC restriction to Subgrade 3a, it is locally considered that such land is not suitable for cropping to cereals and in this survey it has therefore been restricted to Subgrade 3b. This affects several observations which otherwise would have been Subgrade 3a on soil characteristics.

GEOLOGY AND SOILS

15. The underlying geology of the site is shown on the published geology map (IGS, 1974) as Lower Sandstone, breccia and conglomerate with alluvium and river gravels. The river gravel deposits are shown in scattered areas on the higher ground on either side of the River Lowman valley. The current survey found little distinction between the deposits of Lower Sandstone and those of breccia and conglomerate, although if anything the Lower Sandstone tended to medium clay loam topsoil textures while the others were more gritty. The deposits shown as breccia and conglomerate were found to be mainly breccia but were not particularly stony and only in two isolated hilltop situations was a droughtiness limitation due to stone content noted, even to Grade 2 level.

16. Soils were mapped by the Soil Survey of England and Wales at a reconnaissance scale of 1:250 000 (SSEW, 1983) as mainly Bromsgrove, Crediton and Newnham associations with Hollington association developed on alluvial deposits on the valley of the River Lowman.

17. Bromsgrove associaton is described as well-drained reddish coarse loamy soils mainly over soft sandstone, deep in places and associated with fine loamy soils with slowly permeable subsoils and slight seasonal waterlogging. Crediton association is described as well-drained gritty reddish loamy soils over breccia, locally less stony and with steep slopes in places. Newnham association is described as well-drained reddish coarse and fine loamy soils over gravel, locally deep. Hollington association is described as deep stoneless reddish fine silty and clayey soils variably affected by groundwater, found on flat land with a risk of flooding.

18. The published description and distribution was almost entirely substantiated by the current survey. The Crediton association soils were found to be consistently well-drained but the Bromsgrove association, as indicated in the description above, was found to be more variable and displayed a wider range of ALC grades based on topsoil texture and wetness characteristics.

AGRICULTURAL LAND CLASSIFICATION

19. The distribution of ALC grades found by the current survey is shown on the accompanying 1: 20 000 scale map and areas are summarised in Table 1. The detail of information shown at this scale is appropriate to the intensity of field survey but could be misleading if enlarged or applied to small areas.

Grade 1

20. Soils shown as Grade 1 are all Wetness Class I, strong red or browny red soils found on the higher ground on Lower Sandstone and breccia deposits. Topsoil textures, many of which were confirmed by laboratory analysis, are mainly medium sandy loam with some fine sandy silt loam. The sandy loams, particularly on the gritty breccia deposists, were firm to texture by hand and appeared to take a slight polish, giving the impression of a sandy clay loam or even heavy clay loam texture but this was consistently dispelled by particle size distribution analysis. In practice, workability would be assisted by the grit and small stone content which is generally present, particularly on the breccia.

21. Two small areas were down-graded and shown as Grade 2 because of a minor droughtiness limitation due to apparent stone content, but generally the climatic conditions of this site make moderately stony profiles relatively resistant to a droughtiness limitation. This is illustrated by Pits 15 and 16 which remain droughtiness Grade 1 despite a considerable stone content which was assessed by sieving and displacement. In particular, Pit 15 was sited in a position reported to be especially gravelly and droughty although the droughtiness calculation based on measured stone content would not substantiate this.

Grade 2

22. Grade 2 soils on this site show minor limitations from a variety of causes. Two small areas on the highest ground, one near Chettiscombe and one near Sellake, have an overall climatic limitation limiting them to Grade 2, despite soil profiles otherwise similar to those described above for Grade 1. These are illustrated by Pits 6 and 17.

23. In the previous survey of sites within the current survey area (ADAS 1991), workability was found to be the main limitation due to medium clay loam topsoil textures. The current survey found this less general and mainly confined to areas around the previous survey sites. Perhaps the best illustration is provided by Pit 13 where medium clay loam topsoil is found at Wetness Class I, which is similar to the large block of Grade 2 on the north side of Craze Lowman.

24. The scattered blocks of Grade 2 in the south of the survey area lie in places found to show a slight wetness limitation, typically with fine sandy silt loam topsoil at Wetness Class II with gleying present in the lower subsoil or perhaps a slowly permeable layer evident just above 80 cm. Such profiles are illustrated by Pit 12.

Subgrade 3a

25. Extensive areas of Subgrade 3a with a moderate limitation due to wetness are found through the north and particularly in the south of the survey area. Typically these have a medium clay loam topsoil at Wetness Class II, most frequently due to gleying in the lower subsoil. Such conditions are illustrated by Pits 5 and 11.

26. Smaller areas of Subgrade 3a with a moderate limitation due to droughtiness were found developed on the patches of river gravel. This is illustrated by Pits 2 and 10 which although Wetness Class I with medium clay loam topsoils were found to have a stone content ranging from 25 to 30% in the topsoil to around 60% in the lower subsoil. Although stone contents of medium or larger stones at both these pits were only around 4 or 5%, the topsoil content of medium and large stones was assessed at Pit 3 as 11% indicating an additional limitation to Subgrade 3a due to topsoil stoninesss. However, this is considered to apply only to a limited area around this pit.

Subgrade 3b

27. The extensive areas of land shown as Subgrade 3b are limited most often by wetness mainly due to the presence of a slowly permeable horizon in the subsoil which on this site gives Subgrade 3b with heavy clay loam topsoil at Wetness Class III or medium clay loam topsoil at Wetness Class IV. These are illustrated by Pits 7 and 19 respectively. However, by the nature of slowly permeable layers which vary in depth and porosity, the Subgrade 3b mapping unit contains other observations of Subgrade 3a and Grade 4. Fields adjacent to the River Lowman are also considered to be subject to a risk of flooding equivalent to Subgrade 3b as described earlier in this report.

28. Small isolated areas of short strong slopes are found scattered through the survey area and are shown mainly as Subgrade 3b.

Grade 4

29. Several areas of Grade 4 are shown where several observations indicate a severe wetness limitation, although isolated borings occur in other mapping units. These are mainly Wetness Class IV with heavy silty clay loam topsoil textures as illustrated by Pits 1 and 8 although the small areas of marshland to the west and south of Pool Anthony Farm are considerably wetter than this, at least in parts, and the wettest areas have been fenced to exclude stock as they are unfit for grazing.

30. One small area of moderately steep slopes is shown to the north of Halberton.

Grade 5

31. Another steeply sloping bowl of land north of Halberton is shown as Grade 5 due to a very severe gradient limitation.

P Barnett
Resource Planning Team
Taunton Statutory Group
ADAS Bristol
January 1997

REFERENCES

ADAS RESOURCE PLANNING TEAM, (1991) Agricultural Land Classification Survey for Tiverton Local Plan, Devon Scale 1: 10 000, Reference 26.91, ADAS Bristol.

ADAS RESOURCE PLANNING TEAM, (1984) Agricultural Land Classification Survey for North Devon Link Road, Scale 1: 25 000, Reference 53, ADAS Bristol

INSTITUTE OF GEOLOGICAL SCIENCES 1984 Sheet 310 Tiverton 1:50 000 series Solid and Drift edition. IGS, London.

HODGSON, J M (Ed) (1974) Soil Survey Field Handbook, Technical Monograph No 5. Soil Survey of England and Wales, Harpenden.

HODGSON, J M (In preparation) Soil Survey Field Handbook, Revised edition.

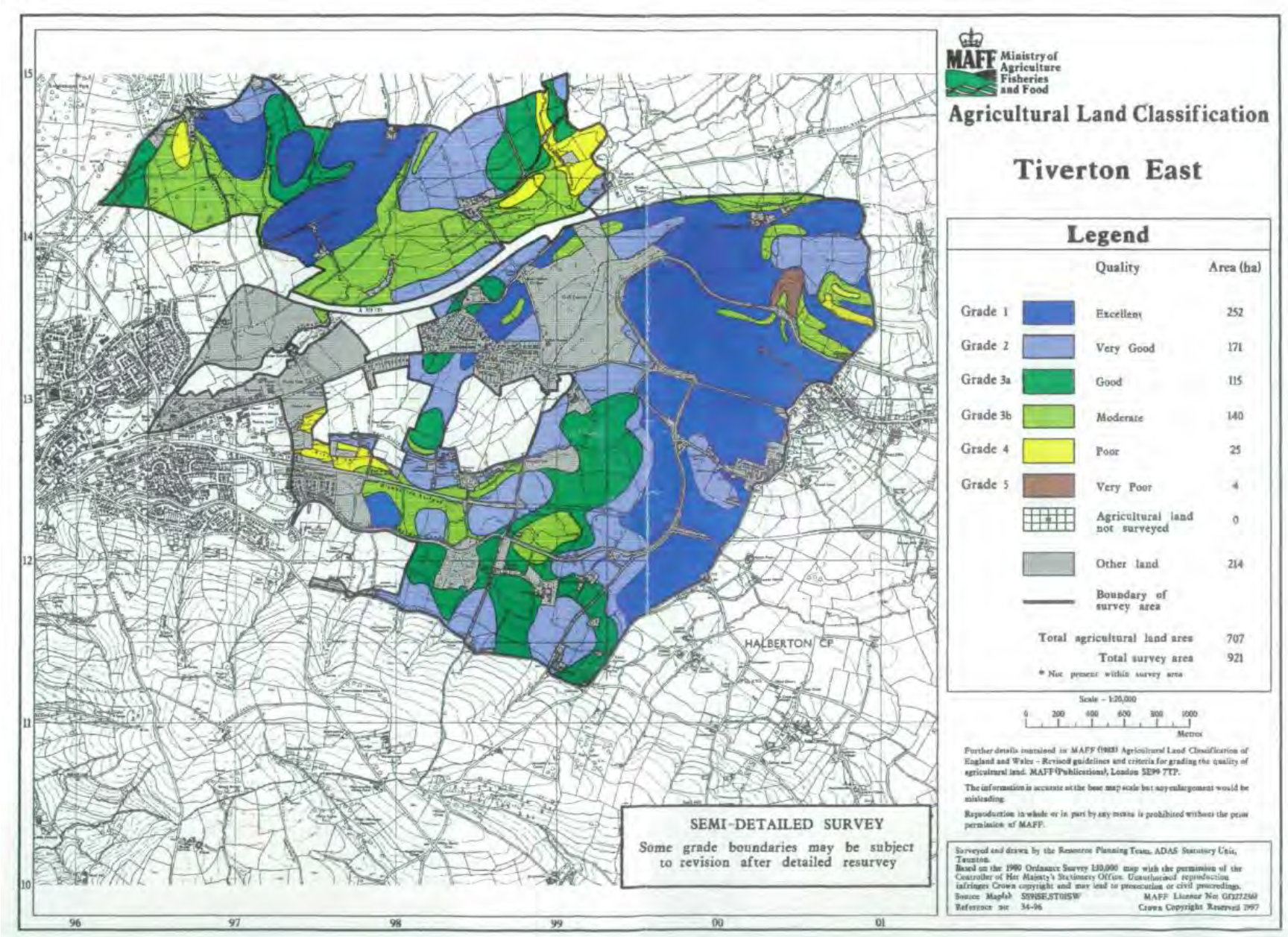
MAFF (1977) 1:250 000 series Agricultural Land Classification, South West Region. MAFF Publications, Alnwick.

MAFF (1988) Agricultural Land Classification of England and Wales. Revised Guidelines and Criteria for grading the quality of agricultural land. MAFF Publications, Alnwick.

METEOROLOGICAL OFFICE (1989) Climatological Data for Agricultural Land Classification. Meteorological Office, Bracknell.

SOIL SURVEY OF ENGLAND AND WALES (1983) Sheet 5, Soils of South West England, 1:250 000 scale. SSEW, Harpenden.

SOIL SURVEY OF ENGLAND AND WALES (1984) Soils and Their Use in South West England, Bulletin No 14. SSEW, Harpenden.


MAFF Ministry of Agriculture Fisheries and Food
Agricultural Land Classification
Tiverton East
Legend
Quality
Area (ha)
Grade 1 Excellent 252
Grade 2 Very Good 171
Grade 3a Good 115
Grade 3b Moderate 140
Grade 4 Poor 25
Grade 5 Very Poor 4
Agricultural land not surveyed 0
Other land 214
Boundary of survey area
Total agricultural land area 707
Total survey area 921
* Not present within survey area
Scale - 1:20,000
0 200 400 600 800 1000
Metres
Further details contained in MAFF (1988) Agricultural Land Classification of England and Wales - Revised guidelines and criteria for grading the quality of agricultural land. MAFF Publications, London SE99 7TP.
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SEMI-DETAILED SURVEY
Some grade boundaries may be subject to revision after detailed resurvey
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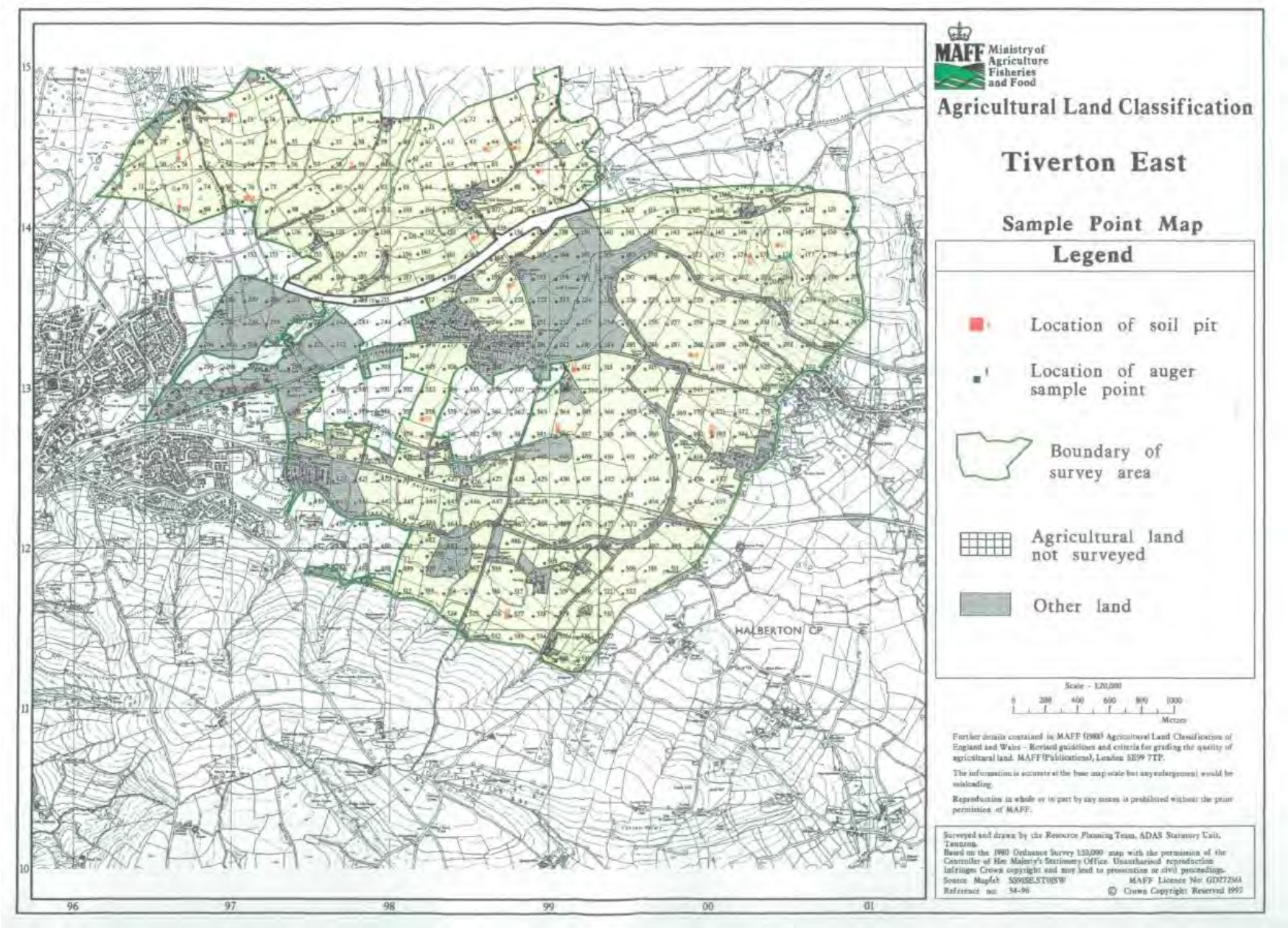
MAFF Ministry of Agriculture Fisheries and Food
Agricultural Land Classification
Tiverton East
Sample Point Map
Legend
Location of soil pit
Location of auger sample point
Boundary of survey area
Agricultural land not surveyed
Other land
HALBERTON CP
Scale - 1:20,000
0 200 400 600 800 1000
Metres
Further details contained in MAFF (1988) Agricultural Land Classification of England and Wales - Revised guidelines and criteria for grading the quality of agricultural land. MAFF(Publications), London SE99 7TP.
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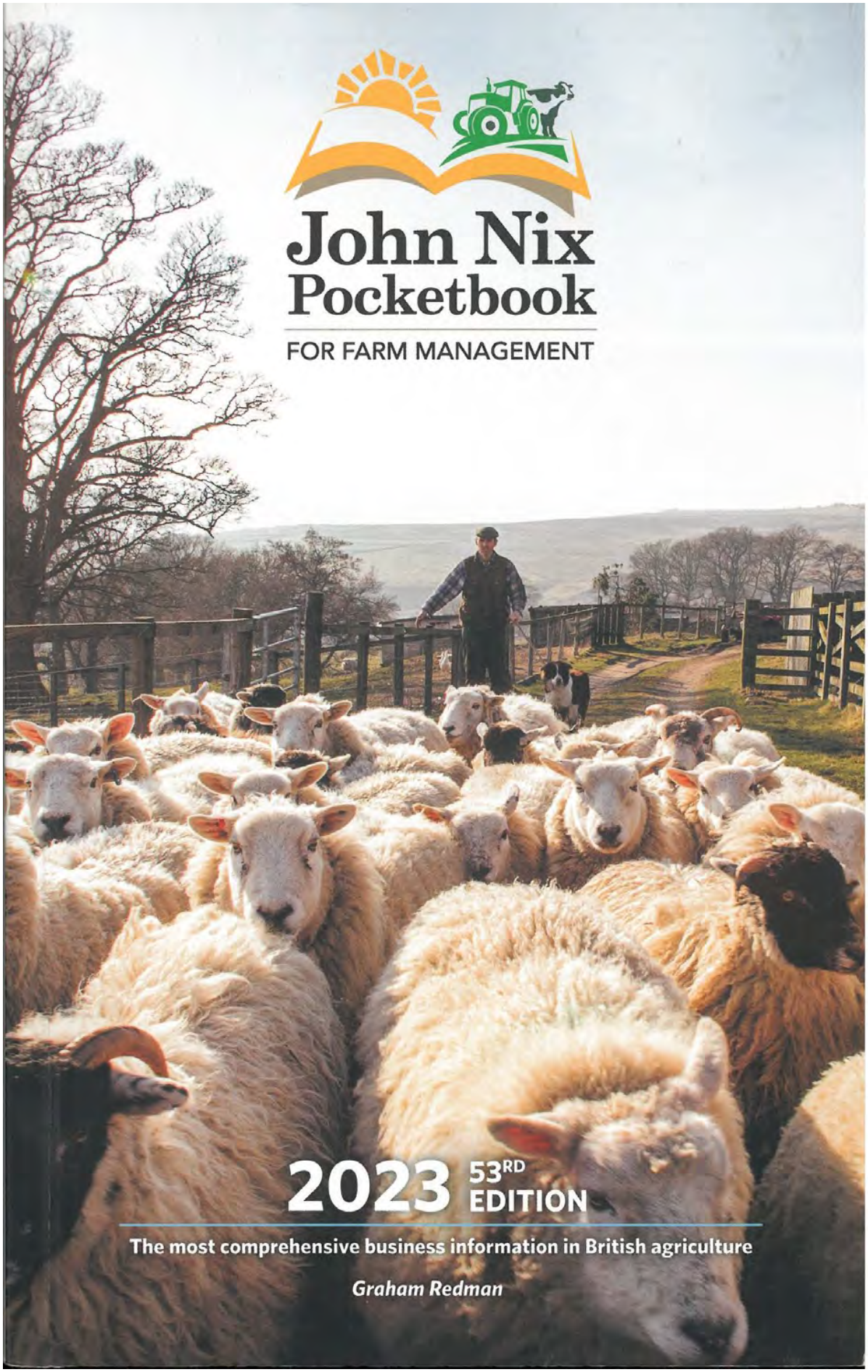
Appendix KCC3

Extracts from the Pocketbook for Farm Management


John Nix
Pocketbook
FOR FARM MANAGEMENT
2023 53RD EDITION
The most comprehensive business information in British agriculture
Graham Redman

II. ENTERPRISE DATA

1. CROPS

WHEAT

Feed Winter Wheat

Production level	Low	Average	High	
Yield: t/ha (t/ac)	7.25 (2.9)	8.60 (3.5)	10.00 (4.1)	
	£	£	£	£/t
Grain at £225/t	1,631	1,935 (784)	2,250 (911)	
Straw in Swath	173 (70)	173 (70)	173 (70)	
Total Output	**1,804 (731)**	**2,108 (854)**	**2,423 (981)**	***245***
Variable Costs £/ha *(£/ac)* :				
Seed.....		97 (39)		*11*
Fertiliser.....		533 (216)		*62*
Sprays.....		278 (113)		*32*
Total Variable Costs		908 (368)		*106*
Gross Margin £/ha (ac)	**896** (363)	**1200** (486)	**1,515** (613)	***140***

Fertiliser Basis 8.6t/ha				**Seed:**		**Sprays £/ha:**	
Nutrient	Kg/t	Kg/Ha	£/Ha	£/t C2	£605	Herbicides	£121
N	22	190	£358	Kg/Ha	175	Fungicides	£110
P	7.0	60	£85	% HSS	30%	Insecticides	£3
K	10.5	90	£90	£/t HSS	£435	PGRs	£17
						Other	£28

1. *Yields*. The average yield is for all winter feed wheat, i.e. all varieties and 1st and subsequent wheats. See over for First and Second Wheats. The yield used for feed and milling wheats including spring varieties is 8.4t/ha.

   The table below offers a weighted estimate of yield variations according to wheat type based on a national yield of 8.41t/ha. Percentages compare yield categories with 'all wheat'. These yields are used in the gross margins.

   Calculation of spread of 'average yields depending on wheat type –

		Winter	1st WW	2nd WW	spring	Total
t/ha		101%	102%	93%	85%	
Total	100%	8.49	8.63	7.82		**8.41**
Feed	101%	8.58	8.71	7.90		8.49
Bread	93%	7.90	8.02	7.27	6.18	7.82
Biscuit	99%	8.41	8.54	7.74		8.32

2. *Straw* is sold in the swath. Fertiliser accounts for mineral depletion.
3. *Seed* is costed with a single purpose dressing. Up to a third of growers require additional seed treatments, specifically to supress BYDV. This can add £150/t of seed (£26.50/ha). This has not been added in the gross margins so should be considered.
4. This schedule does not account for severe *grass weed infestations* such as Black Grass or Sterile Brome. Costs associated with managing such problems can amount to up to £170/hectare additional agrochemical costs. Yield losses increase as infestation rises:

OILSEED RAPE

Winter Oilseed Rape

Production level	Low	Average	High	
Yield: t/ha (t/ac)	3.00 (1.2)	3.50 (1.4)	4.00 (1.6)	
	£	£	£	£/t
Output at £515/t	1545 (626)	1,803 (730)	2,060 (834)	*515*
Variable Costs £/ha *(£/ac)* :				
Seed.....		74 (30)		*21*
Fertiliser.....		410 (166)		*117*
Sprays.....		253 (102)		*72*
Total Variable Costs		737 (298)		*210*
Gross Margin £/ha (ac)	**808** (327)	**1066** (432)	**1,323** (536)	***305***

Fertiliser Basis 3.5t/ha				**Seed:**		**Sprays:**	
Nutrient	Kg/t	Kg/Ha	£/Ha	£/Ha C	45	Herbicides	£125
N	*46*	160	£301	£/Ha Hy	90	Fungicides	£68
P	14	49	£69	£/Ha HSS	30	Insecticides	£16
K	11	39	£39	C:Hy:HSS	20:20:60	PGRs	£0
	Seed write-off		7%	Kg/Ha	5.5	Other	£44

1. *Prices*. The price used for the 2023 crop is £484/t plus oil bonuses at 44% oil content. The bonus is paid on the percentage of oil over 40%, at 1.5 times the sale value of the crop and an equal but opposite penalty below 40%. For example, in this case, the bonus is on 4% oil x £484 x 1.5 = £29. (Figures are rounded to the nearest £5.00 in the margin)

Spring Oilseed Rape

Production level	Low	Average	High	
Yield: t/ha (t/ac)	2.00 (0.8)	2.28 (0.9)	2.50 (1.0)	
	£	£	£	£/t
Output at £515/t	1030 (417)	1,172 (475)	1,288 (522)	*515*
Variable Costs £/ha *(£/ac)* :				
Seed.....		71 (29)		*31*
Fertiliser.....		202 (82)		*89*
Sprays.....		132 (53)		*58*
Total Variable Costs		405 (164)		*178*
Gross Margin £/ha (ac)	**625** (253)	**767** (311)	**883** (358)	***337***

2. *Inputs: Seed* as per WOSR, but 45% conventional, 5% HSS, 50% hybrid. *Fertiliser:* N/P/K at 80/32/25 kg/ha. *Sprays,* Herbicides. £51, Fungicides, £41, Insecticides £13, and Others £28/ha

3. *Winter Versus Spring*: As little as 8,000 hectares of spring OSR are grown in the UK which is 2.5% of the entire crop. As can be seen, the financial reward is slim compared with other combinable crops.